

Weekly ICBM EAR Report



Image: Illustration of the Sentinel next-generation ICBM. Credit: Northrop Grumman - Space News

Prepared by Peter Huessy

President of GeoStrategic Analysis

Senior Fellow at the National Institute for Deterrence Studies (NIDS)

Senior Fellow at the Gold Institute for International Strategy

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ICBM EAR Week of August 10, 2026

By Peter Huessy, President, Geostrategic Analysis, Senior Fellow at National Institute for Deterrence Studies and Senior Fellow, Gold Institute for International Strategy

Commentary and Quotes of the Week

President Trump: "I see that Representatives of the Islamic Republic of Iran are asking for compensation for the damage done to them during the last five month Military Conflict (started because, THEY WILL NOT HAVE A NUCLEAR WEAPON), even though it was never mentioned in any of our negotiations or meetings! But it is an interesting idea because now I am likewise demanding compensation from Iran, for all of the people that they have killed and gravely wounded with their roadside bombs and many conflicts, for which they are famous, as led initially by General Soleimani, including the families of those killed on the USS Cole, and thousands of others killed in combat. Additionally, compensation should be paid to the families of the hundreds of thousands of innocent protestors that Iran has killed over the last 50 years, not to mention the 52,000 that have been killed in the last five months. I have instructed my representatives to put this firmly into any, and all, future negotiations. Thank you for your attention to this matter!"

Air Force seeks AI tool to help manage Minuteman III ICBM sustainment.

DARPA looking to develop 'foundation' of next-generation hypersonic missile work.

USSTRATCOM Commander Adm. Rich Correll: Seeking to expand the range of options available to the president "for any conceivable escalation scenario," while emphasizing that U.S. declaratory policy has not changed.

NNSA Administrator Brandon Williams told the Exchange Monitor that he expects his organization to complete assembly of the remaining B61-13 subassemblies by the end of this year, roughly one year ahead of schedule.

NNSA Administrator Brandon Williams posted: "At the @US_STRATCOM Deterrence Symposium, I emphasized that the greatest security risk we face is failing to deliver a timely deterrent. Nonanes is shifting from a culture of avoidance and maintenance to one of urgent, safe mission delivery. We are laser-focused on: PRODUCTION: Delivering modern warheads on time and within budget. URGENCY: Revitalizing our stockpile without 'business as usual' delays. DETERRENCE: Ensuring peace and global stability through atomic strength.

Administrator Williams: "Take Charge And Move Out! The TACAMO mission, is a critical link in nuclear command and control providing communications in support of POTUS, SecWar, and US_STRATCOM. The E6B Mercury and its crew carry a five mile long VLF antenna to maintain communications with our ballistic missile submarines."

Secretary of the Air Force Troy E. Meink: "Huge congrats to Lt Gen Doug Schiess on his Senate confirmation as the 3rd Chief of Space Operations! Having worked closely with him, I know his ops depth & vision are exactly what we need to continue accelerating capabilities and protecting our nation. I also want to extend my deepest gratitude to Gen Chance Saltzman for his leadership during a period of massive transformation. The @USSpaceForce is more ready because of you both."

Under Secretary of War for Policy Elbridge Colby: The US nuclear strategy review is not intended to "accentuate or increase the focus on theater-range nuclear weapons," but is instead aimed at maintaining deterrence and strategic stability.

USSPACECOM Commander Gen. Stephen Whiting: Possessing "credible, acknowledged, kinetic and non-kinetic" space weapons is a "key component of how we establish space superiority and restore credible deterrence...China is rapidly developing an array of space weapons that pose a major threat to U.S. satellites and the military operations they support.

Under Secretary of War for Policy Elbridge Colby: "I was very pleased to join the 2026 STRATCOM Deterrence Symposium for a discussion on the Department's approach to nuclear policy and deterrence. I'm

grateful to Admiral Correll for hosting me, and for his superb partnership and leadership on this critical set of issues.”

President Trump: “All [Iran] has is FAKE NEWS and 300% INFLATION and getting worse! Iran is all talk and no action, the Bully of the Middle East No Longer. Praise be to Allah!”

North Korean Foreign Ministry: Pyongyang could respond with “a new level of deterrent” to the upcoming joint U.S.-South Korea drills, which American officials said have been tailored to simulate a battle against DPRK troops with combat experience gained from the Russia-Ukraine conflict.

DPRK military commentator in state run media: The U.S. nuclear strategy currently under review would lower the threshold for nuclear use.

Secretary of War Pete Hegseth: The US military has the capability to maintain its naval blockade of Iran “indefinitely.”

U.S. Air Force Gen. S.L. Davis, commander of @AFGlobalStrike: Visited Minot AFB to engage with Airmen, assess mission readiness, and review modernization efforts supporting the strategic mission.

Administration Strategic Developments

ICBM Story of the Week: **Northrop Grumman CEO says Sentinel backlog rose by \$7.6 billion**

[Northrop Grumman CEO says Sentinel backlog rose by \\$7.6 billion, with first integrated missile flight planned for 2027; *The first integrated missile flight planned for 2027*](#)

By: Hannah Miller (Defense Industry Europe) - [Corporate](#).

August 8, 2026

Northrop Grumman added \$7.6 billion to its Sentinel backlog in the second quarter after further contract defeminization and authorization from the U.S. Air Force. The company is also preparing for the missile's first integrated flight in 2027 while expanding production infrastructure in Utah. Chief Executive Officer Kathy Warden detailed the program's progress during Northrop Grumman's second-quarter 2026 earnings call on July 21. She said the latest Air Force actions authorized the company to execute additional elements of the Sentinel program plan. “We continue to make progress on the Sentinel program in partnership with the Air Force,” Warden said. Northrop Grumman also achieved contract incentives during the quarter that improved overall program profitability and delivered scheduled milestones, she added. The company completed an acoustic test of the Sentinel missile during the quarter. Warden said the test validated that the system could withstand the intense conditions associated with a silo launch. She described the test as another step toward the first flight of the integrated missile, which is expected in 2027. Solid rocket motors for the first five flight tests are already in production, according to Warden.

