



UNITED STATES AIR FORCE
CENTER FOR STRATEGIC
DETERRENCE STUDIES

NEWS AND ANALYSIS

Issue 1354
22 February 2019

Feature Report

“NUCLEAR WASTE: DOE Should Take Actions to Improve Oversight of Cleanup Milestones”.

Published by U.S. Government Accountability Office; Feb. 14, 2019

<https://www.gao.gov/products/GAO-19-207>

The Department of Energy is tasked with cleaning up waste from Cold War nuclear weapons production, much of which is hazardous or radioactive. DOE spends about \$6 billion a year on this cleanup, and faces about \$500 billion in future liabilities.

Agreements between DOE and its regulators set requirements and milestones (deadlines) for the work at each cleanup site.

We found that DOE didn't accurately track or report whether milestones were met, missed, or postponed. We also found that sites continually renegotiate milestones they are at risk of missing.

We made 4 recommendations to address these and other issues we found.

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The value of his work was in the manner that he seamlessly connected the often lofty objectives in defense policy with operational plans and actual military capabilities, in ways that others who worked nuclear deterrence and counter-WMD issues could not.

NUCLEAR WEAPONS

UPI (Washington, D.C.)

Draper Awarded \$191M for Trident Missile Guidance System

By Allen Cone

Feb. 18, 2019

The U.S. Navy has awarded Charles Stark Draper Laboratory Inc. a \$191 million contract for the Trident II weapons system as the Pentagon upgrades its nuclear weapons arsenal.

The contract includes technical support and research into the guidance, navigation and control applications for the U.S. and British D5 MK6 systems, the Department of Defense announced Friday.

Work, which is expected to be completed by July 31, 2022, will be performed at Draper's plant in Cambridge, Mass., as well as Clearwater, Fla., Pittsfield, Mass., and McKinney, Texas.

If all options on the deal are exercised, the total value of the contract would be \$391.8 million and add a year onto the contracted work period.

Draper has designed and supported the guidance system for all fleet ballistic missiles since the program began in 1955.

The Trident II D5, named for the three-pronged spear of mythology's King Neptune, was developed by Lockheed Martin.

The Draper Lab contract extends the life of the D5 missiles to the year 2040 by replacing obsolete components with commercial off-the-shelf hardware. The first flight test of the guidance system was in early 2012 aboard the ballistic missile submarine USS Tennessee.

The Trident II Weapons System is the U.S. and British's primary submarine-launched nuclear ballistic missile fleet. They are launched from the Navy's 14 Ohio-class ballistic missile submarines and from four British Royal Navy Vanguard-class ballistic-missile submarines. These vessels together carry about half of all U.S. strategic thermonuclear warheads.

They are also planned for the Navy's future Columbia-class submarine. Construction is scheduled to begin in 2021, with the vessels expected to enter service in 2031.

Draper has been obligated \$189.5 million from fiscal 2019 Navy weapons procurement funds and \$1.5 million in United Kingdom funds, none of which will expire at the end of the current fiscal year.

In February 2018, Draper signed a \$132.9 million contract for Trident's failure verification, test, repair and recertification of inertial measurement units, electronic assemblies and electronic modules for the U.S. and British systems.

<https://www.upi.com/Draper-awarded-191M-for-Trident-missile-guidance-system/8031550495498/>

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Aiken Standard (Aiken, S.C.)

Feds File False Claims Lawsuit against MOX Contractor, Subcontractor

By Colin Demarest

Feb. 18, 2019

The federal government is suing the Mixed Oxide Fuel Fabrication Facility lead contractor as well as a project subcontractor, accusing both of fraudulent and otherwise illicit financial acts.

The U.S. Department of Justice announced the lawsuit Feb. 14, the same day the 38-page complaint — targeting MOX Services and subcontractor Wise Services — was filed in South Carolina district court.

The suit alleges a total \$6.4 million of dishonest claims, spurred by Wise Services, were submitted for repayment by MOX Services. The suit also alleges Wise Services provided cash; gift cards; YETI coolers; Masters, NASCAR and football tickets; phones; car tires; and guns, among other things, to MOX Services officials to gain favorable treatment.

"Wise carefully chose the MOX officials and employees to whom it would improperly reward and pay kickbacks based upon their ability to provide favorable treatment to Wise in the award, modification, and administration of the Wise subcontracts," the complaint reads.

Kickbacks between 2013 and 2014 totaled at least \$52,000, according to the complaint.

A Wise Services senior representative, who is named in the Feb. 14 complaint, pleaded guilty to charges of conspiring to commit theft of government funds in 2017, according to the DOJ.

The National Nuclear Security Administration in 1999 contracted MOX Services to design, build and operate MOX at the Savannah River Site. The NNSA terminated the incomplete MOX venture on Oct. 10, 2018.

The MOX contract was cost reimbursable, meaning the government paid MOX Services for costs incurred.

MOX Services utilized subcontractors to do "many" things, according to the complaint. The subcontractors would work and bill MOX Services; those costs would in turn be passed up for reimbursement.

From 2008 to 2016, Wise Services knowingly submitted 484 claims, including forged invoices and fictional costs, to MOX Services for materials that did not exist, according to the complaint. MOX Services submitted 221 illegitimate claims to the NNSA, per the same information.

All 221 were "knowingly false or fraudulent," the complaint reads.

"If NNSA officials had known the truth about the defendants' claims for nonexistent materials," it continues, "NNSA would not have paid the claims."

U.S. Department of Energy Inspector General Teri L. Donaldson on Feb. 14 said accusations of false claims, over-billing and kickbacks are taken "very seriously" and will be "aggressively" investigated.

"Government contractors who line their bank accounts by receiving kickbacks or submitting fraudulent claims undermine the public's trust in government programs and operations," Assistant Attorney General Jody Hunt, representing the DOJ's civil division, said.

In November 2018, MOX Services sued Ohio-based Wise Services. In the complaint, MOX Services said it was "unaware" that Wise Services was submitting inaccurate and inflated claims.

"Consequently, MOX included the Wise Services' invoices in its own vouchers, and submitted them to NNSA for payment," the November 2018 complaint reads.

Wise Services launched a MOX Services counterclaim on Jan. 2, according to court records. Wise Services claimed MOX Services was negligent and mismanaged, among other things.

The DOJ notified MOX Services of its ongoing evaluation and investigation in 2016, according to the prime contractor's complaint.

