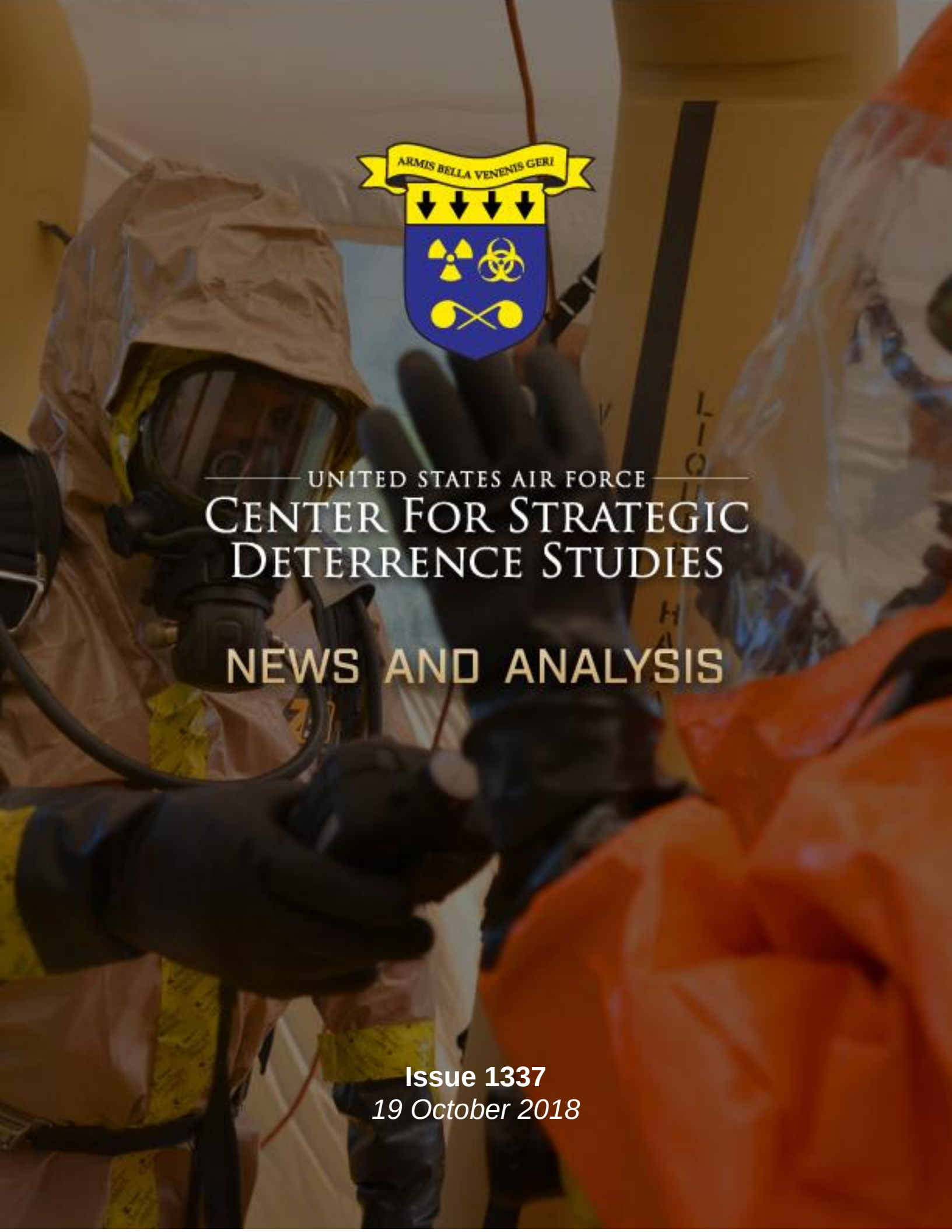

UNITED STATES AIR FORCE

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Feature Report

"Holding the Line on Biodefense: State, Local, Tribal, and Territorial Reinforcements Needed".
Published by Blue Ribbon Study Panel on Biodefense; October 2018

https://www.biodefensestudy.org/Holding-the-Line-on-Biodefense

The US Census Bureau counts a staggering 89,004 local governments in the United States. Among them are 3,031 counties, 19,522 municipalities and 16,364 townships.1 There are 573 tribes,2 14 territories, and thousands of other special districts across America–each with a responsibility to serve the people who call those places home. Sometimes that service is in response to an emergency.

Our hometown heroes – emergency medical services, police, firefighters, doctors, nurses, pharmacists, lab technicians, public health professionals – are on the front lines keeping us safe. Maybe it's from a flash flood from a stalled rainstorm. Perhaps it's from a derailed train carrying hazardous liquids. These types of incidents can be handled with resources provided by local and state governments, but when events are severe - widespread in scope and damage – they may require intervention by our federal government. Whether it's a terrorist attack (e.g., September 11, 2001) or a natural disaster (e.g., Hurricane Katrina), the nation will quickly step up and respond, offering additional support and funding.

Unfortunately, there is grave concern that a large-scale biological event will prove to be the exception to this rule. Devastation could be vast and swift, and local resources would be very quickly depleted. The thousands of state, local, tribal, and territorial (SLTT) governments that are the backbone of our nation will have to fend for themselves for far too long until federal assets arrive, and Congress can provide emergency supplemental funding to support response and recovery.

In October 2015, the Blue Ribbon Study Panel on Biodefense issued its first report, A National Blueprint for Biodefense: Leadership and Major Reform Needed to Optimize Efforts. The majority of the report's recommendations focused on our national government, touching only briefly on SLTT needs. The Panel promised to return to them later and revisited these issues during a special focus meeting on the campus of the University of Miami in January 2018. The Panel explored needed SLTT emergency medical services, hospital, pharmacy, laboratory, and public health department capabilities and capacities necessary to respond to large-scale biological events.

The Panel found that basic biological preparedness, response, and recovery infrastructure varies widely throughout the United States, placing the entire nation at risk. If one community, for example, does not have access to a laboratory in their state that can quickly identify a biological threat, then they are immediately vulnerable and so are those who live in bordering states. It reminds us that states, localities, tribes, and territories play a huge role in national security. We would like to see state governors, territorial governors and administrators, tribal leaders, mayors, borough council presidents, and township supervisors make biodefense a greater priority before biological attacks, accidents, outbreaks, epidemics, and pandemics place the lives of their constituents at risk.

In the [report], the Panel recommends key steps that will increase the capability of SLTT to share with the federal government the burden of preparedness for, response to, and recovery from large-scale biological events.

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NUCLEAR WEAPONS

Nuclear Threat Initiative (Washington, D.C.)

The Big Hack's Nuclear Implications: No Confidence in Essential Systems

By Page Stoutland

Oct. 15, 2018

If you've been distracted over the last couple of weeks by the tempo of the news cycle in Washington, you may have missed two important reports that together are likely to cause some sleepless nights:

NTI's report: Nuclear Weapons in the New Cyber Age

Bloomberg's investigation: The Big Hack: How China Used a Tiny Chip to Infiltrate U.S. Companies

One outlines the cyber threat to nuclear weapons and all of the related systems such as command and control, warning, and delivery. The second tells the story of an intentional, state-sponsored effort to control computer hardware used throughout the United States, in both corporate and intelligence systems. Both reports point to the growing, urgent need for policy options designed to reduce risks to our digital systems to avoid potentially catastrophic results of a cyber hack.

Cyberattacks on Nuclear Weapons Systems

Although it is nearly impossible to have 100% confidence in the security of a digital system, and even well-secured nuclear weapons systems are not immune from cyberattacks, NTI's report provides a set of recommendations for reducing the risk of cyberattacks on nuclear weapons and related systems and outlines four specific cyberattack scenarios:

An attack on early warning systems that provide false indications of a nuclear attack during a crisis

Disruption of communications between officials, operators, and nuclear systems and/or international counterparts in a potential crisis

Introduction of a flaw or malevolent code into nuclear weapons through the supply chain or otherwise in a way that could compromise the effectiveness of those weapons

Achieving unauthorized control of a nuclear weapon through cyber-assisted theft and/or defeating of security devices.

There's no question that the job of securing nuclear systems is getting more difficult. Cyberattacks are becoming increasingly sophisticated and levels of digitization are growing (for example, as will undoubtedly occur during the upcoming modernization of the U.S. nuclear arsenal). Taken together, this is a dangerous mix and governments and industry must act to address the threat.

Supply Chain Attacks

The Bloomberg report details how China reportedly used a hardware hack to infiltrate U.S. companies' computer systems, including some used for intelligence purposes. Specifically, it details how Chinese manufacturers of chips used in specialty video processing servers were approached by people who, through a combination of bribes and/or strong-arm tactics, modified tiny chips in a way that was extremely difficult to detect but which gave the China the ability to remotely take over the microprocessor. If this turns out to be true (note that the U.S. companies involved are strongly denying the report), this would be one of the most serious computer security breaches in history with enormous implications for national security, as well as the economy.

What can be done?

There are no easy answers.

Driven by a desire to lower costs, most chip production is now done overseas. Any attempt to bring it back to the U.S. would have enormous cost implications and would likely take years to achieve. There do exist "secure foundries" that make some of the key chips in military systems, but even in those military systems, most of the chips are commercially-available commodity products that draw on global supply chains.

This example of what appears to be a supply-chain breach of historic proportions serves to reinforce one of the NTI report's underlying assumptions, namely that: "Although technical cybersecurity measures are critically important and should be pursued… we must operate under the assumption that… nuclear weapons systems, may already be compromised."

As a result, governments must aggressively explore technical and policy options that incorporate this aspect of the cybersecurity threat, understanding that it is impossible to have full confidence in the information our digital systems provide or transmit and indeed, adversaries already may be able to observe or, worse, sabotage our data. In the case of high-consequence systems, all policy and technical options to reduce risks must be explored, including the possibility of using non-digital, non-hackable systems.

https://www.nti.org/analysis/atomic-pulse/big-hacks-nuclear-implications-no-confidence-essential-systems/

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Texas A&M Engineering (College Station, Texas)

Texas A&M Center to Aid Stewardship of US Nuclear Weapons

By Elizabeth Thomson

Oct. 15, 2018

A new multi-university center led by Texas A&M University will contribute to our understanding of materials science fundamental to the maintenance of the United States' nuclear deterrent. It will also train the next generation of scientists and engineers who will ensure the safety, security and effectiveness of the nuclear weapons stockpile.

The Center for Research Excellence on Dynamically Deformed Solids (CREDDS) will receive $12.5 million over five years from the Department of Energy through the National Nuclear Security Administration (NNSA). The NNSA is the agency behind the Nation's Stockpile Stewardship Mission (SSM), which works to guarantee that our nuclear weapons are reliable without testing them (per the U.S. policy to abide by the Comprehensive Nuclear Test Ban Treaty, which is not yet legally in force).

"We are honored to be selected as a new NNSA center," said Dr. Michael J. Demkowicz, an associate professor in the Texas A&M Department of Materials Science and Engineering and director of CREDDS. "In addition to CREDDS' support of the SSM and training of future scientists, I am excited about the new science that will come out of it." Research from other facilities created as a result of stockpile stewardship has led, for example, to an improved understanding of how supernovas happen and insights into the fundamental properties of matter.

In addition to Texas A&M, other universities involved in CREDDS are the University of Michigan, the University of California at Santa Barbara and the University of Connecticut. Principal investigators

for those universities are, respectively, Professor A. Misra, chair of the Department of Materials Science and Engineering; Professor I. J. Beyerlein and Assistant Professor A. M. Dongare.

Maintaining the Stockpile

The nation's last nuclear test was in 1992 and the weapons in our stockpile are aging. Changes over time like radiation damage to some materials and even corrosion mean that "the weapons must occasionally be refurbished," said Dr. Marvin L. Adams, the HTRI Professor in the Texas A&M Department of Nuclear Engineering and associate director of the Institute for National Security and Cybersecurity Education and Research. But that maintenance can entail the introduction of new materials and processes. That's because some of the old manufacturing processes used to produce the original parts of a weapon no longer exist. Plus, some of the materials used in the past can't be used now because of environmental safety and health implications.

As a result, scientists and engineers are exploring advanced manufacturing processes like 3D printing as well as new materials. But how do you ensure that those replacements will work if you cannot test the final weapon? Enter supercomputer simulations of how the new parts and materials will perform under the conditions of a nuclear explosion.

Those simulations, however, must be informed by a thorough understanding of the fundamental science involved. "That's a big part of what gives us confidence that these weapons will work. And that thorough understanding is what the stockpile stewardship program has given us and continues to give us," said Adams.

CREDDS focuses on the science of the metallic materials behind our nuclear weapons. For example, it will explore new materials produced by advanced manufacturing processes. These materials, which can have properties superior to their predecessors, have complex microstructures that challenge conventional knowledge of how materials deform, or change, under the conditions associated with nuclear reactions. Of special interest to CREDDS researchers is how the materials deform under very high strain rates, or how quickly the shape of a material changes under extreme conditions. In nuclear reactions this is very, very fast. Think billionths of a second.

Among other challenges, CREDDS researchers aim to observe what happens on the level of individual imperfections in a metal when the metal is exposed to high strain rates. They will not only examine the material afterwards—a kind of post-mortem analysis—but also see what's happening during the deformation. "So this center is going to be all about high-speed cameras, acquiring lots of data very very quickly, and developing new tools that allow us to look at the individual features of a material," Demkowicz said.

Toward the Future

Just as important as the science it explores, CREDDS will also train students.

"This is about educating the next generation of scientists and engineers to support stockpile stewardship," said Dr. Andrew L. Ross, the Brent Scowcroft Chair of International Policy Studies in the Department of International Affairs at The Bush School of Government & Public Service at Texas A&M and director of the National Security Affairs Program. "We need to have people who can do this, not just now, but 10, 20 years down the road."

To that end, CREDDS will include a variety of outreach activities that include seminars and a summer school planned for the fourth year of the project. In addition, undergraduates, graduate students and postdoctoral associates affiliated with CREDDS will have the opportunity to visit and spend extended periods of time at the national laboratories involved in stockpile stewardship. And all these benefits combined makes Ross believe that Texas A&M is the perfect home for the new center.

