The ICBM EAR Week of March 10, 2025 Prepared by Peter Huessy, President of Geostrategic Analysis, Potomac, Maryland and Senior Fellow, The National Institute for Deterrence Studies

Commentary and Quotes of the Week

Secretary of State Marco Rubio said: "[Tuesday] was a good day for peace. Thanks to @POTUS's leadership and under the gracious hospitality of Crown Prince Mohammed bin Salman, we are one step closer to restoring durable peace for Ukraine. The ball is now in Russia's court."

Polish President Andrzej Duda called on the United States to deploy nuclear weapons to Poland as a deterrent to potential future aggression against the NATO member state.

The White House: The South Korea-U.S. alliance is "ironclad," following North Korea's first ballistic missile test since January 20th.]

South Korean Acting Defense Minister Kim Seon-ho on: "Ongoing U.S.-ROK Freedom Shield exercise "is meaningful as it reflects evolving North Korean nuclear threats and new tactical trends of modern warfare."

From the Archives Courtesy of the great professionals at NIPP:

From December 1976. Team B Report

The drafters of the NIEs have fallen into the habit of injecting into key judgments of the executive summaries impressionistic assessments based on "mirror imaging," i.e., the attribution to Soviet decision-makers of such forms of behavior as might be expected from their U.S. counterparts under analogous circumstances. This conceptual flaw is perhaps the single gravest cause of the misunderstanding of Soviet strategic objectives found in past and current NIEs.

The NIEs focus on the threat of massive nuclear war with the attendant destruction and ignore the political utility of nuclear forces in assuring compliance with Soviet will; they ignore the fact that by eliminating the political credibility of the U.S. strategic deterrent, the Soviets seek to create an environment in which other instruments of their grand strategy, including overwhelming regional dominance in conventional arms, can better be brought to bear; they fail to acknowledge that the Soviets believe that the best way to paralyze U.S. strategic capabilities is by assuring that the outcome of any nuclear exchange will be as favorable to the Soviet Union as possible; and, finally they ignore the possibility that the Russians seriously believe that if, for whatever reason, deterrence were to fail, they could resort to the use of nuclear weapons to fight and win a war. The NIEs tendency to view deterrence as an alternative to a war-fighting capability rather than as complementary to it, is in the opinion of Team "B", a grave and dangerous flaw in their evaluations of Soviet strategic objectives. https://nipp.org/wp-content/uploads/2025/03/Vol.-5-No.-1.pdf

Forthcoming Events of Interest

NIDS/Huessy Nuclear Deterrence and Missile Defense Seminar Series

3/7/2024 David Trachtenberg, VP, NIPP: https://youtu.be/k9UnNFwaJ_g

3/14/2024, 10-11am Gordon Chang and Rick Fisher (link coming soon)

3/28/2025, 10-11am LLNL's Brad Roberts

4/4/2025, 745-9am Breakfast at the Capitol Hill Club Admiral Johnny Wolfe, Director of SSP

4/11/2025, 10-11am Maj Gen Stacy Jo Huser. Commander of the 20th USAF

5/9/2025 10-11am Dr. Jim Howe

5/23/2025 10-11am Dr. Phillip Karber

6/27/2025, 7:45-9am Breakfast at the Capitol Hill Club with special guest from Israel, Dr. Uzi Ruben

Administration Developments

From the Washington Times: Elon Musk and the Department of Government Efficiency consider the Pentagon one of their targets for some of those cuts. The state of proposed defense cuts is far from clear. An internal Pentagon memo last month suggested at least $50 billion in spending cuts this year, but a proposed stopgap spending bill this week in Congress would boost defense spending by $6 billion through Sept. 30. [Editors note: The proposed cuts of $50 billion are over 5 years and would be an 8% reduction of low priority programs and the transfer of the $50 billion saved to higher priority programs, apart from an in addition to any House and Senate proposed increases contained in the budget resolution.

Air Marshall Johnny Stringer, the British officer serving as NATO's deputy air commander, and U.S. Eighth Air Force Commander Major General Jason Armagost joined forces to praise the Bomber Task Force which had completed nine missions in Europe since Russia's full-scale invasion of Ukraine.

The Pentagon is telling the House Armed Services Committee that it cannot provide senior lawmakers with lists they requested identifying potential cuts to defense programs, but to instead wait for the rollout of the Trump administration's fiscal year 2026 budget request, according to a letter obtained by Inside Defense

Defense Budget Developments

From various news sources.

The services are bracing for a yearlong continuing resolution instead of a budget, which maintains funding at last year's levels even as the military tries to modernize and improve readiness. The No. 2 officers from each of the Defense Department's military branches told lawmakers Wednesday they need provisions that would allow them to move funding around, or hold onto it until next year, to make sure they can spend on things they need now and wait on what they're not ready to buy. A full-year continuing resolution in place of an authorized and appropriated fiscal 2025 budget would cost the Air Force at least $4 billion and potentially up to $14 billion, said Lt. Gen. Adrian L. Spain, deputy chief of staff for operations, in congressional testimony.

With the Pentagon increasingly likely to be locked into a yearlong continuing resolution for the first time ever, the head of the Senate Armed Services Committee said today that Congress may need to beef up the amount of funding it is pursuing for defense through a parallel process known as budget reconciliation.

The House on Tuesday passed a stopgap spending bill expiring on Sept. 30 that would provide $892.5 billion for defense in fiscal 2025 — slightly higher than FY24 levels but below the $895 billion permitted by the Fiscal Responsibility Act. And while that gap may not seem huge by Pentagon standards, SASC Chairman Roger Wicker, R-Miss. is seizing on it to make the case that even more money needs to be added during the reconciliation process.

"The real flaw in in the CR that we'll be voting on later this week is that it doesn't provide enough money, regardless of the anomalies and the tiny plus ups here and there," Wicker said during a SASC readiness subcommittee hearing today. "Based on what is in this continuing resolution, $150 billion in the reconciliation bill may not be enough, and I'm hearing some comforting words from the administration, that they realize that too."

Wicker noted that the Trump administration has been aggressive in its goal of driving down government spending, adding that "we all want fiscal responsibility." However, he said, an additional boost to reconciliation funding for defense may been needed to address threats from China, Russia, Iran and North Korea.

Wicker, a defense hawk, has advocated for the United States to raise defense spending to 5 percent of its gross domestic production. Last year, as the committee's top Republican, he pushed SASC to adopt an NDAA that would have supported a $923 billion defense topline (in conference, the House and Senate committees agreed on a lower funding level that would conform to FRA restrictions). In February, he told Breaking Defense that he hoped to secure a total $200 billion increase for defense in the budget reconciliation process, with funds to be used in FY25 and FY26.

A continuing resolution is typically a stopgap that extends funding at prior-year levels for a short period of time. To try to mitigate negative impacts to the US military, the yearlong CR under consideration includes some additional funds — including $8 billion for US Central Command and US European Command, as well as plus-ups to certain shipbuilding programs. It also includes language meant to give the Pentagon additional flexibility, such as a provision that would allow the department to start certain new programs — a practice typically forbidden under a CR.

Congressional Developments

Jeanne Shaheen (D-N.H.) confirmed Wednesday that she will not run for reelection in 2026, diminishing Democrats' chances to regain a majority in the upper chamber.

Late last week, the leader of Senate Democrats Senator Schumer took the threat of a government shutdown off the table, following an intraparty fight in which lawmakers struggled with how best to resist the administration's fast-paced efforts to slim down federal agencies.

The Senate and House moved a CR that funds the government through the end of the fiscal year to the President's desk. The House vote was 217-213. The Senate voted 62-38 to end debate and then 54-46 to pass the CR and send to the President Friday evening.

According to the Washington Times, "The House and Senate appropriations committee chairs would have preferred passing regular spending bills. Instead, the focus shifted to fiscal 2026, which begins Oct. 1. Those bills will hinge on Mr. Trump's budget, which is expected in April. We really can't start without it," said House Appropriations Chair Tom Cole, Oklahoma Republican. "We don't have a top line yet. We don't have a presidential budget." Part of the effort in the FY26 budget will be to add funds to the current fiscal year beyond what was done in the new CR.