The federal government has requested a jury trial for its lawsuit and is seeking damages as well as financial penalties.

https://www.aikenstandard.com/news/feds-file-false-claims-lawsuit-against-mox-contractor-subcontractor/article_42ca1d0a-3399-11e9-8886-271b8b4b71ab.html

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US COUNTER-WMD

Homeland Preparedness News (Washington, D.C.)

Potential Bioterrorist Use of Smallpox Should Put World on Notice, Experts Say

By Kim Riley

Feb. 19, 2019

Smallpox, although eradicated, has joined the growing list of potential biosecurity threats, according to experts, who say preparedness for the possible return of the virus should be prioritized around the world.

Smallpox, a contagious, disfiguring and often deadly disease, was eradicated globally in 1980 by the World Health Organization (WHO) — the result of an unprecedented global immunization campaign, according to the Mayo Clinic.

However, samples of the smallpox virus have been kept for research purposes, according to the clinic, which has led to concerns that smallpox could someday be used as a biological warfare agent.

Although most bioterrorism preparedness experts agree it's likely that smallpox could return and cause a devastating regional or even global outbreak, the risk remains very low, says Michael T. Osterholm, distinguished teaching professor and director of the Center for Infectious Disease Research and Policy at the University of Minnesota in Minneapolis.

"Nonetheless, because of the potential consequences of such an outbreak, I believe that society has no choice but to have at least a moderate level of preparedness, in both the availability of effective vaccines and in strategies for responding to outbreaks quickly and effectively," Osterholm writes in the editorial, "An Unfortunate Need to Revisit Smallpox Preparedness" in the first edition of *Global Biosecurity*, a peer-reviewed open access electronic journal published by the University of New South Wales (UNSW).

Osterholm, who also serves through May 2019 as a Science Envoy for Health Security on behalf of the U.S. State Department, said experts think that the smallpox virus is located in only two repository, high-security biosafety level 4 laboratories — in the United States and Russia.

"The likelihood that the virus remains in yet unidentified laboratories throughout the world is, at best, a theoretical possibility," Osterholm writes in his Feb. 14 editorial. "For this reason, despite a

call by some to maintain preparedness for the possible return of smallpox, such preparedness remains a low priority for almost all countries in the world.”

For that reason alone, he said, some of the work published in the new Global Biosecurity that resulted from an August 2018 simulated smallpox outbreak carried out by UNSW and the Fiji Ministry of Health and Medical Services deserves the world’s attention.

The hypothetical scenario, for example, was designed to test preparedness and response globally to a smallpox attack in the Asian Pacific region. The exercise brought together key international representatives from departments of health, foreign affairs, defense, law enforcement, non-government agencies, vaccine manufacturers and other global stakeholders.

“The results of the exercise are sobering,” said Osterholm. “The authors have provided us with substantial food for thought with regard to the speed at which a comprehensive outbreak response could be launched in one or more locations around the world and how the very limited supplies of our current smallpox vaccines will be most effectively deployed.”

Generally, the simulation uncovered that for a disease as infectious as smallpox, the most important determinants impacting the spread of the epidemic are finding and isolating people with smallpox, tracking their contacts and vaccinating them, and the speed of response, according to UNSW, where the simulation was held Aug. 16-17, 2018. It was funded by the National Health and Medical Research Council (NHMRC) Centre for Research Excellence, Integrated Systems for Epidemic Response (ISER), Emergent Biosolutions Inc., and Bavarian Nordic, with support from Global Security PLS.

The resulting article published in Global Biosecurity, “Exercise Mataika: White Paper on response to a smallpox bioterrorism release in the Pacific,” is authored by numerous experts, including UNSW’s Raina MacIntyre, head of the university’s biosecurity program and a global biosecurity professor at its Kirby Institute; Kevin Yeo, director of clinical and medical affairs at Emergent BioSolutions; and Dr. J. Michael Lane, emeritus professor of preventive medicine at Emory University in Atlanta and a former special consultant to the WHO Smallpox Eradication Programme in Geneva, Switzerland, among several others.

MacIntyre said they used mathematical modelling of smallpox transmission to simulate the spread of the virus.

“If rates of isolation of people with smallpox and vaccination fall below 50 percent, smallpox may become endemic again, as our model shows it still going 10 years later,” she said. “We have been able to outline very clear disease control targets in terms of vaccination and also isolation of sick people. Both require physical and human resource, which are not a given in low-income countries.”

Following the exercise, experts reported that global efforts are essential and should be directed toward the areas worst-affected by such an outbreak.

However, “this is a challenge when nations are reluctant to provide resources outside their own borders,” said Associate Professor David Heslop from the UNSW School of Public Health and Community Medicine, another of the white paper’s authors.

Emergent’s Yeo also noted “that safeguarding the population against public health threats, whether by accidental, intentional, or naturally occurring causes, requires coordinated strategies at the national level.”

Yeo said that collaboration across stakeholders and input from myriad experts “are key to prepare for, prevent, and protect against these threats. It is vitally important for all countries to have a preparedness plan for such untoward events.”

In examining local, regional and global preparedness to a possible smallpox attack, authors of the white paper also provided the first-ever framework to develop national and international policy and legislation.

Additionally, Osterholm's editorial cites another related and relevant article in *Global Biosecurity*: "The current and future landscape of smallpox vaccines," by Dr. Lane, an article he called a comprehensive review of the current and future landscape of smallpox vaccines that serves as a primer on smallpox vaccine capability and developing safer and possibly more effective vaccines.

"As Lane points out, however, given the general sense by most countries that smallpox will not again be a serious public health challenge, it's unlikely that we will see much investment in developing and stockpiling these fourth-generation vaccines any time soon," Osterholm writes.

Lane concludes in his article that the first generation of smallpox vaccines are no longer acceptable due to serious side effects, among other reasons. Certain second-generation vaccines, he writes, have shown non-inferiority to the first-generation vaccine and have been added to the National Strategic Stockpile. Third-generation vaccines show some promise as practical vaccines, he said, while the effectiveness of many fourth-generation vaccine candidates, produced by modern immunologic and virologic techniques, may be too cost prohibitive and difficult to prove, which could inhibit their full development as smallpox vaccines.

"There is a need for better smallpox vaccines," writes Lane.

