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Strengthening Deterrence and Reducing Nuclear Risks, Part II: The Sea-Launched Cruise Missile-Nuclear (SLCM-N)

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Strengthening Deterrence and Reducing Nuclear Risks, Part II: The Sea-Launched Cruise Missile-Nuclear (SLCM-N)

This edition of the Arms Control and International Security Papers – produced by the Office of the Under Secretary of Defense for Policy, and with an introduction by Assistant Secretary Ford – explains the U.S. policy and strategy behind the Sea-Launched Cruise Missile-Nuclear (SLCM-N).

Introduction:
Tailoring Deterrence in an Evolving Security Environment

In my introduction to the fourth monograph in this *ACIS Papers* series, I focused upon the innovations the U.S. Government has brought to nuclear weapons policy and deterrence during the last four years as part of a broader – and long overdue – U.S. return to great power competitive strategy in response to threats presented by the People's Republic of China (PRC) and the Russian Federation. These innovations include the honesty and clarity we brought to U.S. declaratory policy in the 2018 Nuclear Posture Review (NPR), the conceptual and diplomatic outreach of our new "Creating an Environment for Nuclear Disarmament" initiative, and our call for trilateral arms control to avert a nuclear arms race with Moscow and Beijing.

The main focus of *ACIS Paper #4* however, was upon fielding of the low-yield U.S. submarine-launched nuclear warhead, the W76-2, which entered into service earlier this year. The main body of that monograph walked through the U.S. thinking and policy behind the development and deployment of this warhead, and the ways in which it will contribute to deterrence and the reduction of nuclear risks in light of the threat of limited nuclear attacks against the United States and its allies.

Except in passing, however, ACIS Paper #4 did not mention ongoing U.S. work to reintroduce a nuclear-armed sea-launched cruise missile (SLCM-N) capability to the U.S. arsenal. We at the State Department are therefore grateful to our colleagues in the Office of the Under Secretary for Policy at the Department of Defense (DOD) for stepping up to offer just such an explication. The attached DOD paper discusses SLCM-N in detail, and represents an important step forward as we in Washington – in sharp contrast to our counterparts in Moscow and Beijing – model transparency and public accountability in nuclear weapons policy and doctrine.

Before we turn to the DOD paper itself, however, it may be useful to remind readers of the context out of which the SLCM-N question arose, for the security environment facing U.S. nuclear planners today looks depressingly *unlike* what it was assumed this country would face at the time of the previous Nuclear Posture Review in 2010. It is important to recall that SLCM-N is not a new *type* of capability for the United States. Indeed, we had a sea-launched cruise missile with a nuclear warhead deployed at sea for a decade until it was stored ashore in accordance with the U.S. 1991 Presidential Nuclear Initiatives and then ultimately retired by the Obama Administration. The SLCM-N initiative simply represents a decision to restore a nuclear-tipped SLCM capability to maintain deterrence in the face of a sharp deterioration in

the global security environment that has again created a need for one.

I. Elimination of TLAM-N

Our previous nuclear-armed SLCM was the Tomahawk Land Attack Missile-Nuclear (TLAM-N) – a nuclear-tipped variant of the U.S. Navy's venerable Tomahawk cruise missile, variations of which have been in service since the early 1980s. TLAM-N survived the Clinton Administration's 1994 decision to eliminate the nuclear capability for the Navy's surface ships, thereafter remaining available for service on U.S. nuclear-powered submarines, but the Obama Administration decided to eliminate it, announcing that decision in 2010.

As explained in the 2010 Nuclear Posture Review, this decision was based largely on the overall conclusion that the strategic environment had changed in ways that made a nuclear-tipped SLCM unnecessary. According to the 2010 NPR, it was appropriate to eliminate the capability represented by TLAM-N because the deterrence challenge facing the United States was now "fundamentally different" than it had been before, as the risk of major power confrontation had dimimished. Indeed, the biggest challenge facing the country then was said not to be that of deterring aggression by a major power such as Russia or China, but rather "preventing nuclear proliferation and nuclear terrorism" – struggles in which nuclear-armed cruise missiles were of little help.

The 2010 NPR stressed, for instance, that "the nature of the U.S.-Russia relationship has changed fundamentally since the days of the Cold War," with the result that Washington and Moscow

> "are no longer adversaries, and prospects for military confrontation have declined dramatically. The two have increased their cooperation in areas of shared interest, including preventing nuclear terrorism and nuclear proliferation."

As for the PRC, 2010 NPR did express concerns about its lack of transparency and "the pace and scope of China's current military modernization efforts, including its quantitative and qualitative modernization of its nuclear capabilties." It also raised "questions about China's future intentions" in the nuclear arena. Nevertheless, the Obama Administration's approach was fundamentally optimistic, emphasizing that "[t]he United States and China are increasingly interdependent" and have "shared responsibilities for addressing global security threats."

This assessment of the overall security context – namely, that "changes in the nuclear threat environment" had made it less challenging and that there was "less dangerous strategic interaction" between the United States, Russia, and the PRC – was a critical ingredient of Obama Administration policy. For present purposes, however, it is notable as the conceptual foundation upon which that Administration made its decision to eliminate the existing nuclear SLCM.

