



USAF Center for Unconventional Weapons Studies (CUWS) Outreach Journal

Issue No. 1146, 19 December 2014

Welcome to the CUWS Outreach Journal! As part of the CUWS' mission to develop Air Force, DoD, and other USG leaders to advance the state of knowledge, policy, and practices within strategic defense issues involving nuclear, biological, and chemical weapons, we offer the government and civilian community a source of contemporary discussions on unconventional weapons. These discussions include news articles, papers, and other information sources that address issues pertinent to the U.S. national security community. It is our hope that this information resource will help enhance the overall awareness of these important national security issues and lead to the further discussion of options for dealing with the potential use of unconventional weapons. **All of our past journals are now available at http://cpc.au.af.mil/au_outreach.aspx.**

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*****NOTE: The Journal will be on break for 2 weeks. Next edition 9 January 2015*****

FEATURE ITEM: *"Welcome to China and America's Nuclear Nightmare"*. Authored by Elbridge Colby; posted on *The National Interest.org*; December 19, 2014.

<http://nationalinterest.org/feature/welcome-china-americas-nuclear-nightmare-11891>

FOR ALL the focus on maritime disputes in the South and East China Seas, there is an even greater peril in Asia that deserves attention. It is the rising salience of nuclear weapons in the region. China's military buildup—in particular its growing capabilities to blunt America's ability to project effective force in the western Pacific—is threatening to change the military balance in the area. This will lead to a cascade of strategic shifts that will make nuclear weapons more central in both American and Chinese national-security plans, while increasing the danger that other regional states will seek nuclear arsenals of their own. Like it or not, nuclear weapons in Asia are back.

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The Weekly Standard – Washington, D.C.

State Dept: U.S. Nukes Down 85%, From 31,255 to 4,804

'We Still Have More Work to Do'

By JERYL BIER

December 19, 2014

The State Department's Rose Gottemoeller, under secretary for arms control and international security, spoke at the Brookings Institution Thursday where she reaffirmed the United States' "unassailable" commitment to putting the nuclear weapons genie back in the bottle. Gottemoeller told the attendees at the Arms Control and Non-Proliferation Initiative-sponsored event that "the U.S. commitment to achieving the peace and security of a world without nuclear weapons is unassailable."

She went on to note that the nation's stockpile of active weapons is down 85 percent from maximum cold war levels, falling to 4,804 in 2013 from a high of 31,255. But, she said, "We still have more work to do."

As you all might know, I have been traveling quite a bit lately and was just recently in the Czech Republic for a conference on the Prague Agenda. I reminded people at that conference that when President Obama laid out his vision for the peace and security of a world free of nuclear weapons, he made it clear that it was not a desirable, but unattainable dream. The Prague Agenda is an achievable long-term goal and one worth fighting for. I will say here what I said in Prague. There should be no doubt: the U.S. commitment to achieving the peace and security of a world without nuclear weapons is unassailable. We continue to pursue nuclear disarmament and we will keep faith with our Nuclear Non-Proliferation Treaty

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(NPT) commitments, prominent among them, Article VI. Our responsible approach to disarmament has borne fruit in the form of major reductions in nuclear weapons, fissile material stocks and infrastructure. These efforts have led us to reduce our nuclear arsenal by approximately 85% from its Cold War heights. In real numbers, that means we have gone from 31,255 nuclear weapons in our active stockpile in 1967 to 4,804 in 2013. We know we still have more work to do.

According to the *Bulletin of the Atomic Scientists*, which is put out by the Federation of American Scientists, Russia has about the same number of active weapons now as the U.S., and both countries have several thousand more warheads awaiting deactivation. Due to security concerns governments are reluctant to divulge exact numbers, but it's generally believed that most of the older nuclear powers (U.S., Russia, the UK, and France) have reportedly been gradually declining their stockpiles. Israel, never publicly acknowledging its possession of nuclear weapons, is believed to be holding steady on its stockpile. China, India, and Pakistan, on the other hand, are all still believed to be gradually increasing their numbers. The exact status of North Korea's nuclear program and stockpile of weapons remains unknown.

Not only is China's stockpile of nuclear weapons believed to still be on the increase, but this week the *Washington Free Beacon* reported that China is continuing to develop delivery systems. This past Saturday, China conducted a test of an intercontinental ballistic missile capable of delivering multiple warheads.

A Pentagon spokesman declined to comment on the report.

http://www.weeklystandard.com/blogs/state-dept-us-nukes-down-85-31255-4804_821888.html

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Sputnik News – Russian Information Agency

US Missile Defense Enhancement Not Targeted at Russia: MDA

The director of the Missile Defense Agency claims that the US strengthening of missile defense capability is neither directed at Russia, nor affected by the current tensions in US-Russia relations.

15 December 2014

WASHINGTON, December 15 (Sputnik) – The US strengthening of missile defense capability is neither directed at Russia, nor affected by the current tensions in US-Russia relations, Vice Adm. James Syring, the director of the Missile Defense Agency (MDA), said Monday.

"Our [US Missile Defense Agency] commitment is towards the limited, regional, and homeland defense threat from other nations than Russia," Syring said in a Monday speech at the Center for Strategic International Studies.

He added that the recent political disputes between Washington and Moscow have not affected the day to day work of the MDA.

Earlier on Monday, the agency's director told Sputnik that the United States planned testing against an intercontinental ballistic missile (ICBM) in 2015, with seven more tests expected until 2024, with the country striving for "more capability", "more capacity".

The United States is concluding plans to complete the installation of 14 ground-based interceptors (GBIs) by 2015, pushing the total number of US GBIs to 44. According to the MDA, the interceptors will serve as an upgrade to the US ground-based missile defense system, set up in 2004.

On June 13, 2002, the United States unilaterally withdrew from the Anti-Ballistic Missile (ABM) Treaty signed with the USSR in Moscow on May 26, 1972, that barred the signatories from deploying anti-ballistic missile systems covering the entire territory of their countries.

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TASS Russian News Agency – Moscow, Russia

Missile Defense Deployment in Romania against European Security — Russian Foreign Ministry

US official said that the interceptor missiles the USA is planning to deploy at the American airbase in Deveselu by the end of 2015 are among other things targeting potential threats from Russia

December 17, 2014

MOSCOW, December 17. /TASS/. Steps towards further militarisation of south-eastern Europe, including missile defense deployment in Romania, run counter to the interests of regional and European security and stability, Russian Foreign Ministry spokesman Alexander Lukashevich said on Wednesday.

He commented on statements by Chairman of the US House Intelligence Committee Mike Rogers on the “great shield” in Deveselu, Romania.

Rogers told Romanian Realitatea TV Channel that the interceptor missiles the USA is planning to deploy at the American airbase in Deveselu by the end of 2015 are among other things targeting potential threats from Russia.

“Thus, the American legislator confirmed the validity of Moscow’s doubts that the ‘missile defense shield’ being created by the US is designed to be used for the purposes that Washington declared,” Lukashevich said.

“The role assigned to Romania to service the regular American project is hardly as honourable as it is presented,” he said.

“Bucharest’s involvement in another American project that was confirmed in the US Senate recent report on tortures in secret CIA prisons in other countries has put Romanian officials, who were forced to decline journalists’ questions, in a rather awkward position,” Lukashevich said.

<http://itar-tass.com/en/world/767483>

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Interfax Ukraine (Ukraine News Service) – Kiev, Ukraine

Crimea became Part of Russia, which Has Nuclear Weapons According to NPT – Lavrov

15 December 2014

Russian Foreign Minister Sergei Lavrov said, responding to a question from Interfax as to whether Crimea can be regarded as a location to place Russian nuclear weapons: "Crimea has now become part of a country that has such weapons under the Treaty on the Non-Proliferation of Nuclear Weapons."

"And by international law, the Russian state has all grounds to dispose of its legitimate nuclear arsenal in accordance with its interests and in accordance with its international legal obligations," Lavrov said.

Lavrov said Crimea has never been a "nuclear-free zone" in the sense of international law. "It was part of Ukraine, which is a country that has no nuclear weapons," he said.

"The term 'nuclear-free zone' has never been used for Crimea. This term characterizes a specific international legal agreement. Nuclear-free zones exist in Latin America, Central Asia, and Southeast Asia," he said.

The NATO administration has repeatedly expressed concerns about the alleged militarization of Crimea. Specifically, NATO's Supreme Allied Commander General Philip Breedlove has recently said his concerns are based on two factors. The general said the Russian armed forces continue to hold the territory and it may be used and "the capabilities in Crimea that are being installed will bring an effect on almost the entire Black Sea."

Breedlove also recalled the statement made by the Russian Defense Ministry in March on the possibility of nuclear weapons being sent to Crimea. He said NATO is very concerned and continues to follow the developments.

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TASS Russian News Agency – Moscow, Russia

Around 400 Missiles on Combat Duty in Russia Missile Forces — Commander

“Russian Strategic Missile Forces have around two thirds of nuclear warheads in the country’s Strategic Nuclear Forces,” Commander of Strategic Missile Forces Colonel General Sergey Karakayev said
December 16, 2014

VLASIKHA (Moscow region), December 16. /TASS/. Around 400 strategic missiles with warheads assigned for them are currently on combat duty in Strategic Missile Forces, Commander of Strategic Missile Forces Colonel General Sergey Karakayev told reporters.

“Russian Strategic Missile Forces have around two thirds of nuclear warheads in the country’s Strategic Nuclear Forces,” he said on the eve of the 55th anniversary of establishing Russian Strategic Missile Forces.

Launchers in the missile forces are divided equally between its formations, Karakayev said. Meanwhile, silo-basing component certainly prevails in the number and power of warheads, as around 70% of missile forces’ nuclear potential are now concentrated in this component. Presently six types of missile systems are on combat duty. Three of them are ground-based and other three are silo-based.

