

## SLCM-N: Needed for Deterrence, Nonproliferation, and Arms Control

Congress, the Senate and House Armed Services Committees, deserve the gratitude of all Americans for their bipartisan rebuke of the Biden Administration for trying to cancel the Sea-Launched-Cruise-Missile-Nuclear (SLCM-N)—needed to prevent, or prosecute, tactical nuclear war.<sup>1</sup>

Congress has restored funding for SLCM-N. But President Biden's still classified Nuclear Posture Review reportedly calls for cancelling the missile, so the Biden Administration may yet try again to kill SLCM-N in the future.

### Background

President Biden defunded development of the Sea-Launched Cruise Missile-Nuclear (SLCM-N), overruling his top generals and military advisors in the Pentagon who warn, correctly, that SLCM-N is vitally necessary for nuclear deterrence.<sup>2</sup>

SLCM-N if developed and deployed would be a long-range (2,500 kilometers) cruise missile, stealthy because it can fly under radar, highly accurate, armed with a warhead of variable yield (5-150 kilotons), and launchable from U.S. Navy tactical platforms, submarines and surface ships, including SSNs, guided missile cruisers, and destroyers.<sup>3</sup>

SLCM-N is the best hope to mitigate Russia's enormous advantage in tactical nuclear weapons. Currently, the U.S. is credited with 100-200 tactical nuclear weapons, mostly aged gravity bombs bunkered in European NATO, versus an estimated 2,000-8,000 Russian tactical nuclear weapons—giving Moscow an at least ten-to-one decided advantage that Russia may exploit waging nonstrategic nuclear warfare in land, sea, and air battles.<sup>4</sup>

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<sup>1</sup> Bill Gertz, "Congress To Restore Nuclear Cruise Missile Funds—SLCM-N" Washington Times (23 June 2022).

<sup>2</sup> "Biden Administration Kills Trump-era Nuclear Cruise Missile" BreakingDefense.com (28 March 2022) <https://breakingdefense.com/2022/03/biden-administration-kills-trump-era-nuclear-cruise-missile-program/>. "U.S. Nuclear Commander Backs Sea-Launched Cruise Missile Biden Would Cancel" DefenseNews.com (7 June 2022) <https://www.defensenews.com/2022/06/07/us-nuclear-commander-backs-sea-launched-cruise-missile-biden-would-cancel/>.

<sup>3</sup> "Report to Congress on Sea-Launched Nuclear Cruise Missile" USNI (27 April 2022) <https://news.usni.org/2022/04/27/report-to-congress-on-sea-launched-nuclear-cruise-missile>. Congressional Research Service, "Nuclear-Armed Sea-Launched Cruise Missile (SLCM-N)" (25 April 2022). SLCM-N as successor to the Tomahawk SLCM will probably use the same nuclear warhead, the W80, having variable yield 5-150 kilotons, see: "The W80 Warhead" nuclearweaponsarchive.org (29 August 2007) <https://nuclearweaponarchive.org/Usa/Weapons/W80.html>.

<sup>4</sup> Dr. Mark Schneider, "Russian Tactical Nuclear Weapons Are Real" USNI (April 2018) <https://www.usni.org/magazines/proceedings/2018/april/russian-tactical-nukes-are-real>. Mark Episkopos, "Russia's Tactical Nuclear Weapon Stockpile Is Jaw-Droppingly Large" National Interest (2 December 2021) <https://nationalinterest.org/blog/reboot/russia%E2%80%99s-tactical-nuclear-weapon-stockpile-jaw-droppingly-large-197310>. Peter Huessy and Mark Schneider, "Future Russian Strategic Challenges" Gatestone (20 May 2013).