Northrop Grumman is expanding its industrial base for the program alongside the flight-test effort. Warden said the company had broken ground on another advanced facility at its Utah campus. The campus already includes 1.1 million square feet of space purpose-built for Sentinel. The new facility will support the program's production phase, which is scheduled to begin later this decade. Sentinel was one of the developments Warden cited in outlining Northrop Grumman's U.S. growth outlook. The \$7.6 billion increase contributed to a broader expansion in company backlog during the quarter. The program is also part of Northrop Grumman's broader shift toward higher production activity. Warden said the company has invested in both new capabilities and manufacturing

capacity to support growth and respond more quickly to customer demand. For Sentinel, the next major technical milestone is the planned 2027 integrated missile flight. At the same time, Northrop Grumman is building the facilities and producing the rocket motors needed to move the program from its current phase toward production later in the decade.

Nuclear Story of the Week:
US weighs tactical nukes as China, Russia raise escalatory stakes

Strategic nuclear weapons are designed to destroy an adversary's war-making capabilities
Tactical nuclear weapons are designed to destroy an adversary's war-fighting capabilities

[US weighs tactical nukes as China, Russia raise escalatory stakes - Asia Times](#); ***Japan's growing nuclear debate adds another layer to a Pentagon tactical nuke rethink already driven by Beijing and Moscow*** by [Gabriel Honrada](#) for Asia Times // August 9, 2026; The US may be entering a period of significant nuclear reassessment as it ***confronts a growing mismatch between its predominantly strategic arsenal and adversaries increasingly prepared for limited nuclear use***. This month, Breaking Defense [reported](#) that the US Department of Defense (DoD) has initiated a review of the nation's nuclear posture to expand tactical nuclear strike options for the White House. Undersecretary of Defense for Policy Elbridge Colby confirmed the re-examination of nuclear employment guidance, citing the need for "rational nuclear options" in response to potential regional conflicts with China or Russia. The policy review comes amid longstanding US DoD ***concerns over foreign developments in low-yield warheads***, which risk leaving the US without proportional non-strategic responses. US Strategic Command head Admiral Richard Correll explained that while declaratory policy remains unchanged, the military seeks "escalation maneuver" space across non-kinetic, conventional and limited nuclear domains. The review will remain classified. At present, the US nuclear arsenal and modernization program remain heavily weighted toward strategic forces over tactical nuclear weapons. Strategic nuclear weapons are designed to destroy an adversary's war-making capabilities, namely its military, economic, political and population centers of gravity. Strategic nuclear weapons encompass intercontinental ballistic missiles (ICBMs), strategic bombers, and nuclear ballistic missile submarines (SSBNs), designed to hit targets deep in an adversary's territory. ***In contrast, tactical nuclear weapons are designed to destroy an adversary's war-fighting capabilities***. These weapons could be deployed against enemy bases and force concentrations to gain a battlefield advantage. Such weapons may include those deployed from dual-capable fighter aircraft (DCA), heavy artillery, tactical ballistic missile systems and ship- or submarine-launched cruise missiles. March 2026 [data](#) from the Bulletin of the Atomic Scientists show that the US nuclear arsenal remains overwhelmingly structured around long-range strategic weapons, which comprise roughly 94% of all actively deployed warheads. According to the data, of the US's 1,770 deployed warheads,

Gen. Michael Guetlein: Golden Dome faces FY-27 funding cliff, programmatic risk.

Lockheed Martin's new ICBM killer: Hit two major milestones this week and is expected to clear the design phase later this year. Its L3Harris Technologies or NGI had completed a [critical burst test](#) of its second-stage motor case. On Monday, ahead of the Space and Missile Defense Symposium here, Lockheed Martin [announced](#) that they had successfully fired its stage 2 rocket motor in a static test. Company officials said NGI, [ordered](#) under the Biden administration to replace the nation's Ground-Based Midcourse Defense System, should clear the [critical design review](#), or CDR, phase by the end of this year.

Deputy ORAD Commander: "U.S. Not Prepared To Handle Drone Attack From Inside Homeland.

USSTRATCOM Commander Adm. Rich Correll: U.S. military dominance "in any domain can no longer be assumed" as adversaries expand their capabilities across cyber, space, the electromagnetic spectrum and other areas.

International Strategic Developments

“North Korea: Warned that South Korea’s first nuclear-powered submarine could set off ‘nuclear dominoes’ across Asia.”

“Seven in 10 South Koreans support the country possessing its own nuclear weapons as North Korea continues to advance its nuclear and missile capabilities and poses a growing threat.”

A Ukrainian drone strike on an industrial city deep inside [Russia](#) has killed at least 13 people, according to the local mayor, as Kyiv steps up its campaign of long-range strikes on targets far from the frontline. Kyiv said it hit the Taneco refinery in the city of Nizhnekamsk, about 750 miles (1,200km) from the Ukrainian border. Footage circulating online appeared to show smoke rising from the refinery. Ukraine’s general staff said the raid was [part of a campaign](#) to reduce the “military potential of the Russian aggressor”. Russian investigators claimed civilian and industrial sites in the city had been hit. The head of the Tatarstan region, Rustam Minnikhanov, said a Ukrainian drone hit a hostel, killing nine people. He posted images showing a badly damaged building. If the death toll is confirmed, the strike would be among the deadliest Ukrainian attacks on Russian territory since the full-scale invasion began in 2022, underscoring the growing reach of Kyiv’s strikes deep inside Russia.

South Korean and Japanese military officials; North Korea conducted its second ballistic missile test in less than a week.

United States and 40 other countries released a joint statement calling for governments to provide at least 24 hours’ notice before launching long-range ballistic missiles or space rockets.

Congressional Strategic Developments

A congressionally mandated review by the scientific advisory group JASON concluded that plutonium in the U.S. nuclear arsenal is aging slowly and does not currently pose a threat to weapons performance, according to the Santa Fe New Mexican, which cited a recently released executive summary of the report. At a forum event in Manila, Under Secretary of War for Policy Elbridge Colby called on American allies in Asia to invest more in their defense and help deter aggression in the region, underscoring that the United States remains committed to do the same with “partners, not protectorates,” the Associated Press reported. And President Trump hardened his stance toward Iran as negotiations to reopen the Strait of Hormuz continue, saying that Tehran must pay reparations for past attacks.