<https://homelandprepnews.com/countermeasures/32593-potential-bioterrorist-use-of-smallpox-should-put-world-on-notice-experts-say/>

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US ARMS CONTROL

Defense News (Washington, D.C.)

A US-Russia Pact Preventing Nuclear Armageddon Is in Trouble

By Sebastian Sprenger

Feb. 20, 2019

MUNICH — Chances are slipping for the timely extension of a landmark nuclear-weapons treaty that has successfully checked the impulses of the United States and Russia to build ever-growing atomic arsenals.

That is the sobering message from last weekend's Munich Security Conference, where the former Cold War enemies continued accusing each other of fouling the Intermediate-Range Nuclear Forces Treaty. The poisoned discourse puts into question whether that pact's bigger sibling, the New Strategic Arms Reduction Treaty, will continue past its February 2021 expiration date, according to analysts.

"The United States is mistrustful of Russia and treaty compliance after the INF experience," Kori Schake, a deputy director-general of the London-based International Institute for Strategic Studies, told Defense News. "And rightfully so."

The Trump administration walked away from the missile treaty in early February after years of Washington's complaints that one of Moscow's cruise missile types was secretly deployed or tested

in violation of the pact. The next day, Russia announced its intention to also exit the treaty, with top officials saying that new weaponry of the once-prohibited range class would swiftly be developed.

While New START remains in effect for another two years, the clock is ticking, warns François Heisbourg, senior adviser for Europe at the IISS think tank. Given the Trump administration's "low level of energy" toward extending the accord, Heisbourg warned there is a real danger of its eventual demise. Moscow is equally to blame, he added. "Russia seems on a path to want INF and New START gone."

While the INF Treaty prohibits the deployment of land-based missiles with a range between 300 miles and 3,000 miles in Europe, the 2010 New START pact places limits on the types of nuclear weapons with global reach. A verification regime ensures both countries adhere to the ceilings of 700 deployed strategic missiles and bombers, as well as 1,550 deployed nuclear warheads.

Speaking at Munich, Russian Deputy Foreign Minister Sergei Ryabkov brought up a technical disagreement that has been dogging New START since last year. The Americans, he said, have converted 56 Trident II submarine launchers and 41 B-52H heavy bombers for non-nuclear use, taking them off the books of the inspection regime. While such conversions are allowed, Ryabkov contends Moscow was left unconvinced that the modifications are irreversible.

"We went several extra miles with the U.S. counterparts in order to present them concrete and specific technical ideas how it can be done, how this problem might be fixed," Ryabkov said. In his telling, the Americans never responded.

"Thus I believe there is a growing risk of this U.S. administration just purposely continu[ing] talk on the issue as if there is enough time, nothing to worry about, but then the treaty just fades out as of Feb. 5, 2021," Ryabkov said. "That would be another extraordinary shock for the arms control system."

According to Heisbourg, a scenario where both nuclear arms-reduction treaties have expired would be highly destabilizing.

"If START also goes, there is no longer a way to know what weapons are nuclear and which are not," he said. "That means escalation in all planning, toward a nuclear exchange."

The official Russian position on the strategic treaty is that Moscow wants to talk about a five-year extension, Ryabkov told an audience of world leaders in Munich.

Those rosy proclamations should be taken with a grain of salt, however, said Evelyn Farkas, a former U.S. deputy assistant secretary of defense for Russia, Ukraine and Eurasia.

"The Russians are always ready to talk," she told Defense News at the sidelines of the conference. "It's not about talking, it's about what they are ready to do."

Farkas said the Trump administration similarly appears to be dragging its feet. "I suspect that New START talks aren't high up on their list right now. And I don't expect them to start anytime soon."

<https://www.defensenews.com/smr/nuclear-arsenal/2019/02/20/a-us-russia-pact-preventing-nuclear-armageddon-is-in-trouble/>

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The Hill (Washington, D.C.)

Trump: 'I'm in No Rush' in Negotiations with North Korea

By Brett Samuels

Feb. 19, 2019

President Trump said Tuesday he's "in no rush" over negotiations to denuclearize North Korea ahead of his second summit next week with leader Kim Jong Un.

"I'd just like to see, ultimately, denuclearization of North Korea," Trump told reporters in the Oval Office. "I think we will see that ultimately. I have no pressing time schedule. I think a lot of people would like to see it go very quickly from the other side."

The president is set to travel to Hanoi, Vietnam, for a summit with Kim on Feb. 27 and 28. He touted the economic prospects for North Korea should it agree to denuclearize, noting its proximity to Russia, China and South Korea.

Trump indicated he would not put a timetable on negotiations with Kim ahead of their second meeting, expressing optimism that "very positive things are going to happen."

"I'm in no rush," he said. "As long as there's no testing, I'm in no rush."

The president spoke Tuesday morning with South Korean President Moon Jae-in to discuss the upcoming meeting with Kim. Trump is expected to speak with Japanese Prime Minister Shinzo Abe ahead of next week's summit as well.

Trump and Kim met in person in June in Singapore, the first face-to-face meeting between a U.S. president and a North Korean leader.

While Trump has heralded the first meeting as an unmitigated success, pointing to the return of U.S. remains from the Korean War and a halt in missile tests, critics have noted that North Korea has not taken concrete steps toward abandoning its nuclear arsenal.

Top intelligence officials said in congressional testimony late last month that North Korea is unlikely to give up its nuclear weapons.

<https://thehill.com/homenews/administration/430640-trump-im-in-no-rush-in-negotiations-with-north-korea>

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Defense News (Washington, D.C.)

Obama Energy Chief Has a Fix for INF Treaty

By Joe Gould

Feb. 17, 2019

MUNICH — Former Energy Secretary Ernest Moniz, said Saturday the U.S. has a path to salvage the tattered Intermediate-Range Nuclear Forces Treaty by agreeing to mutual inspections with Russia.

"Inspections are key to everything," Moniz, a critic of President Donald Trump's decision to withdraw from the decades old INF Treaty, said on the sidelines of the Munich Security Conference. He was the energy secretary from 2013-2017, under President Barack Obama.

“Frankly, the Russians I’ve spoken with said, ‘All we have to do is have mutual inspections,’ because they also have an issue, with Aegis Ashore and its programmability for treaty-violating missiles,” Moniz said.

Amid fears Russia and America’s exit from the 1987 pact could result in a new arms race in Europe, European allies are seeking to bring Russia back in line before a deadline in six months. The puzzle for leaders and experts at the conference is how to accomplish it.