SLCM-N defunding evidences the Biden Administration appears to genuinely believe their mantra that “Nuclear war cannot be won and must never be fought” so U.S. gross inferiority in tactical nuclear weapons matters not—Minimum Deterrence will suffice.<sup>5</sup>

Yet President Biden is perhaps unaware that canceling SLCM-N throws away the best opportunity to advance his administration’s highest priority foreign policy objectives—nuclear nonproliferation and arms control with Russia, China, North Korea, and Iran.<sup>6</sup>

### **Deterrence**

While the U.S. credits itself with 100-200 tactical nuclear weapons, from the perspective of our nuclear adversaries, we are probably giving ourselves too much credit.<sup>7</sup>

Most U.S. tactical nuclear weapons are bunkered in European NATO (Germany, Italy, the BeNeLux countries) and Turkey (at Incirlik). These are aged, arguably obsolete, gravity bombs that would have to be delivered through increasingly formidable Russian air defenses. Nor can the U.S. unilaterally employ these weapons. The U.S. must consult with other NATO governments and have the approval of at least the host government—which would deliver the bombs on behalf of NATO.<sup>8</sup>

Would Germany, Italy, or Turkey really be willing to start a nuclear war with Russia, or to widen a tactical nuclear war started by Russia to include themselves as targets, on behalf of Latvia, Poland, or Ukraine? Moreover, generating NATO’s tactical nuclear weapons for employment would be a “noisy” process that might well provoke a Russian preemptive nuclear strike.<sup>9</sup>

The U.S. has a very small number of tactical nuclear warheads aboard the SSBN Tennessee, a ballistic missile submarine armed with mostly high-yield strategic warheads. Some of the Tennessee’s Trident SLBMs are armed with the W76-2, a low-yield (5 kilotons) tactical warhead.<sup>10</sup>

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<sup>5</sup> Dr. Peter Vincent Pry, *Nuclear War Can Be Won—And Lost* (EMP Task Force: May 2022) <https://emptaskforce.us/wp-content/uploads/2022/05/ARTnuclearVICTORY22.pdf>.

<sup>6</sup> David Cooper, “A Nuclear Cruise Missile Could Be Vital For Arms Control And Nonproliferation” *BreakingDefense.com* (7 September 2021).

<sup>7</sup> “Fact Sheet: United States Nonstrategic Nuclear Weapons” *ArmsControlCenter.org* (March 2022) <https://armscontrolcenter.org/u-s-nonstrategic-nuclear-weapons/>.

<sup>8</sup> “United States Nuclear Weapons In Europe” *cnduk.org* <https://cnduk.org/resources/united-states-nuclear-weapons-europe/> “Both host country and the U.S. would then need to approve the use of these weapons, which would be launched on the former’s airplanes.” Zachary Keck, “Why A Nuclear-Armed Eurofighter Might Spell Big Trouble for the F-35” *National Interest* (26 June 2018) <https://nationalinterest.org/blog/the-buzz/why-nuclear-armed-eurofighter-might-spell-big-trouble-the-f-26420>.

<sup>9</sup> “Fact Sheet: United States Nonstrategic Nuclear Weapons” *ArmsControlCenter.org* (March 2022): “While the tactical nuclear arsenal could once be deployed on NATO-designated aircraft within minutes, today the readiness level is measured in months.”

<sup>10</sup> “W76-2 Low-Yield Warhead Deployed On U.S. Navy SSBN Submarines” *NavalNews.com* (7 February 2020) <https://www.navalnews.com/naval-news/2020/02/w76-2-low-yield-warhead-deployed-on-us-navy-ssbn-submarines/>.