Indeed, in President Obama's signature "Prague Speech" in April 2009, he situated his Administration's efforts to cut back U.S. nuclear weapons capabilities in a broader effort to catalyze *further* change in the international arena:

> "To put an end to Cold War thinking, we will reduce the role of nuclear weapons in our national security strategy, and urge others to do the same."

Where we led, he reasoned, others would follow – but this progress had to *begin* with the United States: "we will begin the work of reducing our arsenal."

Eliminating TLAM-N was, accordingly, a part of this move. By 2013, U.S. Navy documents had stopped referring to the missile and the entire stockpile of TLAM-N's W80-0 warheads had been dismantled.

II. A Very Different Strategic Environment

The present-day reader, of course, can see the fundamental problem with those 2010 assumptions, for things unfortunately turned out rather differently. Looking back at them a decade later, in fact, those conclusions about a less threatening and steadily-improving global security environment sound almost quaint – or even naive.

After all, by the time of the 2010 NPR, Russia had in 2008 invaded one of its neighbors – the sovereign state of Georgia – and carved out parts of that country into puppet-run proxy pseudo-states that remain occupied by Russian forces to this day. As we later learned, Russia at that time was likely already a couple of years into covertly testing its new SSC-8 missile – a system that the Obama Administration declared a violation of the Intermediate-range Nuclear Forces (INF) Treaty in 2014, and that would ultimately destroy that treaty. In retrospect, it is also likely that Russia was by then well into the process of developing some or all of the exotic new strategic nuclear systems

about which President Vladimir Putin would later boast in his March 2018 State of the Union address.

Russia was even then also already well understood to be a chronic violator of the Open Skies Treaty, having imposed illegal airspace restrictions on treaty overflights on a more or less continuous basis from 2004 through 2008. It is also now clear that Russia had not adhered to all of the commitments it made as part of the Presidential Nuclear Initiatives (PNIs) of the early 1990s concerning elimination of many of its non-strategic nuclear forces. It may even be that Russia had by 2010 "conducted nuclear weapons experiments that have created nuclear yield and are not consistent with the U.S. 'zero-yield' standard."[1]

And things since then have only gotten worse. Today, in 2020 – the strategic and geopolitical challenges presented by Russia look even more stark. In broadest terms, it is now all too clear that

> "Russia seeks to restore its sphere of influence, both in the countries of its so-called 'near-abroad' (*e.g.*, Ukraine and Georgia) and by acquiring client states farther afield (*e.g.*, Syria) through the use of blatant military aggression, proxy forces, political and military subversion, and the manipulation of political, economic, energy, and military relationships. It is also essential to Russia's strategy to weaken U.S. alliance relationships with Europe and elsewhere, as well as undermining and discrediting U.S. global leadership.
>
> "Russia's tactics in pursuit of these objectives tend to be destructive rather than constructive … [and it is] notably risk-tolerant in its policy choices, not shying away from reckless gambles and extravagant provocations (*e.g.*, its invasions of Georgia and Ukraine, overseas expeditionary warfare in Syria, the deployment of 'private' military contractors to hotspots around the world, interference in Western elections, and assassinations or assassination attempts against defectors in the West using radioactive poisons and illegal chemical weapons)."

Nor are Kremlin provocations in the nuclear arena today in any way diminished. Quite to the contrary. Moscow is pushing forward on

> "building a new generation of 'exotic' strategic nuclear delivery systems that include a new super-heavy intercontinental ballistic missile (ICBM), a hypersonic delivery system carried by an ICBM booster, an air-launched ballistic missile (ALBM), a nuclear-powered underwater drone, and … the 'madly reckless "flying Chernobyl"' of Russia's accident-prone cruise missile powered by an unshielded nuclear reactor. Significantly, only two of these new systems will potentially be accountable under the New START agreement, whereas the others, dangerous new technological fronts the Kremlin is trying to open in a strategic arms race, plainly fall outside the agreement altogether."

Worryingly, the Russia problem is also much greater than just these new strategic systems. As the U.S. Defense Intelligence Agency has summarized,

> "[Russia's] overall nuclear stockpile is likely to grow significantly over the next decade. This assessed growth is primarily driven by a significant projected increase in the number of Russia's nonstrategic nuclear weapons. Russia is adding new military capabilities to existing stockpile of nonstrategic nuclear weapons, including those employed by ships, aircraft and ground forces. These nuclear warheads include theater and tactical range systems that Russia relies on to deter and to defeat NATO or China in a conflict.
>
> "Russia's stockpile of nonstrategic nuclear weapons, already large and diverse, is being modernized with an eye towards greater accuracy, longer ranges and lower yields to suit their potential war-fighting role. We assess Russia to have dozens of these systems already deployed or in development."

And then there is China. For its part, the PRC's behavior has also notably worsened, and the strategic threats it presents have grown.

> "The PRC seeks a military more capable than any other in the world by 2049; hegemony in the Asia Pacific region (and one that implicitly erodes U.S. presence);

[1] The United States has said nothing publicly about when such tests may have occurred. The Executive Summary of the State Department's annual report on *Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments*, however, says separately that the United States has concerns about "activities during the 1995-2019 timeframe [that] raise concerns about Russia's compliance with its [nuclear weapons Threshold Test Ban Treaty] notification obligation."