The U.S. announced weeks ago that it was retreating from the pact, reacting to what U.S. and European leaders believe is a years-long history of Russian violations. Moscow in turn also announced it would no longer be bound by it.

To be clear, the path Moniz recommends is a steep one, as the trust required for mutual inspections is in short supply. Moscow and Washington have been trading accusations over who is breaking the treaty.

The U.S. claims Russia’s 9M729 nuclear-capable cruise missiles are in breach of the treaty’s terms, while Moscow claims the Mk-41 launcher used by the Aegis Ashore missile defense facility in Romania can hold and launch offensive cruise missiles of intermediate range in addition to the Mk-41’s stated purpose of containing and launching SM-3 missile interceptors.

U.S. officials have countered that the Mk-41 launcher used in Romania, and soon to be deployed at an Aegis Ashore site in Poland, has not been tested with a ground-launched missile, according to a Brookings analysis. They argue that is why it is not a prohibited intermediate-range missile launcher.

The Arms Control Association proposed earlier this month that Washington and Moscow exchange site visits and both agree to make modifications in such a way that Russia can avoid having to acknowledge its original violation of the treaty.

Moniz, who negotiated the landmark Iran nuclear deal, and former Senate Armed Services Committee chairman Sam Nunn, D-Ga., published an opinion piece earlier this month that argues the two superpowers are “sleepwalking toward disaster,” and calls for Congress to take the lead. The two co-chair the Nuclear Threat Initiative.

While Moniz agreed Russia was out of compliance, he said Saturday the U.S. made strategic errors when it didn’t work within the treaty and left allies out of the decision—which is “exacerbating the strains we are putting on the Euro-Atlantic alliances.”

The Trump administration has also said China must also be a party to the treaty, and on Saturday German Chancellor Angela Merkel said she wants Beijing to join talks to save INF.

Moniz said the U.S. and Russia must come back into compliance before China can be wrangled because its issues are different.

“The INF was put in place for Euro-Atlantic issues, and that should be preserved, and then the issues with China can be discussed longer-term with China,” Moniz said. “I’m not arguing what the outcome would be or the goal, but it’s a large part of their force structure.”

Moniz acknowledged that would make it harder to persuade Beijing.

“What are the objectives and how do you answer them? It probably is not a simple-minded INF Treaty, but bringing them back into an appropriate regime, which is stabilizing,” Moniz said. “It’s all about stability, and we feel the Russian, and now American, actions go the opposite way.”

<https://www.defensenews.com/congress/2019/02/17/obama-energy-chief-has-a-fix-for-inf-treaty/>

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Atlantic Council (Washington, D.C.)

Buy-in from Allies Critical for Effective Sanctions, Says Former US Treasury Secretary Lew

By David A. Wemer

Feb. 19, 2019

While the Trump administration's decision to reimpose sanctions on Iran will be ineffective because the United States does not "have the support of our allies," its approach to Venezuela—working in concert with friends—"represents more the way things ought to be done," former US Treasury Secretary Jacob J. Lew said at the Atlantic Council in Washington on February 19.

As the Trump administration and the US Congress increasingly view sanctions as effective means to achieve the United States' foreign policy objectives, Lew, who also served as White House chief of staff to then President Barack Obama, had some advice: "Sanctions are most effective when there is broad buy-in around the world amongst our allies."

US President Donald J. Trump pulled the United States out of the Iran nuclear deal, formally known as the Joint Comprehensive Plan of Action (JCPOA), in May 2018. The United States has since reimposed sanctions on Iran that were lifted as a consequence of the deal, which secured an agreement from Iran to abandon its nuclear weapons program but did not address the Islamic Republic's other malign activities.

Lew maintained that sanctions are only useful when they are targeted to specifically "compel policies to change." While Washington can rightfully complain about Iran's other actions in its neighborhood, Lew said, US backtracking on the nuclear deal diminishes the usefulness of sanctions.

Sanctions can only be effective, Lew argued, if the sanctioned country believes there will be "meaningful and lasting relief" once it changes its behavior. Despite the US decision to pull out of the JCPOA, Iran continues to abide by the terms of the deal, according to the International Atomic Energy Agency, the United Nations' nuclear watchdog. The US withdrawal from the JCPOA has effectively left Tehran in a "damned-if-they-do, damned-if-they-don't scenario," according to Lew, potentially undermining the sanctions tool in future talks.

The effects are already being seen, Lew said, as European allies are testing out an alternative payment mechanism—called the special purpose vehicle (SPV)—to continue JCPOA-approved trade with Iran while avoiding US sanctions. Although he doubted that the SPV could actually evade sanctions, Lew said that Washington must recognize that "the plumbing is being built and tested to work around the United States. Over time as those tools are perfected, if the United States stays on a path where it is seen as going it alone...there will increasingly be alternatives that will chip away at the centrality of the United States."

Europe's pursuit of an SPV has sparked concern that unilateral US sanctions policy could threaten the position of the US dollar as the leading global currency. While Kerri-Ann Bent, Americas head of sanctions at Barclays, conceded that she doesn't see the dollar losing its global position at the moment, she noted that there is already growing "comfort with processing certain types of transactions" in other forms of currency to avoid the risk of sanctions.

Heleen Bakker, deputy chief of mission for the Kingdom of the Netherlands, highlighted the risk that a departure from the dollar could entail as "if transactions start circumventing the US dollar or the

international financial system...starts happening we also [could] lose track of those transactions and we might not have a good oversight of what is going on outside of our purview.”

Atlantic Council Nonresident Senior Fellow David Mortlock pushed back that the SPV “is not circumvention of the dollar” as most dollar transactions with Iran were already outlawed before the JCPOA withdrawal, but cautioned that the European effort was a “pretty bold political statement” of opposition to US policy.

Atlantic Council Visiting Senior Fellow Samantha Sultoon argued that this all could have been avoided with more coordination with US allies. Simply, she argued, “multilateral sanctions are far more effective than unilateral sanctions.”

One of the areas where multilateral sanctions coordination has been most effective, Atlantic Council Distinguished Fellow Daniel Fried said, has been in Venezuela, where the “United States has acted at least in the same direction, although ahead, of the European Union and with support of the Organization of American States.”