Critics warn that Trident lacks the necessary accuracy to usefully deliver 5 kilotons to a battlefield; that delivering a tactical nuclear strike from a strategic platform risks escalating a limited nuclear war into an all-out nuclear war; and that as soon as the submarine fires one or a few missiles, the boat exposes its location and could be destroyed, along with all its strategic warheads needed to deter attacks on U.S. cities.<sup>11</sup>

Moreover, the Tennessee cannot always be at sea or in the theater where it is needed. If at port, the SSBN would have to be generated--a potentially escalatory act.<sup>12</sup>

Chief of U.S. Strategic Command, Admiral Charles Richard, who also sits on the Nuclear Weapons Council in addition to commanding all U.S. nuclear forces, wants SLCM-N because, in addition to its accuracy and stealth, if widely deployed SLCM-N would not have to be generated: "I support reestablishing SLCM-N as necessary to enhance deterrence and assurance [because] a low-yield, non-ballistic capability that can be made available without visible generation" is needed.<sup>13</sup>

STRATCOM Commander Richard warns that the disparity in U.S. and adversary nuclear capabilities increases the risk of limited nuclear war: "We are facing a crisis deterrence dynamic right now that we have seen only a few times in our nation's history... The war in Ukraine and China's nuclear trajectory—their strategic breakout—demonstrates that we have a deterrence and assurance gap based on the threat of limited nuclear employment."<sup>14</sup>

The Defense Threat Reduction Agency's Robert Peters, Chief of the Strategic Trends and Effects Department, concurs: "China and Russia are incentivized to escalate the level of violence above the conventional threshold, but below a general nuclear exchange—and should that happen, those states are postured to defeat us."<sup>15</sup>

Peters assesses that limited nuclear use by Russia or China could strain U.S. alliance relationships beyond the breaking point—and Moscow and Beijing know this:

"The political effect of responding either with conventional weapons or with high-yield nuclear weapons would create serious alliance cohesion issues within any U.S.-led coalition... Some allies might demand a nuclear response (even one that was high-yield) to a low-yield nuclear

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<sup>11</sup> "Are U.S. Submarines Vulnerable?" Real Clear Defense (30 May 2019). <https://centerforsecuritypolicy.org/are-u-s-navy-ballistic-missile-submarines-in-big-trouble/>.

<sup>12</sup> So far, only the SSBN Tennessee has been armed with some W76-2 tactical nuclear warheads.

<sup>13</sup> Sean Elliot, "U.S. Nuclear Commander Backs Sea-Launched Cruise Missile Biden Would Cancel" Yahoo News (7 June 2022) <https://news.yahoo.com/us-nuclear-commander-backs-sea-201252156.html>.

<sup>14</sup> "U.S. Nuclear Commander Warns Of Deterrence 'Crisis' Against Russia And China" Defense News (4 May 2022) <https://www.defensenews.com/pentagon/2022/05/04/us-nuclear-commander-warns-of-deterrence-crisis-against-russia-and-china/>.

<sup>15</sup> Robert Peters "The Red Zone: Understanding an Escalatory Pathway" Air University Press (9 May 2022) <https://www.airuniversity.af.edu/Wild-Blue-Yonder/Article-Display/Article/3021286/the-red-zone-understanding-an-escalatory-pathway-that-the-adversaries-are-explo/>.

attack, while others would almost certainly blanch at the prospect of a limited nuclear war...The political crisis would be severe, immediate, and perhaps devastating to coalition cohesion.”<sup>16</sup>

Moreover:

“This is a prospect our enemies count on and is part of the reason why a low-yield nuclear strike would nonetheless have strategic political impacts...And they are not problems which would confront China or Russia, non-democracies who do not have to worry about offending allies...”

“We must examine the strategic and operational and tactical warfighting challenges. And we must re-examine our force posture as well as our declaratory policy...If we do not, we will lose the war.”<sup>17</sup>

SLCM-N could close the enormous gap between U.S. and adversary capabilities to wage tactical nuclear warfare, plugging one of the biggest holes in the eroding nuclear deterrence dike. But President Biden is ignoring pleas for SLCM-N from his own top military experts.