> leading positions within international organizations; and a dominant position in the advanced technologies essential to military power. With these achievements, the PRC hopes to claim what it sees as its natural hegemonic place at the center of a system that generally defers to Beijing's interests.
>
> "To these ends, the PRC seeks to expand its so-called 'comprehensive national power' (CNP) through a mix of political, economic, military, and 'soft power' initiatives. It approaches this effort on a whole-of-system basis capable of, and dedicated to, mobilizing every aspect of Chinese society via the coercive power of the CCP police state.
>
> "The PRC's effort to expand its CNP includes a significant expansion of the capabilities of the People's Liberation Army (PLA), including its nuclear forces, with an emphasis upon high-technology tools that can help disrupt or completely deny U.S. access to key areas of the Indo-Pacific in a crisis."

Even as Beijing's revisionist geopolitical ambition has grown – or at least been permitted finally to find expression as the PRC's growing power and heft in international relations has allowed it more freedom of maneuver – so too have its nuclear capabilities been expanding. While the PRC still has a smaller nuclear arsenal than either the United States or Russia,

> "both qualitatively and quantitatively it is expanding this arsenal rapidly … along the road to what Xi Jinping has described as his 'Strong Military Dream' in which Beijing intends to develop the most advanced military capabilities by 2049. The PRC is building a vast new range of both strategic and non-strategic delivery systems, including new heavy ICBMs, hypersonic delivery vehicles, a new ballistic missile submarine, an air-launched ballistic missile, and a whole quiver full of missiles that can interchangeably carry either nuclear or conventional warheads."

Over the next decade, in fact, China will likely "at least double the size of its nuclear stockpile in the course of implementing the most rapid expansion and diversification of its nuclear arsenal in China's history." And the PRC will have many ways to deliver such weapons. For instance, in 2019 it launched more ballistic missiles for testing and training than the rest of the world combined.

All in all, the strategic environment that we face today is *radically* unlike the one that the drafters of the 2010 NPR seem to have anticipated – and that they hoped actually to help *produce* by leading with U.S. reductions. It is impossible to understand the current U.S. approach to SLCM-N without appreciating this context. The truth is that the assumptions that underlay the Obama Administration's decision to abandon nuclear-armed SLCM capabilities have, unfortunately, proven incorrect.

Even beyond specific issues of nuclear force posture, moreover, the sweep of these geopolitical changes – and the deterioration on the global security environment that they have created – also make clear why it was so necessary that a return to an emphasis upon great power competition be central themes of the 2017 U.S. National Security Strategy and 2018 National Defense Strategy. The broader U.S. policy shifts now underway are a response to a range of provocative and destabilizing choices by the PRC and Russia, two "ambitious and increasingly self-assertive autocratic regimes [which] conceive it to be their mission to upend the global order in the service of their own embittered geopolitical identity politics."

And so great power competition has unfortunately again become the order of the day. As explained in the recently-published *United States Strategic Approach to the People's Republic of China*, for instance, to respond to the challenges presented by PRC behavior,

> "the Administration has adopted a competitive approach to the PRC, based on a clear-eyed assessment of the CCP's intentions and actions, a reappraisal of the United States' many strategic advantages and shortfalls, and a tolerance of greater bilateral friction."

Much the same thing can be said of Russia: the 2018 *National Security Strategy* describes both Russia and the PRC as "revisionist powers … actively competing against the United States and our allies and partners."

Accordingly, as noted in the *National Defense Strategy*, U.S. prioritization has also had to evolve with the times. Whereas the Obama Administration had, as noted, downplayed great-power strategic threats in order to focus upon nuclear terrorism and nonproliferation – and had, *inter alia*, eliminated TLAM-N on this basis – developments in the PRC and Russia have driven the Trump Administration once again to the conclusion that "[i]nter-state strategic competition, not terrorism, is now the primary concern in U.S. national security." As the attached DOD paper makes clear, our renewed pursuit of a nuclear-

armed SLCM grows out of the duty that *every* U.S. Administration has, as a steward of the safety and security of the American people, to preserve deterrence in light of prevailing threats. As the security environment has deteriorated, the United States must approach its nuclear posture differently than it did when it believed the world was becoming a steadily safer place.

III. Deterrence with Dialogue

That said, it should also be remembed what the United States is *not* doing, even in response to these grave challenges. Most obviously, we are not significantly expanding the size of our nuclear arsenal. The W76-2 did not increase the number of deployed U.S. nuclear weapons, and we will not seek to match Russia's theater-range nuclear arsenal weapon-for-weapon via SLCM-N.

Indeed, as our current modernization program progresses, we will actually reduce the number of deployed submarine-launched ballistic missiles with introduction of the *Columbia*-class SSBN.[2] This is on top of the extraordinary U.S. nuclear reductions that by 2017 had already cut the size of our arsenal by something like 87 percent from its Cold War peak. Additionally, the United States is today leading the charge in pursuing a trilateral arms control framework with both the PRC and with Russia in order to avert a dangerous new nuclear arms race, even if Beijing still refuses to come to the table.