"Given the strength of our engineering program—top ranked, not just in the country but in the world—it's the right place to do this kind of work," he said. "I'm not surprised that NNSA chose Texas A&M to take the lead on this."

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https://engineering.tamu.edu/news/2018/10/texas-am-center-to-aid-stewardship-of-us-nuclear-weapons.html

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Wilson Center (Washington, D.C.)

Ukraine and the Treaty on the Non-Proliferation of Nuclear Weapons

By Mariana Budjeryn

Oct. 15, 2018

Ukrainian Foreign Ministry documents reveal the importance of the NPT in 1994 decision to denuclearize.

This year, the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) is celebrating its 50th anniversary since it opened for signature on July 1, 1968.

With 191 member states, the NPT is hailed as the most comprehensive arms control treaty in history. The ultimate purpose of the Treaty (and the elaborate international regime that grew around it) is for no new nuclear states to emerge beyond the five—United States, USSR/Russia, China, France, and the United Kingdom—that had already developed nuclear weapons at the time the NPT came into force.

Harvard Professor Bryan Hehir characterizes the NPT as a combination of three elements: a contract, a promise, and a pledge. The contract in the NPT comprises a two-fold obligation: nuclear possessors undertake steps to prohibit the transfer or control of nuclear weapons to non-nuclear weapons states (Article I), and non-nuclear weapon states agree not to receive, manufacture or otherwise acquire nuclear weapons (Article II). Nuclear weapon states then promise that they will help facilitate the development of civilian nuclear applications with all interested parties of the Treaty (Article IV). Finally, they pledge that they will conduct negotiations towards general and complete disarmament (Article VI).

Fifty years later, historians and political scientists still debate the role of the NPT regime in nuclear nonproliferation. The mere fact that the NPT, an international institution that relies solely on the consent of sovereign nations, remains in force—and was prolonged indefinitely in 1995—is in itself remarkable. Added to this, the overwhelming majority of technologically advanced states, capable of developing nuclear weapons, chose to abstain from doing so and joined the NPT instead.

At the same time, the NPT is often viewed as a fragile institution, a system in constant distress, in the words of Harvard's Steven Miller. Today, there are almost as many nuclear possessors outside of the NPT—Israel, India, Pakistan, and North Korea—as there are recognized nuclear weapons states within the regime. Additionally, a handful of states, all party to the NPT—South Korea, North Korea, Libya, Iraq, Iran, Romania, Taiwan, Syria, and Yugoslavia—have attempted to violate the regime by launching clandestine nuclear weapons programs. With the exception of North Korea, the

violators have so far been thwarted due to concerted international enforcement efforts spearheaded by the United States.

Has the NPT been a success? Does the existence of the Treaty contribute to curbing the spread of nuclear weapons around the world, and if so, how? A collection of archival documents from Ukraine, transcribed and translated into English for the first time, provides an invaluable resource for scholars of nuclear proliferation who seek to understand why states chose to join the nonproliferation regime.

Ukraine: Nuclear by Inheritance

A successor of the former Soviet Union, Ukraine acceded to the NPT as a non-nuclear weapons state in December 1994. This meant not only relinquishing the right to develop nuclear weapons in the future, but also physically dismantling and removing the world's third-largest nuclear arsenal that Ukraine had inherited from the Soviet Union: 1,240 nuclear warheads arming 176 intercontinental ballistic missiles (ICBMs) including their extensive launch control infrastructure, 700 nuclear cruise missiles arming 44 strategic bombers, and nearly 3,000 tactical nuclear weapons, including artillery shells, gravity bombs, and mines.

While Ukraine lacked key elements of a fully-fledged nuclear weapons program, and Moscow retained operational control over the ICBMs in Ukrainian territory, recent research reveals that, due to the inherited defense industry and technological expertise, Ukraine had a much greater capacity to establish independent control over these weapons systems than has been previously assumed.

Ukraine's ultimate decision to forgo nuclear weapons and join the NPT was a great boost for the nonproliferation regime, but did the existence of the NPT influence Ukraine's decision to disarm, in the first place?

A collection of documents retrieved from the Archive of the Ministry of Foreign Affairs of Ukraine sheds light on how Ukraine's elites deliberated nuclear choices and how the NPT weighed in on their decision-making. These files include—

- Document No. 1: Memorandum of the Ministry of Foreign Affairs of Ukraine, December 11, 1992;

- Document No. 2: Ministry of Foreign Affairs of Ukraine, "Possible Consequences of Alternative Approaches to Implementation of Ukraine's Nuclear Policy (Analytical Report)," February 3, 1993;

- Document No. 3: Ministry of Foreign Affairs of Ukraine, "Additional Information on Possible Consequences of Alternative Approaches to Ukraine's Nuclear Policy," February 19, 1993;

- Document No. 4.1: Minister A.M. Zlenko to Prime Minister of Ukraine L.D. Kuchma, April 21, 1993;

- Document No. 4.2: Ministry of Foreign Affairs of Ukraine and State Committee of Ukraine for Nuclear and Radioactive Security, "Possible Consequences of Ukraine Not Joining the Treaty on the Non-Proliferation of Nuclear Weapons (Analytical Report)";

- Document No. 5: V. Tolubko, "Nuclear Weapons, Space, Navy: Decisions Cannot be Delayed," July 1, 1993;

- Document No. 6: Letter No. UKOR/21-830, First Deputy Minister of Foreign Affairs of Ukraine, M.P. Makarevych, to Vice Prime Minister of Ukraine, V.M. Shmarov, July 27, 1993.

Deliberating Nuclear Choices

After decades as a key republic for Soviet defense industry and military planning, Ukraine began its path toward independence from the USSR with the declared intent to become a non-allied and non-

nuclear state as recorded in its Declaration of State Sovereignty of July 16, 1990 (Ukrainian, English).

This decision was predicated upon the memory of the Chernobyl nuclear power plant disaster of 1986, as well as the desire to form its own army and break military ties with Moscow. Ukraine's parliament, the Verkhovna Rada, later confirmed the nuclear renunciation in an aptly titled Statement on the Non-Nuclear Status of Ukraine of October 24, 1991, a move deemed necessary in order to obtain international diplomatic recognition of the fledgling Ukrainian state.

With the collapse of the Soviet Union in late 1991, however, some political forces came to view Ukraine's unilateral renunciation as hasty and premature. Relations with Russia, a country bent on emerging as the sole inheritor of the Soviet Union's place and status in the world, deteriorated quickly. The United States and its allies, driven by concerns over proliferation and stability in the post-Soviet region, focused overwhelmingly on the issue of nuclear disarmament at the expense of all other areas of engagement. The fate of the 43rd Strategic Missile Army and its 30,000 troops, the 46th Long Range Strategic Aviation Army deployed in Ukraine, and the vast defense industry, including Yuzhmash, the world's largest ballistic missile plant in Dnipropetrovsk, entered into the calculations of Ukraine's decision-makers.

The documents presented here span the period between late 1992 and the first half of 1993, when the crux of Ukraine's internal deliberations over the fate of its nuclear inheritance took place. Although Ukraine's official commitment to denuclearize remained unchanged throughout this period (see Document No. 1), the documents show that other options were considered in earnest.

One file on the "Possible Consequences of Alternative Approached to Ukraine's Nuclear Policy" (Document No. 2) was prepared by Ukraine's Ministry of Foreign Affairs (MFA) at the request of the Verkhovna Rada, where opposition to the prompt and unilateral denuclearization began to mount in the Spring of 1992. In the report, the MFA considered three options:

1) nuclear renunciation;

2) full-fledged nuclear possession; and

3) retaining a portion of ICBMs (namely, 46 SS-24s produced in Ukraine) with a conventional payload.

Although the MFA did not make its recommendation explicit, analysis suggests that its preference was for nuclear renunciation and NPT accession.

A follow-up report (Document No. 3) was prepared by the MFA at the request of the Rada leadership to specifically address the nuclear option. The MFA analyzed the technological gaps in Ukraine's nuclear fuel cycle, estimated direct monetary costs of building up a full-fledged nuclear program, and attempted to assess strategic, political, and economic repercussions of such a decision.

Once again, this document suggests that the MFA strongly favored nuclear disarmament and accession to the NPT. In MFA's analysis, the value of a nuclear deterrent was undermined by the uncertainty inherent in a potential nuclear conflict and the overall increase in the likelihood of a nuclear exchange that comes with an increase in the number of nuclear-armed states, a line of reasoning that resonates with the NPT Preamble.

The MFA Report on "Possible Consequences of Not Joining the NPT" (Document No. 4.1 and Document No. 4.2) was specifically addressed to Ukraine's Prime Minister Leonid Kuchma, former director of the Yuzhmash missile factory, indicating that it was prepared at his request. The report drew on the examples of Israel, India, Pakistan, Iraq, North Korea, and South Africa to argue that international reaction to Ukraine's abstention from the NPT would be "only negative" and that

Ukraine's bid for a nuclear status was unlikely to be successful. The report also highlighted supply-side limitations facing Ukraine should it set out to develop a nuclear program, which the MFA argued could not be overcome because of Ukraine's deplorable economic situation and because "counting on any assistance and support from other states [in developing a nuclear weapons program] is impossible."

Document No. 5 is a position paper written by a Ukrainian MP Major-General (ret.) Volodymyr Tolubko, at the time director of the Kharkiv military college for missile troops, but formerly the commander of the 46th Missile Division of the 43rd Strategic Missile Army deployed in Pervomaisk, Ukraine. In his report, Tolubko boldly advocated for the retention of the 46 SS-24 ICBMs as "the most effective means of deterrence and guarantee of national security" and proposed to operate them under joint Ukrainian-Russian control. He also suggested engaging with the Russians on the division of the space-based military systems and offered his opinion of the strategic value (or the lack thereof) of the Black Sea Fleet.

The Tolubko paper provides interesting insights into a faction of Ukraine's nascent defense establishment in the early 1990s. Only recently split from the Soviet military behemoth, many—although not all—senior officers, such as Tolubko, had a difficult time firmly defining allies and adversaries in the changed strategic context of Ukraine's independence. It is not that Tolubko continued to view Russia as a kindred entity or a long-term ally, but his estimate of Russia's willingness to engage with Ukraine on an equal and mutually beneficial basis seems quite generous in retrospect.

Although he might have represented a broader sentiment prevalent in the strategic missile troops and parts of the defense establishment, Tolubko was a lone voice in Ukraine's public discourse speaking of Ukraine's nuclear inheritance in terms of deterrence. In stark contrast to the MFA analysis, the Tolubko paper paid only marginal attention to the NPT and to the adverse international reaction that was sure to follow Ukraine's refusal to join it. In their evaluation of the paper, the MFA quickly highlighted these omissions and dismissed the report as "very removed from reality" (Document No. 6).

Nuclear Choices are Not Monocausal

Reading through the documents it becomes evident that Ukraine's deliberation over nuclear choices involved the consideration of a multitude of factors: security, international political weight, technological capacity and prowess, direct and indirect economic costs, civilian nuclear energy development, relationships with great powers, perceptions of the international community, and leaders' ideas of their state's identity and its place in the world.

All of these things mattered for Ukraine's decision-makers. Indeed, it was part of the policy-making exercise to consider the broadest possible array of nuclear choices and their positive and negative consequences (see Document No. 2).

For historians, this comes as no surprise. Yet for those social scientists who are keen on isolating, measuring, and determining key drivers of nuclear proliferation and restraint, the evidence from Ukraine's case suggests that it might be more productive to focus on exploring the necessary and sufficient combination of nonproliferation drivers and the relationships between them—for they are often interrelated—than to look for a single determinant.

In this vein, it would be wrong to argue that the NPT was the decisive factor in Ukraine's decision to disarm. It did, however, frame Ukraine's nuclear deliberations and projections in a number of important ways.

NPT as the International Normative Framework for Nuclear Possession

The unprecedented nature of proliferation due to the collapse of a nuclear superpower cast a shadow of profound ambiguity on the status of nuclear arms deployed in the non-Russian Soviet successor states: Belarus, Kazakhstan, and Ukraine. To whom did these weapons rightfully belong now that the Soviet Union was gone?

While Ukraine's political elites stood by their earlier commitment to disarm, they nevertheless resented Russian claims that Soviet nuclear weapons on Ukraine's territory belonged to Russia alone. Ukraine insisted that it should be included as an equal party to the Treaty on Reduction and Limitation of Strategic Offensive Arms (START), signed by the United States and the Soviet Union on July 31, 1991. This mile-stone arms control treaty took nine years to negotiate, but 19 days after its signature the Soviet Union began its precipitous fall, leaving the Treaty unratified.

Despite Russian objections, the United States acquiesced and on May 23, 1992, in Lisbon, Ukraine, along with Belarus and Kazakhstan, signed a protocol that brought them into START as "successor states of the former [USSR]," who should "assume the obligations of the former [USSR] under the Treaty" on condition that they join the NPT as non-nuclear weapon states "in the shortest possible time."

The multilateralization of START confirmed that Ukraine was not a passive bystander, but rather an active participant in deciding the fate of Soviet nuclear weapons. At the same time, the Lisbon protocol became Ukraine's first international legal commitment to denuclearize. It also meant that START would come into force only after it was ratified by the legislatures of all five signatories, including Ukraine's Verkhovna Rada.

Ukraine's president Leonid Kravchuk introduced START and the Lisbon protocol to the Rada in November 1992, but the ensuing deliberations revealed that due to differing positions on Ukraine's nuclear future, START ratification and NPT accession would not be smooth. The Verkhovna Rada was not going to simply rubberstamp what the executive had signed in Lisbon.

By the end of 1992, international pressure on Ukraine mounted. In response, Ukraine's MFA circulated a Memorandum dated December 11, 1992 (Document No. 1) that explained Ukraine's official nuclear policy to foreign governments and international media. The MFA confirmed Ukraine's commitment to denuclearize and pointed out its proactive engagement with the IAEA.