### **Nonproliferation**

The Biden Administration seems unaware that cancellation of SLCM-N also cancels one of their most effective tools for shoring-up U.S. extended nuclear deterrence—that has for decades been more effective than any treaty in stopping nuclear proliferation.<sup>18</sup>

According to recent polls, 71% of South Koreans support developing nuclear weapons, so Seoul would have a nuclear deterrent independent of the United States, because they lack confidence that the U.S. would risk nuclear war with North Korea to protect South Korea.<sup>19</sup>

Some in Japan, perhaps the most anti-nuclear nation in the world because of the atomic bombings of Hiroshima and Nagasaki in World War II, are calling for developing a nuclear deterrent independent of the United States. Japan’s nuclear power industry and sophisticated space industry, that routinely orbits satellites, would enable Japan to arm itself with nuclear missiles quickly—perhaps in only a year or two after Tokyo’s political decision to launch a Japanese Manhattan Project.<sup>20</sup>

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<sup>16</sup> Ibid.

<sup>17</sup> Ibid.

<sup>18</sup> Office of the Secretary of Defense, *Nuclear Posture Review* (February 2018): “Ensuring our nuclear deterrent remains strong will provide the best opportunity for convincing other nuclear powers to engage in meaningful arms control initiatives...U.S. nuclear weapons not only defend our allies against conventional and nuclear threats, they also help them avoid the need to develop their own nuclear arsenals.” Susan Kuch, “Extended Deterrence and the Future of the Nuclear Nonproliferation Treaty” *Comparative Strategy* (Volume 39, 20 April 2020).

<sup>19</sup> “South Koreans Overwhelmingly Want Nuclear Weapons To Confront China and North Korea” *Washington Post* (21 February 2022). “7 in 10 South Koreans Want Nuclear Weapons” *news.yahoo.com* (23 February 2022).

<sup>20</sup> “Japan Has Nuclear ‘Bomb in the Basement’, and China Isn’t Happy” *nbcnews.com* (11 March 2014). “Surprise: Japan Could Quickly Build Nuclear Weapons In A Crisis” *National Interest* (21 July 2021).

Some U.S. analysts have so little confidence in U.S. extended nuclear deterrence that they recommend giving nuclear weapons to Taiwan.<sup>21</sup> Taiwan once had a clandestine nuclear weapons program, stopped by the U.S. in exchange for security guarantees.<sup>22</sup>

Iran's development of its "Islamic Bomb" threatens to spur wider proliferation in the Middle East—if not spark an immediate nuclear war with Israel. Saudi Arabia reportedly will go nuclear "the next day" if Iran gets nuclear weapons.<sup>23</sup> Egypt, Turkey, and Syria are likely to seek nuclear weapons to protect themselves from nuclear blackmail, or worse, from Iran's fanatical terrorist Islamic Revolutionary Guard.<sup>24</sup>

Tattering credibility of the U.S. so-called "nuclear umbrella" (extended nuclear deterrence to protect U.S. allies) is due to many factors, including:

--Failure of multiple U.S. administrations for nearly 30 years, since 1995, to deliver on promises that North Korea will not be allowed to become a nuclear weapons state, even while North Korea has become an increasingly powerful and sophisticated de facto nuclear weapons state.

--North Korean nuclear threats against the U.S. and allies, including launching ICBMs over Japan, MRBMs into Japan's defense zones and territorial waters, even orbiting satellites over the U.S. Why should allies believe the U.S. will protect them, when the U.S. will not even protect itself against North Korean nuclear provocations?

--In 1995-1996, China inflicted a "missile blockade" on Taiwan, firing M-9 SRBMs into Taiwan's territorial waters, while China's General Xiong Guan Kai threatened the U.S. Assistant Secretary of Defense "Americans care more about Los Angeles than they do about Taipei." China's General Zhu Chengu threatened: "Americans will have to be prepared that hundreds of cities will be destroyed by the Chinese" in a nuclear war over Taiwan: a blow at U.S. extended nuclear deterrence that ever since has increasingly worried U.S. allies.<sup>25</sup>

--In 2021, a website affiliated with China's military threatened a joint China-Russia-North Korea nuclear war against Japan, should Japan help the U.S. defend Taiwan.<sup>26</sup>

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<sup>21</sup> Gordon Chang, "'War Is Real': Defend Taiwan Or Give It The Bomb" *Gatestone* (18 October 2021). Angelo Codevilla, "Put Nukes On Taiwan" *hoover.org* (30 June 2021).