Even if others may have forgotten their own responsibilities, *we* remain fully aware of our legal obligation under Article VI of the Nuclear Nonproliferation Treaty to pursue negotiations in good faith on effective measures relating to averting a nuclear arms race. As noted, in fact, we have repeatedly called upon Moscow and Beijing to join us in just such negotiations.

Yet it is also the case that the United States cannot stand by and allow deterrence to erode as a result of destabilizing nuclear posture choices being made in the Kremlin, and in the Chinese Communist Party's leadership compound in Zhongnanhai. Our approach is thus a balanced one. Even as we take whatever steps are needed in order ensure that deterrence does not fail, we also seek new agreements to forestall destructive arms race behavior and to build dialogue in order – as the Preamble to the NPT exhorts everyone – to ease international tension and strengthen trust between states in order to facilitate disarmament.

The attached DOD paper explains how the various prongs of U.S. strategy and policy come together in our SLCM-N program, and I commend it to you.

– Dr. Christopher Ford

Assistant Secretary of State
Performing the Duties of the Under Secretary for Arms Control and International Security

[2] Twelve *Columbia*-class SSBNs will replace today's *Ohio*-class SSBNs. *Columbia* will be fielded with a total of 16 launch tubes per boat versus the 20 tubes currently operational in the *Ohio*-class.

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The Sea-Launched Cruise Missile-Nuclear (SLCM-N): Policy and Strategy

prepared by the

Office of the Under Secretary of Defense for Policy
U.S. Department of Defense

Executive Summary

A nuclear-armed sea-launched cruise missile (SLCM-N) is one of two supplemental capabilities identified in the 2018 Nuclear Posture Review (NPR) as needed to address specific regional deterrence problems that have emerged in recent years as a result of developments in the forces and doctrine of nuclear competitors.

First, there is a growing disparity between the nonstrategic nuclear weapons (NSNW) fielded by the United States and the Russian Federation. While in the past this imbalance was manageable, changes in Russian behavior in recent years, their continued investment in these systems, and their refusal to consider an arms control alternative has created a more serious risk, requiring the United States to take countervailing steps to address this disparity.

Second, there are credible concerns that these capabilities are central to a Russian approach to regional conflict that envisions the early, limited use of nonstrategic weapons to end a war on terms favorable to Russia. This approach may be premised on Russia's belief that its expanding anti-access/area denial (A2AD) networks will be able to neutralize the airborne nuclear deterrent forces of the United States and NATO. In the future, it is possible that China could adopt a similar doctrine. Developing and fielding SLCM-N signals the leaders of nuclear competitors in a concrete way that the United States has the capability and will to maintain operationally effective nuclear options to deter regional aggression.

Third, the deteriorating global nuclear threat environment is a source of concern to regional allies and partners, who are looking to the United States to strengthen the framework for assurance and extended deterrence vital to their own security and non-nuclear status. SLCM-N will bolster allied confidence in U.S. security guarantees.

Through its unique attributes, SLCM-N is a tailored response to these challenges to deterrence stability. It will lower the risks of nuclear conflict, bolster the confidence of allies, and restore a degree of balance in nonstrategic nuclear weapons that could create conditions more conducive to addressing this category of forces through arms control. This approach does not require nuclear testing or new nuclear weapons nor does it violate any treaty.

Nuclear Sea-Launched Cruise Missile: Policy and Strategy

"Russia's non-strategic nuclear weapons stockpile is of concern because it facilitates Moscow's mistaken belief that limited nuclear first use, potentially including low-yield weapons, can provide Russia a coercive advantage in crises and at lower levels of conflict. The 2018 Nuclear Posture Review calls for adjustments to U.S. nuclear forces to close this perceived gap on the escalation ladder and reinforce deterrence against low-yield nuclear use."

General Scaparrotti, Former CDRUSEUCOM, March 5, 2019

I. Overview

This paper addresses the strategic requirement for and deterrence benefits of a nuclear-armed sea-launched cruise missile (SLCM-N). The 2018 Nuclear Posture Review (NPR) identified this system as a necessary supplement to the Triad. The paper focuses on the deterrence rationale for SLCM-N, the unique attributes of SLCM-N in the emerging operational environment, arms control and stability considerations, and frequently heard critiques of SLCM-N.

The key points put forward in this paper are as follows:

1. The NPR supplemental capabilities are modest and sensible adaptations that respond to genuine deterrence risks that have arisen in recent years.

2. SLCM-N responds in a unique way to a deteriorating nuclear threat environment and a growing imbalance in nonstrategic nuclear weapons.