The House Budget Committee Chair:

Chairman Arrington Statement on July 2026 CPI Report

WASHINGTON, D.C. — The Bureau of Labor Statistics released the Consumer Price Index (CPI) report for July 2026, which shows inflation dropping to its lowest point since March 2026, while real wages have increased since President Trump took office.

House Budget Committee Chairman Jodey Arrington (R-Texas) released the following statement:

The latest inflation report is another clear sign President Trump and Republicans are turning the page on Biden’s cost-of-living crisis. Under Biden, inflation averaged 5 percent. Under President Trump, it’s averaging nearly half and declining. Eighteen months into Biden’s presidency, prices had jumped 12 percent—that’s three times higher than under President Trump. Energy prices soared 50 percent and grocery prices climbed 16 percent in Biden’s first eighteen months, both five times higher than under Trump. Biden’s policies drove real weekly earnings down—taking nearly \$3,000 a year out of Americans’ pockets. Under President Trump, real wages are already up

nearly \$1,000. Republican pro-growth policies are working to unleash American prosperity and make America affordable again.

Prices rose 3.4 percent, year-over-year, in July, down from 3.5 percent in the prior month. Excluding the volatile food and energy categories, the year-over-year increase in prices eased to 2.5 percent from 2.6 percent, matching the February 2026 level and the lowest since March 2021, before Biden's cost-of-living crisis.

Hegseth can't persuade Republicans to back his big budget

Senators are leaving town no closer to enacting the crown jewel of the Defense secretary's agenda.

In the year and a half since Pete Hegseth squeaked through his Senate confirmation, congressional Republicans have handed the Pentagon chief big wins — and defended some of his most controversial moves. But now that GOP unity is splintering under the weight of President Donald Trump's party-line push for the biggest defense budget in modern history.

Senators left town last week for their summer break no closer to enacting the crown jewel of Hegseth's agenda, a \$1.5 trillion defense budget that would stamp Trump's mark across the military, from new battleships to a Golden Dome missile defense shield. Hegseth hasn't persuaded Republicans to steamroll Democrats and advance the record-breaking plan, despite regularly trekking to the Hill in recent weeks and hobnobbing with lawmakers. Instead, an increasingly vocal group of GOP lawmakers argue the administration hasn't explained why Republicans should burn valuable political capital in pursuit of Trump's vision — especially with the midterms just months away. "So much of that additional defense funding is banking on not only a third, but potentially a fourth reconciliation [bill]," said Sen. Lisa Murkowski (R-Alaska). "So, what if that doesn't come? I've asked [Pentagon officials]: you have your F-35s, your Patriot missiles baked into that — what's your plan B? And it's been tough to get an answer. "Several top Republicans are skeptical about the Trump administration's two-track approach to clinching \$1.5 trillion. This relies on the GOP using the partisan reconciliation process — which allows the majority to bypass Democrats entirely — to provide \$350 billion, the bulk of the increase. Many Republicans back more defense funding. And some defense hawks have even trumpeted the administration's \$1.5 trillion request as a long overdue investment in U.S. hard power. But the effort threatens to expose Republicans to politically risky votes ahead of hotly contested midterm elections. Some top GOP hawks have also argued that the approach gives too much spending power to the White House. Senate Appropriations Chair Susan Collins (R-Maine) and top defense appropriator Sen. Mitch McConnell (R-Ky.) who both opposed Hegseth's nomination last year — have expressed skepticism that any additional party-line bills could advance. "At the moment, there's not a path forward for a supplemental, and it's tied up with whether or not we have a reconciliation," said Sen. Jerry Moran (R-Kan.), a defense booster who sees no current way to unlock Hegseth's landmark defense budget. The situation is testing the limits of a Republican majority that has — mostly — had Hegseth's back. Hegseth's tenure began on shaky footing. Vice President JD Vance broke a 50-50 tie to confirm him after a messy nomination that involved three fellow Republicans opposing Trump's pick. But since then, Republican lawmakers have batted down most efforts to rein in Hegseth, including over the five-month-long Iran war, a military campaign against suspected drug traffickers in Latin America and the deployment of National Guard troops to Democratic-led cities. He's also escaped largely unscathed from revelations about his and other administration officials' use of Signal to discuss sensitive military operations, mass firings of senior officers and withholding certain top promotions. Despite those controversies, Hegseth still has the president's favor. Trump sprung to Hegseth's defense following reports this week that the president pressured his Pentagon chief for answers over critically low munitions stockpiles resulting from the Iran conflict. "I am extremely happy with the job that Pete Hegseth is doing. Everything has been extraordinary," Trump said Thursday in a Truth Social post. "Pete is highly respected within the Military, and has made tremendous improvements, including getting rid of DEI, and increasing recruitment to historic levels. "Republicans have handed the Pentagon some key wins. GOP leaders boosted military spending by \$150 billion last year with their party-line One Big Beautiful Bill Act. Republicans also united in support of Hegseth with votes this year to rename the Department of Defense to the Department of War and further gut diversity and inclusion efforts in the ranks. But now Hegseth wants Congress to pass tens, if not hundreds, of billions of dollars in new spending for the military. First, he and other administration officials want GOP lawmakers to pony up \$60 billion for the Iran war using reconciliation as well. The goal is to circumvent irate Democrats who oppose the conflict. An initial plan narrowly cleared the House but has stalled in the Senate. Then, Hegseth argues, lawmakers need to back the \$1.5 trillion blueprint to ensure the military can meet worldwide challenges. "Not funding this department at 1.5 trillion, I believe, is the greatest threat that our nation faces," Hegseth warned senators last month in a hearing. "Either we invest in our warriors at this moment of ... growing threats, or this is all just talk. "Both the

narrow war funding request and the even larger budget proposal are foundering on the Hill as Republicans grapple with what they can pass before November and aim to avoid political pitfalls that could cost them control of Congress. If successful, the two proposals would mark the third and fourth time Republicans have used the complex reconciliation process to ram through Trump's priorities in the past two years. Another GOP stalwart, Sen. Mike Rounds of South Dakota, indicated that Trump and Hegseth's proposal is far from a reality. "We've got more work to do to get it done," he said. The Pentagon under Hegseth has also stoked bipartisan anger with its relatively dismissive approach to Congress. Top Republicans and Democrats say they lack critical information on military operations and spending and have been left in the dark on major decisions. Republicans in particular have flamed the Pentagon over efforts to scale back U.S. military commitments in Europe. Defense bills produced by Senate and House Republicans place limits on reductions in U.S. troops from the continent. Democrats, who would be sidelined in any reconciliation process, predict an uphill battle for the Trump administration after a year and a half of stonewalling its own party. "He'll have a hard time justifying a trillion and a half dollars to Republicans who are demanding information along with all of us," predicted Sen. Richard Blumenthal (D-Conn.), a frequent critic of Hegseth and Trump.