<sup>22</sup> Mark Fitzpatrick, *Asia's Latent Nuclear Powers: Japan, South Korea, and Taiwan* (2017).

<sup>23</sup> "Saudis Would Develop Bomb 'the next day' If Iran Nuclear Deal Led To Weapons Capability: Experts" *Foxnews.com* (29 April 2022).

<sup>24</sup> James Lindsay and Ray Takeyh, "After Iran Gets the Bomb" *Foreign Affairs* (March/April 2010). John Bolton, "To Stop Iran's Bomb, Bomb Iran" *New York Times* (26 March 2015). Ephraim Kam, "What If Iran Gets the Bomb?" *jcpa.org* (29 September 2005).

<sup>25</sup> Jeremy Bender, "That Time China's State Media Ran An Article About Nuclear Strikes Against Los Angeles" *BusinessInsider.com* (7 June 2016). "Chinese General Threatens Use of A-bombs If U.S. Intrudes" *New York Times* (15 July 2005). "Chinese General Warns of Nuclear Risk to U.S." *theguardian.com* (16 July 2005).

<sup>26</sup> "The Taiwan Nuclear Powder Keg: A New Cuban Missile Crisis?" *Center for Security Policy* (12 October 2021).

--In 2022, China is conducting unprecedentedly large and aggressive air force exercises against Taiwan, and unprecedentedly large and aggressive joint China-Russia air, naval, and strategic forces exercises against Japan and Hawaii.<sup>27</sup>

--In 2022, Iran is estimated to be “weeks” away from nuclear weapons capability, while some analysts warn Iran probably already has developed nuclear-armed missiles clandestinely.<sup>28</sup>

The Ukraine War may have delivered a death blow to U.S. extended nuclear deterrence—enforced by noncredible/nonexistent U.S. tactical nuclear capabilities. The Ukraine War casts its shadow over European, Pacific, and Middle East allies who see Russian nuclear threats deterring the U.S. and NATO Europe from intervening even with a “No Fly Zone” even when the Russian Army appears to be losing.<sup>29</sup>

Will the U.S. policy of “fighting to the death of the last brave Ukrainian” also apply to future aggression by Russia against Central Asian states or European NATO; by China against Taiwan, Japan, the Philippines, Australia, and others; by North Korea against South Korea and Japan; by a nuclear-armed Iran against Israel and moderate Arab U.S. allies?

Trying to enforce U.S. extended nuclear deterrence with high-yield strategic nuclear forces is inherently less credible than SLCM-N.

SLCM-N is more credibly useable than strategic nuclear forces. SLCM-N with high-accuracy, variable-yield, and the ability to fly under radar makes possible surgical, selective strikes against the best protected targets. SLCM-N can be maintained always on station deployed on SSNs and surface ships, maintained quietly without the need for provocative force generation, employed stealthily without the escalatory possibilities inherent in delivery by ballistic missiles or bombers.

SLCM-N could repair the tattered “nuclear umbrella” and reassure allies by its presence in their theater. SLCM-N could be the “cop on the beat” in the dangerous neighborhoods of the Pacific, Middle East, and Europe.

Extended nuclear deterrence is best implemented quietly, without heated rhetoric and dangerous demonstrations of military prowess, but with assured military capabilities known to friend and

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<sup>27</sup> “Chinese Military Jets Menace Taiwan” Washington Post (6 October 2021). “Taiwan Reports Largest Incursion Yet By Chinese Air Force” Reuters (12 April 2021). “Russia, China Fly Nuclear-Capable Bombers In Joint Military Drill During Biden Trip To Japan” Foxnews.com (24 May 2022). “Japan Warns U.S. a ‘Pearl Harbor’ Style Attack From China and Russia Could Happen” AmericaMilitaryNews.com (2 July 2021).