Lew agreed. He argued that the Trump administration’s Venezuela actions have closely mirrored what the Obama administration achieved in bringing Iran to the negotiating table before the 2015 nuclear deal. “We learned through a series of incrementally ratcheted up sanctions that you could keep a very disparate global community together if you listen to the concerns of your allies, and even some not-so-allies, when you need them to be a united front,” Lew said.

Effective coordination was also vital in sanctions against Russia in response to Moscow’s aggression against Ukraine, Lew said. “A sanctions regime could not have been effective without European buy-in,” he explained, noting that the United States “did not have enough contact with Russia to do it unilaterally and to create the amount of pressure that would potentially change Russia’s behavior.”

At the beginning of the crisis, Lew said, Europeans “were very worried about taking steps that were going to cause another recession in Europe,” but stayed the course because they shared the goals of the United States in curbing Moscow’s activities.

Fried noted that today the Trump administration has a similar level of international buy-in on the issue of North Korea, but Lew warned that the sanctions seem disconnected from overall administration policy. The aim of these sanctions, Lew argued, was the end of the North Korean nuclear program, and should only be removed if that achievement is met. Lew worries that Trump will eventually reach a deal with North Korean leader Kim Jong-un, but that the agreement “will not meet the standards of the JCPOA” in actually achieving denuclearization.

Lew also cautioned the Trump administration against conflating sanctions with other areas of policy, as he said is currently happening with regards to China. He specifically called out the potential for sanctions-related charges against Huawei Chief Financial Officer Meng Wanzhou to be dropped in return for trade concessions by Beijing as detrimental for US sanctions policy. “I think when you mix up sanctions efforts and policy or political decisions, it tends to undermine the efficacy of the sanctions themselves,” he said. Rather, he argued, “there ought to be a legal proceeding that stands on its own and there ought to be trade negotiations that stand on their own and the two ought not to be confused.”

Damaging the effectiveness of sanctions is dangerous, Lew said, as “it is critically important that the United States maintain the ability to have sanctions as an effective tool.” He recounted that he couldn’t “count the number of times when I was in a room where if we didn’t have sanctions as a meaningful way to respond, the conversation almost immediately would have gone down a path towards do you or do you not use force.” Sanctions can be a key tool to respond to aggression or misbehavior without resorting to violence, Lew said, but must be used effectively and responsibly whenever enacted.

David A. Wemer is assistant director, editorial, at the Atlantic Council. Follow him on Twitter @DavidAWemer.

<https://www.atlanticcouncil.org/blogs/new-atlanticist/buy-in-from-allies-critical-for-effective-sanctions-says-former-us-treasury-secretary-lew>

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COMMENTARY

The Hill (Washington, D.C.)

Why Russia Covets Hypersonic Weapons

By Stephen Blank

Feb. 20, 2019

Russia's ongoing development of hypersonic weapons proves nuclear weapons are in fact warfighting weapons — contrary to conventional wisdom in the West.

In December 2018, Moscow successfully tested the Avangard and Tsirkon hypersonic missiles. The former travels at speeds up to 20 times the speed of sound and is supposedly invulnerable to any missile defenses. It can carry a nuclear warhead and allegedly hit any spot on the globe within 30 minutes of launch. Therefore, it can be considered a “strategic” nuclear weapon.

The Tsirkon, meanwhile, can be deployed on submarines, ships and airplanes, including long-range bombers. It possesses a range of approximately 500 KM and is expected to be a particularly lethal anti-ship weapon.

Another mature Russian hypersonic missile, the Kinzhal, can travel 1,800 miles at up to 10 times the speed of sound. Russian President Vladimir Putin displayed it in 2018 in a simulation that modeled the destruction of Florida.

Moreover, these represent just some of the new generation of weapons that Moscow is developing. By 2024, Moscow expects its submarine fleet to be able to launch hypersonic missiles that are capable of carrying either conventional or nuclear warheads.

Russia's larger military modernization effort encompasses its entire triad of air, sea and land-based nuclear weapons, from short- to intermediate- to long-range nuclear weapons, along with counter-force and counter-value weapons. According to General Paul Selva (USAF), vice chairman of the Joint Chiefs of Staff, Russia is also developing new tactical nuclear weapons to tailor its forces to virtually any contingency. Thus, Russia is currently working on over 20 nuclear programs, including nuclear-capable hypersonic weapons.

Equally disquieting is the fact that in the recent Vostok-2018 exercises Russian forces and the Ministry of Energy conducted large-scale exercises to restore electric grids and power supply after an attack. In other words, Russia rehearsed an EMP (electromagnetic pulse) operation, and its aftermath strongly suggests that it either expects or intends to launch one. Significantly, Moscow sought to conceal the purpose of that exercise and divorce it from Vostok-18. Russia has also rehearsed nuclear operations in the past – such as simulating a nuclear strike against Sweden back in 2013.

Clearly, Moscow sees nuclear weapons as usable instruments of war. In this context, hypersonics are valuable for the Kremlin because they are allegedly invulnerable to U.S. missile defenses.

Without any basis in fact or science, Russia has long contended that American missile defenses in the U.S, Europe and Asia threaten its nuclear deterrent. Despite innumerable briefings, scientific facts and the admission of Russian experts that these “threats” are fantasies, the Kremlin persists in seeing nuclear weapons as warfighting instruments against American and allied missile defenses.

And whatever Moscow declares in its doctrine or rhetoric, its procurements and exercises strongly suggest not only that, in the Russian view, nuclear weapons are warfighting weapons, but also that they will be used in a first-strike against purely conventional strikes. Accordingly, Russian officials informed then-Secretary of Defense James Mattis last year that defending the Baltics would lead to nuclear war — a clear statement of Russia’s intent to use nuclear weapons first.

At its core, Russia’s development of hypersonic weapons reflects its refusal to accept mutual assured deterrence among the superpowers and the self-generating paranoia of a state bent on rebuilding its empire by inhibiting NATO from defending its allies and partners. They embody both the Kremlin’s global ambitions and its own inherent paranoia (including the belief that nuclear weapons can and will be used against it).

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<https://thehill.com/opinion/international/430854-why-russia-covets-hypersonic-weapons>

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Defense One (Washington, D.C.)

The Moment the Transatlantic Charade Ended

By Thomas Wright

Feb. 19, 2019

Europe and the Trump administration have stopped pretending to respect each other. For the past two years, we have been treated to a transatlantic charade. Everyone knows there’s a problem, but publicly the leaders proclaim that nothing has fundamentally changed. But at the 2019 Munich Security Conference, which took place over the weekend, the charade ended. The American position is collapsing under the weight of its own contradictions. The Europeans are defaulting to nostalgia for a multilateral order. Meanwhile, the true challenge of a rising authoritarian bloc goes largely ignored.