(The Center Square) – The short-term funding bill the U.S. Senate passed early Saturday to keep the government running through Dec. 11 would provide about \$843.9 billion for defense, nearly half of the about \$1.7 trillion in annualized budget authority it covers, according to a new Congressional Budget Office estimate.

The measure would largely maintain federal agencies at prior-year funding rates, but it carves out billions in exceptions, including for Navy shipbuilding programs with prior-year cost increases. CBO estimated the stopgap at about \$1.7 trillion in annualized budget authority and \$1.87 trillion in outlays across the 12 appropriations bills it extends. Of that, \$843.9 billion in budget authority is for defense. The bill sets aside about \$2.61 billion across 20 programs for what it calls "prior year shipbuilding cost increases," an exception to the spending restrictions in the stopgap, according to the legislation. The largest amounts go to the Columbia-class submarine program, at \$566.5 million, and the Virginia-class submarine program, at \$561.1 million, along with \$379.2 million for aircraft carrier refueling overhauls and \$324 million for the Carrier Replacement Program. The bill also provides up to \$2.85 billion in Procurement, Defense-Wide funds to be spent as "necessary for National Security Systems," a separate provision from the shipbuilding funds. Continuing resolutions typically hold agencies to prior-year rates and restrict new production starts or funding increases, but lawmakers can write in exceptions for specific programs.

Abolitionists

Did Abolitionists Wake Up on Theater Nuclear Threats?

Editors Note: The abolition advocates applauded the 1991 PNI that eliminated 99% of all US theater nuclear deployed weapons as part of a Presidential Nuclear Initiative, a well-intentioned effort to match very significant strategic nuclear reductions with the USSR/Russia with similar reductions, even elimination, of theater nuclear systems. They now complain that even with an 80% reduction s strategic nuclear weapons under START I and II, the US remaining theater nuclear forces are 1/10th or 1/40th of the Russian force levels.

Theater Nuclear War Dilemma

NOTE: Approximately 1,670 warheads are assigned to the strategic triad — comprising land-based ICBMs, submarine-launched ballistic missiles (SLBMs), and strategic bombers — while non-strategic weapons account for only 100 tactical gravity bombs stationed in Europe.

The Bulletin of the Atomic Scientists report points out that the US's multi-billion-dollar modernization priorities heavily favor strategic program overhauls, including Sentinel ICBMs, Columbia-class SSBNs and B-21 Raider stealth bombers, leaving tactical nuclear weapons as a small, specialized component of overall US nuclear posture. However, the US emphasis on strategic nuclear weapons potentially leaves it inflexible against adversaries prepared to wage limited nuclear war. In scenarios where adversaries are willing to employ limited

nuclear strikes, a heavily strategic-weighted posture risks forcing a difficult binary — refrain from a nuclear response or escalate toward a strategic-level exchange. Tactical nuclear weapons offer a more scalable signaling option short of strategic exchange, but their frequent use of dual-capable delivery systems can blur the line between conventional and nuclear operations, raising the risk of inadvertent escalation. While the US nuclear posture remains heavily weighted toward strategic forces, China's nuclear buildup and Russia's continued nuclear threats in the Ukraine war may force a rethink. Although China maintains a "no first use" (NFU) nuclear policy, its rapid nuclear buildup has raised concerns. China has approximately 620 nuclear warheads and is expanding its strategic triad through hundreds of new solid-fuel ICBM silos, Type 094/096 SSBNs carrying longer-range JL-3 SLBMs and air-launched ballistic missiles (ALCMs) on H-6N bombers, according to July 2026 [data](#) from the Bulletin of the Atomic Scientists. The report notes that while China maintains lower-yield, dual-capable theater systems like the DF-26 intermediate-range missile, its future trajectory emphasizes strategic survivability, high readiness and launch-on-warning capabilities to project global deterrence and offset potential strategic disadvantages, with projections indicating it will exceed 1,000 warheads by 2030. The growth and diversification of China's nuclear arsenal complicate confidence in how its "no first use" pledge would hold under intense crisis conditions, particularly if survivability concerns create use-it-or-lose-it pressures. In a US-China conflict over Taiwan, China could use increasingly severe nuclear signals—from missile tests and demonstrative detonations to limited nuclear use—to deter intervention or stave off defeat. Beyond a possible Taiwan contingency, Japan's call for public discourse about the role of nuclear weapons and its nuclear latency may be pushing China to reconsider its NFU policy. Defense Minister Shinjiro Koizumi [broke](#) with the longstanding taboo on the issue by saying that Japan could not avoid addressing the nuclear issue when it comes to national security. In that connection, Japanese Prime Minister Sanae Takaishi has long advocated for a review of Japan's "no entry" aspect of its nuclear policy, possibly alluding to a nuclear-sharing arrangement with the US. Moreover, [Japan has a significant plutonium stockpile](#) that its Institute of Laser Engineering at Osaka University [could potentially use for developing nuclear weapons](#). The institute's inertial confinement fusion reactors (ICF) – similar to those used in French and US nuclear weapons programs – allow the physics of these weapons to be studied under laboratory conditions, possibly giving the country "virtual" nuclear testing capability. While Russia has remained a longstanding nuclear peer competitor to the US, the Ukraine war may have fundamentally changed the dynamics between the two nuclear powers. In a May 2026 [report](#), the Bulletin of the Atomic Scientists says that Russia is finalizing a multi-decade overhaul replacing Soviet-era strategic and non-strategic nuclear weapons. According to the report, Russia's strategic modernization involving Sarmat ICBMs and Borei-class SSBNs aims to maintain parity with the US but faces severe manufacturing delays. For Russia's tactical nuclear forces, **the report mentions that Russia focuses on fielding versatile, dual-use systems such as the Resnik and Iskander ballistic missiles, along with the Kinzhal air-launched hypersonic weapon, and increasing forward deployments in Belarus.** The report notes that while Russia's nuclear warhead stockpile grew to around 4,400, it will increasingly rely on its tactical nuclear weapons to deter NATO, since its conventional forces have been badly battered during the Ukraine war. Similar to China in a potential conflict with the US over Taiwan, **Russia may opt to use its tactical nuclear forces to stave off a catastrophic battlefield defeat. Russia may have also employed the threat of nuclear ambiguity, especially with its dual-capable Oreshnik ballistic missile.** Although the Oreshnik has been used as a conventional terror weapon against Ukrainian cities, the underlying message could be that the next attack may be nuclear. These pressures may force a fundamental rethink of a US nuclear posture shaped largely by bipolar Cold War competition but now confronting an increasingly multipolar nuclear order. The US DoD's tactical nuclear review reflects that shift: the central challenge is no longer simply deterring massive strategic attack but managing escalation across a wider spectrum of limited nuclear scenarios. The expiry of New START, China's rise as a peer nuclear competitor, North Korea's continued modernization and Iran's nuclear ambitions are pushing deterrence beyond the bilateral frameworks of the Cold War. New mechanisms for arms control, crisis management and proliferation restraint will be needed to keep that multipolar competition from sliding toward nuclear war.