Strategic Developments=Iran

The Administration send a note to Iran's supreme leader with a warning that without such a deal, the U.S. will "go in militarily" to prevent Tehran from acquiring nuclear weapons. The Iran response was varied: Iranian Supreme Leader Ayatollah Ali Khamenei rejected holding talks with the United States over Tehran's nuclear program, "If [Iran] wanted to build nuclear weapons, the U.S. would not be able to stop it. We ourselves do not want it."

However, an Iranian spokesman also prompted what Fox News described as a cautious response from Iran, which said "it would consider talks as long as they are confined to concerns about the militarization of the nuclear program." Fox News further noted Tehran claims the program is peaceful, despite decades of warnings from the U.S., Europe and others that Iran is close to building its own nuclear bomb. Inside Trump's push for nuclear talks with Iran

Another news source writes: "Prior to Sunday's statement, Iran's Supreme Leader Ali Khamenei had rejected talks with the U.S., warning they would be aimed at imposing restrictions on Tehran's missile programs and regional influence. Rumors have swirled in recent days that Russia may be mediating between Washington and Tehran, but a Kremlin spokesman pushed back at the rumors on Monday.

Ukraine Corner

Ukraine Bows to Trump's Cease-Fire, Wall Street Journal, Mar. 12, Pg. A14 | Editorial, Ukraine yielded to U.S. pressure on Tuesday and agreed to the cease-fire terms with Russia that President Trump demanded. In return the U.S. says it has restored its intelligence help to Ukraine, as Russia keeps attacking.

Either way, the United States will need to continue providing Kyiv weapons. That's because, despite significant progress, Europe still lacks the military-industrial might to replace the United States and meet Ukraine's and NATO's deterrent requirements. A failure to arm Ukraine will increase the chances that the Kremlin will come back for even more Ukrainian territory in the future.

Ukraine Bows to Trump's Cease-Fire

Wall Street Journal, Mar. 12, Pg. A14 | Editorial

Ukraine yielded to U.S. pressure on Tuesday and agreed to the cease-fire terms with Russia that President Trump demanded. In return the U.S. says it has restored its intelligence help to Ukraine, as Russia keeps attacking.

Ukraine agreed to a 30-day cease-fire if Russia also accepts, which is an offer Kyiv couldn't refuse. Mr. Trump's withdrawal of intelligence and military aid to Ukraine was costing Ukrainian lives on the battlefield. Russia was gaining ground in particular against Ukrainian positions in the Russian region of Kursk. The unfrozen American aid includes $1 billion in equipment that the Biden Administration had approved but was still in the pipeline.

UN Nuclear Proliferation News

The Mainichi Online (Japan), Mar. 14 | Editorial….The third Meeting of States Parties to the Treaty on the Prohibition of Nuclear Weapons, which bans all aspects of nuclear weapons from development to use, was held last week at the United Nations Headquarters. The parties adopted a statement that they would work relentlessly for the abolition of nuclear weapons.

Special Report #1:March 12, 2025 Report: A Missile Defense Review for the United States
Heritage Foundation, Mar. 11 | Robert Peters

SUMMARY

Adversaries in Beijing and Moscow are developing an increasing array of nuclear-capable missiles that can threaten the American homeland and overseas bases, even exploring the possibility of putting nuclear weapons on fractional orbital bombardment systems—a development that threatens global stability. America's adversaries clearly seek to undermine American interests and constrain America's freedom of action. The United States will not wait for these adversaries to threaten the American homeland with missiles carrying nuclear weapons or other strategic payloads. The United States will field the defenses it needs to deter or defeat any missile threats to the homeland—be they mixed missile salvos as seen in Ukraine and the Middle East, or lower-escalation pathway attacks that seek to influence U.S. decision-making and terrorize the American people.

KEY TAKEAWAYS

1. America's missile defense architecture must and will change dramatically from the posture of years past.
2. The world is becoming more dangerous as the autocrats and those who oppose U.S. interests become more emboldened. Missiles have become their weapon of choice.
3. U.S. interests and citizen safety require systems that can obviate these threats. U.S. ingenuity and engineering can provide the missile defense that Americans need**

INTRODUCTION

This Special Report is written in the same vein as a publicly facing official Missile Defense Review (MDR). It is drawn from unclassified sources and is written in a way that will be accessible to those who are not necessarily subject-matter experts. It eschews footnotes and citations, as do the official Defense Department strategy documents.

The Special Report is meant to be a draft MDR for the second Trump Administration. It draws on recent and legacy Heritage Foundation analysis and writing as well as external analysis that examines the strategic challenges posed by the emerging security environment, particularly the employment of missile and autonomous systems by America's adversaries to target America's allies and postures.

The purpose of this Special Report is to provide Administration officials with a starting point that provides front-end analysis and some key analytic frameworks that could inform a future official MDR. It uses as its guidance "The Iron Dome for America" executive order signed by President Trump in January 2025.

Clearly, a more complete analysis based on classified data of U.S. and adversary capabilities is needed in order to conduct an official MDR. However, the concepts detailed below are within the ballpark of what The Heritage Foundation believes is necessary to deter America's adversaries in the coming decades.

Missiles have become the lynchpin of adversaries' strategies to deter, coerce, and defeat the United States. China, Iran, North Korea, Russia, and non-state actors value the speed, survivability, and destructive effects of missiles and have centered their aggressive military strategies around their use and threatened use to advance their revisionists' aims at the expense of the United States and its allies.

The ability to defeat missile-based attacks is, by extension, the ability to defeat an adversary's theory of victory. Indeed, when an adversary believes an attack against the United States or its allies will likely be unsuccessful, in addition to provoking an unacceptable response, deterrence is more likely to hold, and war can be avoided. Or, should deterrence nevertheless fail, missile defenses limit the damage of adversary strikes, enable more effective responses, and impose costs that the adversary may prefer to pay elsewhere.

Thus, it is not surprising that discussions about missile defense, both regional and for the U.S. homeland, are growing in parallel with the news around the world. Israel's hyper-effective integrated air and missile defense (IAMD) system, Iron Dome, has defeated hundreds of enemy drones and missiles over the course of a few months, not to mention thousands of shorter-range rockets. Ukraine has used U.S. regional missile defense systems, such as the Patriot system, to defeat Russian cruise and ballistic missiles—again demonstrating impressive kill ratios. In both cases, the adversary has been forced to adjust its strategy and make costly changes to its weapons, while Israel and Ukraine defend their most valued assets and retain freedom of action on how to respond.

Even though there is little difference in the missions assigned to regional and U.S. homeland IAMD, a decades-long debate has focused on the strategic value and utility of U.S. homeland missile defenses within U.S. national strategy. President Donald Trump has repeatedly advocated an expanded and improved U.S. homeland IAMD system, echoing the recommendations of the congressionally mandated bipartisan 2023 report of the Congressional Commission on the Strategic Posture of the United States. Critics, however, believe that expanding and improving the U.S. ability to defeat adversary missiles, far from countering America's adversaries' theory of victory, would only cause them to build more missiles to overcome U.S. missile defenses, raise tensions, and ultimately undermine U.S. security.

The real-world successes of missile defenses of the past three years in Ukraine and the Middle East have proven these critics wrong.

The United States has not held a national debate on homeland missile defense this significant since President Ronald Reagan's 1983 announcement of his Strategic Defense Initiative. Given the increasingly central role that missiles play in U.S. adversaries' strategy, coupled with the massive improvement in technology since the 1980s, it is high time that the U.S. and allied officials seriously consider the strategic value that U.S. homeland missile defense can provide. This draft MDR examines why U.S. homeland missile defense can and must play a central role in the U.S.

theory of victory and details the steps that officials should take to ensure its long-term success in defense of this nation.

This draft MDR therefore provides options to the Department of Defense (DOD) and guidance to the broader U.S. government as it develops and fields an integrated missile defense architecture that, along with America's nuclear arsenal and conventional capabilities, will deter America's adversaries and safeguard American interests.