3. SLCM-N will play an important role in tailored deterrence strategies in both Europe and Asia.

4. SLCM-N's operational attributes reinforce its value as a regional deterrence capability.

5. SLCM-N is not a redundant capability and does not duplicate the mission of other existing or planned nuclear systems.

6. Developing SLCM-N is an urgent task and initial steps in the acquisition process are underway.

II. The Deterrence Requirements for Supplemental Capabilities in the Nuclear Posture Review

The NPR is part of a larger set of strategic initiatives reshaping U.S. national security to strengthen the nation's ability to deter conflict, defend vital interests, and promote global security. The National Security Strategy (NSS) and the National Defense Strategy (NDS) emphasize new challenges to deterrence arising from renewed great power competition and the growing capabilities of rogue regimes. To respond to these challenges, the United States must restore its competitive advantage and develop the capabilities needed to deter and defend across an increasingly dynamic set of threats. Although nuclear forces are but one element of this, they remain foundational to U.S. strategy and an effective means to deter a number of significant threats to the United States and its allies and partners. Accordingly, we will sustain a nuclear force that both meets the requirements of credible deterrence today and anticipates future risks.

Key among the adaptations identified in the NPR are modest enhancements intended to supplement the capabilities provided by Triad forces (submarines, intercontinental ballistic missiles, and strategic bombers). These supplemental capabilities are a response to developments in competitor forces and doctrine that undermine deterrence stability at the regional level. Several challenges stand out: a deteriorating global nuclear threat environment, a growing disparity in nonstrategic nuclear weapons (NSNW), a more complex

operating environment for nuclear-capable aircraft, the requirements of allied assurance and extended deterrence; and the possibility that an adversary will employ a limited number of nuclear weapons—including low-yield weapons—to deter U.S. military responses to regional aggression. To address this range of risk, we have adapted one existing capability and we will reconstitute—in updated form—a second. We have fielded a small number of existing submarine-launched ballistic missile (SLBM) warheads with a low-yield capability. In the longer-term, we will develop a modern nuclear-armed sea-launched cruise missile—a capability previously fielded but retired by 2012 in hopes of persuading other states to eliminate these and related weapon systems.

These programmatic initiatives are not being undertaken lightly, but in the belief they are necessary to provide greater flexibility in tailoring strategies to deter and if necessary respond to limited nuclear threats, and to signal to Russia —and to China, which is also developing theater-range, dual capable systems — that there is no exploitable advantage to be gained from the threat or use of nuclear weapons in a regional conflict. Despite arguments that are commonly heard, the goal is not to mimic Russia's strategy or match its much more expansive nonstrategic arsenal. The NPR supplemental capabilities fall well short of doing so. Nor do they signal a shift toward a strategy emphasizing nuclear warfighting or a lower threshold for nuclear employment. To the contrary, they are intended to ensure that nuclear war is less rather than more likely by demonstrating to adversaries that the United States is fully prepared to deter nuclear threats at every stage of an escalating crisis or conflict. This will raise, not lower, the "nuclear threshold." The supplemental capabilities are consistent with U.S. obligations under the New START Treaty. They will not add to the number of nuclear weapons in the U.S. nuclear stockpile, create arms race pressures, upset the overall nuclear balance, or undermine stability. They will leverage existing missile and warhead programs. Deployed at sea, these systems will not place added burdens on allies for basing and support.

III. SLCM-N: Unique Attributes and Benefits

SLCM-N Directly Addresses the Growing Disparity in Nonstrategic Nuclear Weapons

SLCM-N has particular value as a response to one of the more troubling trends in adversary nuclear capabilities—the imbalance in NSNW and the continued and increasing Russian investment in this category of forces. This investment indicates Russian authorities may view these capabilities as flexible and usable on the battlefield as an adjunct to conventional forces. Russia is modernizing an active stockpile of up to 2,000 such weapons that it can deploy on naval platforms, aircraft, and with ground forces. This includes at least twenty individual weapons or weapon systems that encompass ballistic missiles, ground-, air- and sea-launched cruise missiles, gravity bombs, torpedoes, depth charges, and surface-to-air missiles. By contrast, NSNW deployed by the United States in Europe in support of NATO remain modest in number and limited to one type of weapon. This capability is being modernized but not expanded in size.

The asymmetry in NSNW in Europe has long been a source of concern precisely because of the fear that it could contribute to deterrence instability in a crisis. This danger was highlighted a decade ago by the Strategic Posture Commission led by former secretaries of defense William Perry and James Schlesinger, by the United States Senate in the New START Resolution of Ratification, and by the 2010 NPR.

> *Strategic Posture Commission: "The imbalance in NSNW is of rising concern and an illustration of the new challenges of strategic stability as reductions in strategic weapons proceed."*
>
> *New START Resolution of Ratification: "The US will seek to initiate…not later than one year after entry into force of the New START Treaty, negotiations with the Russian Federation…to address the disparity between the non-strategic (tactical) nuclear weapons stockpiles of the Russian Federation and of the U.S."*
>
> *2010 NPR: "…large disparities in nuclear capabilities could raise concerns on both sides and among US allies and partners, and may not be conducive to maintaining a stable, long-term strategic relationship."*

For this reason the United States has consistently called on Russia to extend the bilateral arms control framework to include NSNW. With equal consistency Russia has refused to consider these offers. Still, the risk posed by this persistent asymmetry in capability was manageable during a period in which a nuclear crisis seemed a remote possibility. Today, in light of Russia's recent conduct and its continued investment in these forces, this possibility is less remote and the risk therefore higher. Although the context is different, China's improved

nuclear capabilities, which feature modern, theater-range nuclear systems, may lead to similar risks. Accordingly, mitigating these risks is now a priority, though it does not require matching Russia's large, diverse NSNW capabilities. It does, however, require conveying, to Moscow in particular, that absent a viable arms control approach, the United States will take steps to develop and field a capability that lessens our strategic vulnerability, tangibly strengthens our regional deterrence posture, and ensures a credible response to any nuclear escalation.