The mood of defiance was summed up by Wolfgang Ischinger, the chairman of the Munich Security Conference, in his opening and closing remarks. Ischinger, who is 72, opened the forum’s proceedings sporting a hoodie emblazoned with the EU flag—a gift from his grandson, and a not-too-subtle rebuke to an American administration that has reversed a 70-year policy of support for the EU. Three days later, in a suit and tie, he offered his closing observation: “As this conference concludes, critics might argue that some speakers were less interested in putting the pieces back together than in creating more disarray in our international system.”

Vice President Mike Pence seems unable to give a speech without offering long declarations of fealty to President Donald Trump. In Munich, he mentioned Trump by name 30 times, double the number of mentions in his 2017 Munich speech and 15 times more than then-National Security Adviser H. R. McMaster in last year’s American keynote. Trump later rebuked McMaster on Twitter for undermining his authority; Pence’s primary objective seemed to be to avoid that fate.

The substance of Pence's speech, though, was more significant and worrying. In 2017, Pence spoke at length about the importance of the NATO alliance and its historic accomplishments. In 2019, there was none of that. The only praise of NATO was for its response to Trump's leadership on defense spending. Otherwise, Pence offered a litany of criticism leveled against NATO and the EU—for not doing enough on Iran, Nord Stream 2, or Venezuela. (Ironically, the EU would have had a common position on this last item were it not for the effective veto of the pro-Trump Italian government.)

Pence could have come and spoken about the common challenge facing the alliance from China—which is what many Europeans and Americans expected him to do. That would have been a worthy follow-up to his previous appearance at Munich. It would have turned the page on a contentious period in transatlantic relations and offered a constructive path forward. He did not choose that path, possibly fearing that it would be shot down by a president who has repeatedly rejected the idea of working with the EU on China. The administration's national-security strategy of great-power competition wasn't mentioned, nor was election interference, which Trump's intelligence chiefs identified as a top threat facing the United States.

The administration's America First approach to Europe is now riven with contradictions. Take Iran as an example. Senior administration officials have repeatedly said over the past year that while the United States was pulling out of the JCPOA, the Iran nuclear deal, they were not calling on the EU to do the same. That, they said, was a matter for Europeans, as sovereign nations, to decide. Apparently sovereignty is not what it used to be. With no explanation for the U-turn, Pence demanded that the EU now withdraw from the JCPOA. His message was clear: Under Trump, the alliance means getting behind whatever Washington decides, even if that changes weekly.

But the Europeans were not blameless either. German Chancellor Angela Merkel seemed to offer a stark contrast to the American delegation. Merkel was energetic and pumped up. She offered a robust defense of Germany's policies and threw a few sharp elbows. She ridiculed the Trump administration's trade declaration that German cars represent a national-security threat to the United States, drawing raucous laughter from the crowd. She rebutted Washington's charge that the EU was weak on Iran by pointing out that a precipitous American withdrawal from Syria would empower the Iranians. She received rapturous applause. Thomas Kleine-Brockhoff of the German Marshall Fund astutely observed that Merkel "was finally playing the role that American liberals had wanted her to play—that of leader of the free world."

But beneath the surface, all was not well. Merkel harked back to the old days and did not offer a way for Europe to succeed in a world defined by great-power competition. She said little about China, confining herself to some comments on unfair trade practices and saying nothing of the broader authoritarian challenge it poses to the international order. The German and British defense ministers and the EU High Representative all seemed stuck in the mid-2000s, offering little on the great-power competition unfolding around them.

There was also a notable absence. French President Emmanuel Macron canceled his joint appearance with Merkel after a dispute about the EU's energy policy. The French are exasperated with the Germans, with whom they believe they cannot and will not work on needed reforms to the EU. The Germans, on the other hand, see the French as hopelessly nationalist, dreaming of Franco-German leadership with nothing to offer the Italians, the Poles, or others. Meanwhile, the British have just decided to continue to work with the Chinese technology firm Huawei, cutting against the prevailing winds in Western democracies. This is the sort of concrete issue that should have been discussed by the alliance, but it was lost in theological debates about leadership and the order.

The Americans and the Europeans seemed destined for at least two more years of mutual distrust. The Germans are not even trying to charm Trump anymore. In 2017, the German chancellor

befriended Ivanka Trump in the hope of cementing ties with the United States. It may be why the first daughter attended Munich this year. But Merkel's anointed successor, Annegret Kramp-Karrenbauer, kept a cool distance from Ivanka during a joint breakfast appearance.

The European position is understandable, but fraught with risk. Help, if it comes, will not arrive until 2021. Rumors are rife in Washington of a new Trump move against the NATO alliance, which is preparing for a major meeting in Washington in April. Trump still has to choose a new defense secretary. The acting secretary, Patrick Shanahan, was at the Munich conference but, oddly, did not speak. He is losing support on Capitol Hill, and whether he will be nominated is unclear.

But despite all the problems of policy and personnel, the alliance cannot afford to wait two years. The Trump administration may believe that it does not need Europe, and the Europeans may believe that America is temporarily lost, but meanwhile, China and Russia gain ground. In Munich, Yang Jiechi, a senior Chinese official, gave a long and meandering speech about win-win solutions and the benefits of multilateralism, which was completely at odds with China's increasingly assertive and disruptive behavior. Russian Foreign Minister Sergey Lavrov and Iranian Foreign Minister Mohammad Javad Zarif reveled in the disarray between the allies and sought to drive a wedge between them, weaponizing the Trump administration's rhetoric about sovereignty.

Wolfgang Ischinger was right. There is a big problem. Western leaders are retreating into their foxholes, taking potshots at one another, rather than figuring out how to deal with new challenges. We've been lucky so far that there has not been a major crisis on Trump's watch, but the luck is unlikely to hold forever. When it breaks, it won't matter who is to blame. It will only really matter whether we are equipped to deal with it.

Thomas Wright is a fellow at the Brookings Institution and the author of the forthcoming book *All Measures Short of War: The Contest for the 21st Century and the Future of American Power*.

<https://www.defenseone.com/ideas/2019/02/moment-transatlantic-charade-ended/154955/?oref=d-channelriver>

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War on the Rocks (Washington, D.C.)