Missile and Air Defense Corner

By Theresa Hitchens on August 11, 2026 4:39 pm

Laser weapons for space? US officials see threat, opportunity; Directed-energy and cyber weapons, as well as bombs targeted on communications hubs, all have potential to disable large satellite constellations, said Lt. Gen. Rick Zellmann, deputy commander of US Space Command. A 3D illustration of a laser cannon used against an enemy satellite. (3DSCulptor/Getty Images) HUNTSVILLE, AL. — As the Pentagon and other militaries around the world rush to deploy large satellite constellations designed to be less susceptible to kinetic attack, US military officials responsible for space operations see laser weapons — on the ground, in the air, at sea and even in space — as both a future threat and an opportunity. “Surely you’re not going to try and attack with a direct asset ASAT [anti-satellite weapon] 10,000 satellites,” Lt. Gen. Rick Zellmann, deputy commander of US Space Command (SPACECOM), said today. Instead, he told the annual Army Space and Missile Defense Symposium here, both adversaries and the US military’s “targeting folks” are looking to find “the various nodes where you can get a one-to-many solution” to take down “proliferated constellations. “Those solutions include cyber and directed-energy weapons, as well as focusing attacks on the limited number of ground systems used by satellite networks, Zellmann said. Directed energy is particularly attractive, he said, because it “doesn’t cost you much for a shot.”

Brig. Gen. Drew Morgan, deputy head of Army Space and Missile Defense Command (SMDC), agreed, telling the symposium that directed-energy weapons provide new “opportunities” for counterspace operations. “I would emphasize a couple of the items that [SMDC commander Gen. John Rafferty] also had highlighted as opportunities: as Gen. Zelman mentioned, certainly non-kinetic effects and directed-energy [systems] mounted on all types of platforms, from the surface all the way to space and everywhere in between,” he said. “That includes, I think, largely underappreciated, underinvested high-altitude or stratospheric, as we’re referencing it now, platforms and payloads. “According to a [July 2024](#) brief by the Congressional Research Service, high-energy lasers (HELs) designed to “dazzle” sensors based on the ground, in the air, at sea and in space “might offer lower logistical requirements, lower costs per shot, and—assuming access to a sufficient power supply—deeper magazines compared with traditional munitions. “But it’s not just the US who has been exploring the capability. The Space Force over the past couple of years has increasingly been voicing concern about Chinese and Russian development of laser ASAT systems. “Once upon a time it was the stuff of science fiction: lasers in space so powerful they could blind satellites sending GPS and other signals to earth. Today, directed energy weapons are very real and can be used to damage and degrade equipment and signals. They might take the form of a ground-based directed energy weapon, radiating lasers from to blind or dazzle satellite sensors on orbit, or they could operate from space as a directed energy weapon in orbit,” according to a 2024 Space Systems Command [fact sheet](#). With regard to cyber weapons, Zellmann noted that already the Navy’s component to SPACECOM integrates cyber and space operations in a way that “is very powerful. Rear Adm. Karrey “DeWayne” Sanders, deputy head of Navy Space Command, told the symposium the command has “a unique command structure that integrates and deconflicts both space and cyber effects [that] ensures our three priorities: one being ensured command control; two, about space awareness; and three, non-kinetic effects to support the joint force. “Sanders added that the Navy sees this integrated approach as “as layering space’s cyber-non-kinetic effects in order for successively to disrupt and degrade the adversary’s kill webs. “Zellmann said that targeting communications hubs and satellite ground stations is yet another way to cheaply and efficiently disrupt or disable proliferated constellations — noting that this is “something I think we’re seeing play out in real time in the Middle East.” “[I]f you take a look at a number of our satellite systems today, on orbit you can have 10,000 of them, but they’re all going to come down to a small number of landing sites. And those are all susceptible to those one-way attack systems,” he said. Thus, Zellmann said, there now needs to be some thought put into “how do you diversify or proliferate new ground systems.”

Special Report of the Week

Report from STRATCOM Commander on American Military Dominance

U.S. Strategic Command can no longer assume American military dominance as adversaries expand their capabilities across cyber, space, the electromagnetic spectrum and other domains, Commander Adm. Richard Correll said Tuesday.

"This is the most complex strategic environment of my lifetime," Correll said at the [DODIIS Worldwide conference](#) in Tampa, Florida. The U.S. faces multiple nuclear-armed strategic competitors who are modernizing their systems and working together militarily and diplomatically.

Responsible for the nation's nuclear arsenal, Stratcom relies on data collected by the Defense Intelligence Agency to inform its leaders on national security issues. This input is vitally important to supporting the War Department's global operations.

Adversary cooperation falls into five key threat vectors of cyberspace, counter-U.S. space, contested electromagnetic spectrum, novel missiles and delivery systems, and supply chain and infrastructure issues. Countering these threats relies on controlling the electromagnetic spectrum and global information sharing. This is central to how Stratcom plans and operates, Correll said. However, the U.S. cannot become complacent as adversaries gain new capabilities. Absolute dominance in any domain can no longer be assumed," Correll said.