One of the most interesting passages in the Memorandum concerns the MFA's attempt to define Ukraine's unprecedented nuclear predicament and with it, its claim to the weapons systems deployed on its territory:

Ukraine's situation in regard to the nuclear weapons deployed on its territory is unique and has no precedents in history. At the moment of the collapse of the former USSR, at least four states (Belarus, Kazakhstan, the Russian Federation and Ukraine) had an undeniable right to be considered nuclear states as equal successor states of the Soviet Union…

Ukraine, as a state that has no intention to possess nuclear weapons, consistently pursues policies not to acquire control of nuclear explosive devices, in accordance with Article II of the NPT, however, it undeniably has property rights to all components of nuclear warheads, both strategic, deployed on its territory, and tactical, withdrawn in Spring 1992 for dismantlement and elimination to Russia.

Ukraine's claim to rightful 'nuclear ownership' was alarming politically, and Russian diplomats added fuel to the fire by accusing Ukraine of nuclear ambitions and backtracking on its commitment to denuclearize. Within the international legal framework of the NPT, as well, Ukraine's claim to 'nuclear ownership' could hardly be sustained and legitimized: no category of 'nuclear owner' as distinct from a nuclear-weapons-state defined by Article IX, pt.3 of the NPT, existed within the regime. The only place for it was outside of the NPT.

The MFA recognized limitations faced by Ukraine when advancing its claim to legitimate nuclear ownership: despite the confident tone of the Memorandum targeted at foreign audiences, its internal reports emphasized that legitimizing Ukraine's claim to any nuclear status internationally would be all but impossible (Documents No. 2, No. 3, and No. 4.2). The reasons for this was not only that Ukraine did not possess operational control over strategic nuclear missiles on its territory which undermined the notion of fully-fledged 'ownership' (see Document 4, especially part II). Ukraine's diplomats also understood that without international recognition and legitimation of Ukraine's nuclear status, it would be difficult to translate nuclear force into international power. Indeed, Ukraine's ability to conduct "active foreign policy" would become limited as a result (see Documents No. 2, pt.1.3).

NPT as a Regulatory Regime

One way in which international institutions produce desirable outcomes is by specifying rules and imposing incentives for their observance and consequences for their violation. For example, access to civilian nuclear cooperation is one way in which the international nonproliferation regime offers incentives for nonproliferation.

In its analyses, the MFA correctly noted that abstaining from the NPT would put Ukraine on the wrong side of the IAEA, the Nuclear Suppliers Group, and the Zanger Committee, thus damaging Ukraine's prospects of developing nuclear energy and other civilian nuclear applications (Documents No. 2, No. 3, and No. 4.2). The area of particular concern was the supply of nuclear fuel for Ukraine's nuclear power plants from Russia:

[B]y not joining the [NPT], Ukraine will not be able to maintain equitable economic and scientific-technological ties with other states in the nuclear industry. As a result of such isolation, for instance, supplies of nuclear fuel and equipment from Russia, necessary for Ukrainian nuclear power plants, could halt. In accordance with the Decree of the President of the Russian Federation, such exports are prohibited to countries, whose nuclear activity is not subject to IAEA comprehensive safeguards. The creation by Ukraine of its own nuclear fuel cycle requires time and significant additional expenditures. Amid a deepening energy crisis, any disruption in electricity supply (nuclear power plants produce up to 30% of all electricity in Ukraine) would lead to further deterioration of the economic situation in our state. (Document No. 4.2)

In addition, to nuclear related export controls, the Missile Technology Control Regime (MTCR) would become an important factor in Ukraine's decision to denuclearize. Although mentioned only once in the documents (Document No. 3, pt. 6), membership in the MTCR as a full member and a supplier of rocket technology, which opened to Ukraine only after its accession to the NPT, saved Ukraine's space industry and its famed Yuzhnoie Design Bureau and the Yuzhmash missile plant from total demise.

NPT as a Locus of the International Nonproliferation Norm

International treaties normally confer legal obligations on a sovereign state only once that state makes the decision to join the treaty and undertake the obligations specified in it. Discussion of the NPT by the Ukrainian diplomats reveal, however, that the nonproliferation norm—that is, a prescription that no new nuclear states should emerge—is not reducible to the NPT and cannot be understood in narrowly legalistic terms of international treaty obligations.

The documents reveal that Ukrainian diplomats felt the weight of the imperative not to proliferate even before Ukraine formally undertook this obligation by joining the NPT. The reason for this was not only the fear of enforcement efforts – opprobrium, isolation, sanctions, military action – by the United States and its allies, as well as Russia, but also the fear that Ukraine could set a precedent

that would embolden "nuclear threshold" states and thus become implicated in damaging the nonproliferation regime (see Documents No. 2, pt. 1.3, and Document No. 4.2, part VIII).

In this sense, the nonproliferation norm is best understood both as a legal obligation the NPT confers on its signatories and an informal international social norm that confers a prima facie obligation not to acquire nuclear weapons upon all states whether they are party to the NPT or not. This, of course, does not mean that all states will comply, but it does mean that the onus of justification falls squarely on the proliferating state, forcing it to provide reasons—for itself, as well as for the international community—for acting against this prescription.

* * *

Without a doubt, the NPT as an international legal framework, the bearer of the nonproliferation norm, and the cornerstone of the regulative nonproliferation regime, did not materialize out of ether and does not go on enforcing itself. It relies on the support and compliance of the overwhelming majority of states in the international system, as well as on the power of states capable of enforcing it.

Nor do enforcement efforts always succeed: since Ukraine's renunciation, India, Pakistan, and later North Korea have developed nuclear weapons despite the international opprobrium, sanctions, and isolation Ukraine so vied to avoid. Today's rising nationalism, populism, and the waning of great power support for international institutions will present a further challenge to the nonproliferation regime.

As it marks 50 years in existence and approaches its 10th Review Conference in 2020, the NPT might yet prove more enduring and resilient in the face of these challenges than expected. The Ukrainian documents help understand why.

https://www.wilsoncenter.org/blog-post/ukraine-and-the-treaty-the-non-proliferation-nuclear-weapons

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KRTV.com (Great Falls, Montana)

Former Malmstrom Commander Talks about Upgrading ICBM System

By Margaret DeMarco

Oct. 15, 2018

A former Malmstrom Air Force Base commander recently spoke with civic leaders about the importance of upgrading the Minuteman ICBM system.

Retired Major General Tom Deppe spent a total seven years based in Great Falls and commanded the 341st Missile Wing from 2000 to 2002

Deppe says the military is long overdue in modernizing the land-based missile system of the nuclear triad.

"We have to have a credible deterrent, which means we have to have a second strike capability to prevent them from even wanting to have a first strike," Deppe said.

The current system was installed in the 1960's during the Cuban Missile Crisis.

The Air Force is currently working on the Ground Based Strategic Deterrent, which will replace the Minuteman system.

One year ago the Air Force awarded contracts to Boeing Company and Northrop Grumman Systems Corporation.

In 2020, the Air Force will pick one company who will move forward with the GBSD.

"I was here as a lieutenant, during the last big modification program here. The population grows considerably because you bring in a lot of workers," Deppe noted.

Deppe says the nuclear mission is the most important mission the United States military has and this upgrade is long overdue.

https://krtv.com/news/military-matters/2018/10/15/former-malmstrom-commander-talks-about-upgrading-icbm-system/

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US COUNTER-WMD

Defense News (Washington, D.C.)

US Army Is Updating Its Missile Defense Strategy with Russia and China in Mind

By Jen Judson

Oct. 16, 2018

WASHINGTON — The U.S. Army is in the throes of updating its air-and-missile defense strategy to align with the Pentagon's conviction that the military must modernize and overmatch its near-peer adversaries Russia and China.

Missile defense plays an important role in the new National Defense Strategy released earlier this year. The head of the Army's Space and Missile Defense Command, Lt. Gen. James Dickinson, told Defense News at the Association of the U.S. Army's annual conference that the organization is currently updating the strategy. He also noted that the service's current investments and road map for missile defense is aligning with the goals set forward in the NDS.

"We've got a great defense budget right now," he said. "The investments we are making right now, that are in line with what that strategy [is], will eventually roll out."

The last AMD strategy was crafted in 2012. In 2015, the command updated the document, Dickson explained, but since then much has changed, including the NDS, the establishment of a new four-star command — Army Futures Command — tasked to more effectively and rapidly modernize the force, and the formulation and refinement of multidomain operations as a concept.

"We now see threats that we didn't see necessarily back in 2015 as near peer, and so we've had to adjust our strategy or tailor our strategy to make sure that we account for that," Dickinson said.

Dickinson had said early in 2018 that the strategy would roll out in the summer, but that was before the NDS was released. He would not comment on when the strategy might come out.

The strategy will likely focus on the need to move to an integrated, tiered and layered missile defense architecture, Dickinson said.

"We've got some wonderful systems that we have, and have developed over many years, that are very capable and very lethal," Dickinson said. "We need to make sure that we build those

capabilities so that they are integrated together and that they are tiered. And what I mean by tiered is that you have more than one capability that can defeat a certain threat or certain threats."

There's no silver bullet to handling all threats when it comes to missile defense, Dickinson noted. "But you have many that you can employ to make it very confusing for our adversaries in how we are defeating that particular threat," he said.

The Army is currently working to tie together two of its key AMD systems — the Patrtiot medium-range missile defense system and the Terminal High Altitude Area Defense system — to detect and respond at greater ranges but also to supply flexible defeat options to commanders.

The service is also developing an Integrated AMD system to replace Patriot that will have a new command-and control system and a new, more capable radar.

Additionally, the Army is working to address the cruise missile threat through its Indirect Fire Protection Capability Increment 2 program and may bring on an interim capability to get after the threat before IFPC Inc. 2 is ready.

With all of these plans, the Army is moving faster than some previous efforts and has drastically reduced timelines on its major lines of AMD modernization goals.

https://www.defensenews.com/digital-show-dailies/ausa/2018/10/16/updated-army-missile-defense-strategy-in-works-to-address-peer-threats/

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Homeland Preparedness News (Washington, D.C.)

Blue Ribbon Study Panel on Biodefense: Expert Recommends Biothreat Preparedness Solutions

By Kim Riley

Oct. 11, 2018

As a founding director of the nation's first bioterrorism preparedness program at the Centers for Disease Control and Prevention in 1999, Dr. Scott Lillibridge didn't realize then what would emerge as the almost surreal scope of biothreats now challenging the United States.

But now he knows, said Lillibridge, director of the Center for Global Health and Innovation, as a panelist who spoke during an Oct. 9 panel meeting at the Hudson Institute in Washington, D.C., held by the Blue Ribbon Study Panel on Biodefense.

"We face different biological threats today than we understood in 1999," Lillibridge said. "They are more complex, they are larger in scale, they are more global and strategic than we were thinking 20 years ago."

"We were thinking about vulnerabilities, not specific agents," said the medical doctor and former special assistant for national security and emergency management at the U.S. Department of Health and Human Services. "We weren't thinking of national scope, synthetic biology, genetic sequencing, manipulation of resistance patterns, and so forth. This has gotten much more complex."

Lillibridge, who experienced firsthand the anthrax events of 2001, addressed these and other future biological challenges during one of several panels held during Tuesday's Blue Ribbon Study Panel on Biodefense meeting to review the state of biodefense. The Blue Ribbon panel also just released a new special report on biodefense preparedness at the local level.

"Most threats we face are global in nature," said Lillibridge. "They're emerging diseases in far-away places. They are nation-state actors. And we have this new phenomenon of manipulation of synthetic biology that can pop up virtually anywhere."

To address such challenges, he said intermittent or one-year federal funding for biodefense "won't do the trick."

"This is a large-scale operation so five- or 10-year programs are going to be needed," Lillibridge said.

He also thinks the federal government hasn't sufficiently engaged with private industry on biodefense nor invested enough resources to attract the industry's best and brightest to work for Uncle Sam. A hybrid of academia, private industry and other key stakeholders should be involved in the nation's biodefense preparedness and response efforts.

"Many of these companies in the private sector … are multinational and have the vaccines and antidotes and countermeasures we need," Lillibridge told the Blue Ribbon panel members. "The key is we need the political will and sufficient funding to get them involved."

Members of the Blue Ribbon Study Panel on Biodefense agreed with that assessment.

"I don't think we've done anywhere near the amount of work necessary to create the medical understanding, the psychological understanding, and maybe even the genetic understanding of what happens to people who are exposed," said Blue Ribbon Study Panel member Tom Daschle, a former majority leader in the U.S. Senate.

"This is not something that's history; this is happening now," Daschle said, referring to recent bioterrorism and naturally occurring biothreat events. "And our ability to deal with the issues of those who are exposed, need more research."

That costs money. And although billions have been authorized by Congress during the last decade, he said, more federal funds are needed. "While there's no opposition to that idea," added Daschle, "there's no energy to propel it forward. We need a champion."

Former U.S. Sen. Joseph Lieberman, co-chairman of the Blue Ribbon Study Panel on Biodefense, noted that the recently released national biodefense strategy by the Trump administration took "a while longer than we hoped," but is a strong document and a significant step forward that the panel would like to build on.

A bioterrorism attack is coming, Lieberman added, and so too is another infectious disease pandemic, "but we don't know when, even though we can say with reasonable certainty that both awful events will occur."

"We have a tendency in this country to react to things after they occur," said Blue Ribbon panel co-chairman Tom Ridge, former governor of Pennsylvania.

The anthrax attack 17 years ago on Capitol Hill, for instance, found the federal government semi-prepared. "That incident shook up the nation," which learned it could have done a better job in preparing to respond to such bioterrorism, Ridge said.

"The bottom line is we don't think we're ready," Lieberman said. "We have to get ahead of the threat rather than be reactionary."

Hence, the title of Tuesday's meeting by the Blue Ribbon Study Panel on Biodefense meeting — Fits and Starts: Reactionary Biodefense, he said.

Ironically, the global response to the deadly Ebola virus in the Democratic Republic of Congo has been just that.

Two days ago, the World Health Organization reported that the Ebola virus disease has sickened 188 people and killed 118 in the northeastern region of the Democratic Republic of Congo. Lillibridge noted that Ebola continues to spread in what is considered a conflict zone, making it nearly impossible for the U.S. to sufficiently access the stricken population there.

"It's the harbinger of a perfect storm," he said.

