

## **Nuclear Weapons Spending: What Does the United States Need and Why?**

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*(Views expressed here are those of the author.)*

- Starting point: for as long as nuclear weapons exist, the U.S. should maintain a secure, reliable and effective nuclear deterrent in order to deter attack on the U.S., American allies or U.S. forces.
- The issue then becomes what force structure does the U.S. need to maintain an effective deterrent. Different analysts have different views.
- The U.S. currently maintains a triad of submarines armed with SLBMs, ICBMs in silos and nuclear-armed heavy bombers.
  - Given the current force structure, there is no good reason why the U.S. should not be able to maintain a triad, if it so desires, for the next 15+ years.
  - Questions about maintaining a triad arise more if one takes a longer-term view, when significant cost savings could result from dropping one leg of the triad and avoiding having to recapitalize it.
- Decisions need to be taken soon about building a new ballistic missile submarine (SSBNX) to replace the Ohio-class submarines, which will begin to be retired in 2029; replacing the Minuteman III ICBM, which has a service life now expected to expire about 2030; and building a new heavy bomber, which the Air Force would like to get in the mid-2020s.
  - If the U.S. goes forward with all three, in the latter half of this decade and the 2020s, these programs will absorb a significant amount of procurement funding and crowd out other equipment the U.S. military will need.
- So, if one is looking to contain costs, what are some possible options?
- SSBNX. The U.S. Navy plans to build 12 SSBNXs to replace the 14 Ohio-class ballistic missile submarines now in service. The Navy believes it can get by with two fewer submarines because the SSBNX reactor will not require refueling, which is hugely expensive and requires significant time in the dry-dock.

- One question about the SSBNX is why a submarine that will carry 16 SLBMs instead of 24 will weigh 2000 tons more than the Ohio. Part of this is related to reactor size (no need to refuel) and the propulsion system (quieter, which is good in a submarine), but are there some “nice but not essential to have” planned for the SSBNX which might be dropped to cut costs?
- The request for 12 SSBNXs appears to suggest that the Navy will continue the current tempo of operational patrols – three-five submarines at sea and on station within range of targets, two-three en route to/from station and the remainder in port.
  - Could that tempo be reduced? For example, if the requirement for prompt launch were eased, the number of submarines on station within range of targets might be less relevant and the more important figure might be the number of submarines survivably at sea. If the operations tempo were reduced, could the Navy get by with ten or even eight-nine new submarines?
  - That would not save development costs but would mean substantial savings in construction costs and subsequent operating costs over the lifetime of the program.
  - If necessary, in a crisis, the Navy would always have the option to surge more submarines to sea.
- ICBMs. Once built, ICBMs are the cheapest leg of the triad to operate and have the most reliable command and control. With single warheads, they are not attractive targets for a first strike (a conservative adversary would want to put two warheads on each silo, a bad exchange ratio if the result is only one U.S. warhead destroyed). Moreover, an adversary contemplating an attack against U.S. ICBM fields would almost certainly have to conclude that a nuclear response would be coming.
  - That said, replacing the planned New START force of 400-420 deployed ICBMs would be expensive.
  - Given the expected budget situation over the coming years, it is very hard to see replacing ICBMs on a one-for-one basis. So, how many would be enough? 200-300?
  - A second possibility to consider is another life extension program for the Minuteman (which has been deployed since the early 1970s). Could a relatively inexpensive life extension program stretch Minuteman for a significant number of years?

- Even if the Minuteman's life could be stretched to just 2040, that could help deconflict new ICBM construction funding from the timeframe for the SSBNX and new heavy bomber.
- New Bomber. The U.S. Air Force articulates the need for a new penetrating bomber mostly in terms of conventional missions. The current combination of B-2s and B-52Hs armed with cruise missiles are expected to handle the nuclear mission for the foreseeable future.
  - The decision about a new bomber should be taken first and foremost on the conventional requirement. If a new bomber is built, it might make sense to have the capability to later make the bomber nuclear-capable but not give it that capability immediately. That would save a small amount of money at the outset and avoid making bombers intended at the beginning to have only conventional missions accountable under New START's terms.
- B-61. Can the United States afford a B-61 life extension program that runs \$10 billion? Two questions might be considered.
  - First, what exactly does this life extension entail? Are there "nice but not essentials to have" that could be dropped from the plan to reduce the cost?
  - Second, will B-61s be welcome in Europe in a decade? The German air force will go non-nuclear once its Tornados are retired, and the Dutch and Belgians could well follow suit. If those three countries decide to no longer host U.S. nuclear bombs, what will Italy and Turkey do? If some or all U.S. nuclear weapons will be withdrawn from Europe, does that affect the number that need to go through the life extension program?
- There thus are a variety of questions that need to be decided as the U.S. considers the future of its nuclear forces. Budget pressures likely mean that the U.S. military will receive fewer new weapons systems than it would like.
- If so, that is another argument for pursuing new nuclear arms reductions with Russia. A treaty that requires that both sides reduce their forces would make it easier for the U.S. to scale back the number of new missiles and bombers that it builds to replace the current triad, as it ages, and would ensure that Russian force levels come down in parallel.