<sup>28</sup> “U.S. Officials: Iran is ‘Weeks’ Away From Nuclear Breakout” cbnnews.com (27 April 2022). Majid Rafizadeh, “Iran’s Nuclear Weapons Weeks Away” Gatestone (9 September 2021). “Iran Probably Already Has The Bomb” National Review (19 March 2021). *Iran: EMP Threat* (emptaskforce.us: 30 April 2022).

<sup>29</sup> Zack Beauchamp, “Why the U.S. Won’t Send Troops to Ukraine” vox.com (25 February 2022). Malcolm Davis, “Yes, A NATO-Russia Nuclear War Over Ukraine Could Happen” 1945 (18 March 2022). “Russia’s Nuclear Threats in the War Against Ukraine” swp-berlin.org (German Institute for International Security Affairs: 2022). *On The Nuclear Brink In Ukraine* (emptaskforce.us: May 2022).

foe alike, that could best be provided by SLCM-N. During the Cold War the U.S. successfully enforced extended deterrence, and won the Cold War peacefully, in part because the U.S. fielded capabilities very like SLCM-N, then called the Tomahawk.

In June 2022, North Korea challenged U.S. extended nuclear deterrence yet again, by an unprecedented coordinated launch of 8 ballistic missiles. The U.S. and South Korea responded with an air force exercise and by launching 8 ballistic missiles—nuclear missile age “tit-for-tats” reminiscent of the military mobilizations of 1914 that caused World War I.<sup>30</sup> What could possibly go wrong?

Surely, the SLCM-N is a safer, saner, solution for making extended deterrence credible again, for reassuring allies, for arresting nuclear proliferation, and preventing war.

### **Arms Control**

Unlike most of official Washington, the author is no fan of arms control, which in the long-term has tended to limit only U.S. capabilities, while adversaries violate the treaties.<sup>31</sup>

Nonetheless, the Biden Administration would make arms control central to U.S. national security policy, despite the long record of arms control violations by adversaries and failure to make the U.S. safer.<sup>32</sup> Yet the Biden Administration apparently has not considered that by defunding SLCM-N, they are throwing away their best hope to achieve nuclear arms control with Russia, China, North Korea, and Iran.

During the Cold War, President Ronald Reagan understood that in arms control: “you cannot get something for nothing.” Accordingly, Reagan countered Moscow’s unprecedented rapid and massive build-up of SS-20 Intermediate-Range Ballistic Missiles (IRBMs) to threaten European NATO, by U.S. deployment of IRBMs, Pershing-2s and GLCMs (Ground-Launched Cruise Missiles), to NATO Europe.<sup>33</sup>

President Reagan’s strategy was to trade elimination of U.S. IRBMs for elimination of Russian IRBMs, which was accomplished in the Intermediate-range Nuclear Forces Treaty (INF Treaty). At the time, the INF Treaty was considered the most successful arms control treaty in history, because it completely eliminated an entire class of nuclear missiles, and for the first time began the process of reducing the size of nuclear arsenals on both sides.<sup>34</sup>

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<sup>30</sup> “North Korea Launches 8 Short-Range Ballistic Missiles” [cnn.com](#) (5 June 2022). “North Korea Launches 8 Ballistic Missiles” [The Diplomat](#) (6 June 2022). “South Korea, U.S. Launch 8 Missiles In Response To North Korea’s Missile Firings” [cnbc.com](#) (5 June 2022).

<sup>31</sup> Dr. Peter Vincent Pry, “The Case Against Arms Control” [Real Clear Defense](#) (24 June 2019).

<sup>32</sup> Bill Gertz, “Biden: U.S. Committed to Arms Control Despite Chinese, Russian Advances” [Washington Times](#) (2 June 2022).

<sup>33</sup> Department of State, “Intermediate-Range Nuclear Forces Treaty (INF Treaty), 1987” [2001-2009.state.gov](#). “Intermediate-Range Nuclear Forces Treaty” [Britannica.com](#).