The national security of the U.S. has a vested interest in containing the virus in Africa, but the U.S. lacks a coordinated team, a central structure to meet such biodefense goals, Lillibridge said. And while leadership on the issue is needed, he thinks the solution is organization rather than whomever mans it.

Building and funding the proper organization, said Lillibridge, is critical. He noted that such an organization should be "more corporate and scientific in origin rather than civil service or military. It needs to run on an informational background like Amazon, IBM or Microsoft, that's capable of computational biology or artificial intelligence, that's also able to use blockchain technology."

The size and scope of the organization also needs "to be more like the Manhattan Project rather than a small program in a discreet agency or department; it should be over-arching," he said.

A step toward making a difference, said Lillibridge, would be to consolidate biodefense budgets across all federal agencies and departments, which he thinks would resolve 90 percent of the country's coordination issues. "You can't build the pizza if you hand out the slices," he said, referring to the government's disparate biodefense budgets and operations.

Lillibridge also suggested that the United States take a second look at revitalizing components of the United Nations. "We need more neutral ways to get into regions of the world," he said.

In the Democratic Republic of Congo, for instance, the UN is supervising the overall response to the Ebola crisis, the first time Lillibridge said he's seen it become operational. U.S. investment in such responses would benefit the nation, he said.

The current Ebola outbreak harkens back to the anthrax attack in the nation's capital, said Daschle, who pointed out that "people died and became seriously ill back in 2001, but the biological threat is obviously still with us."

Daschle said that his "mounting frustration over the inaction in Washington on this issue" is one of the reasons he decided to serve on the bipartisan Blue Ribbon Study Panel on Biodefense.

"Today's intelligence reports confirm that there are nation-states and terrorist organizations who are actively seeking to weaponize biological agents and attack the United States and its interests overseas," said Daschle. "The biological threat is real. Despite this fact, we have done far too little to coordinate our response and take meaningful action."

https://homelandprepnews.com/stories/30845-blue-ribbon-study-panel-on-biodefense-expert-recommends-biothreat-preparedness-solutions/

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C4ISRNET (Vienna, Va.)

Even a Little Bit of Poison Is Still ... Poison

By Adam Stone

Oct. 7, 2018

When soldiers are exposed to small doses of toxins, their symptoms may be mistaken for common illness. Doctors can miss a key window for delivering early treatment, and military planners may never know that chemical or other hazards were present on the battlefield.

With this in mind, scientists at the U.S. Army Edgewood Chemical Biological Center at Aberdeen Proving Ground, Maryland, are developing a more accurate detector.

“Right now we have samplers, not detectors,” said Bruce King, a research chemist at the center. “Our real-time tools are not very specific. They maybe look at just a class of chemicals, so a pesticide would look just like [nerve agent] VX on current wearable sensor technology.”

To get a more precise reading on environmental contaminants, the scientists are looking to combine wearable chemical samplers with multidimensional chromatography, a sophisticated analytic technique that can distinguish the specific chemical signature of a wide range of substances.

The device detects chemical, biological and other hazards in the vapor phase. This means that even if the chemicals are no longer present, the soldier-worn sensor would still be able to gather useful intelligence from the air.

To avoid issues of battery life, the sensor operates in passive mode, gathering samples with no power required. All the heavy lifting is done in the lab, where scientists apply chromatography, sniffing out up to 1,000 separate compounds within a single sample with the aid of high-resolution mass spectrometry techniques.

The military has sought such a capability for some time now. King describes a Marine Corps effort 15 years ago to deploy a passive sampler to some 100,000 Marines. The resulting data proved too much to process.

King’s team, therefore, has narrowed the window. They aim to deploy their device first to CBRN — chemical, biological, radiological and nuclear — teams, which typically operate in 12-person cohorts. This gives the analysts a more manageable volume of data.

Advances in analytic techniques also have helped empower the new technology. Scientists in the food and fragrance industries in particular have been active in the development of new spectrometry technologies, as they seek to refine the ability to produce specific flavors and scents. “We are able to take advantage of all these advances that they have been making for the past 15 years,” King said.

A prototype device is being tested by the National Guard, with developers keeping a keen eye on usability data. “We want it to be so easy that anyone can put this patch on and go about their business,” King said. If all goes well, widespread deployment could happen within a year.

If successful, the effort would not only keep soldiers safer, but would contribute a powerful, new tool to the arsenal of battlefield intel collection.

“We can see what compounds were in that environment,” King said. “Now suppose we had one group of soldiers look at one target and another group of soldiers was at another site. If we see the same compounds in the air in both places, we can start tying that information together. It helps us to go up the chain of bad guys.”

Sweat sensor

In other sensor evolution news, a team at the Air Force Research Laboratory is also working on a wearable patch — one that would analyze sweat, with an eye toward keeping soldiers hydrated.

"Hydration is one way we can understand a person's susceptibility to heat stress," materials scientist Jeremy Ward said in an Air Force news release. Ward works on the Advanced Development Team at the AFRL Materials and Manufacturing Directorate and is the government lead for the Nano-Bio Manufacturing Consortium.

"One approach to learning about a person's hydration status is by monitoring the composition of their sweat," he noted.

Working in collaboration with industry via the consortium, AFRL scientists are developing a wearable sensor patch that detects the potassium and sodium excreted in sweat. The tech then wirelessly transmits this information to a mobile device or computer. This could give military leaders the ability to monitor soldier hydration in real time.

The 711th Human Performance Wing and U.S. Air Force Academy cadets field-tested the sensor earlier this year.

"This was a great opportunity for us to better understand the environment in which our sweat sensors need to operate reliably," Ward said. "The data from this test has already shaped our research and development efforts moving forward."

The team is now looking to develop more reliable sensor materials and robust packaging concepts for the patch.

https://www.c4isrnet.com/intel-geoint/sensors/2018/10/02/tk-poison/

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US ARMS CONTROL

Phys.org (Isle of Man, Europe)

Looking and Listening for Signals of Navy Test Explosions off Florida Coast

By Seismological Society of America

Oct. 16, 2018

Underwater explosions detonated by the U.S. Navy to test the sturdiness of ships' hulls have provided seismologists with a test opportunity of their own: how much can we know about an underwater explosion from the seismic and acoustic data it generates?

In a study published in the Bulletin of the Seismological Society of America, a team of researchers led by Ross Heyburn of AWE Blacknest in the United Kingdom compared the "ground-truth" data available from the Navy on the location, size and depth of these detonations to estimates obtained from seismic stations and hydroacoustic sensors.

The explosions conducted off the Florida coast offer a chance to test the capabilities of the International Monitoring System (IMS) of the Comprehensive Test-Ban Treaty Organization, deployed to detect secret nuclear test explosions, say the authors.

"Underwater explosions of this size where ground-truth data are available are quite rare," said Heyburn. IMS stations "do record signals from many underwater events, both naturally occurring, like earthquakes, and man-made, like air-gun surveys. However, ground-truth data from the man-made sources are often not available, and usually any underwater explosions observed are much smaller in size than the Florida explosions."

The Navy explosion tests were conducted in 2001, 2008 and 2016 within the Navy's Mayport test area, located 120 kilometers off the coast of Jacksonville, Florida. The experiments tested the hull integrity of the near-shore combat ships the USS Jackson, the USS Milwaukee, the USS Winston Churchill and the USS Mesa Verde. During the experiments, 10,000-pound chemical explosions were towed behind a vessel sailing alongside the combat ships, to test how the combat ship hulls responded to the shock waves produced by nearby detonations equivalent to a TNT charge weight of about 6759 kilograms.

The explosions aren't the size of a nuclear test explosion, but they are much larger than many of the other underwater explosions that are available to study, explained Heyburn. "The explosions described in the paper are much smaller than a typical nuclear test explosion which is typically of the order of kilotons in TNT equivalent charge weight," he said. "For comparison, naval mines and anti-submarine depth charges typically contain explosive charges with TNT equivalent charge weights of the order of hundreds of kilograms."

Heyburn and colleagues analyzed data from the explosions collected by IMS seismic stations around the globe and from a hydrophone station near Ascension Island in the South Atlantic Ocean for the tests in 2008 and 2016. The researchers used the location data provided by the Navy for several of the explosions as a way to improve the accuracy of calculations used to pinpoint the epicenter of explosions without available ground-truth data.

Previous research on detonations in the Dead Sea and other underwater test sites has shown that there is a relationship between the local magnitude of an explosion and its charge weight. After taking into account the salinity of the seawater near Florida, Heyburn and colleagues were able to modify the Dead Sea calculations to estimate the Navy charge weights from published estimates of local magnitude for the explosions.

Underwater explosions also produce unique seismic features that can be used to identify the source. One such notable feature is the bubble pulse, the underwater pulsing generated by the gas bubble created by the explosion as it expands and contracts in size. The researchers were able to identify the bubble pulse in the seismic records, confirming that the seismic signals were the result of an underwater explosion.

The bubble pulse was not observed as clearly at the Ascension Island hydrophone station, and Heyburn and colleagues suggest that the shallow waters off the Florida Coast may have distorted the hydroacoustic signals of the explosion. "This showed that both the seismic and hydroacoustic data can be important when analyzing signals from underwater explosions," said Heyburn.

https://phys.org/news/2018-10-navy-explosions-florida-coast.html

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Real Clear Defense (Chicago, Illinois)

Putin's Arms Control Gambit

By Mark B. Schneider

Oct. 13, 2018

Putin's Russia has launched an arms control offensive against the U.S. The Russian Foreign Ministry has gone so far as to claim that U.S. sanctions over Russia's attempted murder (with a prohibited chemical weapon) of Sergei Skripal, a spy for the United Kingdom traded for the release of 10 Russian spies arrested by the U.S., was part of a "…deliberate policy aimed at diluting the international mechanism of arms control and non-proliferation, including the chemical weapons ban." In reality, there is no arms control linkage to the Skripal sanctions except for the fact, usually completely ignored, that Russia used a prohibited chemical agent in the attempted murder.

Russia, according to Politico, proposed at the July 16, 2018, Trump-Putin summit held in Helsinki, Finland "…that Washington and Moscow extend the New Strategic Arms Reduction Treaty (New START)….The Russian document also calls on both sides to 'reaffirm commitment' to agreements covering "intermediate-range missiles…. [and that] the two sides should "…discuss the non-placement of weapons in space." Russia has confirmed that it has proposed a five-year extension of the New START Treaty. Indeed, Putin has personally called for New START Treaty extension. Politico reported, "The two sides agreed to limit each nation to 1,500 nuclear warheads deployed on land-based and submarine-launched missiles and carried by bomber aircraft, and it permits a vigorous set of regular inspections." Politico's assessment of the implication of the New START extension is literally false in every respect because the New START Treaty does none of these things.

What the reported Russian proposal translates into is that Russia wants the Trump administration to: 1) adopt the Obama administration's approach of dependence on ineffective arms control treaties for core national security objectives; 2) end sanctions against Russia; 3) accept Russian noncompliance with the INF Treaty, which would grant Russia a monopoly on ground-launched INF-range missiles; and 4) agree to the Russian proposals for a "weapons in space" Treaty which all previous U.S. administrations have rejected because of fundamental verification problems.

The Obama administration's New START Treaty was pursued, for ideological reasons (the quest for nuclear zero), political reasons and Presidential ego. The late Washington Post columnist Charles Krauthammer observed, "The signing ceremony in Moscow [for New START] was a grand affair. For Barack Obama, foreign-policy neophyte and 'reset' man, the arms-reduction agreement had a Kissingerian air. A fine feather in his cap. And our president likes his plumage. Unfortunately for the United States, the country Obama represents, the prospective treaty is useless at best, detrimental at worst." Indeed, in November 2010, the Russian newspaper Kommersant stated, "The White House is in a hurry to sign the new START agreement by 10 December [2009], when the presentation of the Nobel Prize to US President Barack Obama is to take place in Stockholm." If this report is true, it must have dramatically reduced U.S. leverage in the negotiation. Even more worrisome was that the most senior officials of the Obama administration apparently didn't recognize this.

While there is some competition for the title of "the worst nuclear arms control agreement ever," the New START Treaty would probably win it. This is because it is the only arms control treaty that actually walked back the achievements of previous administrations in both substance and verification.

Putin's apparent willingness to extend it (in stark contrast to 2014 and 2015 statements by senior Russian officials which threatened to pull out of it) is apparently based on the fact that it is one of

the most ineffective arms control treaties negotiated since the Reagan-era in both substance and verification and is one-sided in Russia's favor. Russia's move is also apparently an effort to accommodate President Trump after he had made a statement on the desirability of new arms control. Putin's arms control gambit appears to be aimed at giving President Trump what he said he wanted while in reality giving him nothing. The New START Treaty contains major loopholes that allow an almost unlimited number of weapons and an ineffective verification regime. Not only are the number of inspections allowed by New START dramatically down compared with the Reagan-Bush START Treaty, but these inspections can't prove a violation of the Treaty. This is unique in post-Reagan arms control.

Unlike all other Treaties negotiated since 1980, there is no published Congressional assessment of U.S. monitoring potential of the New START Treaty. The likely reason is that no honest report could conclude that the Treaty was verifiable. Then-Senator Christopher (Kit) Bond (R-MO), then-Vice Chairman of the Senate Select Intelligence Committee observed, "The Select Committee on Intelligence has been looking at this issue closely over the past several months. As the vice chairman of this committee, I have reviewed the key intelligence on our ability to monitor this treaty and heard from our intelligence professionals. There is no doubt in my mind that the United States cannot reliably verify the treaty's 1,550 limit on deployed warheads."

The reason for the inability to verify the 1,550 deployed warhead limit is that the New START Treaty contains no attribution rules – i.e., agreed warhead accountability numbers for each type of missile and a prohibition on more warheads on that missile type. Absent attribution rules, all an inspection can do is establish whether the declared number of warheads on the single inspected missile is accurate. That says almost nothing about overall compliance with the Treaty warhead limit. Worst case, it can't do even that if the Russians violate the inspection procedures established in the Treaty by removing mobile ICBMs from the inspectable area before the inspectors arrive. New START makes it easier to do this by increasing the time available from nine to 24 hours.