Further, this draft MDR provides a framework by which the United States can deploy a capability that will support the overarching strategic objectives of the government's National Defense Strategy (NDS) and the subordinate deterrence objectives of the Nuclear Posture Review (NPR). Indeed, this draft provides a vision by which missile defense capabilities can and will be a strategic imperative and provide defensive capabilities of strategic importance and effect on par with America's nuclear deterrent.

In support of the NDS, this draft MDR articulates a vision for a missile defense architecture that integrates existing ground-based midcourse defense (GMD) interceptors with shorter-range, underlayer defenses deployed as part of theater IAMD with a space-based missile defense overlayer capable of intercepting missile threats from all of America's adversaries—not simply those from rogue states. America's missile defenses will provide an "Iron Dome–like" protection not only to the U.S. homeland but will also integrate with theater IAMD architectures of key allies and partners to obviate and overcome the missile threats posed by shared adversaries.

America's missile defense architecture must and will change dramatically from the posture of years past. This necessity is due to (1) the deteriorating security environment and the growing missile threats posed by U.S. adversaries; (2) the dramatic successes of missile defense in real-world operational environments, from Europe to the Middle East; and (3) the incredible technological breakthroughs that make possible capabilities that were aspirations in years past. Due to these three developments, the United States will not be able to rely only on its nuclear arsenal to deter strategic threats from China and Russia but will also have to rely on its new integrated missile defense architecture to deter—and if necessary, defeat—strategic missile threats emanating from the autocrats in Beijing and Moscow, along with those in Pyongyang and Tehran.

The world is becoming more dangerous as the autocrats and those who oppose U.S. interests become more emboldened. Missiles have become a weapon of choice for America's adversaries. U.S. interests and the safety of the American people require systems that can obviate these threats. American ingenuity and engineering prowess can provide the missile defense shield that the American people deserve.

The author would like to thank Tim Morrison, Ryan Tully, and Lieutenant General Trey Obering, USAF (Ret.) for their guidance on this topic, and would like to extend a special thanks to Matt Costlow for his insights, ideas, and support throughout this writing process.

THE EVOLVING AIR AND MISSILE THREAT ENVIRONMENT

America's adversaries—particularly China, Iran, North Korea, and Russia—are building more and more diverse capabilities that can target not only their regional neighbors, some of whom are American allies, but the United States itself. Such new weapons systems, including intercontinental ballistic missiles (ICBMs), long-range cruise missiles, hypersonic missiles, and even orbital bombardment systems, are coupled with increasing attempts of coercion, particularly against America's regional allies. This coercion sometimes takes the form of attempted nuclear coercion as is the case with North Korea against the American homeland as well as against U.S. allies in the Pacific and Russia's regular threats of nuclear use against the U.S. homeland and that of our allies in Europe. Other times, it takes the form of outright attacks on civilian and military targets, evidenced by the Iranian attacks on Israel and Russian attacks on Ukraine.

Clearly, U.S. adversaries increasingly see potential missile and autonomous systems strikes on not only military targets, but also on homelands and civilian population centers, as legitimate. This is true not only for targets in the homelands of America's allies, but for the United States as well.

This development in adversary perception is because America's adversaries see the U.S. homeland to be not only a valid target, but a vulnerable one as well. This is why they are building a growing array of long-range strike capabilities. This change in adversary perception is what not only drives their development of missile threats, but why the United States must develop and field a credible multilayered missile defense architecture.

THE EVOLVING LONG-RANGE STRIKE THREAT

America's adversaries seek to threaten and potentially exploit America's vulnerability to long-range attacks as a means to achieve their own wide-ranging revisionist goals, be they breaking up the North Atlantic Treaty Organization (NATO), diminishing American global influence, or projecting power to the Western Pacific.

As noted, America's adversaries are increasingly building long-range threats, many of which may be nuclear-capable, in order to achieve the above goals. These long-range threats include ballistic missiles, long-range cruise missiles, hypersonic missiles, and potentially threats that could be deployed from orbital platforms.

Ballistic Missiles. States have built ballistic missiles for purposes of warfare since the 1940s. By the 1950s, with the Atlas missile program, both the United States and the Soviet Union were pursuing ICBMs as a delivery vehicle for nuclear warheads, capable of striking each other's homelands.

Russia and China have had ICBMs capable of carrying nuclear warheads for decades and both are modernizing their ICBM arsenals. Russia is pursuing the "super-heavy" SS-28 Sarmat ICBM, capable of carrying multiple nuclear warheads to targets in North America. China is today the fastest-growing nuclear power on the planet and is building nuclear ICBM silos in its western desert at a breathtaking pace. North Korea, meanwhile, is advancing its Hwasong-18, a road-mobile three-stage ICBM capable of carrying nuclear weapons that can reach targets in North America.

Long-Range Cruise Missiles. In recent years, Russia has shown a proclivity to proclaim the development of new systems and capabilities, many of which never materialize. One of interest was outlined in a recent Defense Intelligence Ballistic Missile Committee report, which identified the SSC-X-09 Skyfall as a program of real concern. The Skyfall—which has been hinted at by the Russians for years—is reportedly a long-range cruise missile with a range of up to 20,000 kilometers, is maneuverable, and can fly at low altitude. The range of the missile means that Russia can base the missile anywhere in its territory and still be able to reach targets in the continental United States, while its maneuverability combined with its low flight altitude means that such systems can evade most missile defense radars and interceptors. While this, and other long-range cruise missile systems, remain in the development and testing stage, it is possible that Russia is seeking to deploy such capabilities with an eye toward having an additional capability of striking the United States with a limited number of nuclear weapons from a platform that could evade existing missile defenses. Indeed, a 2023 report by the Defense Department suggested that China is pursuing its own arsenal of such long-range cruise missiles.

Hypersonic Missiles. Hypersonic flight, generally described as beginning around five times the speed of sound, is gaining more interest from advanced militaries around the world. Hypersonic weapons are divided into two general categories of weapons: hypersonic cruise missiles and hypersonic glide vehicles. Hypersonic cruise missiles use a scramjet thrust that enables them to sustain speed and maneuver as necessary at lower altitudes of flight. Hypersonic glide vehicles use rockets to accelerate to high speeds during a boost phase and then glide in the atmosphere at enormous speeds with significant maneuverability during the terminal phase of flight. Their speed, range, and

maneuverability mean that they can be effective against regional targets or against targets in North America, while complicating enemy efforts to detect, track, and prevent attack.

Indeed, the speed and maneuverability of hypersonic weapons present real challenges from defense perspectives, which is one reason adversaries are building them. Hypersonic weapons' maneuverability at low altitudes makes targeting and engagement with traditional missile defenses, such as Terminal High Altitude Air Defense (THAAD) and Patriot Air Defense difficult, if not impossible. Faster interceptors and battle management systems, along with more precise radars, will likely ensure greater effectiveness of missile defenses, but much needs to be done to counter the novel threats posed by hypersonic weapons.

Russia has been interested in hypersonic capabilities since the 1980s. It claims that the "Kinzhal"—which has seen service in the Ukraine war—is a jet-launched hypersonic missile, while Moscow also claims that its hypersonic glide vehicle "Avangard" is nuclear-capable. Moscow also is pursuing a ship-based hypersonic cruise missile, the "Tsirkon." In all, Russia seems to be pursuing hypersonic capabilities as part of a broader strategy of fielding long-range precision fires that could be nuclear or conventionally armed.

For the past several years, Defense Department officials have warned of Chinese interest in hypersonic capabilities. The Defense Department reported that China deployed its first hypersonic glide vehicle—the DF-17—in 2020. An unclassified Congressional Research Service report noted that it had the potential to both evade U.S. missile defenses and be nuclear-capable. More recent reports suggest that China is pursuing a variety of hypersonic capabilities, to include ground-launched, air-launched, and even submarine launched capabilities, many of which could support a nuclear warhead.

Beyond Russia and China, in March and April of 2024, North Korea claimed to have tested a hypersonic glide vehicle capable of striking targets in Japan and South Korea. While there has yet to be a confirmed test of a North Korean hypersonic capability, it is very possible that North Korea seeks hypersonic capabilities.