Around 6,000 serve daily at combat posts in alert forces, no less than 95% of missile systems on combat duty are constantly on standby for immediate launch of missiles, Karakayev noted.

The commander also noted that according to missile forces’ plan of activities, by 2020 these troops will be fully provided with modern missiles. “The share of modern missiles will make around 50% by the end of December. Presently the Strategic Missile Forces jointly with the industry are rearming actively the troops to modern systems, both ground-and silo-based,” he said.

<http://itar-tass.com/en/russia/767157>

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Sputnik News – Russian Information Agency

Russia Not to Deploy Units of Strategic Missile Forces in Crimea: Commander

Strategic Missile Forces Commander Col.Gen. Sergei Karakayev stated that Russia has no plans to deploy units of its Strategic Missile Forces on the Crimean Peninsula.
16 December 2014

MOSCOW, December 16 (Sputnik) — Russia has no plans to deploy units of its Strategic Missile Forces on the Crimean Peninsula, Strategic Missile Forces Commander Col.Gen. Sergei Karakayev said.

“There are no plans to deploy military SMF units in the Crimean Federal District as there is no need. Today’s long-range ballistic missiles can strike any target anywhere in the world without bringing them to the borders of Russia,” Karakayev said.

He said that these type of missiles are located deep within Russian territory and are capable of protecting Russia from enemy attacks.

In September remarks following the deployment of several Sukhoi Su-30 fighter jets to a Sevastopol air base, Russian Defense Minister Sergei Shoigu said that the escalating crisis in neighboring Ukraine and the increased military presence of NATO troops at Russia's borders required boosting the peninsula's defenses.

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Ukraine's former republic of Crimea joined Russia in March after over 90 percent of its population voted to leave Ukraine for Russia following a coup in Kiev and the rise of nationalist sentiment in the former Soviet nation.

Crimea served as a crucial Black Sea naval base during the Soviet era, also housing a fleet of nuclear submarines. The submarine base was abandoned in 1993, soon after the Soviet Union fell apart. Today, the Crimean city of Sevastopol is headquarters to Russia's Black Sea Fleet.

Following Crimea's reunification with Russia, NATO intensified air patrols in the Baltic region and sent additional warships to the Black Sea. Moscow has criticized the bloc's growing military presence with Russian President Vladimir Putin claiming that the Ukrainian crisis was used by NATO as a pretext for "resuscitating" itself.

Russia Developing New Heavy ICBM 'Sarmat' to Replace SS-18 Satan: SMF Commander

Russia will most likely develop its new Sarmat heavy intercontinental ballistic missile to replace the SS-18 Satan by 2020, Strategic Missile Forces Commander Col.Gen. Sergei Karakayev said.

"We have no doubts that the new heavy liquid-fuel missile will be created by the end of this decade," Karakayev said.

The SFM commander said last year that the Russian military would receive the new missile systems to replace the current Satans between 2018 and 2020.

The SS-18 ICBMs, introduced in 1975, were the first Soviet-made multiple independently targetable reentry vehicle (MIRV) missiles. The SS-18 is silo-housed and highly accurate, and is believed to pose a serious threat to US land based strategic missiles systems. It is currently the world's most powerful nuclear missile.

In December 2013, the SMF chief said that the new Sarmat is expected to feature advanced countermeasures, such as a complex command and control systems and a high degree of maneuverability, enabling it to penetrate missile defense systems.

Russia's Rail-Based Nuclear Missile Launcher to Surpass Previous Ones in Precision, Range

Russia's new military railroad complex will considerably surpass its Soviet-era predecessors in precision and range, Strategic Missile Forces Commander Col.Gen. Sergei Karakayev said.

"The [railroad-based missile launcher] Barguzin complex will considerably surpass its predecessor in precision and range, as well as in other characteristics that will allow this complex to be on duty in the Strategic Missile Forces well into the future, at least until 2040," Karakayev said.

Russia Developing 'Nuclear Missile Train' Dubbed 'Barguzin': SMF Commander

A new military railroad missile complex dubbed "Barguzin" is being developed for Russia's Strategic Missiles Forces, Commander Col.Gen. Sergei Karakayev said.

"Work is continuing on creating the railroad-based missile complex Barguzin and is being accomplished under the strict observation of demands of the confirmed timeline," Karakayev said.

In April, a Russian technology institute rolled out an R&D project to develop a new rail-mobile intercontinental ballistic missile (ICBM), with the first prototype to be completed in 2020. The weapon's mobility makes it difficult to track, thus complicating a preemptive strike.

Karakayev said that the revamped military railroad system would considerably surpass its Soviet-era predecessors in precision and range, among other characteristics.

"The [railroad-based missile launcher] Barguzin complex will considerably surpass its predecessor in precision and range, as well as in other characteristics that will allow this complex to be on duty in the Strategic Missile Forces well into the future, at least until 2040," Karakayev said.

The original Soviet rail-mobile system included 104 ton RT-23 Molodets (SS-24 Scalpel) missiles which, requiring three locomotives to transport, was so heavy it damaged railroad tracks. The new mobile-based complex will be

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half the weight of the decommissioned Soviet rail-based missile system, allowing it to fit into one railcar, according to Deputy Defense Minister Yuri Borisov.

Russia plans to create a Missile Forces group that will include all three types of missile delivery systems including silo-, ground- and railroad-based missiles, Karakayev added.

"A group of rocket complexes in three types will be created in the Missile Forces that showed high effectiveness in the Soviet years: silo, ground and railroad," he said.

The first rail-based long-range missile was deployed by the Soviet military in 1987. The weapon was dismantled 20 years later, under the START II arms reduction treaty with the United States. However, the treaty's successor START III, which was agreed on in 2010, does not prohibit development of rail-mobile ICBMs.

Russian Strategic Missile Forces To Add Railroad-Based Launchers To Arsenal: Commander

Russia will create a Missile Forces group with three types of missile compilations to include silo-, ground- and a new railroad-based arsenal, Missile Forces Commander Col.Gen. Sergei Karakayev said.

"A group of rocket complexes in three types will be created in the Missile Forces that showed high effectiveness in the Soviet years: silo, ground and railroad," Karakayev said during a briefing.

Russian Strategic Missile Forces to Receive 24 RS-24 Yars ICBMs in 2015: Commander

The Russian military will receive 24 RS-24 Yars intercontinental ballistic missile systems in 2015, Strategic Missile Forces Commander Col.Gen. Sergei Karakayev said.

"Twenty-four new Yars mobile and stationary intercontinental ballistic missile systems will be employed in the forces," Karakayev said in regards to the military plans in 2015.

The fifth-generation RS-24 Yars (SS-29) is an upgraded version of the Topol-M ballistic missile first tested in 2007. It was put into service in July 2010.

The RS-24 can carry multiple independently targetable nuclear warheads, designed to be able to perform maneuvers to evade missile defense systems up to a range of 7,500 miles.

The Strategic Missile Forces also plans to put a number of its units across Russia on alert, equipping them with RS-24 Yars ICBMs in 2015.

Russia to Carry Out 14 Ballistic Missile Test Launches in 2015: Commander

Russia will carry out 14 ballistic missile test launches in 2015, Strategic Missile Forces Commander Col.Gen. Sergei Karakayev said.

"There are 14 launches planned for 2015 to examine the flight testing of future models of arms, as well as for the control of the technical readiness of the missile complexes already in service," Karakayev said.

He added that there will be two more test launches that are scheduled to occur before the end of 2014.

The most recent ballistic missile test launch took place late November, when a Bulava submarine-launched ballistic missile (SLBM) was successfully test-fired from the Borei-class Alexander Nevsky nuclear-powered submarine.

In early November, another nuclear submarine test-fired a Sineva SLBM in the Barents Sea off the northern coast of Russia.

Russian President Vladimir Putin has emphasized the importance of maintaining the country's nuclear deterrence capability, citing a growing number of security challenges.

<http://sputniknews.com/military/20141216/1015893432.html>

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US Allegations of Russian INF Non-Compliance Unrelated to Deployed Systems

US Under Secretary for Arms Control stated Wednesday that US allegations of Russian non-compliance with the Intermediate-Range Nuclear Forces Treaty (INF) are based on a ground-launched cruise missile system the United States believes has been tested.

17 December 2014

WASHINGTON, December 17 (Sputnik) — US allegations of Russian non-compliance with the Intermediate-Range Nuclear Forces Treaty (INF) are based on a ground-launched missile system the United States believes is under development, and not systems currently fielded by Russia, US Under Secretary for Arms Control said Wednesday.

"We've been very open and public since July, when we published our compliance report, that Russia is not in compliance with the INF Treaty, and the reason is a ground-launched cruise missile that has been tested and is in development in the Russian Federation," Rose Gottemoeller said at a Wednesday conference at the Brookings Institute in Washington.

US concerns about INF non-compliance are not related to the deployment of either Iskander missiles or X-101 missiles, contrary to media rumors, Gottemoeller stated, though provided no other specifications.

Whether or not the system is deployed is inconsequential to the terms of the INF Treaty, Gottemoeller explained.

"If they're seen being tested, if they're in development, then they're not in compliance with the INF Treaty," she said, adding that these were the specific concerns raised in the US non-compliance report published in July.

In late July, the Russian Foreign Ministry published a report, pointing to three US systems believed to be in violation of the INF Treaty.

Those systems include the use of drones, which the Russian Foreign Ministry states has similar characteristics to intermediate-range missiles, and the MK-41 launch systems the United States is testing and deploying in Romania and Poland.

In response, Gottemoeller stated that she is "completely confident" the United States is "in full compliance with our INF Treaty obligations."

The State Department is preparing to release a fact sheet of unclassified information demonstrating why they believe the three systems named by the Russian Foreign Ministry are in compliance with the INF, she noted.

Russian officials have repeatedly stated that US accusations of INF non-compliance are not supported by facts or evidence. In a December 9 interview with RIA Novosti, Russian Foreign Minister Sergei Lavrov stated that "the US has provided no evidence so far" of Russian violations of the treaty.