Inaccurate information about New START is quite common. For example, in September 2017, former Chief Negotiator Rose Gottemoeller, now the Deputy Secretary General of NATO, stated, "So they [Russia] will be constrained to 500 delivery vehicles, 500 delivery vehicles and no more, and that means 1,550 operationally deployed warheads, no more." There is no 500 limit on delivery vehicles in the New START Treaty, and it contains no limit at all on "operationally deployed warheads." "Operationally deployed warheads" was the bomber weapon counting rule in the 2002 Moscow Treaty negotiated by the Bush administration. The actual New START Treaty limits, as recently described by the State Department, are 1,550 deployed warheads (with bomber weapons counted a one per aircraft irrespective of how many warheads they can actually carry), 700 deployed ICBMs, SLBMs and heavy bombers and 800 deployed and non-deployed ICBMs, SLBMs and heavy bombers. Despite the New START limits now legally in effect, Hans M. Kristensen & Robert S. Norris, estimate that Russia has 2,522 deployed strategic nuclear warheads. This is more than what was allowed in the 2002 Bush administration's Moscow Treaty. The Russian number is almost certain to increase to over 3,000. Starting in 2023, Russia plans to add 50 new Tu-160M2 bombers each of which will count as one nuclear warhead but can carry 12. Also, there is a wide range of cheating and circumvention options that Russia may pursue.

The New START Treaty bomber weapons counting rule essentially eliminated all possibility of building on the New START Treaty for a future arms control agreement because it allows what amounts to an almost unlimited number of strategic nuclear weapons if available options are exploited. According to the New York Times, Hans Kristensen of the Federation of American Scientists told them it was "totally nuts" because the bomber weapons counting rule "frees up a large pool of warhead spaces under the treaty limit that enable each country to deploy many more warheads than would otherwise be the case…" Russian Major General (ret.) Vladimir Dvorkin, who

unlike most Russian generals actually supports arms control, pointed out, "Firstly, it [the New START Treaty] does not provide a real reduction of strategic offensive armaments by the number of nuclear warheads as compared with the Moscow Strategic Offensive Reductions Treaty [SORT] of 2002 due to the new rules in counting nuclear armaments of heavy bombers: one heavy bomber—one warhead." In an interview with Izvestyia (January 25, 2010), former Vice Chairman of the Duma's Defense Committee Alexei Arbatov characterized New START as a treaty on limiting the American strategic forces. Arbatov also observed, "The United States did not seek to eliminate, reduce, or limit any of the other side's weapons or programs in particular (such as, for example, Soviet or Russian heavy ICBMs or mobile missiles, which were the focus of talks in previous times)."

The Obama administration was apparently disingenuous concerning its reason for acceptance of the bomber weapons counting rule and the other New START Treaty loopholes. Then-Assistant Secretary of State Rose Gottemoeller told the Senate Foreign Relations Committee that, "…the parties agreed to an attribution rule of one warhead per nuclear-capable heavy bomber rather than count them as zero." This was hardly the only choice that was available, and it was reportedly not what the U.S. initially proposed. This assertion completely ignored the outcome of the 2002 Moscow Treaty, which counted operationally deployed bomber nuclear weapons -- weapons emplaced on bombers or stored at bomber base weapons storage areas which will almost always result in a much higher accountable number of warheads.

According to Kingston Reif, the director of nuclear non-proliferation at the Center for Arms Control and Non-Proliferation and a defender of New START, "…we do know that the U.S. wanted to count and verify the actual number of warheads on U.S. and Russian bomber bases. However, Russia refused…" Pavel Podvig, an arms control enthusiast, reported that "The United States said that it was ready to count bombers with their actual weapons load, but Russia objected to the transparency provisions that this arrangement would entail." Hans Kristensen stated, "According to U.S. officials, the United States wanted the New START Treaty to count real warhead numbers for the bombers, but Russia refused to prevent on-site inspections of weapons storage bunkers at bomber bases." The New START Treaty bomber weapons counting rule was clearly a major ill-advised negotiating concession, and the Obama administration simply dissembled about it.

The problem is not only the bomber weapons counting rule. The Heritage Foundation's New START Treaty report pointed out, "In addition [to the bomber weapon counting rule], several dozen prohibitions and limits in START I's Article V are completely gone (replaced by two limits on ballistic missile defense). For example, unlike START I, there are no prohibitions on placing intercontinental ballistic missiles (ICBMs) on bombers, a delivery mode tested by the United States decades ago, and the START I limits on the maximum number of warheads that a ballistic missile can carry do not appear in New START. Consequently, for the count of one warhead and one delivery vehicle, Russia could deploy aircraft loaded with MIRVed ICBMs (i.e., missiles with multiple independently targetable reentry vehicles)."

In 2010, Christopher Ford, now Assistant Secretary of State for International Security and Nonproliferation, pointed out during New START ratification in 2010 that "…it's not entirely clear that rail-mobile systems or any other non-self-propelled mobile systems, for that matter fall within the [New START] Article II(1)(c) cap at all, even if uploaded with missiles." (Emphasis in the original). He also noted that New START does not limit reload ICBMs, and as a result, "…New START would seem to allow a party to have unlimited numbers of rail-mobile launchers deployed with nuclear-armed missiles, at least if these missiles are not actually uploaded." The U.S. resolution of ratification literally makes up a definition of rail-mobile ICBM launchers, that does not appear in the Treaty, and says that the U.S. would hold Russia to it. That is clearly ludicrous (both legally and politically), particularly in light of the Obama administration's unwillingness to take action to deal against Russia's clear violations of the INF Treaty.

It is clear the Russian decision to produce 50 more nuclear cruise missile-armed modernized Tu-160M2 heavy bombers, Russia's rail-mobile ICBM project, the reported program for the air-launched Mark 1CBM, the announced Kinzhal air-launched ballistic missile, all of which are nuclear armed or nuclear capable, are a direct result of the bomber weapons counting rule and the elimination in New START of former START Treaty prohibitions. In addition, Russia has pursued systems that apparently were not contemplated when New START or previous arms control treaties were negotiated and, hence, are not constrained by the Treaty. These now include the Poseidon/ Status 6 nuclear-powered nuclear-armed drone submarine and the nuclear-powered ground-launched cruise missile announced on March 1, 2018, by President Putin. The Trump administration has recognized the significance of the new Russian strategic systems not subject to the New START Treaty.

Why did the Obama administration go from a complete ban on air-launched ballistic missiles with a range of over 600-km in the original START Treaty to no constraint on them in the New START Treaty (i.e., they don't count against Treaty limits)? A significant factor was that there were virtually no preparations for the New START Treaty negotiation in Washington and there was little experience in the negotiation team. The Obama administration tried to cover up the creation of a massive New START Treaty loophole on air-launched ballistic missiles (actually being exploited today by Russia) by arguing that, "Under New START, we now have the flexibility to maximize our ability to test and develop missile defense targets, which directly enhances our national security." The linkage with missile defense was bogus. The U.S. uses target missiles that are not weapons delivery vehicles and, hence, are not subject to arms control treaties. The U.S. can't use air-launched ballistic missiles as targets because it has none and does not plan any even today. The U.S. long-range air-launched target (LRALT) is not a weapons delivery vehicle and was first launched in 2004 when the more restrictive START Treaty was in effect.

Russia, for many years before the start of the New START negotiation, claimed it wanted more arms control with lower nuclear warhead limits. When it entered the negotiation, it reportedly did a 180-degree turn. Colonel General (ret.) Viktor Yesin, former commander the Russian Strategic Missile Forces, has stated Russia wanted 1,675 warheads while the United States wanted 1,500 warheads, and Russia wanted 500 deployed delivery vehicles while the U.S. wanted 1,100. Russia's main official news agency ITAR-TASS (now called TASS), Kommersant and the state news agency RIA Novosti reported the same thing. Russia wanted a lower limit on deployed delivery systems because it amounted to unilateral constraint on the U.S.

After the ratification of New START, Russia refused to engage in follow-on nuclear arms control negotiations. In May 2016, then-Assistant Secretary of Defense Robert Scher noted, "Russia remains in violation of the Intermediate-Range Nuclear Forces (INF) Treaty and remains unreceptive to the President's offer to negotiate further reductions in strategic nuclear weapons below the limits of the New START Treaty." Then-Kremlin Chief of Staff Colonel General Sergei Ivanov explained why Russia refused to negotiate: "When I hear our American partners say: 'let's reduce something else,' I would like to say to them: 'excuse me, but what we have is relatively new.' They [the U.S.] have not conducted any upgrades for a long time. They still use Trident missiles]." When a nation claims great power status based almost exclusively on nuclear weapons and nuclear threats, the last thing it wants is less nuclear forces.

It is vital not to mirror image Western values on Russian nuclear weapons policymakers. The Putin regime does not share them. Russia, going back to the Soviet period, has strongly resisted deep reductions in its nuclear weapons. As the Director of National Intelligence's National Intelligence Council put it in 2012, "Nuclear ambitions in the US and Russia over the last 20 years have evolved in opposite directions. Reducing the role of nuclear weapons in US security strategy is a US objective, while Russia is pursuing new concepts and capabilities for expanding the role of nuclear

weapons in its security strategy." When Russia engages in nuclear arms control, it does so with the objective of avoiding limits on Russian forces, obtaining unilateral advantages and with no commitment to an equitable outcome. It also seeks to enhance its nuclear warfighting capabilities.

Western arms control enthusiasts often serve as enablers of Russian behavior. If there is any collusion with Russia in Washington, it is in the arms control arena where arms control enthusiasts virtually use Russian talking points to advance their ideological agenda. Arms control enthusiasts often deny the reality of Russian violations to protect failed arms control agreements.

As President Reagan observed in 1982, "Simply collecting agreements will not bring peace. Agreements genuinely reinforce peace only when they are kept. Otherwise, we are building a paper castle that will be blown away by the winds of war." This should be self-evident, but it is often denied by the left. Worse yet, Putin has personally received evidence that the U.S. generally does not react to Russian arms control violations -- his. The Russian missile the Obama administration determined violates the INF Treaty (the SSC-8/9M729) according to a New York Times report by Michael Gordon, was first flight tested in 2008. This report implies that three American governments, with very different political agendas, did not respond to a major arms control violation with more than words (although the Trump administration may do so). Putin is not afraid of our words because he responds to verbal attacks with attacks of his own.

In September 2018, Andrea Thompson, Undersecretary of State for Arms Control and International Security observed that "Russia's response to each of these situations is to employ its standard playbook of distraction, misinformation, and counter-accusations." In September 2018, David Trachtenberg, Principal Deputy Under Secretary of Defense for Policy stated, the "….bottom-line is that arms control with Russia is troubled because the Russian Federation apparently believes it need only abide by the agreements that suit it. As a result, the credibility of all international agreements with Russia is at risk."

A recent article by distinguished British strategist Colin Gray and Matt Costlow, a Senior Analyst with the National Institute for Public Policy, noted that supporters of continued U.S. compliance with the INF Treaty despite Russian violations, noted, "Most suggested U.S. responses from the professional arms control community center around some mix of 'more dialogue' and 'mutual inspections'…" This ignores the long record of Soviet/Russian violations of arms control treaties. It also ignores the fact that there are no inspections under the 1988 INF Treaty because the verification regime expired 13 years after the Treaty's entry into force. Moreover, the range of a cruise missile can't be determined by inspections which at most will provide slightly better data on the size of these missiles and more likely will provide no information at all. In light of the known size of the Russian cruise missiles (photographs of them are available on the internet), there is literally no doubt concerning the fact of the Russian violations. As Principal Deputy Secretary of Defense for Policy David Trachtenberg stated in September 2018, "The evidence is conclusive. Russia possesses a missile system, the SSC-8, in direct violation of the INF Treaty. Russia has tested this ground-based system well into the ranges covered by the INF Treaty, produced it, and fielded it. The violation is real, and it goes against the core purpose and restrictions of the INF Treaty." Indeed, in 2017, the Chief of the Russian General Staff General of the Army Valery Gerasimov, stated Russia had "…set up full-scale units of vehicles capable of delivering precision-guided missiles to targets located up to 4,000 kilometers away." The issue is no longer confirmation, but rather how we will respond.

The scope of Russian INF Treaty violations is apparently far greater than a single prohibited missile type. Other missiles with INF prohibited ranges are reported in the Russian press, including the state media. One of these is a reported ground-launched version of the Kalibr. Another is the R-500 which has been deployed since 2012. Moreover, the 4,000-km range ground-launched cruise

missile that General Gerasimov talked about may be an additional type of Russian ground-launched missile with prohibited INF Treaty range, or it may be the SSC-8/9M927.

In addition to the Russian cruise missile violations, there is an issue regarding the compliance of the Russian RS-26 Rubezh "ICBM" with the INF Treaty. The Obama administration essentially ignored this issue. Under a Treaty interpretation given to the Senate by the Reagan administration in 1988, the missile is a violation of the INF Treaty. The role of the missile is an intermediate-range strike. Stefan Forss, a former missile specialist with the government of Finland's Foreign Ministry and currently an adjunct professor at Finland's National Defense University, writes the "Yars M [RS-26/Rubezh] will take care of the upper end of the INF range spectrum…"

There are Russian press reports detailing Russian actions that would violate the New START Treaty if these stories are accurate. It is unclear whether Russia actually reduced its strategic nuclear forces in 2017 to the levels they claimed when the New START Treaty limits went into effect in February 2018. In December 2017, TASS quoted well connected Russian journalist Colonel (ret.) Viktor Litovkin as saying that Russia "…has five hundred strategic missiles carrying over 1,800 nuclear warheads," which is at least 239 more warheads and about seventy more deployed missiles than Russia claimed it had in September 2017.

The commander of the Russian ICBM force, Colonel General Sergei Karakayev, has repeatedly stated that he has four hundred operational ICBMs when he cannot legally have more than about 300 consistent with Russia's New START Treaty data. This opens up the possibility of a covert Russian mobile ICBM force. Since the New START Treaty does not allow for the continuous monitoring of Russian mobile ICBM production, we have not monitored it since the expiration of the original START Treaty in 2009. The New START Treaty eliminated almost the entire START Treaty verification regime for mobile ICBMs, the START Treaty's collateral constraints on mobile ICBMs and the limits on the number of non-deployed mobile ICBMs and their launchers that appeared in the original START Treaty.