One positive characteristic of hypersonic weapons is that they may be more vulnerable to destruction, if they can be targeted and engaged. That is, the high speed of hypersonic weapons means that hypersonic weapons may be disrupted by smaller impacts of interceptors or changes to their structures. Put another way, the tight performance margins needed to ensure that they perform high speed maneuvers over extended spaces may mean that they are far more vulnerable to interception than traditional ballistic missiles, which are generally more robust.

Fractional Orbital Bombardment System (FOBS). FOBS is an orbital platform that could launch strikes from space to terrestrial targets, using kinetic, high-explosive, or even nuclear weapons. FOBS has never been fielded but has been discussed for more than half a century.

Moscow first evinced interest in FOBS in the late 1950s. By 1963, the Soviet military announced that it sought to use space as a domain from which it could launch nuclear strikes on terrestrial targets. By 1965, the United States abandoned its studies in potential FOBS platforms and began to advocate that space be a domain in which nuclear weapons are not stationed, culminating in the 1967 Outer Space Treaty, which prohibited the stationing of nuclear weapons in space.

However, it is now known that the Russians sought nuclear-armed FOBS for a number of reasons, to include unlimited flight range; lesser flight time from launch to target than missiles; the impossibility to predict the target of a FOBS platform during flight time; the likely high degree of accuracy of such a system; the lack of strategic warning from such an attack; and most important, such a system's ability to overcome American missile defenses due to the speed of a FOBS-launched weapon. Put another way, the Soviets understood that FOBS can put warheads on a target, with no warning, and are impossible to intercept.

While FOBS was largely ignored for decades, in the past few years two major reports indicated that China and Russia potentially were interested in putting nuclear weapons on FOBS: In 2021, Under Secretary of Defense Frank Kendall noted that China potentially pursuing a FOBS capability. In October 2023, the Defense Department's "China Military Power Report" noted that "the PRC probably is developing advanced nuclear delivery systems such as a strategic hypersonic glide vehicle and a fractional orbital bombardment (FOB) system." In March 2024, reports suggested that

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Moscow once again was interested in putting nuclear weapons in orbit—potentially as an antisatellite weapon, but also potentially as a FOBS capability.

THE LOWER ESCALATION PATHWAY TEMPTATION

China, Iran, North Korea, and Russia are challenging American interests and seeking to constrain American influence and freedom of action around the world. Russia is attempting to use nuclear weapons to coerce the West due to its support for Ukraine and has hinted at pursuing a low-escalation pathway attack on NATO states in pursuit of such a goal. Other actors may also pursue a lower-escalation pathway attack, as their missile forces expand and diversify.

In a lower-escalation pathway, an enemy would attack an American homeland site, potentially including military assets, with a limited number of conventional or low-yield nuclear weapons, limiting civilian casualties, in an attempt to change the behavior of the United States.

In a low-escalation pathway attack, China or Russia may try to escalate its way out of a conventional conflict it is losing against the United States by conducting a series of limited conventional or nuclear strikes at key targets in the U.S. homeland. These coercive strikes would be intended to demonstrate enough resolve and result in significant damage to convince U.S. political leaders to give in to adversary demands but limited enough in scope and scale (meaning not catastrophic) to not prompt an overwhelming U.S. response.

This lower-escalatory pathway of forcing a nation to negotiate has not been tested, but the logic is sound, and there is some indication that America's adversaries are considering such a strike. China is building a nuclear arsenal that in the coming years could enable it to carry out such a strike, and Russia openly discusses the prospects of limited nuclear strikes against targets in the West.

The United States' existing approach to missile defense, as enacted through the Missile Defense Agency, is not comprehensive. It cannot address lower-escalation coercive attacks from China or Russia or compete with China's pacing challenge due to the limited nature of the existing missile defense posture or capacity. According to the DOD's 2023 annual report, Military and Security Developments Involving the People's Republic of China:

In 2020, the DoD estimated China's operational nuclear warhead stockpile was in the low-200s and expected to at least double by 2030. However, Beijing has accelerated its nuclear expansion, and DoD estimates China's stockpile had more than 500 operational nuclear warheads as of May 2023. By 2030, DoD estimates that the PRC will have over 1,000 operational nuclear warheads, most of which will be fielded on systems capable of ranging the CONUS [Continental United States].

The United States requires a comprehensive set of missile defense layers to counter an adversary's lower-escalation temptation. A set of comprehensive missile defense layers that can destroy at least a hundred adversary nuclear-armed missiles—be they from China, North Korea, or Russia—would incentivize these adversaries' leaders to abandon plans for "easy coercion" or "cheap shot" attempts with a few missiles to coerce or intimidate American political leaders. Forcing adversary leaders to consider the lower likelihood of success for attacks below 100 missiles, in addition to the

potential for provoking an unacceptably damaging U.S. response, will help to improve deterrence and raise the threshold for missile-based strikes against the U.S. homeland. Making escalation more difficult and riskier to achieve lowers the risk that adversaries will see value in escalation.

While adversaries might be tempted to execute a lower-escalation pathway strike (say, firing only a dozen nuclear-armed missiles at the American homeland) as a high-risk but potentially high-reward strategy to end a conflict on terms acceptable to them, they would be far more cautious about firing more than a hundred nuclear-armed missiles at the United States. Such a strike would almost certainly trigger the kind of massive nuclear retaliation by the United States that they would otherwise try to avoid, in addition to the uncertainty of success for the initial attack.

In this way, a credible and effective multilayered missile defense architecture could deter America's adversaries from pursuing an otherwise attractive lower-escalation pathway in the near future. Indeed, the existing Ground-Based Interceptor (GBI) architecture first fielded in 2004—designed to defend against limited attacks from North Korea—may no longer be sufficient to defend against even a rogue state attack, given the expansion and maturation of North Korea's missile program. To put another way, effective and credible missile defenses are not a "future like to have"—they are a "near term must have."

THE ROLE OF MISSILE DEFENSE IN AMERICA'S STRATEGIC POSTURE

The United States maintains credible nuclear capabilities and highly lethal, battle-proven conventional capabilities that give its adversaries pause, deter aggression, assure its allies, and defeat threats should deterrence fail. A credible, integrated, and multilayered missile defense architecture is a strategic imperative on par with maintaining a credible and diverse nuclear arsenal, particularly in an era when America's adversaries are developing, deploying, and employing ever-more capable and lethal missile threats.

Indeed, adversaries may grow more desperate over a prolonged conventional conflict with a superpower like the United States, leading them to take riskier strategies like conventional or even nuclear strikes on the U.S. homeland and its critical infrastructure. To counter this threat, the United States should deploy IAMD systems that can deter and defeat such coercive attacks over a protracted conflict and be prepared to defeat multiple salvos conducted over extended periods of time. Indeed, it is likely to strain credibility to have defenses that can defeat a single salvo of attack. A credible missile defense architecture must be able to defeat (or seem to be able to defeat) multiple waves of attacks during a protracted conflict.

There are three possible ways in which the United States can respond to its adversaries' long-range missile threats—be they lower-escalation pathway strikes, repeated salvos on the American homeland during a protracted conflict, or even larger-scale strategic attacks—to its allies and the American homeland. Washington can (1) acquiesce to the wishes of U.S. adversaries and accept a fragmented NATO, reduced American global influence, and limits to its ability to project power; (2) rely solely on the threat of punishment to deter a growing list of ever-more capable adversaries from striking civilian population centers; or (3) build effective missile defenses to deny U.S. adversaries the ability to coerce the United States or its allies.

Given the emerging threats and the apparent desire for America's adversaries to field an arsenal of ICBMs, long-range cruise missiles, hypersonic capabilities, and FOBS—many of which are optimized to overwhelm or evade U.S. missile defenses—the United States must, can, and will build an integrated, multilayered missile defense architecture that can deter and defeat coercive strikes on the homeland while also providing a regional defense of key capabilities overseas.

Indeed, an integrated missile defense architecture that incorporates existing homeland missile defenses, to include existing GBIs and regional missile defenses in the Indo–Pacific, Europe, and the Middle East, and builds additional

capacity and capabilities in several key areas is required given the expanding threats. Such missile defense architecture must perform a number of functions, including:

- *Defending the homeland*. The United States must ensure that its population centers and critical locations are protected and preserved.