<sup>34</sup> *Ibid.* President Trump withdrew from the INF Treaty because Moscow cheated on the treaty for years. “The Truth About Russian Violations of the INF Treaty” [sk.usembassy.gov](#) (28 March 2019).

The Biden Administration wants through arms control to limit Russia’s vast advantage in tactical nuclear weapons—but the White House cannot realistically expect to “get something for nothing.”<sup>35</sup> Deployment of SLCM-N is the most realistic prospect for incentivizing Russia to limit or trade away their advantage in tactical nuclear weapons, or eliminate such weapons entirely.

China and North Korea refuse to engage in nuclear arms control negotiations because they will not give up something for nothing.

SLCM-N would pose a stealthy surgical threat to China’s 350-400 silo-based ICBMs now building.<sup>36</sup> SLCM-N could be the U.S. functional equivalent to hypersonic warheads being developed by China that threaten a surprise attack on U.S. strategic forces.<sup>37</sup> SLCM-N could become the means to begin nuclear arms control negotiations with Beijing, perhaps trading the U.S. SLCM-N threat for limiting or eliminating China’s significant advantage in hypersonic weapons technology.

SLCM-N would also pose a more credible and immediate threat than U.S. strategic forces to the political and military leaders of China and North Korea, SLCM-N lurking off their shores. Totalitarian states value most highly their leaders. Beijing and Pyongyang may calculate that, despite their rapidly expanding nuclear capabilities, the threat to leaders posed by SLCM-N poses on balance a net reduction in their national security. They might be willing to negotiate nuclear limits to avoid SLCM-N.

SLCM-N patrolling the Persian Gulf would be wake-up call to Iran to denuclearize through negotiations, or risk a disarming nuclear strike from SLCM-N. If necessary, the U.S. should do so.

SLCM-N could restore credibility to U.S. extended nuclear deterrence worldwide, incentivize Russia, China, North Korea, and Iran to refrain from aggression and return to the negotiating table.

### **Recommendations**

The Biden Administration should immediately reverse its decision to defund SLCM-N and join the bipartisan congressional support of the vitally important missile. Instead, commensurate with

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<sup>35</sup> Matthew Costlow, “Nuclear Weapon Cuts Damage Arms Control” *defensenews.com* (15 February 2021).

<sup>36</sup> Bill Gertz, “Exclusive: China Building Third Missile Field For Hundreds Of ICBMs” *Washington Times* (12 August 2021). Brian Wang, “China Building Over 400 New Ultra-hard Nuclear Silos” [www.thenextbigfuture.com](http://www.thenextbigfuture.com) (30 August 2021).

<sup>37</sup> Dr. Peter Vincent Pry, *We Are Far Beyond A “Sputnik Moment”* Center for Security Policy (16 November 2021). Sakshi Tiwari, “A ‘Decade Ahead’ Of USA! China Says Its New Hypersonic Missiles Can Hit Fast Moving Targets With Deadly Precision” *Eurasian Times* (18 May 2022). “U.S. Far Behind China, Russia In Hypersonics Weapons Race” *americanmilitarynews.com* (23 November 2021).

multiple international nuclear crises with Russia, China, North Korea, and Iran—there should be a crash program to deploy SLCM-Ns as soon as possible.

The U.S. should deploy at least 2,000 SLCM-Ns, to match the lowest estimated number of tactical nuclear weapons in Russia.

Some platforms carrying SLCM-Ns—attack submarines and surface ships—should be publicized and should make port calls to allied nations to provide reassurance.

SLCM-N, although its capabilities are adequate for the missions described above, should be given enhanced capabilities with new generation nuclear warheads with a wider range of yields (including ultra-low-yields, 1 kiloton or less), lower fission content (to reduce radioactive fallout), and earth-penetrating capabilities to better hold at risk hardened underground targets.

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