The United States and Soviet Union enacted the INF Treaty in 1988 banning nuclear and conventional missiles with a range of 500 to 5500 kilometers (310 to 3417 miles).

<http://sputniknews.com/military/20141217/1015960668.html>

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The Washington Free Beacon – Washington, D.C.

China Tests ICBM with Multiple Warheads

Clinton-era tech transfer aided multi-warhead program

By Bill Gertz

December 18, 2014



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China carried out a long-range missile flight test on Saturday using multiple, independently targetable reentry vehicles, or MIRVs, according to U.S. defense officials.

The flight test Saturday of a new DF-41 missile, China's longest-range intercontinental ballistic missile, marks the first test of multiple warhead capabilities for China, officials told the *Washington Free Beacon*.

China has been known to be developing multiple-warhead technology, which it obtained from the United States illegally in the 1990s.

However, the Dec. 13 DF-41 flight test, using an unknown number of inert maneuvering warheads, is being viewed by U.S. intelligence agencies as a significant advance for China's strategic nuclear forces and part of a build-up that is likely to affect the strategic balance of forces.

China's nuclear arsenal is estimated to include around 240 very large warheads. That number is expected to increase sharply as the Chinese deploy new multiple-warhead missiles.

The current deployed U.S. strategic warhead arsenal includes 1,642 warheads. All 450 Minuteman III missiles have been modified to no longer carry MIRVs. However, Trident II submarine-launched missiles can carry up to 14 MIRVs per missile.

Additionally, the development of China's multiple warhead technology was assisted by illegal transfers of technology from U.S. companies during the Clinton administration, according to documents and officials familiar with the issue.

Details of the flight test and the number of dummy warheads used during it could not be learned.

However, the DF-41 has been assessed by the National Air and Space Intelligence Center (NASIC), the intelligence community's primary missile spy center, as capable of carrying up to 10 warheads.

Pentagon spokesman Lt. Col. Jeff Pool declined to comment on the DF-41 test. "We encourage greater PRC transparency regarding their defense investments and objectives to avoid miscalculation," Pool said in response to questions about the Chinese missile launch.

China's government has made no mention of the test, which was carried out at an unknown missile test facility. Past tests of the DF-41 have been carried out at the Wuzhai Missile and Space Testing facility, located about 250 miles southwest of Beijing.

A report made public earlier this month by a congressional China commission stated that the DF-41 will be able to carry up to 10 warheads and is expected to be deployed next year.

"The DF-41, which could be deployed as early as 2015, may carry up to 10 MIRVs, and have a maximum range as far as 7,456 miles, allowing it to target the entire continental United States," the report said. "In addition, some sources claim China has modified the DF-5 and the DF-31A to be able to carry MIRVs."

China also conducted a flight test in late September of another long-range missile, called the DF-31B that also could be outfitted to carry MIRVs.

"China could use MIRVs to deliver nuclear warheads on major U.S. cities and military facilities as a means of overwhelming U.S. ballistic missile defenses," the report by the U.S.-China Economic and Security Review Commission said.

NASIC intelligence analyst Lee Fuell told the commission that China's mobile MIRV-modified missiles provide greater targeting with fewer missiles and allow for a larger reserve of missiles during a conflict.

"China is likely to employ a blend of these three as MIRVs become available, simultaneously increasing their ability to engage desired targets while holding a greater number of weapons in reserve," Fuell was quoted as saying in the report.

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A classified NASIC report dated Dec. 10, 1996 stated that China developed a “smart dispenser” for launching multiple satellites using technology developed under a contract with Motorola to launch Iridium communications satellites. The technology transfer was approved by the administration of President Bill Clinton.

“An initial NAIC study determined that a minimally-modified [smart dispenser] stage could be used on a ballistic missile as a multiple-reentry vehicle post-boost vehicle” that could be used for multiple warheads “with relatively minor changes.”

In 2000, the State Department fined Lockheed Martin Corp. \$13 million for improperly exporting weapons data on the rocket technology used in multiple-warhead missiles

The U.S. data was provided to China’s state-run Great Wall Industries, a missile manufacturer, through a Hong Kong company called Asiasat and used in systems called expendable perigee kick motors—a key element used in MIRV guidance.

The kick motors are used to position a multiple warhead “bus” or stage as part of the targeting process.

The transfers were made under loosened export controls by the Clinton administration beginning in 1993.

Larry Wortzel, a former military intelligence official who specialized on China, said the Chinese military has been working on a MIRV-modified DF-41 for a number of years.

Wortzel said Chinese military research literature has documented work on the DF-41 but the Pentagon “has been reluctant to discuss or confirm these developments.”

“The United States is now threatened with a more deadly and survivable nuclear force that makes our weak ballistic missile defenses less effective,” Wortzel said. “We need to improve our own defenses and modernize our own deterrent force as the Chinese are doing.”

Rick Fisher, a specialist on the Chinese military, said the advent of China’s MIRV capability should mark the end of U.S. efforts to reduce the number of nuclear warheads.

“The Chinese have not and likely will not disclose their nuclear warhead buildup plans, Russia is modernizing its nuclear forces across the board and violating the INF treaty with new classes of missiles, so it would be suicidal for the Washington to pursue a new round of nuclear reductions as is this administration’s preference.”

Fisher, with the International Assessment and Strategy Center, said China may deploy a combination of single-warhead and multiple warhead DF-41s, with the single warhead version carrying a huge “city buster” multi-megaton bombs.

“The beginning of China’s move toward multiple warhead-armed nuclear missiles is proof that today, arms control is failing to increase the security of Americans,” Fisher said. “Instead, it is time to be rebuilding U.S. nuclear warfighting capabilities, to include new mobile ICBMs, new medium range missiles and new tactical nuclear missile systems.”

Georgetown University Professor Phillip Karber has studied China’s nuclear forces and believes its arsenal is far larger than the U.S. intelligence estimate of 240.

“The Chinese development of the DF-41 has been a long term, methodical process,” Karber said. “However, if as we suspect they are going to put a MIRVed version of the missile on both rail and road-mobile launchers, the number of reentry vehicles could grow quite rapidly depending on the number of warheads they end up putting on the missiles.”

The DF-41 was revealed inadvertently by the Chinese government last summer when details, including the fact that it will be a multi-warhead missile, appeared on a provincial government website before being quickly censored and removed.

The Shaanxi provincial government announced June 13 in a progress report on its Environmental Monitoring Center Station that the DF-41 missile was among its projects.

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“On-site monitoring for Phase Two of the project’s final environmental assessment and approval of support conditions for the development of the DF-41 strategic missile by the 43rd Institute of the 4th Academy of Aviation Industry Corporation of China (AVIC) was initiated,” the notice said. AVIC is China’s state-owned aerospace and defense conglomerate.

A state-run Global Times report, also later censored and taken offline, quoted a Chinese expert as saying the missile will carry multiple warheads.

The flight test Saturday was the third such test for the new DF-41. The *Free Beacon* first reported the second flight test of the missile in December 2013. The first flight test was carried out July 24, 2012

After several years of silence on the DF-41, the Pentagon disclosed the existence of the new missile in its latest annual report on the Chinese military, made public in June.

“China also is developing a new road-mobile ICBM known as the Dong Feng-41 (DF-41), possibly capable of carrying multiple independently targetable re-entry vehicles (MIRV),” the report says.

<http://freebeacon.com/national-security/china-tests-icbm-with-multiple-warheads/>

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Sputnik News – Russian Information Agency

Russia Continues Nuclear Arms Reductions in ‘Businesslike Way’: US Official

The Under Secretary of State for Arms Control stated that both Russia and the United States are faithfully implementing the New START Treaty, aiming to greatly reduce the number of deployed strategic nuclear warheads by 2018.

18 December 2018

WASHINGTON, December 18 (Sputnik) — Both Russia and the United States remain on track to fully implement the New START Treaty, aiming to greatly reduce the number of deployed strategic nuclear warheads by 2018, Under Secretary of State for Arms Control Rose Gottemoeller said.

“Both nations [the US and Russia] are faithfully implementing the [New START] Treaty’s inspection regime,” Gottemoeller said during a Wednesday speech at the Brookings Institute.

“Even during this severe crisis with the Russian Federation, the Russians are continuing in a businesslike way to implement the New START Treaty,” the under secretary of state added.

The State Department official also stated that the Ukrainian crisis sparked tensions in the US-Russian relationship, and progress on arms control negotiations were “complicated by the severity of that terrible crisis.” Despite the complications, she noted continuing signs of “pragmatism and a businesslike attitude” toward implementing the New START.

While Russia continues progress on the New START, US lawmakers must make the case in their own political environment that “it is a good thing to pursue strategic arms reduction with the Russian Federation at a time of profound crisis over Ukraine and other significant issues,” Gottemoeller noted.

Based on mutual progress, the New START Treaty should be fully implemented by the United States and Russia by February 5, 2018, Gottemoeller said.

Beginning in 2013, the United States has pressured Russia for further nuclear arms reductions amounting to one-third of the levels, outlined in the New START. Russia insists on fulfilling the requirements of START before undertaking additional reductions.

Russian President Vladimir Putin repeated Russia’s commitment to nuclear arms reduction during his recent speech to the Valdai International Discussion Club. He reaffirmed that Russia is “ready for the most serious,

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concrete discussions on nuclear disarmament," and remains committed to continuing talks to reduce nuclear arsenals.

<http://sputniknews.com/military/20141218/1015962429.html>

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The Fiscal Times – New York, NY

Congress Authorizes \$577 Billion in US Defense Spending

By David Alexander, Reuters

December 12, 2014

WASHINGTON (Reuters) - The U.S. Congress approved an annual defense policy bill on Friday that authorizes American training for Iraqi and Syrian forces fighting Islamic State rebels and sets overall defense spending at \$577 billion, including \$64 billion for wars abroad.