John Collins on Weapons of Mass Destruction

By Al Mauroni

Feb. 21, 2019

Editor's Note: This is the second installment of "Remembering the Warlord," a series dedicated to the memory of John Collins. Read the introduction to the series [here](#).

I was introduced to Col. (ret.) John Collins in 2012 when I joined the august ranks of the Warlord Loop, a unique national security debating forum. As the "warlord," he actively participated in a wide range of strategic discussions, which included nuclear weapons and deterrence issues. I enjoyed talking with him on contemporary defense issues involving weapons of mass destruction (WMD), but I discovered that he had written more than a few articles on the topic over his career. He was kind enough to share some of his professional writings on the issues of nuclear weapons, deterrence principles, and counterproliferation. The value of his work was in the manner that he seamlessly connected the often lofty objectives in defense policy with operational plans and actual military capabilities, in ways that others who worked nuclear deterrence and counter-WMD issues could not. As a result, defense policy makers benefited tremendously from his straightforward, critical analysis, particularly in the 1980s and 1990s when these topics were fresh and

controversial. To contribute to this celebration of Collins' legacy, I will attempt to synthesize these contributions to educating the national security community.

On Nuclear Weapons

Most defense analysts and military leaders today are familiar with the strategic nuclear triad of ballistic missiles in land-based silos, long-range bombers armed with nuclear cruise missiles and gravity bombs, and ballistic missile submarines. Largely speaking, the general defense community has only known the triad by these three major components, but during the Cold War, there was a much greater selection of nuclear delivery systems and a greater desire by the Air Force, Army, and Navy to develop new strategic and non-strategic nuclear weapons. As a result, Congress required non-partisan advice on the issues of how many nuclear weapons were enough, what combination of systems was optimal, and how many of each served the best strategy. To answer those questions, John Collins, as a senior specialist of the Congressional Research Service, offered options in a 1981 report titled U.S. Strategic Nuclear Force Options.

Given the nuclear weapons debates of the time (including replacing the B-52 with the B-1 bomber), this was a vital topic that required analytic rigor. Of interest, his report endorsed a strategic triad as the optimal solution to meet U.S. security requirements but noted that "service politics shaped the structure as much as military missions." This runs counter to the current arms control mantra that the Cold War triad was only about service politics. However, nuclear primacy was preferred over strategic stability, and, as a result, the services were always looking to add supplemental systems to reinforce the triad, to include air- and submarine-launched cruise missiles, semi-mobile and freely mobile ballistic missiles, air-launched ballistic missiles, ballistic missiles fired from surface ships, and a concept called "Hydra" that involved free-floating missile silos in the ocean during times of crisis.

Collins estimated that, from a purely mathematical perspective, there were 120 different triad concepts, but 90 percent of them were not viable due to various shortfalls or undesirable features such as using only ballistic missiles in each triad leg. He narrowed down the prospects to four ideal configurations, of which the one constant with the present triad was retaining submarine-launched ballistic missiles. The B-52 bombers were already on average 20-30 years old and the B-1A production had been cancelled. As a result, he saw the need to either develop a new bomber or arm another air platform (such as a large-frame transport) with cruise missiles. But given the technical challenges then faced with designing and producing a new cruise missile, that solution came with risks. In 1981, the air-launched cruise missile was plagued by operational and survivability problems and needed more testing prior to production and deployment. His most significant recommendation was to replace the missile fields with a new land-based delivery system, as Soviet ballistic missiles were increasingly more dangerous and silo hardness was reaching a point of diminishing returns. In particular, he emphasized that retaining fixed-site ballistic missiles as an option would require some convincing justification.

His four options included replacing the fixed-site missile silos with launchers that were semi-mobile (using transports moving around a closed-loop racetrack), freely mobile (using transports on public roads, rails, and waterways), on surface ships, or in Hydra sea canisters. In all four options, he recommended retaining the submarine-launched ballistic missiles and replacing B-52 bombers with an airborne platform carrying cruise missiles (interestingly enough, not necessarily a strategic bomber). Collins summarized this complex defense issue in 11 pages, not including supplemental material. While President Jimmy Carter approved the production and deployment of a semi-mobile ballistic missile system, Congress didn't care for the high cost of the proposed system and negative public reaction from where the racetracks would be built. As a result, the MX "Peacekeeper" missile was relegated to 50 silo-based systems instead of a full replacement of the

Minuteman missiles. The report still stands as a crisp, critical review of modernization options that could meet national security strategic requirements.

On Counter-Proliferation Theory

In 1994, Collins wrote a Congressional Research Service report titled Nuclear, Biological, and Chemical Weapon Proliferation: Potential Military Countermeasures. At 30 pages, this report was somewhat longer than his nuclear force options report, probably due to the relative newness of the topic, which had only recently been revealed as a critical defense issue by Secretary of Defense Les Aspin. At the time, no one in the military was focused on developing a new set of capabilities for the challenge of protecting U.S. forces and interests from adversaries armed with weapons of mass destruction.

Collins proposed six “military countermeasures” that we would today describe as offensive measures to counter the development and use of a nation-state’s nuclear, biological, or chemical weapons. These counter-measures included interdicting raw materials or finished products associated with a WMD program, extracting key technical experts or program managers, using military force to disable production and storage facilities, using military strikes to confiscate or disarm weapon systems in storage areas, damaging or destroying weapon production facilities, and damaging or destroying associated delivery systems. All of these options relied on the development of intelligence data to detect, characterize, and track the progress of said WMD programs. He noted that all of these options were laden with risk but that inaction might lead to more adverse events if adversaries decided to use these weapons.

Collins’ report was an early look at counter-proliferation strategy, and obviously there has been a great deal of maturation in how the U.S. government addresses the WMD proliferation concerns since then. However, it is rare to see any contemporary discussion on offensive military counter-measures against nation-state or violent extremist groups that are interested in a WMD capability. The counter-WMD community doesn’t have these frank discussions today, preferring to focus on shortfalls in intelligence collection, arms control regimes, and infectious disease counter-measures.

The Congressional Research Service last reported on the general challenge of nation-states developing nuclear, biological, and chemical weapons and associated implications for U.S. policy in 2008. There are focused reports on specific countries’ WMD programs (notably Syria, North Korea, India, and Pakistan), but there are no Congressional Research Service reports — or Government Accountability Office reports for that matter — that so clearly outline, as Collins’ report did, what the military ought to be considering as options to counter the potential development and use of these weapons.