Under the New START Treaty, any aircraft that carries a nuclear long-range (600-km or more) air-launched cruise missile (ALCM) is a heavy bomber which is accountable under the Treaty as both a delivery system and one nuclear warhead against the Treaty limits. If the Russian press reports are accurate, Russia has given the Backfire bomber a prohibited capability (long-range nuclear air-launched cruise missiles) in violation of the New START Treaty. The Backfire has been given the capability to carry the new Kh-32 1,000-km range cruise missile, according to TASS. The Kh-32 is described in the 2018 Nuclear Posture Review as being nuclear capable. State-run Sputnik News confirms this saying, "…the Kh-32 can carry either conventional or nuclear munitions." State-run Russia Beyond the Headlines also says its range is 1,000-km and it can be armed "…with a nuclear or conventional 500-kilogram (1,102 lb) warhead and hit targets within a few yards." If the Russian press reports are accurate, Russia has given the Backfire bomber a prohibited capability for a non-heavy bomber in violation of the New START Treaty.

Rossiyskaya Gazeta, the official newspaper of the Russian Government, reports that the new version of the Backfire (Tu-22M3M) can carry the Kh-101 and the Kh-555, both long-range air-launched cruise missiles. The Kh-101 is nuclear capable, according to President Putin and the Russian Defense Ministry and the Russian Defense Ministry also says it has a range of "up to 4,500 km." If either of the state-media reports on the Kh-32, Kh-555 or the Kh-101 is true, Russia's declared New START data would indicate that Russia violated the New START Treaty limit of 1,550 accountable warheads when it came into effect in February 2018.

Arms control pursued for ideological reasons, or for partisan politics, will fail to achieve its supposed objectives. There is a long record of this since the nuclear arms control process started in 1969 with the SALT negotiation. No matter how good the negotiated outcome is, if arms control

agreements are not complied with, there will be no positive national security benefit. Russia's record in this area is particularly bad. President Putin is now apparently willing to extend the New START Treaty because it has little effect on Russia and a lot more on the U.S. He can circumvent it or violate it. Violating a Treaty, if one can get away with it, is virtually always cheaper then Treaty circumvention which would require Russia to do things in ways that are less effective or costlier. Putin's current support for the extension of New START is a ploy related to getting Russia out of the sanctions hole that Putin has dug for it. There is no arms control solution to the security problem posed by Putin's Russia.

https://www.realcleardefense.com/articles/2018/10/13/putins_arms_control_gambit_113891.html

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COMMENTARY

Defense One (Washington, D.C.)

How to Get Nuclear-Weapons Treaties Back on Track

By Daryl G. Kimball

Oct. 17, 2018

The agreements that hold back a strategic arms race are in trouble. But there is a way forward.

Back in March, President Trump told reporters at the White House in March that he wanted to meet with Putin in large part "to discuss the arms race, which is getting out of control" and has characterized the costly nuclear weapons upgrade programs being pursued by each side as "a very, very bad policy."

Three months have elapsed since the July summit between Trump and Putin in Helsinki – after which the U.S. president said, "Perhaps the most important issue we discussed at our meeting…was the reduction of nuclear weapons throughout the world."

But since the summit, there has been no apparent progress. The long-running dispute over Russia's violation of the 1987 Intermediate-Range Nuclear Forces Treaty remains. The two sides have not begun to discuss the future of the successful 2010 New START agreement, which limits each side to 1,550 deployed strategic warheads. That treaty will expire on Feb. 5, 2021, unless Trump and Putin agree to extend it.

Without these treaties in place, the door will be opened to an unconstrained nuclear arms race. The already abysmal U.S.-Russian relationship will become even more complicated and dangerous.

Next week, National Security Advisor John Bolton will travel to Moscow to meet with his counterpart in the Kremlin, Nikolai Patrushev. It is past time for both sides to get serious about resolving the INF compliance crisis, to agree to discuss the extension of New START, and to resume regular talks on "strategic stability."

INF Woes: U.S. and Russian officials both say they support the 1987 INF Treaty, which led to the elimination all U.S. and Soviet ground-launched ballistic and cruise missiles with ranges between 500 and 5,500 kilometers. But the treaty is now at risk because Russia has tested and deployed a prohibited ground-launched cruise missile: the 9M729. Moscow, for its part, alleges, far less credibly, that Washington is deploying missile defense systems in Europe that could be used to launch offensive missiles.

Contrary to what some observers may want to believe, the arms control community has been working hard to raise the alarm bell and put advance serious options to put out the INF fire. Since Russia's INF violation became known in early 2014, the Arms Control Association has steadfastly reported on and published expert analyses on the problem in our monthly journal Arms Control Today. We have convened U.S. and European and Russian experts from inside and outside government on the INF issue, and met with U.S. lawmakers and staff to exchange views on the problem. We have confronted senior Russian officials in private consultations Washington and in Moscow and, along with a number of experts and former U.S. officials, we have put forward options for resolving the dispute.

We view as unacceptable Russia's flagrant violation of the INF treaty (and of the Chemical Weapons Convention, and of other key agreements). As our Board Chairman wrote last year in the Washington Post, it requires a firm U.S. and allied response, including smart diplomacy and, if the violation persists, improvements to U.S. and NATO conventional military preparedness.

Unfortunately, the Trump administration has been no more successful than the Obama administration in bringing Russia back into compliance. Trump's team has tried to "toughen" the U.S. response to Russia's INF violation by seeking funding to develop a treaty-prohibited nuclear-capable missile for the United States. Not surprisingly, this has failed to change Russia's position and has raised concerns among our European allies who see no military requirement for it and do not want such a weapon deployed in Europe.

Some in Congress have proposed that Washington go further and declare the INF Treaty null and void if Russia doesn't immediately return to compliance – a tactic that would only play into Moscow's propaganda line that the U.S. is somehow to blame for the downfall of the treaty.

With the INF compliance problem now moving into its fifth year, neither side seems to be ready to engage in the tough, solutions-oriented bilateral negotiations needed to resolve the dispute over the 9M729 missile. This is the moment when Trump and Putin must push to restart discussions that have stalled at the expert level.

Specifically, Washington and Moscow should agree to reciprocal site visits by technical experts to examine the missiles and the deployment sites in dispute. If the 9M729 missile is determined to have a range that exceeds the INF Treaty's 500-km range limit, Russia should either modify the missile to ensure it no longer violates the treaty or, ideally, halt production and eliminate any such missiles in its possession, including any that have been deployed.

For its part, the United States could offer to modify the missile-defense launchers that Moscow has complained about, allowing to Russia to clearly distinguish them from launchers that fire offensive missiles from U.S. warships, or agree to other transparency measures to allay Russian suspicions that the launchers contain offensive missiles.

Such an arrangement would address the concerns of both sides and restore compliance with the treaty without Russia having to acknowledge its original violation of the treaty.

The Future of New START: New START remains one of the few bright spots in an otherwise broken U.S.-Russian relationship. Ratified in 2011, the Treaty limits the number of deployed strategic warheads to a maximum of 1,550 on each side, a target each met earlier this year, and which is far below the tens of thousands we pointed at each other during the Cold War.

The Treaty imposes important bounds on strategic nuclear competition as long as it is in force. As allowed in Article XIV of the treaty, it can be extended by up to five years by agreement by the two Presidents, without requiring further action by the Congress or the Duma.

Before and after the Helsinki summit, Russian officials have reiterated their interest in talks designed to extend the treaty. But after his first post-Helsinki meeting with Patrushev, in Geneva on Aug. 23, Bolton said the administration remains in the "early stages" of an interagency review about whether to extend, replace, or jettison New START or to pursue a different type of approach.

Unfortunately, some elements in the Trump administration want to hold New START hostage until Russia acknowledges its INF violation—an extremely unlikely possibility. Sacrificing New START, given the transparency it provides, would only create a bigger nuclear headache and do nothing to bring Russia back into compliance with INF.

Key Senate Democrats have called for an extension of New START so long as Russia remains in compliance with it, and several leading Senate Republicans have also voiced their support for New START. U.S. military leaders continue to see value in New START; for example, Gen. John Hyten, commander of U.S. Strategic Command, told Congress last March that "bilateral, verifiable arms control agreements are essential to our ability to provide an effective deterrent."

If New START is not extended, there will be no legally binding limits on the world's two largest strategic arsenals for the first time since 1972. In its absence, each side could quickly increase the number of warheads deployed on their strategic delivery systems. Unconstrained U.S.-Russian nuclear competition—in both numbers and technology—could spark an arms race as dangerous as that of the 1950s and 1960s. That would add scores of billions in additional costs to an already unrealistic U.S. nuclear upgrade plan.

An extension of New START, on the other hand, would buy time for the two sides to discuss agreements on new strategic systems, including the ones under development by Russia, and provide a solid baseline for talks on further reductions of each side's strategic and tactical nuclear stockpiles.

Despite Russia's malign behavior in Ukraine, Syria, in cyberspace, and elsewhere, it would serve U.S. and European security interests to engage with the Kremlin in new ways that bring Moscow back in compliance with INF and preserve the New START agreement. Washington and Moscow may not get along, but they have a special responsibility to manage their nuclear rivalry in ways that reduce the risk of miscalculation and the size of their bloated nuclear stockpiles.

https://www.defenseone.com/ideas/2018/10/how-get-nuclear-weapons-treaties-back-track/152095/?oref=d-river

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RAND (Santa Monica, Calif.)

Can U.S. Pressure Lead to a New Iran Nuclear Deal?

By Ariane Mitra Tabatabai and Eric Brewer

Sept. 18, 2018

One should not assume that regime change will entail desired behavior changes.

Now that the United States is "done" with North Korea, it is time to return to the question of what ne of President Donald Trump's chief foreign policy objectives is to strike a deal with Iran to end or significantly reduce the regime's ballistic missile and nuclear programs and regional activities. To this end, the administration has pulled the United States out of the nuclear deal achieved under President Barack Obama—known as the Joint Comprehensive Plan of Action or JCPOA—reimposed sanctions on Iran, and undertaken a pressure campaign to try and force Iran back to the negotiating

table to strike a “big for big” deal. In its efforts to do so, however, the United States could be making a mistake if it assumes that more pressure will automatically bring it closer to its goals. Particularly when it comes to measures aimed at Iran's nuclear program, more pressure could worsen nuclear risks and further drive a wedge between the United States and its European allies.

In the months leading to and since President Trump's announcement that he was pulling America out of the nuclear deal, many Iran watchers have taken to the pages of prominent foreign policy outlets to argue for or against the U.S. withdrawal from the JCPOA, and provide recommendations for what the United States should do next. Advocates of the administration's approach see economic sanctions and political isolation as critical to achieving a new, better deal. Although some have offered specific suggestions, there doesn't appear to be consensus on what sanctions and isolation should entail in practice. In addition, these critics have paid inadequate attention to how the United States should execute what will likely be a years-long maximum pressure strategy aimed at a new deal, while mitigating the risks of Iranian nuclear advances and provocations that such a maximum strategy poses a good chance of producing. In essence, observers may be losing sight of the broader objective and thus offering some counterproductive ideas.

For example, several authors have argued that the United States shouldn't limit its pressure campaign to Iran, and should also target America's own European allies who'd be willing to work with Tehran or, at the very least, refuse to get in line behind Washington. The administration has also seemed to back this approach. But this could be a shortsighted recommendation, one which could widen the gulf between the United States and its closest allies and play into the hands of key adversaries, Russia and China, as well as Iran. Such an approach might help tighten the economic vise on Iran, but it could also undermine critical U.S. assets in striking any meaningful deal with Iran: U.S. multilateralism and leverage over key international players who'd be critical in any diplomatic process with Iran over the long run.

Likewise, others have suggested that the United States should actively seek to stymie several key provisions within the nuclear deal, which are currently being implemented by the remaining parties to the agreement.

These include sanctioning any company or bank involved in providing Iran nuclear technology via the UN-endorsed procurement channel (PDF), ostensibly to deny Iran technology that could advance its ability to build nuclear weapons. Doing so, however, would likely cause the channel—which grants U.S. allies with extraordinary control over, and insight into, Iranian procurement activities—to effectively collapse. Iran would not stop acquiring nuclear-related technology. Rather, Iran could once again ramp up its illicit nuclear procurement activities, significantly reducing the international community's ability to control what Iran was purchasing, and know where it was going. Far from a concession or benefit to Tehran, the channel has instead led to a fair bit of criticism from Iranian hardliners, who claim the channel undermines national sovereignty by allowing foreign powers to decide what technology Iran can and can't have access to. Hence, the removal of the channel would make it easier for Iran to acquire sensitive technology, and it'd be welcomed by hardliners.

Similarly, some have called on the administration to pressure its allies into stopping the redesign of the Arak Heavy Water Research Reactor—aimed at significantly reducing the amount of plutonium produced by the reactor—and the underground Fordow complex, which was once used for uranium enrichment, but is being repurposed to pose less of a proliferation concern. If international partners withdraw their efforts from those facilities and leave them incomplete, Iran would have more of an incentive, not less, to convert these facilities back to their pre-JCPOA designs, increasing the proliferation risk.

Finally, recognizing that aggressive measures could in fact prompt Iran to expand its nuclear program, advocates for the pressure approach have proposed using military action should Iran resume nuclear activities halted under the deal. There are incredibly few scenarios that would warrant a U.S. military strike on Iran's nuclear program. A U.S. strike in response to increases in Iranian centrifuges or accumulation of enriched material in excess of JCPOA requirements could be a colossal mistake, risk sparking a regional war, and leave the United States more isolated. It is this calculation that perhaps exposes the deepest—and most dangerous flaw—of an indiscriminate maximum pressure approach: Being willing to rely on military force to achieve a goal that was already met via peaceful means.

Taken together, these recommendations probably won't help the United States force Iran to roll back its nuclear program. Instead, they could lay the foundations for its expansion, divide the United States from its most important allies, and, ultimately, increase the risk of conflict. In advocating for this type of pressure, those hoping to see the nuclear deal's demise are offering advice that appears counter to their objective of stopping Iran from getting a nuclear weapon.

https://www.rand.org/blog/2018/09/can-us-pressure-lead-to-a-new-iran-nuclear-deal.html

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The National Interest (Washington, D.C.)