The Senate passed the legislation 89-11 and sent it to President Barack Obama to sign into law. The House of Representatives last week endorsed the measure, which sets defense policy and authorizes spending levels for the 2015 fiscal year, which began on Oct. 1, but does not actually appropriate funding.

The bill approves a Pentagon base budget of \$496 billion, in line with Obama's request, plus nearly \$64 billion for conflicts abroad including the war in Afghanistan. It also authorizes \$17.9 billion for Energy Department nuclear weapons work.

The measure formally endorses the Pentagon's plan to vet, train and equip a moderate Syrian opposition military force to fight Islamic State rebels, defend the Syrian people and promote conditions for a negotiated end to Syria's civil war.

The U.S. military program to train and assist Iraqi and Kurdish forces fighting Islamic State militants also was authorized.

The bill takes new steps to control personnel costs, which consume about half the Pentagon budget, essentially approving a year's worth of proposed long-term reforms but delaying further action until hearing in February from a congressionally appointed commission on military compensation.

The measure increases co-pays on most prescription drugs by \$3, reduces the military housing allowance by 1 percentage point and remains silent on military pay hikes, thus allowing the Pentagon to implement a proposed 1 percent raise. In the past, Congress often approved pay raises above levels recommended by the Pentagon but did not do so this year.

The bill rejects a number of Pentagon efforts to retire or curtail weapons systems the department insists it can no longer afford to maintain because of budget cuts intended to trim projected defense spending by nearly \$1 trillion over a decade.

The measure bars retirement of the A-10 Warthog close air support plane, beloved by ground troops because of its ability to fly low and destroy enemy tanks. The Air Force wants to retire the fleet to cut costs and retrain maintenance personnel to work on the F-35 Joint Strike Fighter.

It also prohibits inactivation of the aircraft carrier USS George Washington, a step being studied for budgetary reasons, and authorizes funding to begin an overhaul and refueling of the ship.

<http://www.thefiscaltimes.com/latestnews/2014/12/12/Congress-authorizes-577-billion-US-defense-spending>

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Press TV – Tehran, Iran

US Not Prepared for a Nuclear Terrorist Attack: Report

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Friday, December 19, 2014

The US government is years away from preparing itself to handle a nuclear terrorist attack or a large-scale natural disaster, according to a new congressional report.

The federal government would need one to five years to develop a strategy to determine if people were exposed to dangerous levels of radiation in the event of a nuclear attack, a report by the Government Accountability Office (GAO) has found.

The US government would also need five to 10 years to plan for a full medical response in the aftermath of a large-scale natural catastrophe, the GAO report said, which was obtained by The Associated Press before its release.

"This report makes clear that there are some areas of our country's preparedness that need strengthening up," said Sen. Bob Casey, (D-Pa.), who co-chairs the Senate Caucus on Weapons of Mass Destruction Terrorism.

The congressional audit found that the Federal Emergency Management Agency (FEMA), which is tasked with coordinating the response to large-scale disasters, did not always keep track of safety efforts, hampering the preparedness of states even after Superstorm Sandy in 2012.

The investigation relied in part on internal documents from the Department of Homeland Security, which oversees FEMA.

The report comes one week after the US Congress approved a massive military spending bill worth more than half a trillion dollars, which includes billions of dollars for waging wars and developing nuclear weapons.

<http://www.presstv.ir/detail/2014/12/19/390948/us-not-prepared-for-nuclear-attack-study/>

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The Chosun Ilbo – Seoul, South Korea

N.Korea in Massive Boost to Military Arsenal

December 15, 2015

North Korea has made some strides toward the first part of its pledge to become a "powerful and prosperous nation" in the three years since Kim Jon-un took power but has fallen dismally short of the second.

While food shortages remain severe, the North has relentlessly worked on bolstering its military capabilities, especially nuclear weapons and missiles.

A senior military officer here said the North now operates about 30 nuclear-related facilities, including a uranium mine, a high-explosive test site, and a nuclear power plant. He added it could have as many as 20 nuclear weapons. That would mean its nuclear stockpile has nearly doubled in just a few years.

Since early this year, the North has test-fired 111 missiles on 19 occasions, but experts say there were probably more secret tests.

The missile arsenal has been diversified into five or six types, and their accuracy is gradually improving.

The North has come closer to being able to strike any target across the Korean Peninsula, and the day may not be far off when it is capable of miniaturizing nuclear bombs so they can be mounted on missiles.

Testing of submarine-launched ballistic missiles that could pose a threat to South Korean and U.S. forces appears to be at a fairly advanced stage.

The North's new 1,800-ton Romeo-class submarine is too small to carry any such weapon, a military expert said, but it seems scores of tests have been conducted using a vertical launch tube on land.

Meanwhile, the North has deployed around 200 multiple rocket launchers in the frontline area and built more accurate GPS-embedded bombs and some kind of stealth vessel.

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That heightens the threat of military provocations which the North typically carries out in times when the international situation is turning against it. It currently faces increased pressure over its human rights abuses and deteriorating ties with its sole ally China.

http://english.chosun.com/site/data/html_dir/2014/12/15/2014121500862.html

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Want China Times – Taipei, Taiwan

Chinese Nuclear Weapon Growth Stuns US, Russia

Staff Reporter

December 15, 2014

The growth of China's nuclear capabilities has threatened the United States and Russia with the potential of its intercontinental ballistic missiles (ICBMs), equipped on the country's latest guided missile nuclear submarine Type 094, to strike US coastal regions, reports Sina's military news portal.

The submarine, scheduled to be launched at the end of this year, was spotted by a US satellite in the waters near the coast of Dalian. The 16 JL-2 ballistic guided missiles have a range of 8,000 to 12,000 kilometers.

It is China's first reliable submarine-launched nuclear intimidation measure and the first time that "China's nuclear arsenal will be invulnerable to a first strike," said Nicolas Giacometti, an independent strategist who has written analysis for the Center for Strategic and International Studies. The country has solidified its ability to retaliate with nuclear force on the submarine.

The US parliament does not have the exact figures on the number of China's intercontinental guided missiles and nuclear warheads since the figure was last collected in 2006. Washington has been trying to find out the length of an underground tunnel China uses to store nuclear weapons and the number of its nuclear warheads. United States Strategic Command has compiled a report on China's underground "nuclear Great Wall" and recommended US military destroy these underground facilities and China's nuclear weapons.

The JL-2 ballistic missile on the latest nuclear submarine suggests that China has developed a well-rounded missile that can be fired from both land and sea, given that the JL-2 was reportedly modified from the land-based DF-31 missile. The Chinese missile has a launch speed faster than other ballistic missiles, making satellites difficult to detect its launch.

On land, more trouble for the US on the move in the form of China's mobile ballistic missiles. The weapon is extremely difficult to detect since it can be launched from a wide range of areas, including highways. Washington was stunned when China launched its first mobile ballistic missile in September, a move that put China's nuclear capabilities in competition with Russia and the US and proved that Beijing now has the ability to counterstrike invaders with nuclear weapons. The US government has attempted to monitor mobile ballistic missiles around the world, 24 hours a day, for years to no avail. It plans to launch 21 satellites between 2015 and 2020 in attempt to reach this target.

<http://www.wantchinatimes.com/news-subclass-cnt.aspx?id=20141215000008&cid=1101>

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The Japan Times – Tokyo, Japan

Kim Jong Un Looks to Complete Father's Nuclear Legacy, Using Purges to Boost his Power

Bloomberg, Agency France Presse (AFP)-JJI

December 17, 2014

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SEOUL – Kim Jong Un has spent the three years since his father’s death tightening his grip on power, leaving the supreme leader better positioned to achieve Kim Jong Il’s dream of deploying nuclear weapons.

Kim on Wednesday marked the third anniversary of the death of Kim Jong Il, who ruled the country for 17 years and shocked the world in 2006 by detonating a nuclear device at a test site.

North Korean television showed tens of thousands of mourners bowing before a huge statue of Kim Jong Il on Mansu Hill in Pyongyang, the epicenter of the personality cult surrounding the ruling Kim dynasty.

“We yearn to see the gracious father general,” the Korean Central TV commentator said, praising the late leader for developing nuclear weapons. “In the marshall, however, we see the general live eternally,” she added, in reference to Kim Jong Un.

Under the young Kim and in defiance of international sanctions, North Korea has improved its nuclear technology and may be close to mounting a missile with a nuclear warhead.

“Most folks assume that additional nuclear and missile tests are needed to further refine and test their offensive capabilities,” Ralph Cossa, head of the Pacific Forum of the Center for Strategic and International Studies in Honolulu, said by email. “I believe it is still a matter of when, not if.”

If North Korea proves it could launch a nuclear-tipped missile across the Pacific, that could lend more urgency to efforts to restart aid-for-disarmament talks that have been stalled since 2008. Unveiling the technology to the world would also help Kim establish his own legacy and help him emerge from the shadow of his father, who died suddenly with little time to groom Kim for the role.

South Korean Defense Minister Han Min-koo said last month in parliament that the North may have made “considerable” progress in miniaturizing bombs. While Kim hasn’t yet deployed a ballistic missile that can hit the mainland U.S., “he’s showing us the signs that he’s trying to get there,” Adm. Samuel Locklear, head of U.S. forces in the Pacific, said in an interview in September.

North Korea routinely tests short-range missiles that could reach Japan, as a United Nations ban and sanctions aimed at denying the country weapons technology have had limited effect. Satellite images show the country has begun renovating its long-range rocket site, last used in late 2012, raising concerns that it may be closer to testing a missile that could reach the U.S.

“The regime wants to be a true nuclear power, not just in name,” Chang Yong-seok, a senior researcher at Seoul National University’s Institute for Peace and Unification Studies, said by phone. “North Korea still has a lot of technical improvements to make in the ability to miniaturize and deliver nuclear bombs — not to mention making them go off more reliably.”