- *Defending key overseas nodes*. Such nodes could be key bases, logistical sites, or allied population centers.

- *Defending the U.S. and its allies against a variety of inbound threats*. Typically, the United States has focused its missile defense on intercepting ballistic missiles and cruise missiles overseas, and ballistic missiles at home. Given the evolving nature of the threat, the United States should field the capabilities necessary to defeat all nature of inbound threats, to include long-range cruise missiles, hypersonic threats, and those delivered from orbit.

- *Defending the U.S. and its allies against a variety of actors*. No longer should the United States optimize its missile defenses against rogue actors, such as Iran or North Korea, but it will also field capabilities that can destroy threats coming from other, more advanced adversaries, such as China and Russia.

An expanded and improved U.S. homeland and regional missile defense architecture would support a number of U.S. defense objectives, including:

- *Deterring attack*. Deterrence by denial, which is the ability to prevent an attacker from achieving his operational objectives, can be a powerful tool. An effective missile defense architecture that could credibly intercept a variety of long-range threats from a variety of actors could deter U.S. adversaries from launching an attack in the first place because they do not believe that such an attack would achieve their objectives—and instead, leave them vulnerable to significant reprisals from the United States.

- *Limiting damage should deterrence fail*. Even if a missile defense architecture is not perfect it could significantly limit the extent of damage through a partial success rate. That is, if an adversary seeks to destroy six critical targets, even a partially effective missile defense could ensure that some quantity of those targets survive an attack.

- *Assuring allies*. Regional allies, particularly those located close to U.S. adversaries and who would therefore be on the front line should a conflict erupt, often seek assurance that the United States will support them during times of crisis or conflict. In many cases, their need for assurance drives their calculations about whether they need an independent nuclear arsenal. In many ways, the more insecure they feel, the more likely they are to pursue an independent nuclear weapons program, which it has been U.S. policy to oppose since 1963. Forward deploying nuclear weapons is one way to assure allies and convince them not to pursue their own nuclear weapons programs. Integrated missile defenses are another important tool.

Finally, it is America's policy that no nation should be allowed to put nuclear weapons in orbit for the purposes of targeting sites on Earth. Therefore, the United States reserves the right to destroy, pre-emptively, any adversary orbital platform that carries nuclear weapons, and may do so using any tool best suited to the purposes—whether that tool is based terrestrially or in orbit.

AN INTEGRATED, MULTILAYERED MISSILE DEFENSE ARCHITECTURE

An effective and credible missile defense architecture includes a number of components, such as an integrated sensor architecture that takes multiple data streams from multiple U.S. and allied or partner sources and creates an integrated command and control and management structure and three different engagement levels: a short-range defense to protect key, high-value nodes in the U.S. homeland and overseas; a ground-based system to give general coverage over North America; and a space-based overlayer that can engage a number of threats across the world, in various stages of flight.

Taken together, such an architecture will increase America's ability to address adversary threats and strengthen deterrence by denying adversaries the benefit of missile strikes on key targets.

CAPABILITIES. While some of the critical components for an integrated, multilayered missile defense architecture exist today, including regional command-and-control nodes, theater air defense systems, and GBIs, there is important work to be done in (1) integrating disparate systems into a cohesive architecture and (2) expanding existing systems to include more capacities and building capabilities in orbit, in order for the United States to field a credible missile defense architecture.

An Integrated Command and Control. An integrated command-and-control system can more effectively coordinate the tracking and interception of enemy missile launches by developing and fielding a Hypersonic and Ballistic Tracking Space Sensor Layer; and by integrating shots from the various layers, missile defenses can get more shots at incoming missiles, thereby increasing the likelihood of a successful interception. Put another way, if the overlayer misses the interception, GBIs have the opportunity to engage the incoming target. If the GBIs miss, the underlayer can have some utility in potentially intercepting inbound missiles or warheads at a limited number of critical sites.

An Effective Underlayer for Protecting Critical Sites. As noted in a recent study, current off-the-shelf missile defenses, such as Patriot PAC-3s, Aegis Afloat, air-to-air missiles and surface-to-air missiles, directed-energy weapons (DEW), and THAAD systems, can provide robust missile and autonomous systems defenses around a limited number of key locations within the U.S. homeland, at forward bases, and at key allied locations.

By putting such systems near key bases, ports of embarkation, and command-and-control nodes, defenses have multiple interception opportunities of enemy missiles which target critical, high-value nodes. Accordingly, the United States will develop and deploy an underlayer that leverages terminal phase intercept capabilities that are postured to defeat a countervalue attack.

Ground-Based Layer. The current missile defense layer comprises 44 ground GBIs at sites in Alaska and California. They are optimized for targets coming from North Korea and were built when North Korea had a very modest ability to target North America with missiles. Later this decade, the next-generation interceptors (NGIs) will augment the existing GBIs on the West Coast with 20 additional interceptors.

The fielding of NGIs is a necessary step, but one that is inadequate for the current threat. A modest expansion of missile interceptors is necessary to contain not only the expanding North Korean and Iranian missile threats but also threats posed by Russia and China. To that end, the United States will expand the number of NGIs it purchases from 44 to roughly 64 and look to station a significant portion of the new interceptors on a new missile defense site on the East Coast to better target incoming adversary missiles from Eurasia. These 64 NGIs should replace the older GBIs currently deployed in Alaska and California.

These capabilities, needed today, given the growing threat from adversary long-range fires, are an important, interim step to a more robust, space-based missile defense layer.

A Space-Based Overlayer. The "overlayer" is a capability that will field a network of microsatellites in orbit that would serve as both sensors and communication relays, as well as platforms for launching interceptors capable of destroying long-range threats, regardless of point of origin, destination, or delivery mechanism. Of particular utility against rogue states, such as Iran and North Korea, an overlayer will make an important contribution on threats posed by China and Russia.

The constellation's networked sensors automatically will share launch and targeting data with each other and with ground-based command-and-control networks. They will carry small kinetic, non-explosive kill vehicles or directed-energy weapons that can engage targets across multiple stages of flight, including the boost phase, midcourse flight, or coasting phase.

The technology to share launch and targeting data among the orbital sensors exists today. Similar to how ride-share applications use networked artificial intelligence (AI) to identify which vehicles are closest to a customer's location, networked satellites can identify a threat and identify which interceptors are best positioned to engage and destroy an enemy's launched missile.

A constellation of satellites in orbit through the development and deployment of a Proliferated Warfighter Space Architecture can engage enemy missiles far sooner than a ground-based system, particularly those that are located thousands of miles away in North America. Because they are closer to the target in mass, they can get not only multiple shots at enemy missiles during their trajectory, but the satellites can engage some targets while the targets are still in their ascent phase—thereby increasing the chances that interceptors may destroy inbound targets.

In addition, an orbital sensor and engagement capability addresses many of the challenges posed by terrestrial-based engagement, particularly its ability to surveil huge portions of the Earth's surface from orbit. This expanded sensor coverage, coupled with redundant interceptors, increases the likelihood of a successful interception before the missile strikes its intended target.

A proliferated constellation of orbital satellites will address a variety of terrestrial or space-based threats. Further, a robust space-launched resupply capability that leverages commercial launch capabilities would be able to replace expended satellites quickly during a conflict, thus strengthening the resilience (and therefore, efficacy) of such a capability. Building such satellites at scale enables cost-efficiency, resilience, and rapid reconstitution.

Allied and Theater Missile Defenses. The United States will strengthen its homeland defenses while at the same time strengthening missile defenses for forward deployed U.S. forces and with allies and partners against missile threats from any adversary. By strengthening, integrating with, and operating with allied and partner missile defense systems, the United States can better deter and, if necessary, defeat missile and autonomous systems threats globally, thereby reducing risk to deployed American forces, the lives and citizenry of America's allies and partners, and, ultimately, the American homeland.