On Deterrence Principles

Collins was a prolific writer, and of the 12 books he authored, his book *Military Strategy*, published in 2001, was an excellent primer for newcomers and seasoned professionals in the defense community. While it may be a little dated in light of the defense issues in today’s security environment, it remains a strong foundation for those seeking an understanding of the strategic challenges across the range of military operations. In this book, Collins discussed the fundamentals of deterrence relative to the demands of military strategists and national security policymakers. This should not be confused with the deep theoretical debates of Bernard Brodie, Thomas Schelling, Herman Kahn, or Robert Jervis. Collins’ book represents a more succinct and practical application of deterrent techniques in the context of specific conflict scenarios.

Military students at the war colleges are more familiar with strategic deterrence theory, including deterrence by denial and deterrence by pain, largely relegated to nuclear weapons strategy. Collins offers a more general deterrence discussion that applies to any form of military threats against

adversary intentions. Given that there are many different interpretations of deterrence theory, to include whether deterrence really works, he does not offer one doctrinal approach to deterrence but rather 10 principles that guide the effective development and implementation of deterrence.

Purpose (having a specific political purpose) Preparedness (need for ready forces)
 Credibility (demonstrating capability) Non-provocation (avoiding military posturing)
 Uncertainty (allowing for greater punishment) Prudence (use of defensive means)
 Pleasure (rewarding allies and associates) Publicity (the importance of communication)
 Pain (promises to punish) Paradox (threatening war to achieve peace)

In *Military Strategy*, Collins elaborates on the potential deterrent techniques (under the general categories of threats, promises, and actions) that could apply to different causes of conflict. Using a construct of five general conflict scenarios — unprovoked aggression, provoked aggression, preemptive or preventive wars, regrettable blunders, and catalytic conflicts — he offers a framework by which operational planners could successfully apply deterrent actions in appropriate situations. For instance, how can confidence-building be an appropriate technique, as opposed to demonstrations of force or deception operations? There is no one tool that fits all conflict scenarios. Collins' entire discussion on "fundamentals of deterrence" is only 10 pages long, but it offers a valuable tool to military planners who need a practical approach to applying deterrence theory to military operations.

Collins did not limit himself to general theory. In 2003, he wrote an article in the *Army* magazine on military options to deter North Korean aggression. These included blockading North Korea from shipments of incoming resources and outgoing WMD-related materials, preemptively destroying North Korea's nuclear facilities to snuff out its nuclear weapons ambitions, invading North Korea if there were indications of a North Korean nuclear attack on South Korea, defending South Korea against invasion using conventional forces (the status quo), and, if all else failed, employing U.S. nuclear weapons against North Korea to offset unacceptable situations. He noted, however, that North Korea had the option to retaliate in the face of any U.S. attack. That might include sponsoring transnational terrorism, invading South Korea, initiating chemical warfare against U.S. and South Korean forces, and initiating nuclear warfare against U.S. bases in the Pacific theater. There are no good answers, unfortunately, but Collins offered a mature and critical discussion of the North Korean operational scenarios that showed a strong understanding of how to address the conventional and unconventional threats.

John Collins was a dynamic thinker, mentor, teacher, writer, and military veteran. After a long and productive military and government career, he continued his impact on U.S. national security by bringing together a diverse and extensive group of strategists to continue the discussion on contemporary national security strategy. His name will probably not be on most people's lists of great strategic thinkers in the United States, but the impact of his efforts will live on.

Al Mauroni is the director of the U.S. Air Force Center for Strategic Deterrence Studies and author of the book, *Countering Weapons of Mass Destruction: Assessing the U.S. Government's Policy*. The opinions, conclusions, and recommendations expressed or implied within are those of the author and do not necessarily reflect the views of the Air University, U.S. Air Force, or Department of Defense.

<https://warontherocks.com/2019/02/john-collins-on-weapons-of-mass-destruction/>

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ABOUT THE USAF CSDS

The USAF Counterproliferation Center (CPC) was established in 1998 at the direction of the Chief of Staff of the Air Force. Located at Maxwell AFB, this Center capitalizes on the resident expertise of Air University — while extending its reach far beyond — and influences a wide audience of leaders and policy makers. A memorandum of agreement between the Air Staff's Director for Nuclear and Counterproliferation (then AF/XON) and Air War College commandant established the initial personnel and responsibilities of the Center. This included integrating counterproliferation awareness into the curriculum and ongoing research at the Air University; establishing an information repository to promote research on counterproliferation and nonproliferation issues; and directing research on the various topics associated with counterproliferation and nonproliferation.

In 2008, the Secretary of Defense's Task Force on Nuclear Weapons Management recommended "Air Force personnel connected to the nuclear mission be required to take a professional military education (PME) course on national, defense, and Air Force concepts for deterrence and defense." This led to the addition of three teaching positions to the CPC in 2011 to enhance nuclear PME efforts. At the same time, the Air Force Nuclear Weapons Center, in coordination with the AF/A10 and Air Force Global Strike Command, established a series of courses at Kirtland AFB to provide professional continuing education (PCE) through the careers of those Air Force personnel working in or supporting the nuclear enterprise. This mission was transferred to the CPC in 2012, broadening its mandate to providing education and research on not just countering WMD but also nuclear operations issues. In April 2016, the nuclear PCE courses were transferred from the Air War College to the U.S. Air Force Institute for Technology.

In February 2014, the Center's name was changed to the Center for Unconventional Weapons Studies (CUWS) to reflect its broad coverage of unconventional weapons issues, both offensive and defensive, across the six joint operating concepts (deterrence operations, cooperative security, major combat operations, irregular warfare, stability operations, and homeland security). The term "unconventional weapons," currently defined as nuclear, biological, and chemical weapons, also includes the improvised use of chemical, biological, and radiological hazards. In May 2018, the name changed again to the Center for Strategic Deterrence Studies (CSDS) in recognition of senior Air Force interest in focusing on this vital national security topic.

The Center's military insignia displays the symbols of nuclear, biological, and chemical hazards. The arrows above the hazards represent the four aspects of counterproliferation — counterforce, active defense, passive defense, and consequence management. The Latin inscription "Armis Bella Venenis Geri" stands for "weapons of war involving poisons."

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