Kim has recently stepped up his nuclear saber-rattling, threatening to conduct the nation’s fourth nuclear test after a U.N. human-rights committee voted last month to hold the regime accountable for crimes against humanity. On Tuesday, its Foreign Ministry said the U.S. would face North Korea’s “toughest counteraction” for human rights criticism.

Commercial satellite images taken in late October didn’t indicate preparations for an immediate test at its Punggye-ri detonation site, according to 38 North, a website that monitors the regime. At its Yongbyon complex north of Pyongyang, the North has been enriching uranium that may offer a second track to developing nuclear arms in addition to plutonium, according to the Institute for Science and International Security.

Kim began his formal apprenticeship slightly more than a year before his father died of a heart attack, turning him into the country’s new supreme leader. He purged his way to absolute authority by executing officials, including his uncle and deputy, Jang Song Thaek, in December 2013. This year Kim executed about 10 party officials on charges including graft and watching South Korean soap operas, said South Korean lawmakers.

“The supreme leaders cannot survive without purges, like Dracula could not survive without fresh blood,” Leonid Petrov, a Korea studies researcher at the Australian National University, said in an email. “Political purges help top

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leaders feel secure and unchallenged, while the rest of the population feels avenged for the misery ostensibly caused by the hand-picked 'enemies of the people.' ”

The executions mirror the purge his father conducted following the 1994 death of the country's founder, Kim Il Sung, and if history is a guide, more may be coming. Three years after the end of an official mourning period for Kim Il Sung, Kim Jong Il executed a senior agricultural official and sent loyalists around for three years to weed out spies.

Kim is far younger than his father was when he took power, yet health problems could undermine his hold despite his youth. He appeared with a cane in mid-October after staying out of public view for six weeks in his longest absence as leader, fanning speculation from his being sidelined by gout to being overthrown in a coup.

“If Kim's health problems such as severe obesity and diabetes worsen and force him to stop public activities over a protracted period and cause problems in his carrying out work, unrest may arise among the leadership and his control over the elite may weaken,” Cheong Seong-chang, a senior analyst at the Sejong Institute near Seoul, said in an emailed report.

Kim has no known child old enough to succeed him should he become incapacitated. Official media last month identified his sister, Kim Yo Jong, as a deputy director in the Workers' Party, showing her with a political title for the first time and signaling Kim Jong Un may be trying to consolidate his family's dynastic rule.

“Blood is thicker than water, so it will be immediate family members who will be instrumental in helping the young emperor keep the cards closer to his chest,” Petrov said.

<http://www.japantimes.co.jp/news/2014/12/17/asia-pacific/kim-jong-un-looks-complete-nuclear-legacy-purge-aids-power/#.VJHysixARDx>

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TASS Russian News Agency – Moscow, Russia

Russian Military Received 38 Intercontinental Missiles in 2014 — Defense Minister

Russian Air Force has taken into service more than 140 jets and 135 helicopters this year, Defense Minister Sergey Shoigu said

December 19, 2014

MOSCOW, December 19. /TASS/. Russia's Strategic Nuclear Forces added 38 new intercontinental ballistic missiles to their tables of equipment this year, including 22 submarine-based missiles, Defense Minister Sergey Shoigu said on Friday at an expanded session of the Defense Ministry's Board.

The percentage of upgraded armaments in the Armed Forces has thus reached 56%, he said. The Strategic Missile Troops now have three new regiments operating Yars missile complexes.

By the end of December, the Navy will have three strategic nuclear-powered submarines of the Borei class. The first of them, the Yuri Dolgoruky, has already come on full-scale combat duty.

Another two submarines, the Knyaz Vladimir (Duke Vladimir) and the Knyaz Oleg (Duke Oleg) have merged with the forces of permanent combat readiness.

Shoigu said in his report Russia's strategic missile forces were at a level that enabled them to perform the tasks of nuclear containment.

Russian Air Force

Russian Air Force has taken into service more than 140 jets and 135 helicopters this year, Shoigu said.

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This year, aerospace defense brigades were restructured in air defense squadrons which the Defense Ministry abandoned in 2009-2012 according to plans approved by the then-Defense Minister Anatoly Serdyukov. The Air Force also set up a combined air division and an air defense squadron.

The report said that 142 jets the Air Force received include 53 multifunctional fighter jets Sukhoi Su-30 and Su-35. Meanwhile, 18 modernized interceptors MiG-31VM, 16 fighter-bombers Su-34 and 28 different transport and training jets were handed to the military.

As many as 135 helicopter gunships include 46 choppers and 72 assault helicopters.

Meanwhile, seven air defense missile systems S-400 Triumf were brought into service in Russian Air Force for the past day, the report said.

Aerospace Defense Forces put on combat duty Voronezh-type highly prefabricated radar stations in Russian westernmost city of Kaliningrad and Irkutsk in Russia's Far East, the document added. Another two similar radars were put on combat trial in Barnaul and Yeniseisk in eastern Siberia's Krasnoyarsk territory. The coverage of these radar stations reaches 6,000 kilometers, they can be deployed for 12 to 18 months against 5-7 years of Voronezh predecessors.

<http://itar-tass.com/en/russia/768184>

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RT (Russia Today) – Moscow, Russia

3rd Russian Borei-Class Nuclear Sub Raises its Colors

December 19, 2014

Russia's third Borei-class nuclear-powered submarine Vladimir Monomakh has officially become part of the Russian Navy. Armed with Bulava ballistic missiles, the SSBNs of this class are the planet's most advanced nuclear deterrence tool.

Russian Defense Minister Sergey Shoigu attended the ceremony of raising the Russian Navy colors on the submarine on Friday, December 19.

The Borei-class, Project 955, fourth generation SSBN (Ship, Submersible, Ballistic, Nuclear) Vladimir Monomakh has been built at Sevmash shipyard in Russia's White Sea port of Severmorsk. It followed two first vessels of the same project, the lead vessel of the series SSBN Yuriy Dolgorukiy and SSBN Alexander Nevsky, which both joined the Russian Navy in 2013.

According to the Russian military, Borei-class are state-of-the-art submarines, featuring characteristics superior to any submarine currently in service worldwide.

The Borei-class subs are replacing outgoing nuclear subs of the previous generation and are set to become the backbone of Russia's sea-based nuclear defenses.

A Borei-class sub is 170 meters long and 13.5 meters wide, and can dive up to 450 meters.

They have a compact, hydro-dynamically efficient hull for reduced broadband noise and are the first to use pump-jet propulsion among Russian submarines. Their submerged cruise speed is at least 30 knots (56 kilometers per hour).

Safety measures for the subs include a rescue chamber that can host all 107 crew members.

The primary weapon of the Borei SSBNs is the Bulava SLBM (Submarine Launched Ballistic Missile, SS-NX-30 by NATO designation) solid fuel missile with well over a 9,000 kilometer firing range capability. Bulava's payload is 6 to 10 hypersonic, individually guided, maneuverable nuclear warheads with a yield of 100 to 150 kilotons each.

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Each Borei submarine, designed by the Rubin Central Design Bureau for Marine Engineering in St Petersburg, is armed with 16 Bulava intercontinental ballistic missiles.

The Bulava missile has had a somewhat troublesome development history, with technical glitches plaguing the early tests. Altogether there have been 22 launches in the SLBM's history. However, out of the last 10 launches, only one failed.

The SSBN Vladimir Monomakh was handed over to the Russian Navy on December 10, having completed all trials and tests, including a successful Bulava launch in September.

The underwater missile launch was carried out from the White Sea off the northwest Russian coast. All warheads hit the Kura test range in the Kamchatka Peninsula in the Russian Far East, the Defense Ministry said in a statement.

That missile launch was followed by two more successful launches carried out by the SSBN Yury Dolgorukiy in October and the SSBN Alexander Nevsky in November.

A fourth Borei-class submarine, Knyaz Vladimir, is currently under construction in Severomorsk, while a fifth, Knyaz Oleg, was laid down at the Sevmash shipyard in July.

The SSBN Knyaz Oleg will become the first of the upgraded Project 955A submarines, which will boast smaller hulls and cons as well as even better acoustics and lower sound levels.

The sixth Borei-class sub, SSBN Knyaz Suvorov, will be laid down in Severomorsk on December 21.

By 2020, the Defense Ministry plans to have eight Borei-class subs as the backbone of the naval component of the country's strategic nuclear deterrent.

<http://rt.com/news/214155-russia-submarine-vladimir-monomakh/>

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FARS News Agency – Tehran, Iran
Sunday, December 14, 2014

AEOI Chief: Iran in Possession of Most Advanced Model of Centrifuges

TEHRAN (FNA) - Head of the Atomic Energy Organization of Iran (AEOI) Ali Akbar Salehi said the country has the most advanced centrifuges to enrich uranium for peaceful purposes, but it has avoided injecting UF6 gas into them as a confidence-building measure for the talks with the world powers.

"We possess the IR4, IR6 and IR8 centrifuges and the IR8 is the latest generation of centrifuges whose enrichment power is equal to 24 Separative Work Units (SWU)," Salehi said in an interview with the Iran-based Arab-language al-Alam news channel on Sunday.

"We haven't injected gas into these centrifuges on a voluntary basis and as long as the negotiations continue, we do not intend to inject gas into IR8," he added.

Salehi underscored that Iran's decision to refrain from injecting UF6 gas into the powerful IR8 centrifuges is a confidence-building measure to show its good will to the world powers during the nuclear talks.

In similar remarks on Tuesday, the AEOI chief had underlined Tehran's commitment to the contents of the Geneva agreement, and said the country would not inject UF6 gas into its newly-developed IR8 centrifuges any sooner than the end of its nuclear talks with the world powers.

"At present, we have the second generation of centrifuges and 1,000 of them have been installed and just a pilot 164-centrifuge cascade is in operation," Salehi told reporters in Tehran.

The pilot cascade of centrifuges that Salehi pointed to had been installed and started operation before the Geneva interim deal between Iran and the six world powers was struck.