Reactors Today, Tomorrow a Saudi Arabian Bomb

By Victor Gilinsky and Henry Sokolski

Oct. 16, 2018

You would think we would have learned from a half-century of experience with civil-nuclear relations that nothing is more important than the character of the country we are dealing with.

Up to now—that is, pre-Khashoggi—the key question about a U.S.-Saudi nuclear agreement was whether to insist on a Saudi pledge not to enrich uranium. The White House, seeing the Saudis as close friends and fixed on the possible jobs that a Saudi nuclear contract (or subcontract, as South Korea has the inside track) might bring to Donald Trump's electoral base, wanted the deal. But now, the murder of Jamal Khashoggi in the Saudi embassy in Turkey is a sharp wake-up. What were we thinking in contemplating any nuclear installation for the Saudis?

Last fall, arm wrestling over the possible commitments in a prospective U.S.-Saudi nuclear deal obscured that we were dealing with a thuggish absolutist regime with no scruples. Jamal Khashoggi's disappearance makes it hard to gloss this over. For now, the Saudis have to be careful in dealing with us as they depend on us for their security. President Donald Trump didn't exaggerate by much when he said they wouldn't last two weeks without our protection. But what happens if that security relationship changes? Let's not forget that even under the current security arrangements the Saudis years ago secretly bought missiles from China, and recently signed a multibillion-dollar arms deal with Russia.

All past concerns—the medieval government, the lack of domestic law, the treatment of women and so on—were supposed to have been swept away by the ascension to power of the "modernizer," the crown prince, who rapidly became a new best friend of the president's family. He was ready to see past enmity with Israel and to stand up to Iran. He did a victory lap through Washington with the support of highly paid public relation firms who broadcast his struggle against the extreme Wahabis and his decision to let women drive. What more could anyone ask for?

It worked for a while, until it became evident that the regime still brooked no dissent and jailed the women who had campaigned for the right to drive. Saudi courts handed out death sentences for political criticism. Select Saudi billionaires were reportedly tortured until they disgorged their money, $100 billion in all. Meanwhile, the crown prince made clear in a CBS interview that Saudi adherence to the Nuclear Nonproliferation Treaty is conditional: If Iran opts for a bomb, so will Saudi Arabia.

Which brings us back to the prospective Saudi nuclear deal, in fact, to U.S. nuclear export deals in general. There is a pretense that Washington engages in every time one of these 123 civil-nuclear cooperation agreements (so-called because they fall under Section 123 of the Atomic Energy Act) comes before Congress. It is that we are dealing with law-abiding countries whose word is good, and that on that basis we can put a separation between the "peaceful" nuclear facilities and activities covered by the 123 agreement and any possible military application of the facilities and activities. The congressional battle then proceeds over the agreement details.

But everything depends on whom we are dealing with. Diplomatic lawyers can twist the meaning of agreements. In the 1950s, India promised not to use U.S. heavy water to make plutonium for bombs. When it did so in the 1970s, it called it a "peaceful bomb." Unfortunately, the State Department kept quiet (one hopes out of shame). Israel promised not to be the first to "introduce" nuclear weapons to the Middle East. When it did so, we pretended, and still pretend, we didn't notice.

Of course, we insist on inspections by the International Atomic Energy Agency. But as much as the IAEA inspection system has improved, it is hardly foolproof. In principle, the inspections are designed to make sure that nuclear wrongdoing is detected in time to thwart the creation of a bomb. But in reality, the system is not that tight even when it works as designed, and the needed powerful reaction of the world community to violation of the rules is by no means a sure thing. We should also not underestimate the ingenuity of determined would-be bomb makers to spoof inspectors. In the 1960s, the Israelis went so far as to temporarily rebuild parts of the Dimona reactor complex to fool American inspectors. And a country can simply eject the inspector altogether, as North Korea did, and get on with making bombs.

All these real-world issues get ignored in the ritual examination of 123 agreements by Congress, as is the likelihood that the government on the other side of the agreement may change, possibly radically, during the decades-long life of the agreement. The successor government may have a very different attitude towards it. Had we managed to sell to the Shah of Iran some of the twenty-three reactors he was contemplating buying, which would surely have come with fuel facilities as he was a reliable and important ally, they would all now be operating in the Islamic Republic. Yet in defense of its 123 agreement, the Executive Branch presents the current bona fides of the counterparty as if they are set in stone.

These attitudes and practices are archaic holdovers from the naive Atoms for Peace era. You would think we would have learned from a half-century of experience with civil-nuclear relations that nothing is more important than the character of the country we are dealing with. As for the current proposal to supply Saudi Arabia with powerful nuclear technology, we should just say "no." It's not about jobs (few of which are involved, in any case). It's about blocking further spread of nuclear weapons in the Middle East.

Nor is it about the prince, whom the president seems to have pushed to the sidelines by speaking directly to the king about Khashoggi. The problem is the kingdom is not trustworthy. We should not supply it with reactors, and we should also urge others, starting with South Korea, not to do so.

https://nationalinterest.org/feature/reactors-today-tomorrow-saudi-arabian-bomb-33616

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Modern War Institute (West Point, N.Y.)

Deterrence Is Not a Tactical Task

By Garri Hendell

Oct. 11, 2018

As budget pressure causes the US Army to shrink, our national unwillingness to scale back the scope of our mission causes tension between warfighting doctrine and what the Army feels it can reasonably achieve with the tools at hand. This is exemplified in the transformation of "deterrence" from a strategic goal to a tactical task. Deterrence as a task reflects a failure to do the staff work necessary to translate a desired end state articulated by a higher headquarters into a clear task for a subordinate unit.

In US joint doctrine deterrence is "the prevention of action by the existence of a credible threat." Deterring "opportunistic aggression" during wartime and deterring "nuclear and non-nuclear strategic attacks" feature prominently in the National Defense Strategy.

In US Army doctrine, deterrence is one of the purposes of unified land operations. The Army threw "deter" into its kitchen sink of a definition in an effort to comprehend all the things an army does in one place. Nevertheless, "deter" is not what an army does. Although having a trained, ready, and lethal army may well help prevent conflict—indeed, this may be the strategic rationale for having a standing army in the first place—it is a mistake to think of an army primarily as a tool that prevents conflict. "Preventing conflict" is a bad way to explain what an army does. The plain English meaning of deter is "to turn aside, discourage, or prevent from acting." If the most excellent form of war is to subdue the enemy without fighting, discouraging an enemy from fighting is useful for both military strategists and civilian policymakers. But describing the benefits of an army isn't the same thing as describing what an army does. Owning a cat may calm a person, provide them with a sense of well-being, or provide companionship. What a cat actually does is sleep, eat, and sometimes sit on the person who shares its living space.

What "deter" is not is a task. Deter is absent from the US Army's list of tactical mission tasks. Deter is not even included as one of those tactical mission tasks defined by its effect on the opposing force (fix, block, canalize, contain, clear, disrupt, turn, suppress, destroy, neutralize, isolate, interdict).

Similarly, there is no tactical mission task symbol for either "deter" or "defeat." Both are results, either of a battle (in the case of "defeat") or of the adversary's decision that a battle will not take place (in the case of "deter"). The reason for this is simple: like "defeat" (whereby the enemy is made unwilling or unable to pursue his adopted course of action), "deter" describes an effect on the mind of the enemy commander. The friendly commander takes actions on the battlefield to incentivize the enemy commander to respond in a certain way. The enemy commander, of course, has a choice. The success or failure of a mission to "deter" depends on that choice.

Although there is no way to quantify this, it does appear that more and more staffs are using "deter" incorrectly, transforming it from a purpose into a task. Instead of maneuvering forces to a position of advantage to deter or, if necessary, defeat the enemy, now units are ordered to "deter" the enemy in order to achieve the commander's desired end state. As deterrence depends on a choice to be made by the enemy commander, defining the mission in this way (at least on the tactical, or battlefield, level) is not really defining the mission at all and falls into the "hope is not a plan" category.

My peer group saw the migration of a strategic/operational purpose into a tactical task before, when we were platoon leaders. An offensive or security-focused task like a combat patrol became a "presence patrol" during the Iraq War, designed merely to demonstrate a US presence to the local

populace and enemy commanders and perhaps encourage non-confrontational interaction between US forces and local populations. The problem occurred when the desired effects on the minds of the local population or enemy commander was (poorly) translated into a tactical task for troops. The "presence patrol" was a failure of staff work at the intermediate levels, using "cut and paste" as a substitute for doing a proper analysis of which tactical tasks would allow the lower echelon's plan to truly accomplish the end state in the higher headquarters' order. Soldiers went out into the field unsure what they were supposed to actually do. Faith in the Army's counterinsurgency strategy was undermined.

It is perfectly fine as a matter of COIN strategy to advocate that friendly troops must both be out among the population and be seen to be out among the population. Similarly, encouraging or directing troops to come into non-confrontational contact with locals can be a legitimate part of a counterinsurgency strategy. That said, staff work is required to make this into a tactical task that troops can meaningfully execute. Soldiers can secure a location through active patrolling. They can reconnoiter. They can meet with locals ("engagements"). Soldiers can perform these tasks openly, with restrictive rules of engagement, and in a manner that ensures they treat the people they encounter with courtesy and respect. Such operations may have a beneficial purpose, namely showing the flag to the locals and to the enemy. That may even be their primary strategic effect. But, just as the Army has institutional difficulty understanding "building personal relationships" when it is expressed as a task, "showing the flag" makes for an equally lousy tactical task. So it is with "deter."

A junk dealer may choose to buy a loudly barking, ferocious-looking dog. His or her purpose may be to keep people from trespassing on his lot; the junk dealer has no desire to actually injure anyone but is prepared to do so to prevent theft (strategy). He researches breeds and training programs and manages to buy a suitable dog from an out-of-state breeder and transports it to his junkyard (operational). When the dog arrives he trains it to bark at anyone approaching the fence and attack any trespassers (tactical). The junk dealer's purpose is to deter theft. However, the thoughtful dog in this example understands what his primary task is: security.

This is more than just a doctrinal discussion about which level of war (strategic, operational, tactical) best corresponds with the appropriate use of deterrence as a concept. The transformation of deterrence from a purpose to a task is also a symptom of our loss of focus concerning how military power is to be employed. This is itself linked to the retrenchment of the global superpowers in the contemporary operating environment.

America is experiencing growing support for limiting its armed forces' overseas military presence. Russia experienced a similar shock much earlier, with the breakup of the Soviet Union and the catastrophic loss of military bases, forces, and capabilities (and they have less economic and demographic depth with which to absorb the shock to their defense capabilities). Although the transformation has been relatively gradual, the US Army has resisted the inevitable and appropriate shrinking of the active component in the aftermath of the Cold War and, more recently, in the aftermath of the Iraq War. Instead it appears that the Army has found a level of conflict that suits the amount of force structure it feels it can maintain.

By putting off the deliberate realization of the peace dividend the Army has been forced into ad hoc and poorly planned reductions based on congressional budgetary action without a realistic reduction in our overall military goals. Such reductions as have come have been more to explain how the smaller force may still be employed, rather than to plan for reduced responsibilities. Over the last few years, our military has been attempting to do the same job with fewer forces.

This is the peril posed by "deter." Instead of a hollowing out of the force (which occurred during the last major drawdown in the aftermath of the Korean War) the Army is experiencing a hollowing out

of our fighting doctrine. There are insufficient forces to decisively accomplish the tasks the Army has been set. The Army transitioned from using overwhelming force to defeat an enemy to using under-resourced forces to "deter" an enemy and, in its most extreme form, a reliance on "influence operations" to maybe convince the enemy of something. The world watched the Russians go through the same transformation in the aftermath of their defeat in Afghanistan; now the West contends with little green men, troll farms, cyber-attacks, election interference, and other manifestations of much less expensive, "gray-zone" conflict. These gray-zone activities have, in the United States, traditionally been the purview of clandestine services and intelligence agencies.

As ever, the nature of warfare has not changed. From Secretary of Defense Donald Rumsfeld's desire to invade Iraq without an occupying force of sufficient size to "effects-based operations" to our current obsession with influence operations, there are powerful political reasons to drift away from mobilizing the necessary forces to achieve comprehensive victory in battle. Perhaps the political and military costs of mobilizing greater forces should constrain the circumstances in which America is willing to use military force. Indeed, it has been argued that the abdication of congressional control over the war-making power makes sliding into (limited) armed conflict far too easy. It also makes waging decisive war more difficult, hence the Long War in Iraq and Afghanistan.

A willingness to manage big tasks with fewer forces has permeated our military, no doubt because the civilian authorities both set the mission (big) and the budget (shrinking). As always the National Command Authority has been seduced by the sirens of technology and innovation, which has become a destructive side-effect of inter-service rivalry for dwindling defense dollars ("Airpower!" "Mutually Assured Destruction!" "Effects-based operations!"). This sliding scale of military conflict serves the military's inherent bias against diminution in size as well as panders to the congressional reluctance to clearly demarcate the boundary between peace and war.

There is nothing wrong with modifying how the Army does business to accommodate a smaller force, but there is risk in slicing the salami too thin in attempting to cover the same area with an ever-shrinking national resolve and an ever-shrinking pool of human and material resources. "Right-sizing" the war to fit the forces available is the tactical tail wagging the strategic dog. Perhaps Americans are having trouble coming to terms with the failure of US forces to bring about transformational effects in other countries since the end of World War II. Or that America's pre-eminent role in world affairs may be shrinking. The money just is not there to maintain a military force of sufficient size to decisively influence events in the four corners of the globe. Maintaining a perpetual war footing was never possible in any event, as war has always meant borrowing and debt. Better to bite off smaller problems—or, at least develop an appreciation that large problems can only be tackled intermittently, mobilizing all our national resources—and, when a military solution is necessary, adopt a decisive one.

A large, toothless dog is a bad investment compared with a smaller dog that always goes for the throat.