Threat Vectors

<u>Threat</u>	<u>Details</u>
<u>Cyberspace</u>	<u>Adversaries are probing defenses to exploit, disrupt or destroy the information infrastructure U.S. forces rely on.</u>
<u>Counter-U.S. space</u>	<u>Rival nations are threatening space-based intelligence and communications systems with a range of platforms, from jamming to anti-satellite missiles.</u>
<u>Contested electromagnetic spectrum</u>	<u>A "maneuver space in its own right", where adversaries use jamming and deception to interdict communications and sensors.</u>
<u>Novel missiles and delivery systems</u>	<u>Nations are developing and deploying multi-orbital regime bombardment systems, cruise missiles and hypersonic glide systems. These weapons emphasize the need for integrated warning and data-sharing systems across classification levels.</u>
<u>Supply chain and infrastructure issues</u>	<u>Adversaries seek to compromise the hardware, software and firmware making up the nation's information environment to shape, deny or delay decision-making at critical moments.</u>

A Changing Strategic Landscape

New technologies and capabilities such as the mass [use of inexpensive drones](#) in warfare are changing the strategic environment. Correll identified three trends: information warfare, precision strike, and machine learning and AI. The U.S. operates in a highly contested global information environment. "There is no such thing as a regional conflict anymore. Every conflict is global in the information domain," he said. Nation-states are experimenting with synthetic media, deepfakes and AI-augmented influence campaigns. They are investing heavily in capabilities designed to influence decision-making and manipulate perceptions, all to constrain the political decision space and shape strategic outcomes for the intelligence enterprise, Correll said.

To counter this, the U.S. must be able to understand the information environment "as a battlespace in its own right," and it must be able to protect the integrity of the information underpinning operational decisions. Precision strike, precision weapons, autonomy and unmanned systems are making it "prohibitively costly" for armies to take and hold land. Correll noted that drones are responsible for over 70% of the more than 1 million Russian casualties in Ukraine. He added that an average Russian recruit is killed or injured within the first 30 minutes of arriving at the front lines. The U.S. needs to coordinate autonomous systems with human control. Additionally, DOW must solve challenges in command and control deconfliction and teaming. Third, DOW must incorporate machine learning and AI for decision and warfighting advantage. Correll noted that the nation that first fully harnesses AI responsibly for sensing, analysis, planning, logistics and command and control "will have a profound, possibly existential advantage. "The question is not whether AI will be present in future conflict because

it already is, Correll said. “The question is how we as a community shape its development and integration in a way that strengthens deterrence, preserves human judgment and reduces the risks of miscalculation.”

Using AI for Battlespace Dominance

“Innovation is meaningless if it does not translate into operational outcomes,” Correll said, noting that the U.S. is very good at developing new tools and strategies, but it must put more effort into moving them from demos to capabilities “a commander refuses to deploy without.”

There is also a need to deliver timely, actionable intelligence for the warfighter. This can be achieved with AI and tools to help spot patterns leaders may have missed. Additionally, space-based sensors and intelligence sources must be fused to better detect threats, he said.

However, the U.S. is “not where we need to be yet” regarding the integration and deployment of new technologies. Often programs do not mature or intelligence data is stovepipe in individual agencies and commands.

The U.S. must turn technology into operational advantage. AI is an example of this. Correll emphasized that AI will not replace humans for key decisions, but it will help enhance that decision-making.

AI can also help human analysts with intelligence assessments. AI can flag signs of change long before a human analyst can spot them. This technology will give the intelligence community more room to provide warning for leaders.

At the strategic level, AI can provide decision-support tools and wargaming systems to quickly model missions to support leadership objectives.

“We have to treat data as a strategic weapon, not a byproduct,” Correll said.

AI and Launch of Nuclear Weapons

Putting Armageddon on Autopilot: How Artificial Intelligence Could Make Nuclear Threats More Effective

JOSHUA SCHWARTZ AND MICHAEL HOROWITZ

WARONTEROCKS.COM, AUG. 11

Nine countries now possess nuclear weapons. Arms control agreements painstakingly built over decades have collapsed. Geopolitical competition is intensifying rivalries between nuclear-armed powers. North Korea continues expanding its arsenal and delivery systems. China is on a trajectory to go from roughly 600 warheads today to around 1,500 by 2035. Meanwhile, Russia bears most of the responsibility for the expiration of New START and is developing an array of exotic new nuclear delivery systems designed to circumvent missile defenses. This includes nuclear-powered and nuclear-armed cruise missiles and underwater drones, hypersonic glide vehicles, and a nuclear-armed anti-satellite weapon. Although most recent focus has reasonably been on Iran's nuclear program and the prospect of autonomous conventional weapons systems, the potential for the automation of nuclear launch decisions themselves in an age of artificial intelligence looms over the conversation. One highly concerning possibility is that a country like Russia could automate the use of nuclear weapons. At first glance, this sounds like something that would only happen in a Hollywood movie, like the "doomsday machine" in Dr. Strangelove or "Skynet" in The Terminator. But this is not science fiction, and there is historical precedent for semi-autonomous nuclear launch systems. During the Cold War, Moscow actually deployed a system called Dead Hand or Perimeter, which would monitor for a nuclear attack on Soviet territory and automatically delegate nuclear launch authority to a lower-level official operating the system if a communications link could not be made with Soviet high leadership. The purpose of Dead Hand was to guarantee that the Soviet Union would be able to retaliate against an American first-strike attempt with its own nuclear counterstrike, even if its leadership was killed. In other words, it was a fundamentally defensive system. Similarly, Adam Lowther and Curtis McGiffin have argued in War on the Rocks that America needs its own dead hand system to effectively deter nuclear attacks against Washington. However, it is also plausible that automated nuclear systems could instead be used to pursue de facto offensive and revisionist objectives via compellence or deterrence. What if Russia invaded a country like Estonia or Poland and threatened to use nuclear weapons if NATO intervened? The goal of this kind of threat could be to deter NATO intervention to aid a country unjustly attacked or compel NATO members to back down from their Article 5 commitments. Ordinarily, such threats lack credibility due to the dynamics of mutually assured destruction and the nuclear non-use norm. Yet, if it could be implemented with computer-based automation, then the threat might become more believable.