Indeed, adversary missile and autonomous systems threats increasingly blur the line between theater or regional missile threats and missile threats to the American homeland. To combat such threats, regional Combatant Commanders will work with key allies and partners in the Indo–Pacific, Europe, and the Middle East on information sharing (both pre-launch and post-launch), targeting data, and interceptions. Indeed, Iran's 2024 attacks on Israel—which mixed ballistic missiles, cruise missiles, and autonomous systems—failed due to the integration of American and partnered missile defense capabilities and command-and-control nodes. This type of collaboration will be a model for successful capability integration among American, allied, and partner missile defense architectures. Indeed, cooperation with like-minded allies and partners will be crucial both for real-world interceptions, but also, increasingly, on development of ever-more advanced and capable missile defense systems.

Such advances will be crucial to counter adversary anti-access/area-denial (A2AD) strategies that increasingly rely on advanced missile threats to deny American access to forward theaters. Indeed, collaborating with allies and partners on building and deploying advanced missile interceptors, both at home and abroad, will enable American freedom of action and key access to the most critical parts of the globe. Regional missile defense architectures in the Western Pacific, including national missile defenses in Japan and South Korea, NATO missile defense architectures, and the effective missile defense systems increasingly employed by U.S. partners in the Middle East, only strengthen America's position, standing, and freedom of action.

Where appropriate and feasible, the United States will work with allies and partners on IAMD detection and defeat capabilities that can be concealed or disguised to enhance deterrence and complicate adversary targeting.

An Ever-Evolving Architecture. In addition to the above layers, designed to prevent adversaries from launching a long-range strike on the United States or its regional allies, the United States will continue to develop new capabilities with an eye toward not only strengthening defenses, but to introduce uncertainty into the minds of its adversaries. To that end, not only will the Defense Department continue to explore new capabilities, but it will employ existing capabilities in innovative ways. For instance, placing missiles on autonomous aerial systems and on drones to shoot down enemy missiles in the boost phase, or placing missile interceptors, such as the SM-6, into shipping containers in overseas ports that could target enemy missiles close to their homelands, would not only help to protect key areas, but would keep America's adversaries guessing. To this end, the Defense Department will embark upon an aggressive campaign to identify key capabilities that can mitigate the adversary missile threat today.

IMPLEMENTATION. Within one year of the publication of this draft MDR, the Defense Department will consult with allies and partners in East Asia, Europe, and the Middle East on the incorporation of existing national and theater defense systems into the integrated, multilayered missile defense architecture. Such consultations will identify avenues for data sharing, operational integration, and future advancements. Within one year, the Secretary of Defense will brief Congress on a four-year plan to (1) integrate existing missile defense architectures around the world; (2) establish a third, East Coast missile defense site; and (3) field an initial operating capability for a space-based layer, to include sensors and shooters, all by January 1, 2029. Further, the United States will field a robust, resilient, and credible fully operational space-based missile defense layer no later than January 1, 2032.

CONCLUSION

The adversary missile threat is real. The world has seen America's adversaries attempt to employ missiles to coerce the governments and terrorize the people of Ukraine and Israel. Adversaries in Beijing and Moscow are developing nuclear-capable hypersonic missiles and even exploring the possibility of putting nuclear weapons on FOBS—a development that threatens global stability.

Clearly, America's adversaries are no longer constrained in how they view long-range missile threats. They are fielding systems and increasingly employing them to coerce and terrorize America's allies and partners. Given their abandonment of arms control, it is clear that they no longer value—nor do they seek—"strategic stability" with the West. Instead, they seek to undermine American interests and constrain American freedom of action using missiles.

The United States must not wait for these adversaries to become so bold to think they can threaten the American homeland with missiles carrying nuclear weapons or other strategic payloads. The United States must field the defenses it needs to deter or defeat any kind of missile threat to the American homeland and those key nodes globally from any kind of missile threat—be they mixed missile salvos as seen in Ukraine and the Middle East or lower-escalation pathway attacks that seek to influence American decision-making and terrorize the American people.

Indeed, America's adversaries have become so bold that they are making their plans public. America should believe them.

Ultimately, the United States will deny the ability of its adversaries to kill tens of thousands of American citizens with a handful of missiles.

The American government can do nothing else.

--Robert Peters is Research Fellow for Nuclear Deterrence and Missile Defense in the Douglas and Sarah Allison Center for National Security at The Heritage Foundation.

The Cost of Nuclear Modernization: The Ear Editorial .

Very often nuclear disarmament groups have estimated the cost of nuclear modernization is going to be as high as $2 trillion over the next three decades. (See for example, the Center for Arms Control and Non-Proliferation, January 21, 2024.) The newest Bulletin finally gets it right. Citing a 2017 study by BAS itself (!), ***the BAS says that the cost of nuclear modernization from 2017-2046 will be $400 billion,*** exactly what the ICBM Ear has been explaining is the real cost of upgrading/modernizing our nuclear deterrent. The same 2017 study also explains that sustainment of the US nuclear arsenal (operations and maintenance) over the same period of time will be $800 billion or twice the cost of "modernization."

The good news is that the Bulletin of Atomic Scientists published by the Union of Concerned Scientists (founded by Oppenheimer) finally got it right over nuclear modernization. Even though they had the right answer nearly a decade ago as they cite an article from 2016 as the source of the $1.2 trillion. The good news is that your nuclear deterrent is being modernized. The further good news is that the cost of the platforms is projected at an average of $13.3 billion a year, ***which is exactly ($13.3 billion) what Americans spent over a period of two hours on December 2 on Cyber Monday in 2024.*** Or 11% of the annual (2024) cost of Medicaid spending reimbursement sent from Uncle Sam to the state of California.

> On the website of Pulitzer Prize winning cartoonist Paul Ramirez, "For expert, in-depth, and serious discussions on national defense and geopolitical issues, Peter's weekly newsletter "The EAR" is the source of information not available through regular news channels."

Peter R. Huessy - Essays, Reports & Events

By GeoStrategic Analysis

The Ear's Notes

You probably saw the House and Senate CR---$6 billion ADDED to defense including added funds for the SSBN. The defense or ship building "cuts" which the media mentioned are those implicit in a CR that goes with FY24 spending which is lower than even the Biden proposed FY25 spending bill, let alone that which Congress has approved in the NDAA.

Note also the President saying today that it is too bad we "HAVE" to spend what we spend on nuclear deterrence. He is setting up R and C—they do not embrace reductions. The Chinese want us to come down to their level first before engaging in talks. Maybe someone should get the PRC to verify the number of nuclear weapons they have as a first step. Trust but verify.

Mexico, Canada and the United States

From Hoover Institute's Victor Davis Hanson makes some sense about what is going on re trade and tariffs. This is my summary of his podcast last week.

Canada has a $50B trade surplus and Mexico has a $170B trade surplus with the US—much of it due to Chinese products being assembled and manufactured in the two nations to get around US tariffs on Chinese goods directly imported from China. And in addition to very high Canadian tariffs on American agriculture and timber. The administration says tariffs should be reciprocal.

Mexico exported tens of millions of people to the US and receives $62 billion in annual remittances. Even as many of these illegal aliens here from Mexico receive US social services. Mexico says its poor and can't support its poor and thus it has the right has to send people north to the USA, or they might march on Mexico city. Is that something to be proud of? Mexico has a highly socialist and corrupt government. That is the source of their poverty.

Canada spends only 1.3% of its GDP on defense. Despite an 11 year commitment to spend at least 2%. Why not pledge to cooperate with us on a missile defense shield? And build 20 icebreakers and patrol the Arctic and keep the Russians and Chinese out. Fentanyl also comes across both borders including through Canada that kills 110,000 Americans and gives the drug cartels some $20 billion in profits.

Strategic Development of the Week

Is the world facing a new, more dangerous nuclear future as more nations decide to secure nuclear weapons? Here is a collection of commentary and news on the subject of nuclear developments especially the dangers of proliferation.