In other words, our identity crisis as the world's policeman should not be a reason to forget how to effectively employ military forces. Integrating the military into a whole-of-government approach is different from forgetting how the military works. The Army is part of the M in the DIME acronym that describes the various levers of national power (diplomacy, information, military, and economics), and the M works by closing with and destroying things. If putting one's army in the field makes one's opponent less willing to go to war, so much the better. But this is a D victory. If messaging directed at an adversary is sufficient to preserve the peace then one has scored a victory without fighting and can chalk up a win for the I. If economic sanctions achieve the desired effect – good going E. But let us have no doubt what the M's role is in this equation (with all due respect to

stability operations and the foreign internal defense mission). The military prepares to fight and fights to win decisively when called upon. That's what the M does.

What fights America picks—or when America chooses to fight—may change as the military scales up and down in size. But the essential nature of military force remains unchanged. Studying Russia's recent experiences, and Britain's before them, can influence how we tackle this challenge. My vote for the Army: a smaller active component, combined with a vastly increased reserve component, mated with an effective and scalable mechanism to effect conscription at whatever level is necessary to meet future contingencies. The current Selective Service system lacks political support, resulting in a laughably small mission; it is not designed to be used. A credible plan for victory tomorrow is a more effective deterrent than a plan to deter today. America's enemies must have no doubt that she has both the will and the way to muster the necessary resources necessary to win a future conflict.

Being less willing to use land forces in the absence of full mobilization means that the Army may have to accept that the inherently expeditionary Navy will receive proportionally greater funding in peacetime. The Air Force—the king of both selling strategic deterrence and capturing DoD dollars—will continue to do what the Air Force does. One can only hope that they are chastened somewhat by losing space as a line of effort.

Unfortunately, the Army resists structural change instead of advocating for a leaner service with a smaller mission set. It maintains its attachment to the same big goals, but shrinking forces water down what those forces are called upon to do. When those forces are too small to achieve decisive effects, simply move the goalposts back. Can the force attack to defeat? No, then defend. Forces insufficient to defend? Then deter. Are the forces too small to be an effective deterrent? Then use them to "influence." Facebook may help shape the battlefield or put off the day of reckoning, but it isn't going to win America any wars.

Hoping the enemy will be deterred by smaller forces instead of defeated by decisive ones is not a plan for victory, but a path to inevitable defeat. True deterrence is based on having effective, lethal military capabilities. Staffs at the tactical level of war adopting "deter" as a task not only negatively influences how those of us in the Army think of our forces, it affects how those forces are trained, and how our mission objectives are executed. In doing so, we trade on our past battlefield successes but fail to ensure future victories.

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

Paranoia and Defense Planning: Why Language Matters When Talking about Nuclear Weapons

By Jeffrey Lewis and Aaron Stein

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The U.S. ambassador to NATO has, when one thinks about it, just one job. No matter who holds the job, the U.S. ambassador to NATO has many priorities, as one would expect for a role that involves dealing with dozens of countries and trying to get them to agree on a coherent defense policy. But one would think that not provoking a nuclear war with Russia would be at the very top of the ambassador's list of priorities. This seems like a no-brainer, but it helps to focus on the simple

things. The United States has a special obligation to be the "adult in the room" and to keep the alliance focused on constructive responses to collective threats.

The United States has had good and bad ambassadors to NATO, but each managed, one after the other, to navigate disputes such as the Berlin and Euromissiles crises, and to extend the postwar peace through seven decades. Then, in early October, Kay Bailey Hutchison — the U.S. permanent representative to NATO and erstwhile senator from Texas — put that streak in jeopardy for no good reason, threatening to preemptively attack Russia before it deployed a new cruise missile in violation of the Intermediate Range Nuclear Forces Treaty (INF). In response to a series of questions from journalists, Hutchison used imprecise language, culminating in a strangely worded statement:

Getting them to withdraw [deployed missiles] would be our choice, of course. But I think the question was what would you do if this continues to a point where we know that they are capable of delivering. And at that point we would then be looking at a capability to take out a missile that could hit any of our countries in Europe and hit America in Alaska. So it is in all of our interests, and Canada as well, I suppose. So we have our North Atlantic risk as well as the European risk. …

This suggests a preemptive missile strike. Perhaps that's not what she meant, but it is what she said. Hutchison has now issued a clarification, so perhaps someone has reminded her that her job is no longer riling up voters, but engaging in diplomacy. Threatening a nuclear-armed power is not something to be done lightly.

But the clarification, however welcome, does not undo the very real damage that Hutchison has done. The real issue is less the cavalier nuclear threat and more that Hutchison's lapse risks feeding a particular strain of Russian paranoia. What Hutchison meant to do was convey a perfectly reasonable sense that our patience is not infinite when it comes to Moscow's continuing violation of the INF Treaty.

The United States is, quite rationally, looking to signal to Russia that its violation of the treaty will not be cost-free. Russia is deploying a pair of intermediate-range missiles that threaten to upset strategic stability: The much-discussed 9M729 ground-launched cruise missile that the United States asserts is a violation of the agreement, as is the RS-26 ballistic missile, which is a clone of the SS-20 missile prohibited by the INF Treaty. Dealing with the deployment of these two systems poses a clear challenge, and it will require a careful balance of military responses and arms control diplomacy. There is little room for loose talk and badly mangled talking points will not help.

Russian Paranoia and Aggressive America: From Andropov to Putin and Reagan to Trump

The INF Treaty is inextricably tied to Moscow's fears of decapitation. During the Cold War, the deployment of U.S. ground-launched cruise missiles in response to Russia's growing arsenal of SS-20 ballistic missiles resulted in a deep, year-long crisis popularly known today as "The War Scare of 1983."

At the time, U.S. policymakers did not appreciate the depths of Soviet paranoia. (Even today, there is some dispute as to how worried the Soviets truly were.) But the Soviet Union's ailing leader, Yuri Andropov, became convinced that President Ronald Reagan might launch a preemptive attack against the Soviet Union. This was driven, in part, by Reagan's rhetoric but also by Andropov's increasingly paranoid worldview. The nadir of this crisis occurred as American intermediate-range nuclear forces were being deployed in Europe and NATO staged a command post exercise called Able Archer. At least some officials in the Soviet Union worried that the exercise was, in fact, a ruse to hide a coming attack. NATO noticed unusual upticks in the alert rates of different Soviet forces. In hindsight, U.S. officials concluded there had been a serious crisis — but that no one in the United

States had known this. Writing shortly after the war scare, Reagan confided his surprise in his diary:

I feel the Soviets are so defense minded, so paranoid about being attacked that without being in any way soft on them, we ought to tell them no one here has any intention of doing anything like that. What the hell have they got that anyone would want.

The lesson should be obvious: Whether we think Moscow's fears are reasonable or not, we must live with them — and their consequences.

In 1983, Soviet leaders became convinced that the United States might attack them. It is extremely important that U.S. officials not carelessly feed similar fears today. And yet that is precisely what Hutchison appeared to do, issuing a specific threat and a specific timeline.

While in 1983, Soviet leaders were worried about ground-launched cruise missiles, today Russian President Vladimir Putin has a different sort of decapitation fear. He is convinced that, in a crisis, the United States would convert missile defense interceptors in Poland and Romania into nuclear-armed offensive systems. Like Andropov before him, he fears these systems would be used to kill him in a crisis.

The Russians have made this fear clear repeatedly. In 2009, then-Secretary of Defense Robert Gates explained:

[T]he Russians believed, despite our best efforts to dissuade them, that the ground-based interceptors in Poland could be fitted with nuclear weapons and become an offensive weapon like a Pershing and a weapon for which they would have virtually no warning time.

Then-Deputy Undersecretary of Defense Jim Miller later told a meeting at the Arms Control Association that he was shocked to hear Gates say that in an unclassified setting. During the negotiations over the New START treaty, Russian officials insisted on treaty language prohibiting the emplacement of offensive systems in missile defense silos. This was a significant point of disagreement between the two parties that Russia raised repeatedly, and ultimately succeeded in including in the treaty text.

Putin himself has made the point in public. He told Oliver Stone:

[T]he launching pads of these anti-ballistic missiles can be transformed within a few hours [into] offensive missile launching pads. Look, if these anti-ballistic missiles are placed in Eastern Europe, if those missiles are placed on water, patrolling the Mediterranean and Northern Seas, and in Alaska, almost the whole Russian territory would be encircled by these systems.

And he told a meeting of defense industry officials:

[The] launchers, to be deployed after the radar stations in Romania and Poland go on stream, can easily be used for the deployment of intermediate and short range missiles. The conversion can actually happen in a very short time, and we will not even know what is happening there.

The last sentence is particularly worrisome — if the Russians believe that the conversion can take place without their knowledge, then in a crisis they may well experience a kind of analytic slippage, going from a hunch that a conversion might have taken place to a belief that it actually had.

All of this seems bizarre. There are no nuclear weapons in Poland or Romania, nor are there plans to convert these missiles to offensive purposes. The problem is that such a conversion is feasible and it is the kind of thing that American officials occasionally propose. For example, in the Senate report accompanying the National Defense Authorization Act (NDAA) for Fiscal Year 2018, there was a call for "evaluating existing U.S. missile systems for modification to intermediate range and ground-launch," including — among other systems — the Standard Missile-3 (SM-3). The SM-3, of

course, is the missile deployed in Poland and Romania. The final version of the NDAA cast a wide net and called for a report on the feasibility of modifying current American missile systems to have an INF range (between 500 and 5,500 kilometers).

This is the same congressional action to which Hutchison referred in her remarks, when she said Congress "has spoken."

The Bigger Picture: Looming Instability in Europe

Of course, the United States is extremely unlikely to convert missile defense launchers in Europe to strike Russian leadership targets. However, the United States is exploring the possibility of responding to new Russian missiles with its own noncompliant systems, reviving concepts from the late 1970s and early 1980s. The Obama administration even adopted that same peculiar phrase from the Carter administration — countervailing strategy — to describe the American response. The countervailing strategy was to have an array of systems capable of responding to various scenarios. At the time, the countervailing strategy was explicitly about the ability to not merely destroy Soviet forces but also to kill Soviet leaders. Obama administration officials may have forgotten this. Their Russian counterparts have not.

The Russian actions are a worrying signal for the future of stability in Europe. Moscow appears close to deploying the INF-violating cruise missile, the 9M729. In parallel, Russia has also "circumvented" the INF by developing a RS-26 ballistic missile. This missile was tested to a range in excess of the INF cap and then declared as a strategic system under a separate arms control treaty, New START. However, Russia appears to have increased the number of warheads on the RS-26, which decreases its range to a medium-range system. Russia, therefore, appears ready to field a duopoly of systems to target Europe in a way eerily reminiscent of the years before the 1983 war scare.

So now what? The tit-for-tat deployment of missiles in the 1980s was not stabilizing. It increased tensions and paranoia and, for a brief moment in 1983, risked nuclear war. The limiting of medium-range systems was designed to reinforce deterrence and increase superpower predictability. Whether the United States likes it or not, Moscow is frightened of a sneak attack from launch sites in Europe. Nobody wants to die. If one accepts reality, this means that a future political solution to the growing arms race in Europe will require that both sides make concessions and the use of arms control to pressure governments to forego or give up the development of new nuclear systems.

For the United States, a longer-term emphasis on arms control may seem like a dissatisfying outcome to a clear Russian provocation. However, an unencumbered Russian build-up of medium range systems offsets clear American advantages in aerial and naval missile systems. It is therefore prudent to explore how to entice Russia to return to treaty compliance, in the case of the 9M729, and to eliminate the RS-26, possibly as part of a follow-on to New START. To do so, the United States should be prepared to consider limits on defenses, particularly in Europe. It is simply impossible to imagine a future for arms control, so long as the United States refuses to grapple with the obvious linkages between missile defenses in Europe and Russian development of its own offensive systems, including the 9M729. Such an approach might also help manage Russian paranoia about these potential use of such sites for decapitation strikes. In return for American limits on missile defense in Europe, Russia would be required to come back into compliance with the INF and take reciprocal measures to limit its own development of conventional missile defense systems now being fielded in larger numbers around Moscow.

As for the RS-26, the Russians deftly – and entirely legally — exploited a loophole in New START to their advantage. During the ratification debate over the INF Treaty, it was clear that a loophole existed: Russia could build an intercontinental range ballistic missile (ICBM) with a range long

enough that it did not count under INF, then pack it with warheads so that it would be an intermediate-range system. This problem was clearly understood at the time and a decision was made to address it with low ceilings in future strategic arms control agreements. (Since these missiles would count against START limits, trading ICBMs for Intermediate range ballistic missiles would be undesirable for Moscow.) But in New START, U.S. negotiators insisted on unnecessarily high numbers of delivery vehicles, reasoning that Russia could not afford to build a large number of ICBMs and that it would be unwise for the United States to trade away a potential advantage in deployed delivery vehicles. This judgement seems to have been in error as Moscow appears to have used these empty slots to deploy an intermediate-range system that is a modern clone of the SS-20 prohibited by the INF Treaty. Moreover, Putin has signaled an open-ended commitment to developing an array of new and exotic delivery vehicles – some of which may be captured by New START, others of which may not.

As the United States grapples with the future of arms control and engages in early discussions about New START extension and a follow-on agreement, it would be wise to challenge the long-held assumption about delivery vehicle limits. It may seem counterintuitive, but the United States would be better off with lower limits on delivery vehicles. The American position should ensure that Moscow would face real trade-offs when deciding how to structure its nuclear forces. The American insistence on a large number of strategic delivery vehicles allows Russia to use a portion of these missiles for the medium-range mission, without making sacrifices to its capabilities to credibly strike the United States.

Russia's violation of the INF requires an allied response that mixes military deployments with arms control. For the American ambassador in Brussels, it also demands precision with language and a familiarity with terms, so that the United States does not needlessly contribute to Russia's deep paranoia about decapitation. Arms control should also be used to make life more uncomfortable for Moscow. To do this, the United States should reconsider its own long-held beliefs about the efficacy of higher numbers of delivery vehicles and its emphasis on missile defense. Absent any change, the two sides appear poised to continue to build up systems to counter the others perceived advantage. This is called an arms race. And this is not stable or in anyone's interest.

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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."