A recent survey experiment we did of United Kingdom parliament members and the general public demonstrates that the risk of nuclear-armed states pursuing coercive ends by automating nuclear launch is worth taking seriously. Our study presented a scenario where Estonia was invaded by Russia, which then threatened NATO countries like the United Kingdom with a nuclear attack if they came to Tallinn's aid. Alarmingly, when Moscow's nuclear threats were implemented through automation, they were more credible and made respondents more willing to back down. Though incredibly dangerous, states may be tempted to create automated nuclear launch systems to more effectively coerce adversaries.

Why Nuclear Coercion Is Challenging:

Coercion involves using threats against other states to accomplish political objectives without having to actually resort to costly uses of force. Since, as Robert Pape said, "nuclear weapons can almost always inflict more pain than any victim can withstand," threatening nuclear punishment would ostensibly be an effective coercive strategy. But there are two reasons why it typically is not. The first constraint is when mutually assured destruction exists between two nuclear-armed states. For threats to be credible, the target must believe there is a chance the punishment will be inflicted if their adversary's red line is crossed. The problem is that if a target state has nuclear weapons and a secure second-strike capability, it could retaliate with its own devastating nuclear counterstrike. From a rational perspective, carrying out a nuclear threat would therefore be illogical and thus lack credibility under these circumstances. The second constraint is the nuclear taboo or non-use norm, to the extent it exists. Given the stigma against using nuclear weapons — especially if there are other good alternatives — nuclear threats may lack credibility because states will expect the political, economic, and social costs of carrying out the threat to be too high.

How Automation Could Change the Game

Unless it is integrated into their programming, computers do not care if carrying out a nuclear threat is irrational because it could lead to nuclear retaliation or other significant costs. By developing and activating an automated

nuclear weapons system, leaders can more credibly threaten to use nuclear weapons because delegating launch authority to a computer allows leaders to more literally tie their hands. As the infamous fictional character Dr. Strangelove said, “because of the automated and irrevocable decision-making process which rules out human meddling, the doomsday machine is terrifying ... and completely credible and convincing.” Of course, computer systems can malfunction and fail, meaning there would be substantial risk from automating nuclear command and control. During the Cold War, there were several near accidents where early warning systems falsely indicated a nuclear attack had been launched, which could have resulted in mistaken nuclear retaliation if a human had not detected the error. Modern computer systems are not immune to mistakes either. For instance, Boeing’s 737 MAX Maneuvering Characteristics Augmentation System was responsible for several fatal commercial airline crashes in 2018 and 2019, and automated trading systems contributed to the 2010 “flash crash,” where hundreds of billions of dollars of market value were wiped out in a matter of minutes.

Computer systems are also susceptible to hacking. Malign state or non-state actors could leverage this vulnerability to try and start a nuclear war between their enemies or erode a country’s second-strike capability. If states automate nuclear launch processes via complex and opaque machine learning programs based on artificial intelligence rather than hard-coded and rules-based systems like Dead Hand, then that might further increase the risks that humans will not understand how it is making decisions. Combined with automation bias — the tendency for humans to overly trust computers — this could lead to disaster. Given these downsides, most leaders are unlikely to take the extreme step of automating nuclear use. Still, nuclear blackmail has been attempted historically by countries like the United States in the Taiwan Strait Crisis and Pakistan in the Kargil War. Automating nuclear launch may appear to be a rational strategy for several reasons. First, a country that fears decapitation by a more powerful nuclear country may automate nuclear command and control to speed up its ability to retaliate and protect itself in case of attack. This is why Lowther and McGiffin believe the United States needs its own dead hand system. Second, the increasing speed of conventional war in an age of artificial intelligence could make countries fear rapid conventional defeat, making them more likely to want to automate nuclear command and control to preempt potential decapitation. Third, if a country is at a conventional disadvantage or faces deteriorating conditions on the conventional battlefield, it may turn to nuclear coercion and take the dangerous step of automating nuclear use to achieve its strategic objectives.

Nuclear Automation “Works” (To Some Extent)

To test the efficacy of automated nuclear threats in influencing the views of political leaders and the general public, we surveyed over 100 current U.K. Members of Parliament and over 1,000 British citizens. We presented subjects with a hypothetical scenario set in 2030 where Russia invaded Estonia and threatened to use at least one nuclear weapon against NATO if they intervened. This scenario is disturbingly plausible. Russia has made nuclear threats against Ukraine and NATO, and at one point, U.S. intelligence agencies estimated that the likelihood of Russian nuclear use was as high as 50 percent if their lines in southern Ukraine collapsed. According to reporting in the New York Times, “One simulation [by the Biden administration] ... involved a demand from Moscow that the West halt all military support for the Ukrainians: no more tanks, no more missiles, no more ammunition.” This is quite similar to the scenario we presented to respondents in our experiments. We then randomly varied whether the nuclear threat from Russia was implemented with an automated nuclear launch system that would automatically attack if Russian sensors and early-warning systems detected a NATO intervention, or via normal human-controlled means. For all respondents, we then asked them whether they thought Russia’s threat was credible and whether they were willing to abide by Russia’s red line. The results were sobering and show the way the age of AI could increase nuclear risk — automation made Russia’s threats more credible and effective. Members of the U.K. public were over 13 percentage points more likely to believe Russia would launch nuclear weapons if their red line was violated when the threat was implemented with automation than without. U.K. parliamentarians were also nine percentage points more likely to support backing down from protecting Estonia when Russia made an automated nuclear threat. It is striking that automated nuclear coercion could yield benefits even though the United Kingdom has its own nuclear weapons, and Estonia is a fellow member of NATO, guaranteed protection under Article 5. While we specified the existence of an automated system to respondents in the scenario, the results raise the question of how a state would convince adversaries that they have automated nuclear launch, and the prospect of bluffing. Given the risks discussed above and the fact that political leaders are often loath to cede personal control over crucial policy decisions, governments may be perceived as unlikely to delegate the means of mass destruction to computers. Verifying the existence of an automated nuclear system would also be extremely challenging, as states are highly unlikely to share the source code of such programs for fear that their enemy might discover a weakness. The obstacle to making nuclear automation claims credible is further compounded by the fact that if nuclear automation provides coercive advantages, then states may have an incentive to bluff about the existence of such systems in a bid to gain the benefits without risking the costs. Wever, given advances in frontier AI over the last few years — if not months — the notion that a state could automate nuclear launch could easily seem credible from a technical perspective. If the stakes are viewed as sufficiently high for the coercing country, such as if they are losing on the battlefield and