SLCM-N Will Play an Important Role in Tailored Deterrence Strategies

While the disparity in NSNW in Europe is troubling on its own, of greatest concern is the marriage of Russia's large, modern, and diverse nonstrategic nuclear force to a military doctrine that seems to allow for the use of nuclear weapons on a limited scale to protect Russian gains in a local aggression and deter an effective NATO response. Russian leaders might execute such a strategy if they believed it was their best chance to terminate or freeze a conflict on favorable terms—and that the United States and NATO would be constrained in responding proportionately because most available nuclear options carry a high risk of further, unintended escalation or could be defeated by Russia's growing anti-access/area denial (A2/AD) capabilities. This would be a high-risk approach, but Russia's leaders could conclude the risk is acceptable if the stakes were sufficiently high and they believed they enjoyed "escalation advantage" at the nonstrategic nuclear level.

Based on everything we know, this is a credible scenario. To be sure, we understand that the exact elements of Russia's nuclear doctrine are subject to public interpretation and debate—and that nations like Russia are not necessarily transparent in describing their nuclear doctrine publicly. Some degree of ambiguity in assessing adversary doctrine is the norm, not the exception. Therefore, it is not realistic to expect to know with certainty or even a high degree of confidence Russia's policy regarding the circumstances that would trigger limited nuclear use against NATO.

But it would be irresponsible to base our policy on a benign reading of Moscow's intentions and how Russian leaders think about the nuclear threshold and the risks of escalation. Regardless of official doctrine, there are simply too many other factors leading to the inescapable conclusion that Russia is prepared to use force, take risks, and leverage its nuclear weapons to advance its security goals. Prudence dictates that the United States and its allies consider seriously the possibility that Russian leaders could see advantage in the limited use of nuclear weapons in a failed or failing conflict, or to consolidate gains made through a successful local conventional aggression.

The 2018 NPR adopts this prudent stance and outlines an appropriate tailored deterrence strategy for Russia. This strategy emphasizes ensuring Russian leaders do not miscalculate the consequences of a limited initial use of nuclear weapons against NATO and understand clearly that a policy of nuclear escalation will yield no significant advantage and carry grave risks. SLCM-N directly supports this tailored deterrence strategy by providing additional limited employment capabilities that an adversary will have to consider if contemplating the coercive use of nuclear weapons. The availability of such systems will give an adversary pause, especially if paired with other demonstrations of U.S. and allied resolve, and thus lessen the risk of a catastrophic miscalculation. If a crisis escalates, leaders will have a wider range of options available in the event that the use of nuclear weapons is necessary to restore deterrence. Leadership will want options that are operationally effective and that signal unmistakably the will to defend vital interests and impose significant costs on an adversary—but that can be executed in a way that is perceptibly restrained and has some prospect of managing the risk of further escalation. SLCM-N provides such a capability.

The same deterrence logic applies to East Asia, where we expect a nuclear-armed SLCM to play an equally important role in deterring adversaries and assuring allies. The NPR outlines a tailored deterrence strategy for China that recognizes its push for regional dominance, its goal of countering U.S. power projection operations, its growing theater-range nuclear capabilities, and the potential for any U.S.-China conflict to escalate to the nuclear level. The tailored strategy for China intends to prevent Beijing from mistakenly concluding that it could secure an advantage by, for example, attempting to decouple the United States from its allies through the limited use or threatened use of its theater nuclear capabilities. SLCM-N conveys a clear signal that the United States will maintain graduated nuclear employment options that provide the means to respond effectively to any level of Chinese nuclear escalation.

SLCM-N's Operational Attributes Reinforce Its Deterrence Value

Regional deterrence of both Russia and China requires nuclear forces that are responsive, reliable and effective in the operational environment likely to characterize a future conflict with either power. The credibility of regional nuclear forces as a deterrent lies not simply in their existence but in their known ability to conduct operations that will impose unacceptable costs on a nuclear aggressor. This is why the NPR outlined a requirement for a theater nuclear system capable of proportional, discriminate response based on survivable, regionally present platforms, and with the necessary range, penetration capability, and effectiveness to hold critical adversary targets at risk.

In particular, regional nuclear systems must be able to operate effectively in the face of Russian and Chinese A2/AD strategies intended to deny U.S. forces the freedom of action to project power and hold adversary operations and territory at risk. Given the major investment both Russia and China have made in A2/AD capabilities (especially advanced integrated air defense systems), each may come to believe it can effectively impede U.S. regional nuclear capabilities in executing their deterrence missions, and thereby secure an exploitable coercive advantage. Dual-capable aircraft may be vulnerable, or perceived as vulnerable, to advanced defensive systems despite enhancements to their stealth and standoff features. As defensive systems continue to improve, there is a risk a potential adversary may believe it can constrain U.S. ability to respond in a proportional manner to limited nuclear use and that the United States would be deterred from a more escalatory response by the adversary's withheld nuclear capabilities.