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Yet, he reminded that Iran had also developed IR4, IR6 and IR8 generations of more efficient centrifuges, and said, "But we haven't injected gas into IR8 centrifuges and we have voluntarily decided not to inject gas into these centrifuges; of course the mechanical tests are being carried out."

"And we do not intend to inject active UF6 gas into these centrifuges as long as the negotiations are underway," Salehi underlined.

Asked about the proposals made to Iran by the opposite parties in the talks for producing nuclear fuel outside the country, he said, "Had we wanted to produce fuel in another country, we would have done that already; but the point is that we have decided to carry out the entire process of fuel production cycle on the Islamic Republic's soil and do it in Iran."

<http://english.farsnews.com/newstext.aspx?nn=13930923001252>

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Tasnim News Agency – Tehran, Iran

Nuclear Talks Extended after Washington's Demand: Velayati

December 14, 2014

TEHRAN (Tasnim) – Director of the Strategic Research Center of Iran's Expediency Council Ali Akbar Velayati said it was the US that demanded for an extension of nuclear talks at the last hour of Vienna talks.

"The Americans had some unjustified demands which caused the negotiations to drag on and this time, too, it was the Americans who said at the last moments that they wanted to extend the talks," Velayati said Sunday.

He was referring to the latest round of talks between Tehran and the Group 5+1 (Russia, China, the US, Britain, France and Germany) held in Vienna, Austria, over Iran's peaceful nuclear energy program.

The two sides wrapped up seven days of intensive nuclear talks in the Austrian capital on November 24 without securing a long-awaited comprehensive deal.

They agreed to extend the negotiations for seven more months.

Noting that the nuclear talks will resume in Switzerland in a few days, Velayati underlined that if Iran's rights are recognized and there are no excessive demands, the problem (on the way of reaching a deal) will be resolved soon.

He highlighted all countries' right to use nuclear energy, and said Iran seeks to move on this path within the framework of international laws and the Non-Proliferation Treaty (NPT).

Nuclear talks between Tehran and the G5+1 (also known as P5+1 or E3+3) are scheduled to resume at the deputy level in Geneva, Switzerland, on Wednesday.

<http://www.tasnimnews.com/English/Home/Single/588788>

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Press TV – Tehran, Iran

Iran's Missile Capabilities Not Negotiable at all: Velayati

Monday, December 15, 2014

A senior advisor to Leader of the Islamic Revolution Ayatollah Seyyed Ali Khamenei has ruled out any negotiations whatsoever over the Islamic Republic's defensive missile capabilities.

"Iran's missile issue is not up for any type of negotiation," Ali Akbar Velayati told reporters on Monday.

The senior Iranian official added that the issue of the country's missile program would not be part of the upcoming nuclear talks with the P5+1 group of countries in the Swiss city of Geneva.

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Some Western officials, particularly in the US, have called for Iran's missile program to be included in the country's nuclear talks with the P5+1 - Russia, China, France, Britain, the US and Germany.

"Iran will do whatever is necessary for its defensive purposes," Velayati, who also serves as Head of Iran's Strategic Research Center, pointed out.

He emphasized that Iran's missile program is solely designed for peaceful defensive objectives.

"Deterrence is the most important feature of [Iran's] missiles," Velayati said, adding, "In order to strengthen its defense [capability], Iran has no need to obtain permission from anybody."

His remarks came as senior officials from Iran and the P5+1 are scheduled to resume a new round of talks in Geneva on December 17.

<http://www.presstv.ir/detail/2014/12/15/390351/iran-missile-capability-nonnegotiable/>

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Tasnim News Agency – Tehran, Iran

Iran, Group 5+1 Resume Nuclear Talks in Geneva

December 17, 2014

TEHRAN (Tasnim) – Representatives from Iran and six world powers launched a new round of talks over Tehran's peaceful nuclear program in the Swiss city of Geneva on Wednesday.

The plenary session between Tehran and the Group 5+1 (the five permanent UN Security Council members plus Germany) aims to hammer out a final agreement to end over a decade of impasse over Tehran's nuclear issue.

The talks are held at the level of deputy foreign ministers and experts.

The Iranian Deputies Foreign Minister Abbas Araqchi and Majid Takht Ravanchi are leading the Iranian delegation in the talks.

The US Department of State had announced earlier that Acting Deputy Secretary of State Wendy Sherman, Robert Malley, James Timbie, Paul Irwin, Newell Highsmith, Kevin Veal, Felicia Swindells, and Julia Jacoby form the US delegation to Geneva.

Deputy Secretary General for the EU's External Action Service Helga Schmid has also joined the negotiations.

On Monday and Tuesday, diplomatic delegations from Iran and the US held bilateral meetings in Geneva for the second consecutive day.

Earlier on Wednesday, Iranian delegation held meetings with the Russian and Chinese envoys.

After Iran-US bilateral meetings on Monday, Araqchi had expressed satisfaction with the first session of talks with Americans.

He said the meeting covered "extensive discussions on the entire subjects, particularly on the issue of sanctions."

Araqchi made it clear that the discussions have now become "very detailed", adding that there are solutions to some differences, while some others would require more efforts and discussions.

This is the first round of talks after the parties decided to extend for more 7 months a self-imposed deadline for signing a comprehensive agreement on Tehran's civilian nuclear work.

Iran and the Group 5+1 (also known as the P5+1 or E3+3) wrapped up a week of intensive nuclear talks in Vienna on November 24 without reaching the long-awaited deal.

<http://www.tasnimnews.com/English/Home/Single/591766>

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Tehran Times – Tehran, Iran

Zarif Says ‘Good Steps’ Have Been Taken in Nuclear Talks

Political Desk

Wednesday, 17 December 2014

TEHRAN – Iranian Foreign Minister Mohammad Javad Zarif has said that “good steps” have been taken to reach an agreement in nuclear talks.

“Talks have been continuing in a good atmosphere and good steps have been taken to reach an agreement,” Zarif stated in a joint press conference with Turkish Foreign Minister Mevlut Cavusoglu in Tehran on Wednesday.

Iran and the U.S. started bilateral talks in Geneva on Monday. Iran and the U.S. also held talks on Tuesday morning.

Iranian Deputy Foreign Minister Abbas Araqchi, who was leading the Iranian negotiating team in nuclear talks in Geneva, said on Monday that atmosphere of nuclear talks with the U.S. was “very good”.

Iran started talks with other negotiating partners on Tuesday afternoon.

Zarif said Iran has held bilateral talks with the U.S. and other countries in the 5+1 group. For example, Iran held talks with France on Tuesday and with Russia and China on Wednesday morning.

The foreign minister went on to say that all the countries, specifically the 5+1 states, have come to the conclusion that the sanctions had not been and will not be “effective” and the Iranian people’s rights should be recognized.

Zarif also stated that the Iranian nuclear issue should be handled based on international rules and regulations.

He also said in case of failure to conclude a nuclear agreement, the other side will lose.

The chief diplomat also thanked the Turkish government for its position on Iran’s nuclear energy program.

<http://tehrantimes.com/politics/120349-zarif-says-good-steps-have-been-taken-in-nuclear-talks>

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FARS News Agency – Tehran, Iran

Wednesday, December 17, 2014

Iran's Deputy Top Commander Not Optimistic about Future of Talks with Powers

TEHRAN (FNA) - Deputy Chief of Staff of the Iranian Armed Forces Brigadier General Massoud Jazayeri emphasized that he is pessimistic about the attainment of desirable results in Iran's nuclear talks with the six world powers, although both sides continue the negotiations seriously.

"We shouldn't pin so much hope on getting a desirable conclusion from the negotiations," Jazayeri told reporters on the sidelines of a students' congress in Tehran on Wednesday.

"The opposite party to the talks is not interested in the settlement of our issues based on justice and our legal and international rights," he added.

Jazayeri warned that the world powers and their allies are, in fact, attempting to prevent Iran from gaining and using its sources of power, especially in the field of economy.

In relevant remarks in September, Head of Iran's Civil Defense Organization Brigadier General Gholam Reza Jalali pointed to the western states' long record of animosity towards Tehran, and voiced pessimism about nuclear talks between Iran and the West.



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"The Islamic Iran has grown into a regional power after the end of the (1980-1988 Iraqi imposed) war," Jalali said, addressing a gathering in the Central city of Qom, adding that's why the US-led West has been confronting Iran in the last several decades.

Yet, he said the US and its allies avoid a military confrontation with Tehran, "because the 8-year Iraqi-imposed war against Iran proved that the Iranian nation will resist with its entire power in case of a foreign invasion".

Jalali referred to the nuclear talks between Iran and the Group 5+1 (the US, Russia, China, Britain and France plus Germany), and said, "If we hold an optimistic view of the West and think that we can settle the issues by talks and negotiations and if we imagine that nuclear energy is our only problem with the West, we will get to nowhere."

The new round of talks between Tehran and the G5+1 started in Geneva on Monday.

The 10th and last round of negotiations between Iran and the six world powers was held in Vienna from November 18 to 24.

Tehran and the six countries agreed to extend negotiations until July 1 after they failed to reach an agreement on a number of key issues.

<http://english.farsnews.com/newstext.aspx?nn=13930926001004>

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FARS News Agency – Tehran, Iran

Thursday, December 18, 2014

Iran, Powers to Resume Talks Next Month

TEHRAN (FNA) - Iran and the Group 5+1 (the US, Russia, China, Britain and France plus Germany) are due to hold the next round of nuclear talks next month.

Talks between deputy foreign ministers of Iran and the G5+1 ended in Geneva on Wednesday after 3 days of intensive negotiations.

At the end of the talks, Iranian Deputy Foreign Minister and senior negotiator Seyed Abbas Araqchi told the state-run news agency that the next round of the talks will be held next month.

He said that next month's talks will be held at the level of deputy foreign ministers.