leaders need to gamble for resurrection, then they may also be perceived as willing to attempt nuclear automation. Credibility may also be higher for autocratic regimes known not to trust their military. Public statements by leaders that automation systems exist and have been activated would also put their reputation on the line in a way that may make their claims seem credible. Over time, if leaders bluff and are caught in a lie, then future assertions about nuclear automation will likely be viewed with greater suspicion. Conversely, truthful automation threats today might enhance the credibility of similar threats tomorrow. Finally, states may gather intelligence from human sources or electronic intercepts that can help adjudicate whether statements about automation are accurate or not. At the end of the day, claims about nuclear automation do not necessarily have to be believed with 100 percent certainty to be effective. Our survey results suggest that if states perceive that there is a reasonable non-zero probability that an adversary has taken the risky step of reducing human control over nuclear weapons, then that might make them sufficiently concerned to trigger greater consideration for backing down. Several additional qualifications are in order with respect to our findings. First, the changes in attitudes we uncover (9–13 percentage points) are meaningful but modest. They show that nuclear automation can move the needle to some extent but also imply that it is far from a panacea for coercion. Large percentages of U.K. parliamentarians and members of the public do not change their views when presented with an automated threat. Second, there was some inconsistency in the results. For example, although U.K. parliamentarians were more willing to back down when Russia made automated nuclear threats, they did not, on average, find automated threats more believable than non-automated ones. This indicates that the challenges of making automated threats credible (discussed above) are potentially real. Even if policymakers' best guess about the probability of nuclear use was roughly the same for non-automated and automated nuclear threats, they may have been less confident and more uncertain about their estimates for the latter given the relative novelty of the technology and the inability to bargain with a computer in the same way one can bargain and reason with a human. **Greater uncertainty about the risk of nuclear escalation may then have convinced some Members of Parliament to support backing down to avoid a devastating outcome.**

Why Nuclear Automation Is Different

Given the coercive leverage automating nuclear launch systems can confer, states should prepare for the possibility that their adversaries might consider taking this perilous step. To deter the development and use of these systems in the first place, states could publicly declare they will impose costs — like economic sanctions — if they gather intelligence indicating that others are creating these kinds of systems. For nuclear-armed states, bolstering their second-strike capabilities would be the surest way to avoid getting caught in an automated threat trap. Developing automated systems will be especially tempting for states that fear decapitation, as the Soviets did when they built Dead Hand. Nuclear modernization to reinforce second-strike capabilities could therefore reduce the incentives for states to pursue automation in the first place, at least for defensive purposes. While arms control in the age of AI will be extremely hard since it is a general-purpose technology, one possible area of cooperation is a multilateral agreement prohibiting automated nuclear launch. Although compliance with this kind of agreement would likely be extremely challenging, if not impossible, to verify, a formal public commitment would increase the costs of noncompliance. While Washington and Beijing have informally agreed not to automate nuclear decision-making, a legally binding agreement with more nuclear-armed powers would provide stronger safeguards. **Requiring that signatories also codify this commitment as part of their domestic law would further strengthen constraints against violation. Pursuing this kind of agreement could be a win for a Trump administration. Still, despite these efforts, a revisionist country like Russia could attempt to leverage claims of nuclear automation to annex former members of the Soviet bloc. NATO countries should be engaging in wargaming at the strategic and operational levels to develop a playbook for how to respond to automated nuclear threats.** The optimal response will also depend on how credible the threat is based on intelligence and structural factors, as well as the value placed on the territory being targeted. Even if the coercive advantages of automated nuclear systems make their adoption tempting to some states, putting Armageddon on autopilot is a path NATO countries themselves should avoid. The stakes of preventing nuclear use are simply too great to accept the risks of malfunction, hacking, automation bias, and escalation that automated nuclear launch systems would bring. There is much apprehension about the integration of automation and artificial intelligence into the military domain. The integration of AI into military systems is inevitable, especially in an era of precise mass where states are likely to invest in millions of aerial, ground, and sea drones that will be challenging to manage effectively without AI and autonomous systems. Integrating greater autonomy into drones — with appropriate safeguards — can reduce these systems' susceptibility to electronic warfare while also avoiding the downsides of using wired systems. The destructive power of conventionally armed drones is also, of course, significantly less than that of nuclear weapons, making the risks of automated drones much smaller than those of automated nuclear launch systems. As Michael Depp and Paul Scharre wrote in these pages, some applications of automation can improve stability, whereas others can be dangerous and destabilizing. When it comes to nuclear weapons, our research demonstrates that, unfortunately, there may be coercive benefits to automation, meaning the danger is real and concern is justified. But it is important to distinguish the level of risk for different types of military systems. Putting Armageddon on autopilot would entail large and unique risks compared to other AI-powered weapons systems.

--Joshua A. Schwartz is an assistant professor of international relations and emerging technology at the Carnegie Mellon Institute for Strategy & Technology. He was previously a Grand Strategy, Security, and Statecraft fellow at the Harvard Kennedy School and the Massachusetts Institute of Technology; Michael C. Horowitz is a senior fellow for technology and innovation at the Council on Foreign Relations

About the ICBM EAR

Peter Huessy's ICBM EAR Report was originally prepared for the USAF in 1981 to help inform US nuclear deterrent policy professionals at the height of the Cold War. Eventually it was provided only to key elements of the Nuclear related Aerospace Industry. The objective: help build an informed political community on nuclear deterrent issues, especially the deployment of the US nuclear deterrent, especially the MX (Peacekeeper) missile. The report covered developments in the nuclear arena on a weekly basis, including developments in Congress, key events, threat assessments, remarks of top US officials, international activity key to US security interests, nuclear budget and program element issues, and arms control and proliferation matters as well.

Weekly ICBM EAR Report

Prepared by Peter Huessy

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Contact: NIDS@ThinkDeterrence.com

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