This is why SLCM-N is an important capability. Based on highly survivable undersea platforms, SLCM-N will reinforce the credibility of tailored deterrent options in both European and East Asian contingencies. Sea-based systems can exploit an extensive operating area in which they will be difficult to find and destroy, preserving the ability to respond in a timely way to nuclear aggression even if other nonstrategic systems are degraded. In this way, SLCM-N will add to the flexibility and diversity of regional deterrence forces and provide an assured and prompt response capability in demanding operational environments.

Promptness is an important consideration. Employment options that use the air leg of the Triad generally are not considered prompt; they require time to generate and reach the target or launch point. Some time-sensitive, high-priority targets may disperse or launch prior to the arrival of an air asset, potentially making U.S. deterrent threats less credible. Regionally present sea-based systems require far less notice. Operating at a high level of readiness, SLCM-N could strike a target quickly once the order to execute is received. The adversary could not be assured that its high-value mobile strike systems are immune to attack, or that a U.S. response to limited nuclear use would be delayed. This contributes to deterrence credibility.

Finally, a nuclear-armed SLCM force would help to hedge against the possibility of (i) a major technical or operational failure of the SSBN force or another leg of the Triad, and (ii) a significant Russian breakout from arms control limits or a Chinese decision to rapidly expand its nuclear forces. In this way, SLCM-N would enhance the overall reliability and survivability of the U.S. nuclear posture while also supporting tailored deterrence strategies.

SLCM-N Provides Unique Political and Operational Benefits in the Indo-Pacific Region

In this vast region, we do not permanently station nuclear-capable forces, but rely instead on systems based in or rotating from the continental United States. For many years the now-retired Tomahawk Land Attack Missile-Nuclear (TLAM-N) made an important contribution to assuring regional allies and underwriting our extended deterrence strategy. The ability to provide a regional nuclear presence signaled a high degree of resolve and readiness in a crisis and did not require allies to base nuclear systems on their territory. Restoring that capability with SLCM-N will bolster allied confidence in U.S. nuclear security guarantees and strengthen our comprehensive extended deterrence framework for the region, which also includes non-nuclear strike capabilities, missile defense, exercises and consultation, and the capability, if needed, to forward deploy nuclear-capable bombers and tactical aircraft. As former Under Secretary of Defense for Policy James Miller and former Vice Chairman of the Joint Chiefs of Staff Admiral Sandy Winnefeld (USN, Ret.) have argued in reference to SLCM-N, "Such a capability not only would provide a credible and survivable option for extended deterrence in Europe, but also would bolster deterrence and assurance in the Pacific."[3]

[3] "Bring Back the Nuclear Tomahawks," Admiral Sandy Winnefeld (USN, ret.) and Dr. James N. Miller, *Proceedings Today*, U.S. Naval Institute, May 2017.

IV. Arms Control Considerations

The existing U.S.-Russia strategic arms control framework, the New START Treaty, does not limit sea-launched cruise missiles or their launchers.[4] While it is conceivable that a future framework could capture these capabilities, this does not seem a realistic basis for planning in the current political environment.

The United States is hopeful that its stated intention and concrete plans to develop and field SLCM-N will lead Russia to conclude that its interests are best served by discussing reductions to or limits on nonstrategic nuclear weapons. Witnessing U.S. resolve to buttress its deterrent forces with a credible, effective capability that can hold important Russian military targets at risk could influence the thinking of Russian leaders. The history of U.S.-Russia nuclear arms control demonstrates that Moscow will engage in serious negotiations only when it faces military capabilities that match or exceed its own and that can impose severe costs. At present, Russia's leaders see no compelling reason to negotiate on NSNW. In the absence of concrete steps by the United States to bolster its deterrence forces to begin to offset Russian advantages in this category of weapons, Russia is unlikely to change its approach. U.S. policy remains unchanged: should Russia agree to discuss NSNW, and moderate its destabilizing behaviors, it may be possible to reconsider the need for SLCM-N. But we are realistic about the prospects for this outcome.

SLCM-N will not affect the central deterrence relationship between the United States and Russia or the balance between the two side's strategic nuclear triads. These remain defined by the principles of mutual deterrence, the aforementioned New START agreement (as long it remains in force), and nuclear risk reduction measures (e.g., crisis communications mechanisms). SLCM-N will not be based on a strategic nuclear platform and will not be subject to the New START Treaty limits. SLCM-N will not have intercontinental range. In addition, the destructive power and range of U.S. SLCMs—even if launched as a salvo—would not threaten the ballistic missile forces of major nuclear powers. It is a nonstrategic capability that will not threaten the survivability, or otherwise affect the second strike capability, of an adversary's strategic deterrent forces.

V. Responses to Frequently Heard Critiques of a Nuclear-Armed SLCM

Challenge: SLCM-N responds to a problem that likely does not exist or is overstated.