The new round of talks between Tehran and the G5+1 started in Geneva on Monday and ended on Wednesday. The Iranian and US delegations held three rounds of negotiations.

The 10th and last round of negotiations between Iran and the six world powers was held in Vienna from November 18 to 24.

Tehran and the six countries agreed to extend negotiations until July 1 after they failed to reach an agreement on a number of key issues.

<http://english.farsnews.com/newstext.aspx?nn=13930927000228>

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Tasnim News Agency – Tehran, Iran

Cleric Warns of US Dishonesty in Nuclear Talks with Iran

December 19, 2014

TEHRAN (Tasnim) – Tehran's Provisional Friday Prayers Leader Ayatollah Mohammad Ali Movahedi Kermani cautioned the country's diplomats against Washington's hostile attitudes in the course of nuclear talks with Iran.

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“The Iranian negotiating delegation is aware and knows that the US is our number one enemy and that the US tries to damage our dignity,” the cleric said, addressing a large congregation of worshippers in Tehran on Friday.

“The Iranian team should be mindful that the US plot is to hurt Iran in different ways, but it will definitely fail and is slipping into downfall,” Ayatollah Movahedi Kermani added.

His remarks came after negotiators from Iran and the Group 5+1 (the five permanent UN Security Council members plus Germany) wrapped the latest round of talks on Tehran’s peaceful nuclear program in Switzerland’s Geneva on Wednesday.

The Swiss city will reportedly once again host the next round of talks before January 20, 2015.

Iran and the Group 5+1 (also known as the P5+1 or E3+3) have decided to extend for more 7 months a self-imposed deadline for signing a comprehensive nuclear agreement.

The negotiations aim to hammer out a final agreement to end more than a decade of impasse over Tehran’s peaceful nuclear program.

<http://www.tasnimnews.com/English/Home/Single/593725>

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Khaleej Times – Dubai, U.A.E.

Iran Honours Nuclear Deal with Powers, IAEA Report Shows

(Reuters)

19 December 2014

Continued conversion work was one of the conditions when the interim agreement, originally reached in late 2013, was extended for a second time late last month.

Iran has continued to meet its commitments under an interim nuclear deal with six world powers, a confidential United Nations nuclear agency report seen by Reuters showed on Friday.

The monthly update by the International Atomic Energy Agency (IAEA) said Iran was not enriching uranium above a fissile concentration of 5 percent. It also said Iran had not made “any further advances” to its activities at two enrichment facilities and an unfinished heavy water reactor.

However, the report said as well that Iran has temporarily stopped converting its higher-grade uranium oxide into reactor fuel - a process designed to make the material less suitable for any bid to assemble nuclear weapons. Tehran denies any such aim.

Continued conversion work was one of the conditions when the interim agreement, originally reached in late 2013, was extended for a second time late last month. The extension came after Iran and the global powers failed to meet a self-imposed deadline for resolving their 12-year nuclear dispute.

The IAEA report said Iran on Nov. 25 “temporarily stopped the operations for conversion and fuel manufacturing” in preparation for the U.N. agency’s inventory checks at the facility that were subsequently carried out Dec. 14-16.

One Vienna-based diplomatic source said he saw no problem with this.

http://www.khaleejtimes.com/kt-article-display-1.asp?xfile=data/middleeast/2014/December/middleeast_December164.xml§ion=middleeast

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The Times of India – Mumbai, India

India's First Nuclear Submarine Heads for Sea Trials

Rajat Pandit, Tamil News Network (TNN)

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NEW DELHI: Over 40 years after India began its hunt for nuclear submarines, the 6,000-tonne INS Arihant quietly sailed out of the harbour at Visakhapatnam on a misty Monday morning to begin its extensive sea trials.

While it was "a baby step" towards making the country's first indigenous nuclear submarine fully-operational, given that INS Arihant will now first undergo a whole host of surface sorties and then "dived" ones with test-firing of its ballistic missiles over the next 18 months, it did mark a significant milestone towards building a long-awaited credible nuclear weapons triad.

India has the Agni ballistic missiles and fighters jury-rigged to deliver nukes but the triad's underwater leg has remained elusive so far. It will be in place only once INS Arihant followed by its two under-construction sister submarines - one christened INS Aridhaman and the other just S-4 at present - are ready to undertake "deterrent patrols" by prowling underwater for months at end ready to let loose their missiles if required.

The launch of INS Arihant's sea-acceptance trials (SATs), which were flagged off by defence minister Manohar Parrikar and Navy chief Admiral Robin Dhowan, comes a day after TOI reported the submarine was all set for them with its 83 MW pressurized light-water reactor attaining 100% power and the completion of its long-drawn harbour-acceptance trials (HATs).

The real test during the SATs will be the test-firing of its K-15 submarine-launched ballistic missiles (SLBMs), which has so far been tested only from submersible pontoons around a dozen times. The 750-km range K-15 - INS Arihant can carry 12 in its four silos -- is dwarfed by the well over 5,000-km SLBMs present with the US, Russia and China. But an over 2,000-km range K-4 SLBM, tested for the first time in March this year, is also in the works.

The criticality of SLBMs for deterrence can be gauged from the fact that even the US and Russia are ensuring that almost two-thirds of the strategic warheads they eventually retain under strategic arms reduction agreements are such missiles.

Already armed with five nuclear and 51 conventional submarines, China too is now on course to induct five JIN-class SSBNs (nuclear-powered submarines armed with long-range ballistic missiles) with 7,400-km range JL-2 missiles.

The Indian Navy, in turn, wants at least three SSBNs and six nuclear-powered attack submarines (SSNs) in the long-term. It currently operates one SSN in the shape of INS Chakra, obtained on a 10-year lease for Russia for around \$1 billion, while negotiations are underway to acquire another such boat. While these submarines have short-range cruise missiles, they are not armed with nuclear missiles because of international treaties like the Missile Technology Control Regime.

<http://timesofindia.indiatimes.com/india/Indias-first-nuclear-submarine-heads-for-sea-trials/articleshow/45525883.cms>

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Sputnik News – Russian Information Agency

India Considering Leasing Second Russian Nuclear Submarine: Reports

India may lease one more Russian Akula-class nuclear-powered submarine, which is capable of dealing with both underwater and surface targets and can be equipped with torpedoes and mines, as well as with long-range missiles.

17 December 2014

MOSCOW, December 17 (Sputnik) — The Indian Navy is considering leasing a second Akula-class nuclear-powered submarine from Russia, The Hindu reported.

According to the media outlet, the possibility of the lease was indicated by India's Defense Minister Manohar Parrikar, in a meeting with journalists following Russian President Vladimir Putin's visit to India last week.

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In 2012, India began a 10-year lease of the Akula-class submarine Nerpa. After joining India's Navy, the submarine was renamed INS Chakra.

Reports in Russian media suggesting the lease of another submarine appeared in 2013, but were denied by Sergei Chemezov, chief of the Russian tech development corporation Rostec. He stated that the issue had not been officially discussed, and that Rostec had not received any requests from India.

Akula-class nuclear-powered attack submarines are considered to be some of the quietest in the world, due to the use of the latest technology in their construction. They are capable of dealing with both underwater and surface targets and can be equipped with torpedoes and mines, as well as with long-range missiles.

<http://sputniknews.com/military/20141217/1015931254.html>

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The Moscow Times – Moscow, Russia
OPINION/Commentary

Russia Is Preparing for a New Arms Race

By Alexander Golts
December 15, 2014

The Kremlin promised to give the world a New Year's gift this December: a new version of Russia's military doctrine. Last fall, President Vladimir Putin ordered changes to the country's main unclassified document in response to the Ukrainian crisis and U.S. plans to deploy a missile defense system. The world froze in horrified anticipation: After Putin justified the annexation of Crimea on the pretext that the peninsula is "sacred ground" for Russia, it seemed anything was possible in terms of military doctrine.

What's more, frightening rumors emerged from time to time suggesting that Russia might introduce a provision to the document allowing for a pre-emptive nuclear strike — that is, indicating Moscow's readiness to start a world war. The worst part is that, in the context of recent events, that idea did not seem so implausible. In fact, four years ago Security Council Secretary Nikolai Patrushev promised in an interview with Izvestia that such changes would appear in the doctrine.

Now we can breathe a sigh of relief. A senior Security Council official told news agencies that "the article concerning Russia's use of nuclear weapons remains unchanged in the new draft of the military doctrine." The voice of reason won out.

After all, had the military brass inserted a clause permitting a pre-emptive strike, the United States would definitely have reinstated the concept of a "launch on warning" retaliatory strike whereby it launches its missiles immediately after learning that the enemy has launched theirs. Recall that U.S. President Barack Obama instructed the Pentagon 18 months ago to explore the possibility of eliminating the concept of a retaliatory strike from U.S. military doctrine.

However, there is bad news along with the good. According to that same source, or perhaps some other, Russia's military doctrine will now include something called "non-nuclear deterrence."

The source told journalists, "Objective reality is now such that new threats and military challenges require a response. In particular, these include hybrid war, our potential enemy's plans for implementing the concept of a 'geocentric theater of operations,' a 'global strike' and a 'network-centric space.' A non-nuclear system of containment is one such response," he said. He added that the air force and navy would shoulder the main burden of ensuring that "containment."

The idea of nuclear deterrence based on the threat of "mutually assured destruction" is clear. The question here is how Russia can mount such a threat without nuclear weapons. At the very least it would have to achieve parity with NATO in conventional weapons.

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However, that is impossible at present. Even after the Kremlin spends the colossal sums it has allocated for modernizing the army, NATO forces will still outnumber Russia's several times over. What's more, Russia's negative demographic trend makes it physically impossible for the army to field more than 800,000 men, with the result that even if Russia were to miraculously produce as many ships and airplanes as NATO has, it would still lack the personnel to man them.

