Overkill: The Case Against a New Nuclear Air-Launched Cruise Missile

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In an [Oct. 15 op-ed in The Washington Post](https://www.washingtonpost.com), William Perry, President Bill Clinton’s defense secretary, and Andrew Weber, President Barack Obama’s assistant secretary of defense for nuclear, chemical, and biological defense programs, call on President Obama to cancel current plans to build a new fleet of approximately 1,000 nuclear-capable air-launched cruise missiles (ALCMs).

Nuclear-armed cruise missiles “are a uniquely destabilizing type of nuclear weapon,” they write, and foregoing the development of a new version “would not diminish the formidable U.S. nuclear deterrent in the least" and "could lay the foundation for a global ban on these dangerous weapons.”

The op-ed marks a significant development in the debate about whether to build a new nuclear-capable cruise missile, as Perry was one of the fathers of the current version of the ALCM when it was first conceived in the 1970s.

The ongoing development of a new ALCM is part of the Defense and Energy Department’s plans to rebuild all three legs of the nuclear triad and their associated nuclear warheads and supporting infrastructure at a cost of $348 billion over the next decade, according to a January 2015 Congressional Budget Office (CBO) report. An August 2015 report by the Center for Strategy and Budgetary Assessments (CSBA) estimated that the sustainment and modernization of nuclear forces could consume almost $1 trillion over roughly the next 30 years.

The projected growth in the nuclear weapons budget comes at a time when other big national security bills are also coming due and Congress has mandated reductions in military spending through the end of the current decade relative to current plans. In addition, despite the fact the president and his military advisors have determined that the United States can reduce the size of its deployed strategic nuclear arsenal by up to one-third below the 2010 New Strategic Arms Reduction Treaty (New START) levels, the proposed spending is based on maintaining the New START levels in perpetuity.

Given that current U.S. nuclear weapons spending plans are excessive and unsustainable, it behooves the administration and Congress to more closely evaluate options that would both be more cost-effective and promote the reduction of nuclear risks around the world. As the Arms Control Association detailed in a report last year, tens of billions can be saved over the next decade and beyond by trimming portions of the arsenal and scaling back current modernization plans.

As it prepares its budget submission for fiscal year 2017, the president should heed the advice of Perry and Weber and not request funds to advance the development of a new nuclear ALCM.

**Background**

Nuclear-armed ALCMs are part of the U.S. nuclear triad of delivery systems consisting of land-based missiles, submarine-launched missiles, and long-range bombers, which can carry ALCMs and gravity bombs. ALCMs are carried by the B-52 long-range bomber and can attack targets at long distances. The United States also deployed large numbers of nuclear-armed sea-launched cruise missiles (SLCMs) during the Cold War, but ceased deployment of these weapons in 1992.
The original military rationale for developing the ALCM emphasized the cruise missile’s value as a standoff weapon that could overwhelm Soviet air defenses. The B-52’s ability to penetrate Soviet airspace was under pressure in the late 1970s and early 1980s, and standoff capability allowed a B-52 to hold strategic targets at risk in relative safety despite its large radar cross section and subsonic speed.

The Air Force’s lone remaining ALCM variant is the AGM-86B, up to 20 of which can be carried by a B-52H bomber. The missile, which has a range of more than 1,500 miles, was first fielded in 1982 with a planned service life of 10 years. Multiple life extension programs have kept the missile in service for more than 30 years. The Air Force is planning to retain the missile until 2030.

The Air Force currently retains 572 nuclear-capable ALCMs, down from the original production run of 1,715 missiles, which concluded in 1986. Roughly 200 of these missiles are believed to be deployed at Minot Air Force Base in North Dakota with the W80-1 nuclear warhead. New START does not cap the number of bombs or cruise missiles that can be carried on treaty limited strategic bombers.

The Air Force is developing the long-range standoff cruise missile (or LRSO) to replace the existing ALCM. The new missile will be compatible with the B-2 and B-52 bombers, as well as the planned Long-Range Strike bomber. The first missile is slated to be produced in 2026.

The current Air Force procurement plan for the LRSO calls for about 1,000 new nuclear-capable missiles, roughly double the size of the existing fleet of ALCMs. According to the service, the planned purchase of 1,000 missiles includes far more missiles than it plans to arm and deploy with nuclear warheads.

The Obama administration’s fiscal year 2016 budget request proposed to increase spending to accelerate by two years the development of the LRSO and the modified W80-4 warhead that it would carry, partially reversing the fiscal year 2015 proposal to delay development of both by three years.

The total cost to build the LRSO and refurbish the associated warhead could reach $25 billion (in then-year dollars). CSBA estimates the development cost of the LRSO at nearly $15 billion. The Energy Department projects the cost of the life extension program for the ALCM warhead to be between $7 billion and $9.5 billion.

**Dubious Rationale**

The two main arguments the Pentagon has made in support of building a new ALCM do not withstand close scrutiny.

First, supporters of the LRSO cite anticipated improvements in the air defenses of potential adversaries as a reason to develop the new cruise missile. However, as Perry and Weber note, the LRSO weapon is just one element of the Air Force’s plan for the air-based leg of the triad.

The service is planning to spend over $100 billion to build 80-100 new stealthy penetrating strategic bombers. One of the top rationales for building a new bomber is to extend America’s air dominance in advanced air defense environments. In addition to carrying the LRSO, the new long-range strike bomber (or B-3) will be armed with refurbished B61 mod 12 nuclear gravity bombs. Upgrading the B61 is expected to cost roughly $10 billion. The B-3 is scheduled to remain in service for 50 years while the B61 mod 12 is expected to last for 20-30 years.