Response: There is indeed an asymmetry in U.S. and Russian forces and doctrine, and evidence that Russia has acted to widen and exploit it. Our concern is that these gaps in capability and approach are from Russia's vantage highly dynamic—not a static phenomenon but something that provides an exploitable advantage in crisis or war. This could shape the course of regional conflict in a profoundly destabilizing way with a high degree of nuclear escalation risk. This gap therefore has important implications for pre- and intra-war deterrence, and also for extended deterrence and the assurance of allies. The contention offered by some that this gap has been created as a result of our talking about it defies common sense. It will not disappear if we simply stop referring to it. It will only begin to close when we take actions that work to close it. If we ignore it, it will get worse and risks will grow.

More fundamentally, deterrence is concerned with shaping the adversary's perceptions and calculations of risk. Determining the capabilities required for deterrence cannot rely solely on our own sense of what is sufficient with respect to the size or cost of a force. To avoid the dangers of mirror imaging, we must consider how adversaries are likely to view the robustness of U.S. forces, applying the standards, criteria and metrics the adversary might apply based on what we can learn from doctrine, exercises, training, and leadership statements. We must do this even if it challenges our own assumptions. A force that many might consider comprehensive and sufficient for maintaining deterrence even in very challenging contingencies may be viewed differently by adversaries prepared to take risks and in constant search of exploitable advantages derived from perceived or actual asymmetries in capabilities and doctrine. If an adversary appears to believe such advantages exist or can be created, it is a strong signal that our deterrent posture needs to be strengthened in a way that the adversary understands unambiguously.

[4] Note that under New START, ballistic missile submarines converted to carry cruise missiles are subject to a limited number of inspections to confirm this conversion process.

Challenge: SLCM-N is a nuclear warfighting capability that will lower the nuclear threshold and make nuclear war more likely.

Response: The United States deploys nuclear weapons to deter attacks on itself, its deployed forces, and its allies and partners. Our nuclear strategy is not premised on preparation for or expectation of extended nuclear exchanges with an adversary. Strategy, doctrine, forces, and exercises all attest to this. The United States maintains a high threshold for nuclear use and would use nuclear weapons only in an extreme circumstance. All Nuclear Posture Reviews, including the current one, have been clear on this point. The fact that SLCM-N adds to the options leadership has for the limited use of nuclear weapons to restore deterrence is not a departure from past policy and practice. For decades the United States has maintained selective use options and has continually assessed the credibility of these options in light of changing strategic and operational conditions. The decision to pursue SLCM-N simply reflects our current assessment of what is required to ensure stable deterrence going forward.

Challenge: SLCM-N will lead to or accelerate a nuclear arms race.

Response: The United States is doing nothing to encourage a new arms race in nonstrategic nuclear weapons. SLCM-N (as is the low-yield SLBM) is a modest response to Russia's comprehensive program to modernize and expand its broad, multi-domain suite of NSNW. It is not our goal to match Russia's deployments. Our purpose is to strengthen deterrence and reduce the risks associated with what will continue to be an imbalance in NSNW. The United States has long sought to advance this objective by extending the arms control regime to account for NSNW, but has repeatedly been rebuffed by Russia. It is possible that our decision to develop and field SLCM-N will give pause to Russia's leaders and lead them to reconsider their opposition to negotiated NSNW limits or reductions. However, should this materialize and should Moscow in tandem take other important steps to promote stability, it may be possible to reconsider the need for SLCM-N.

Challenge: SLCM-N operations will detract from conventional operations.

Response: Potential tradeoffs with conventional operations will be addressed as the programmatic options for SLCM-N are evaluated, the number of required weapons is defined, and a concept of operations is developed. Before these factors are fully examined, it is difficult to assess possible tradeoffs. There is no basis today to conclude that SLCM-N operations will unduly degrade other naval missions. Our expectation is that platforms will have capacity to deploy a large number of cruise missiles, and that other naval platforms not assigned the SLCM-N mission will be able to deliver a significant amount of conventional firepower.

Challenge: How is DoD rapidly developing a modern SLCM-N?

***Response*:** The development of SLCM-N will follow the Joint Capabilities Integration and Development System (JCIDS). The Navy has published an Initial Capabilities Document (ICD) to identify the attributes of a system to fill the requirement identified in the NPR. OSD's Office of Cost Assessment and Program Evaluation (CAPE) has provided initial and supplementary guidance for a SLCM-N Analysis of Alternatives (AoA) study. The AoA guidance encompasses a full range of alternatives, but focuses effort on likely solutions to provide the best opportunity to establish funding in the FY 2022 budget request with the strongest of the alternatives.

VI. Conclusion

We cannot ignore the disparity in U.S. and Russian nonstrategic nuclear capabilities. While we hope that an arms control solution to this problem will be possible, Russia has made and continues to make a significant investment in these forces. Nor can we dismiss China's development of theater-range nuclear-capable systems. These investments raise a compelling concern that Russia and China may see some exploitable advantage in the use or threatened use of these systems. This raises the risk of nuclear war. To lower this risk, and to ensure the nuclear threshold remains as high as possible, we must be certain we possess highly credible response options for any adversary's limited use of nuclear weapons. The SLCM-N directly addresses this deterrence requirement.

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