From Foreign Policy and Thorsten Benner: The German leader Chancellor Merz is very much right to call for switching to "hoping for the best and still preparing for the worst." However uncomfortable this might be for many in Germany, this strategy has to include a Plan B for nuclear deterrence. One can clearly ask: should proliferation be a desirable goal? The main argument in favour points to the Cold War, a period of "long peace" during which no direct conflict between great powers occurred. Many theorists argue that we owe this stability to the so-called "nuclear revolution" — the bomb fundamentally modified the behaviour of political elites in nuclear-armed states. Even the most irrational leaders start to act with prudence when confronted with the awesome threat of total annihilation. "The very fact that war could be total, in the sense of destroying both sides, means that the conflict of interest cannot be total," says Robert Jervis, one of the key thinkers on the nuclear revolution.

To rephrase, nuclear powers just do not go to war against each other. A case in point is Pakistan and India. Before they acquired nuclear weapons, many feared that New Delhi and Islamabad would destroy each other. Yet contrary to expectations, peace ensued. According to former Singaporean diplomat Bilahari Kausikan, this may be the path to future stability in Asia: ensuring a balance of mutually assured destruction between the US, China, Russia, the two Koreas, and Japan, effectively freezing the geopolitical chessboard. "This path will be fraught with tensions and even danger," Kausikan has noted. "But the end result will be stabilising for the region." Perhaps. But the future of the nuclear revolution will ultimately depend on the instincts of whoever is in the White House. The choice between Nixon's bold pragmatism and Carter's risk aversion will shape the world order for years to come, whatever Friedrich Merz may wish.

WJ. Hennigan from the New York Times Online, Mar. 12 |President Trump's deference to Russia, his unprecedented rebuke of Volodymyr Zelensky and his no-holds-barred approach in prodding European partners to spend more on their military budgets are having an unintended impact among America's longtime allies: a possible nuclear free-for-all. In recent days, emergency meetings have been convened in foreign capitals, and alarming public statements have been delivered by Poland, Germany and South Korea about their consideration of acquiring nuclear weapons. It's a remarkable turn of events that portends a new nuclear landscape.

How Trump Could Win, and Deserve, a Nobel Peace Prize, Bloomberg Opinion, Mar. 11 | Andreas Kluth;
It's no secret that Donald Trump is obsessed with winning the Nobel Peace Prize, which is one reason why he's pushing Ukraine and Russia so hard toward cease-fire negotiations. The way the US president is going about it won't earn him any favor in Oslo, though, because so far, he mainly seems to be coercing Ukraine to capitulate. But Trump has another path to the Nobel, and the whole world, including his haters, should root for him: He could win it by lowering the risk of nuclear Armageddon.

Iran Nuke Debate Is Another Narrative Collapse, RealClearDefense.com, Mar. 11 | James Van de Velde,
The debate about 'when and if' Iran might develop a nuclear weapon is a series of misleading narratives. The issue is much simpler than the Biden Administration, the media, and most analysts portrayed: if Iran has enough weapons-grade (90+ percent pure) Uranium 235 -- and the minimum quantity necessary is about 33 pounds (15

kilograms) -- it *has* a nuclear weapon. In December, International Atomic Energy Agency (IAEA) Director General, Rafael Grossi, claimed that Iran is accelerating its uranium enrichment to up to 60 percent and already has enough material to make four nuclear weapons if its material is enriched further.

In volatile world, nuclear powers must step up efforts to disarm, writes the Asahi Shimbun Online (Japan), Mar. 12 | Editorial, Amid the deteriorating international stability, the differing stances between nations that rely on nuclear deterrence and those that do not have become more conspicuous. But these nations must enter into dialogue without delay if the goal is to seek a world without nuclear weapons

Special Report #2: How Trump Could Win, and Deserve, a Nobel Peace Prize

Averting a nuclear arms race with successful talks among the US, Russia and China is something that the president might just pull off.

Bloomberg Opinion, Mar. 11 | Andreas Kluth

It's no secret that Donald Trump is obsessed with winning the Nobel Peace Prize, which is one reason why he's pushing Ukraine and Russia so hard toward cease-fire negotiations. The way the US president is going about it won't earn him any favor in Oslo, though, because so far, he mainly seems to be coercing Ukraine to capitulate. But Trump has another path to the Nobel, and the whole world, including his haters, should root for him: He could win it by lowering the risk of nuclear Armageddon.

In his first term, Trump tried and failed to launch trilateral talks among the US, Russia and China about capping or even reducing nuclear weapons. (The US and Russia each have more than 5,000 nukes, while China, in third place, has about 600 and is racing to pull even with the other two.) Trump had already withdrawn from one arms-control treaty with Russia and then refused to renew the only remaining one, leaving the extension to his successor, Joe Biden. But even that agreement, called New START, expires next February.

At that point, and for the first time since the early Cold War, nothing will be in place to restrain the world's major nuclear powers from a new arms race. In fact, several such races are already underway: China and North Korea are adding to their arsenals as fast as they can, and all nine countries with nukes are "modernizing" their weapons. In the US that means upgrading warheads as well as the bombers, submarines and missiles to deliver them — at a cost of $1.7 trillion over 30 years, or $75 billion a year this decade, although the costs and the timelines keep expanding with every estimate.

The risk of nuclear war is rising even faster than these numbers suggest, because countries are also tweaking the types of nukes they have and the strategies for using them. Russia in particular is building more "tactical" or "theater" weapons; it has an edge of about 10-1 over the US in that category, which is not covered by New START. The US is also considering giving these limited nukes a greater role again.

Tactical nukes are loosely defined as weapons that are meant as a last resort to prevent defeat in battle. (By contrast, strategic nukes are built to destroy an enemy's homeland in retaliation for an incoming nuclear strike.) Tactical weapons can still pack several Hiroshimas in explosive power. But because they have lower "yields" than the strategic kind, they're considered more usable. Even so, war games suggest that any use, no matter how limited, would immediately lead to uncontrollable escalation, and possibly Armageddon.

Add to these trends a recent pattern of reckless taboo-breaking. The leaders of Russia and North Korea keep rattling their atomic sabers. And members of Trump's first administration want to resume testing live nuclear bombs. Once you factor in the risk of miscalculation by someone somewhere under pressure, or the imponderable role of artificial intelligence in nuclear decision-making, it becomes clear that the world is entering the greatest danger since the Cuban Missile Crisis.

Trump, despite all the chaos he's causing in international affairs, understands that peril. Moreover, his worldview, which is anathema to international law and multilateral organizations such as the United Nations, happens to be well-suited to nuclear realities.

When it comes to the geopolitics of warfare by fission, multilateralism and law (as embodied in the Non-Proliferation Treaty) are all but irrelevant. What matters is the strategic interplay of the great powers. In the nuclear domain, it really does make sense to think in "spheres of influence" — as the American, British and Soviet leaders did in Yalta near the end of World War II, when they carved up Europe for the sake of stability.

The problem, of course, is that each nuclear superpower has different and conflicting interests. Russia knows that it's economically and militarily weaker than the US and would lose a conventional war. So, it values tactical nukes as a psychological deterrent and a last-ditch means to "escalate to deescalate" in its own favor.

China is the only nation that has an official policy of "no first use," but it still wants parity with the US to avoid being coerced, especially if it ever comes to blows over Taiwan. The US, meanwhile, is wondering whether it should keep matching only its strongest nuclear opponent, Russia, or needs numerical balance against Russia and China combined, lest these two gang up in a crisis.

And yet they all have one interest in common: preventing nuclear war, which, as Ronald Reagan and Mikhail Gorbachev memorably put it, "cannot be won and must never be fought." Moreover, they can all accept the logic of their mutual "security dilemma," in which anything one of them does forces the others to respond, in what threatens to become a spiral toward war.

Trump could start small, by suggesting that the US and Russia informally stick to the caps in New START whether it lapses or not, pending a new arrangement. He could also press for resuming mutual inspections to build confidence.

Meanwhile, Trump and his counterparts, Vladimir Putin in Russia and Xi Jinping in China, need to agree on a format. Trump wants Yalta-like talks among this trio. Russia prefers talks among all five nations designated by the Non-Proliferation Treaty as legitimate nuclear powers, including France and the UK. Someday, India, Pakistan, North Korea and Israel (which has never officially declared its arsenal) must be brought in as well.