The United States already has redundancy built into its strategic forces posture with three independent modes of delivery. The requirement that the air-leg of the triad have two means to assure penetration against the most advanced air-defenses constitutes excessive redundancy. Other standoff weapons, such as submarine-launched ballistic missiles, can penetrate air defenses with high confidence.

Meanwhile, the Air Force is significantly increasing the lethality of its conventionally armed cruise missiles.
For example, the service is purchasing an extended-range precision air-to-surface standoff cruise missile known as the JASSM-ER. This missile will have a range of over 1,100 kilometers and be integrated onto the B-1, B-52, B-2, F-15E, and F-16 aircraft – and likely on the F-35 and long-range strike bomber as well. The Air Force is planning to arm the JASSM-ER with a new computer-killing electronic attack payload. The technology is designed to have an effect similar to an electromagnetic pulse.

This raises the question of what is so unique about the penetrating mission of a nuclear ALCM that can’t be addressed by other U.S. nuclear and conventional capabilities?

Second, proponents of the nuclear ALCM mission say that the missile, by virtue of the lower yield of the nuclear warhead it carries, provides the president with flexible options in the event of a crisis and the ability to control escalation. In other words, the missiles would come in handy for nuclear war-fighting.

Yet, U.S. nuclear capabilities would remain highly credible and flexible even without a nuclear ALCM. The arsenal includes other weapons that can produce more “limited” effects, most notably the B61 gravity bomb.

More importantly, the notion that nuclear weapons can be used to carefully control escalation is dangerous thinking. As Deputy Secretary of Defense Robert Work noted at a June 25 House Armed Services Committee hearing: “Anyone who thinks they can control escalation through the use of nuclear weapons is literally playing with fire. Escalation is escalation, and nuclear use would be the ultimate escalation.”

This is wise counsel and speaks to the limited utility and added risks of seeking to fine-tune deterrence. It is highly unlikely that an adversary on the receiving end of a U.S. nuclear strike would (or could) distinguish between a large warhead and a small warhead. Large or small, nuclear weapons are extremely blunt instruments, both in terms of their destructive power and the taboo associated with the fact they have not been used in 70 years.

In fact, instead of controlling escalation, nuclear-armed cruise missiles could entail a significant risk of miscalculation and unintended nuclear escalation.

Former British Minister of Defense Philip Hammond drew attention to this problem in explaining the United Kingdom’s decision to reject a sea-launched cruise missile alternative to its current force of sea-launched ballistic missiles.

“At the point of firing, other states could have no way of knowing whether we had launched a conventional cruise missile or one with a nuclear warhead,” he wrote in 2013. “Such uncertainty could risk triggering a nuclear war at a time of tension.”

Instead of investing billions in a new fleet of nuclear ALCMs, the Air Force should prioritize continued investments in longer-range conventional cruise missiles. Further investment in conventional standoff weapons would provide the Air Force with a more readily useable capability without the unintended escalation risks associated with the possession of nuclear and conventional ALCMs. It would also help set the stage for an eventual global phase-out of nuclear-armed cruise missiles.

**Excessive Cost**

In light of the modernization needs of other defense systems and congressionally-mandated reductions in planned military expenses required by the Budget Control Act, military leaders continue to warn that the United States is facing an affordability problem in the near future when it comes to sustaining and modernizing nuclear forces.

“[W]e do have a huge affordability problem with that basket of [nuclear weapons] systems,” said Frank Kendall, under secretary of defense for acquisition, technology, and logistics, in April. “It is starting to poke itself into the [future years defense plan] — the five-year plan now. And we’re trying...
to address it.”

Funding for the LRSO program over the next 10-15 years will come at the expense of other costly Air Force priorities such as the acquisition of the long-range strike bomber, KC-46A tanker, the F-35, and a replacement for the existing Minuteman III intercontinental ballistic missile system.

Though no one knows for sure what the military budget will look like after the expiration of the Budget Control Act, it seems unlikely that there will be enough money to fund all of the military’s nuclear and conventional modernization plans, especially during the decade of the 2020s when costs are expected to be at their highest. Tradeoffs will have to be made.

Given the nuclear ALCM’s redundant mission and inherently destabilizing dual-use nature, its replacement is not necessary.

A Global Ban

The United States, Russia and France are the only nations that currently acknowledge deploying nuclear-armed cruise missiles. However, countries such as China and Pakistan are believed to be working on them. U.S. security would benefit if they do not deploy such weapons.

Chinese nuclear-armed cruise missiles would add to U.S. concerns about Beijing’s capabilities and would be able to more easily circumvent U.S. missile defenses, which are mainly oriented against ballistic missiles. Pakistan’s program would add to tensions in South Asia and could motivate India to follow suit.

As part of its strategy to bring Russia back into compliance with the INF Treaty the United States should express its willingness to engage in technical discussions and agree to special inspections to resolve compliance concerns if Russia is willing to engage with U.S. concerns. Moving forward the United States should promote a global dialogue on limiting and eventually phasing out all nuclear-armed cruise missile systems.

Verifying limits and later a ban on all types of nuclear-armed cruise missiles would no doubt be a significant challenge, though not an insurmountable one. One early preparatory step toward building a transparency and monitoring regime is for the United States to pressure Russia to resume the exchange of data on nuclear-armed SLCMs that occurred under START I.

Rather than spend billions on a nuclear weapon that is not needed to deter potential adversaries, the United States should cancel its new cruise missile program. This would be a win-win for the military budget and U.S. security.

—KINGSTON REIF, director for disarmament and threat reduction policy

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