Either way, talks there must be, and Trump claims that Putin and Xi, whose autocratic style he admires, are open to the idea. "We'd like to see denuclearization," he said, because that would be "an unbelievable thing for the planet." The planet is not what usually takes priority in his America First worldview, but he would be right. If Trump succeeds, he deserves that Nobel Peace Prize, even if he might have to share it.

--Andreas Kluth is a Bloomberg Opinion columnist covering US diplomacy, national security and geopolitics. Previously, he was editor-in-chief of Handelsblatt Global and a writer for the Economist.

Iran Nuke Debate Is Another Narrative Collapse, RealClearDefense.com, Mar. 11 | James Van de Velde,

> The debate about 'when and if' Iran might develop a nuclear weapon is a series of misleading narratives. The issue is much simpler than the Biden Administration, the media, and most analysts portrayed: if Iran has enough weapons-grade (90+ percent pure) Uranium 235 -- and the minimum quantity necessary is about 33 pounds (15 kilograms) -- it *has* a nuclear weapon. In December, International Atomic Energy Agency (IAEA) Director General, Rafael Grossi, claimed that Iran is accelerating its uranium enrichment to up to 60 percent and already has enough material to make four nuclear weapons if its material is enriched further. [i] [ii]

It is technically easy to build an atomic weapon, even with less than the ideal weapons-grade levels of enrichment, if one has the requisite amount of U235, period. The Hiroshima bomb used only around 80 percent enriched U-235. At such levels, Iran's current highly enriched uranium stockpile could feed nearly 10 weapons. Greater purity (past 60

percent) merely makes a weapon more efficient (greater yield). But a weapon can likely be fashioned by Iran today. [*iii*] Moreover, all this discussion about miniaturization or ballistic missile development is irrelevant – that discussion is speaking to the status of more advanced Iranian delivery vehicles (such as ballistic missiles) and warhead miniaturization, which are entirely unnecessary.

The Hiroshima bomb was never even tested by the Americans. It was a large device/weapon and was dropped, like a large refrigerator, from an aircraft. The Manhattan Project engineers were so confident that it would work, they built this type of weapon (a 'gun-type' weapon) around the requisite U235 and dropped it on Hiroshima. [*iv*] The Trinity device was tested merely to see if the implosion method was a more efficient trigger. It was, though this method was hardly necessary. The Hiroshima bomb killed more than the Nagasaki bomb.

[Link to article with graphics of bomb designs] [*v*] [*vi*]

A simple gun-type weapon can easily be delivered by aircraft, drone, dhow, submarine, suicide ship, or truck, assuming of course the delivery platform can penetrate target defenses or drop or deliver something the size of a large desk. But if a clandestine and successful delivery means can be discerned, a weapon the size of the Hiroshima bomb can easily devastate an entire city. And most cities are on or near a coastline.

Assessments about how close Iran is to developing a bomb are, therefore, misleading, if not nonsensical; a simple atomic gun-type or even implosion-type weapon could be fashioned easily by any state, assuming the state has acquired the requisite amount of highly enriched U235.

Under the Joint Comprehensive Plan of Action (JCPOA), negotiated under the Obama Administration, [*vii*] Iran was allowed to keep 660 lbs. (300 kg) of low enriched uranium. Plus, the JCPOA allowed Iran to:

- continue to enrich uranium
- stockpile additional uranium
- use advanced centrifuges to enrich uranium more quickly
- conduct unlimited 'research and development' on uranium-enrichment centrifuges
- build and operate facilities to enrich uranium without restrictions [*viii*]

Nor, of course, did the JCPOA require Iran to submit to "anytime, anywhere" International Atomic Energy Agency (IAEA) inspections of facilities and military sites where such nuclear activities are suspected to be occurring.

The appropriate negotiation demand, therefore, of the Iranian nuclear program must be the end – entirely – of the Iranian enrichment program and the dismantling of its capabilities, and the handing over of the existing Iranian, highly enriched uranium. Of course, Iran will scoff at such a demand – the result of the failure of the Obama and Biden Administration to pursue a coherent and reassuring disarmament policy.

The first Trump Administration squeezed Iran toward financial strain and political collapse – its preferred policy goal. The two democratic Administrations attempted to work with Iranian leadership in exchange for limits and concessions on the Iranian enrichment program.

The U.S. intelligence community (IC) has somewhat mis-led policymakers by assessing when Iran will likely have a robust nuclear weapon with ballistic missile delivery vehicles. Such a threshold is too late to prevent Iran from having a nuclear weapon. U.S. policymakers have relied on these IC assurances to kick the decision, and policy can down the road, now to the point where Iran very possibly has a bomb, and we are playing games over its definition.

--James Van de Velde, Ph.D., is a Professor at the National Defense University. The views expressed in this article are those of the author and do not reflect the official policy or position of the National Defense University, the Department of Defense, or the U. S. Government.

[i] Alexander Cornwell, Francois Murphy, John Irish, “Exclusive: Iran dramatically accelerating uranium enrichment to near bomb grade, IAEA says,” Reuters, December 6, 2024.” Exclusive: Iran dramatically accelerating uranium enrichment to near bomb grade, IAEA says | Reuters

[ii] Francois Murphy, “Iran offers to cap sensitive uranium stock as IAEA resolution looms,” Reuters, November 20, 2024. Iran offers to cap sensitive uranium stock as IAEA resolution looms | Reuters

[iii] Andrea Stricker, “Iran May Be on the verge of a Nuclear Weapon; Will Israel and the United States Act?” Foundation for the Defense of Democracies, February 6, 2025. Iran May Be on the Verge of a Nuclear Weapon; Will Israel and the United States Act?

[iv] “Iran’s Nuclear Timetable: The Weapon Potential,” Iran Watch: Tracking Iran’s Unconventional Weapon Capabilities, December 18, 2024. Iran's Nuclear Timetable: The Weapon Potential | Iran Watch

[v] Cameron Curtis, “Does Iran Already Have a Nuclear Bomb?,” Warrior Maven, October 9, 2024. Does Iran Already Have a Nuclear Bomb? - Warrior Maven

[vi] The Bomb: World War II and the Manhattan Project

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Words of Wisdom:

China's H-20 Stealth Bomber Fleet To Carry "Hundreds" of Tactical Nuclear Warheads by 2035

Author: Kris Osborn

China could potentially deploy a fleet of 50 H-20 bombers capable of attacking with hundreds of nuclear warheads

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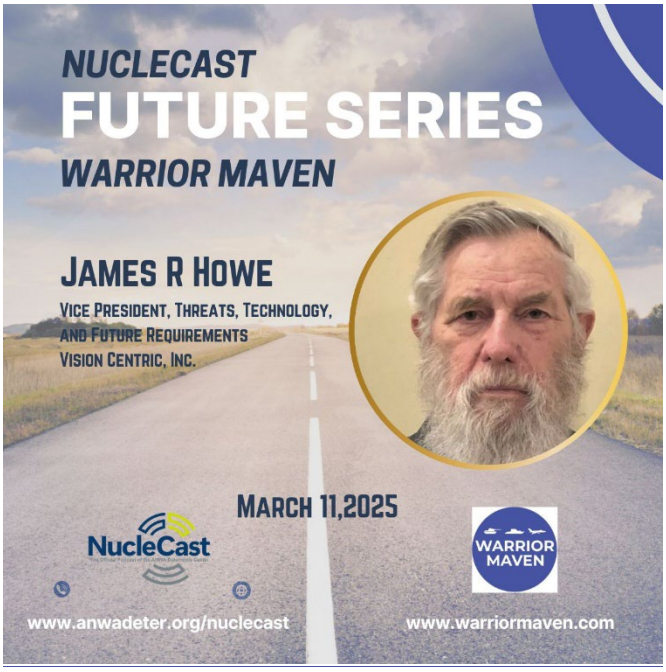

Author: Kris Osborn

In this episode of NucleCast Future Series with Warrior Maven, Kris Osborn interviews James Howe on the critical issues surrounding nuclear deterrence, focusing on low yield nuclear weapons, the strategic arsenals of Russia and China, and the implications of advanced technologies in modern warfare. The conversation delves into the current state of nuclear capabilities, the risks posed by tactical nuclear weapons, and the future …

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