The experts I consulted cynically suggested that "non-nuclear deterrence" refers to a conventional arms race — one that will completely ruin the national economy but that will generate huge profits for a handful of officials overseeing the various branches of the armed forces.

However, "non-nuclear deterrence" very possibly refers to the crusade the Kremlin has announced against "color revolutions," which it believes Western intelligence services conspire to unleash. An unnamed official involved in revising Russia's military doctrine stated: "Events in and around Ukraine have added challenges and threats with which everything before pales in comparison." This suggests that "non-nuclear deterrence" might refer to the very type of hybrid war Russia is currently waging in Ukraine.

Part of this strategy might include making self-declared territories allies. The same unnamed source told reporters: "The updated version of the military doctrine will include an article on the creation of a single defense space with Abkhazia and South Ossetia as military allies of Russia."

That source stated very candidly that in the current geopolitical situation "it is an extremely important doctrinal statement ... especially given the fact that Russia has literally only one or two military allies." He added that the article in question is "probably only declarative in nature for now. It has yet to be given concrete expression, although that might not happen."

Or will it? Perhaps Moscow will soon announce that it recognizes the independence of the self-declared Donetsk and Luhansk republics seized by pro-Russian separatists and officially list them as allies. In that way Putin will form his greater "Russian world."

Alexander Golts is deputy editor of the online newspaper Yezhednevny Zhurnal.

<http://www.themoscowtimes.com/opinion/article/russia-is-preparing-for-a-new-arms-race/513332.html>

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Bulletin of the American Scientist – Chicago, IL

OPINION/Interview

Interview: Paul Bracken on American Nuclear Forces in the 21st Century

Dan Drollette Jr.

December 15, 2015

Yale University professor Paul Bracken has written numerous books on strategic thinking, including *The Second Nuclear Age: Strategy, Danger and the New Power Politics*; *Fire in the East: The Rise of Asian Military Power*; and *Command and Control of Nuclear Forces*. A physicist and engineer, Bracken teaches "Strategy, Technology, and War," "Business, Government, and Globalization," and "Managing Global Organizations" at the Yale University School of Management. He has written articles on topics such as "Financial Warfare" and "Business War Gaming," because, he says, issues regarding government and multinational corporations often overlap. Bracken serves as a consultant for private equity funds and accounting and insurance companies, as well as several arms of the US government, and he describes his research interest as "the strategic application of technology in business and defense."

In this interview, he talks about the recent exposés concerning the dangerous state of US nuclear forces, the long-term plans to renovate all three legs of the nuclear triad—at a cost of over a trillion dollars—and how to do so in



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the post-Cold War era. Bracken also describes how the multi-polar world of today compares to the old bipolar world of the United States and the Soviet Union.

(This interview has been edited and condensed for clarity.)

Bulletin: The Obama Administration has proposed spending money for 12 new missile submarines, 100 new bombers, and 400 land-based missiles—either new or refurbished. This is in addition to the tens of billions of dollars the administration already designated to upgrade nuclear laboratories and extend the lives of aging warheads and does not include any emergency fixes, such as for problems that were reported by the *New York Times* and the *Associated Press* in the past few weeks. (The November 14 *New York Times* quoted anonymous senior officials who said “they were trying to determine how much the emergency repairs would cost. The short-term fixes ‘will be billions’ over the next five years, one official said.” Altogether, the Monterey Institute of International Studies estimates the total cost of the country’s nuclear enterprise over the next 30 years will be up to \$1.1 trillion. Do those numbers seem about right?

Bracken: These are just estimates; you and I both know we’ll be lucky to get it for under \$2 trillion over 30 years, if the past is any guide. History shows that there’s a bias towards underestimating the final cost of any big overhaul programs by a factor of two-to-three in real dollars. This is presuming that you want to take everything we have now, in every leg of the triad, and replace every bit of it with more modern versions: new bombers, new submarines, and new ICBMs. That figure would *not* include the costs of building, testing, and distributing a brand-new warhead, which seems likely to happen.

Bulletin: Is a complete all-out, top-to-bottom modernization of the entire nuclear triad worth it? Couldn’t fewer nuclear platforms made more survivable do the trick?

Bracken: Absolutely. Historically, greater survivability has been a favored avenue. Which is why the United States shifted so much of its deterrence to submarines in the 1960s; they weren’t hardened, but if you can’t find them, you can’t kill them. The underlying idea is that survivability doesn’t always mean you need super-hardened concrete silos in Montana; you could get the same end result through greater mobility or concealment. So you have fewer platforms giving you more bang for the buck.

That means that there are many alternatives to the triad.

But it is striking to me that the intellectual capital to analyze these questions has more or less disappeared after the end of the Cold War. So for example, the Air Force doesn’t really explore any of these alternatives in anything like a creative way. I think they’ve forgotten how to think about these things. There’s a bias towards reproducing what you already have in place.

Bulletin: It’s a case of bureaucratic inertia?

Bracken: It’s bureaucratic inertia, but also a real absence of thought leadership in these areas. There’s no intellectual capital to reach out and draw on—or reject. In the Cold War, there were a number of think tanks that pursued some very creative—some would say wild—thinking about what our nuclear posture should be called upon to do, and what form it should take. But there are very few think tanks that study these issues any more, other than from a very partisan point of view; they know the answer before they start.

And hewing to preconceived viewpoints is not just confined to analysis of strategic forces. All of the major think tanks have moved inside the Washington Beltway over the past 20 years. The whole place of think tanks in American society today is nothing like what it was during the Cold War, when there was a real striving for scientific objectivity, drawing on people from all over the political spectrum, and from many different fields. The absence of the physicists today is quite striking.

And I say this as someone who worked for the Hudson Institute think tank back in the 1990s—it’s just not the same field today.

Bulletin: Still, despite the tendency towards partisan viewpoints, isn’t there a cheaper or more innovative way to accomplish nuclear deterrence?

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Bracken: Well, we've sort of forgotten how to explore other nuclear postures outside of the dated, old Cold War measures. So there's a ripe, rich area for analysis concerning alternatives. For example, we could give up one leg of the nuclear triad entirely. Or even two legs of the triad—such as the ICBM force and the bomber force—and put all of our nuclear deterrent on submarines. So, that's one alternative.

Another idea is to retain all of the individual legs but make each one smaller—to simply have a much smaller overall numerical force in terms of launchers or warheads or whatever. That could be an adequate deterrent in a world where a massive surprise attack by a Russia or a China on US nuclear forces seems a remote possibility—or at least more remote than it did during the Cold War.

Bulletin: If a massive surprise attack by a major power is so remote, then does the United States really need a nuclear response at all? Can we have zero nuclear weapons?

Bracken: The easy answer is that it is precisely because the United States has nuclear weapons that the chances of such an attack are remote—retaliation from us is assured.

But beyond that, I think that there are always contingencies that we cannot consider, such as a local regional war that develops between two smaller powers and somehow causes the United States to need to get involved in order to prevent it from escalating further. Or maybe even the presence of our nuclear weapons deters that kind of regional war entirely.

It's just like what could have happened during the Cuban missile crisis, or the Afghan war, or the Iraq wars: Conflicts can escalate in ways you can't predict, and you can't spell out the whole scenario beforehand. Who would have thought that the assassination of an obscure archduke in a remote part of the Austro-Hungarian empire would lead to France fighting Germany?

So, the United States needs more than zero nuclear weapons.

And let's admit it: Domestic politics and perceptions have historically mattered a great deal in the Cold War, and are likely to do so in the future. The mere fact that Russia or China had some number of weapons—and say that, hypothetically, the United States did not—would cause domestic pressure for us to catch up.

I'm just thinking out loud here, but there is also another side to all this. It's likely that US nuclear guarantees to other countries—saying that we'll protect them by using our nuclear weaponry—means that those countries don't need to get their own nuclear weapons. Places like Japan don't need nuclear weapons of their own because they are protected by our nuclear umbrella. So you could argue that what we have stockpiled in the United States actually prevents nuclear weapons proliferation worldwide.

Bulletin: Wouldn't this huge investment in upgrading the triad be hard to explain, coming from an administration that came into office talking about a path to eliminating nuclear weapons around the globe? Although in fairness, Obama did also pledge to spend the money to make the country's nuclear arsenal as safe and reliable as possible.

Bracken: First of all, most of this money would be spent by future administrations. The pattern in the Obama administration is to come up with these very large modernization budgets and then not spend the money to put them into effect. But there's a deeper question: The president's 2009 Prague speech, in which he laid out a vision of a nuclear-weapons-free world, was viewed by many people as, well, a very "illusioned" one that had little chance of practical realization. At least so far—admittedly only five years—it does not seem to have convinced Russia, China, North Korea, Israel, Pakistan, India, or Iran to go down the weapons-free road.

Bulletin: If you feel that we cannot get rid of nuclear weapons entirely, then do you think it is possible to at least reduce their numbers?

Bracken: Most of the nuclear weapons in the world today are held by the United States or Russia. Which means you've got only two countries to deal with. Based on that, I would say that it is very possible to shrink that force. And it would be a good thing to do.

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Bulletin: Can we further shrink the number of countries in the nuclear club? By way of example, South Africa got rid of its nukes, and Libya dropped its program.

Bracken: My view is that the fewer nuclear-armed countries, the better. It's clearly a good thing to try to do.

But it's harder, although still possible. For example, North Korea may collapse on short notice. And if it does so peacefully, that would eliminate one of them.

And although we just don't know for sure, it is conceivable that we could stop Iran from joining the list of nuclear countries.

And then there are the interesting cases of Britain and France. It is striking to me that, after the president's Prague speech, we put no pressure on either London or Paris to give up their nuclear weapons. If you think that the use of nuclear weapons by the United States is just a remote possibility, then it has to be transcendently remote for the United Kingdom or France to use their respective nuclear weapons. This would have been an easy pathway for cutting down the number of countries who have atomic weapons. But the United States did nothing to pursue this option.

We also did nothing to restrain another nuclear-armed country that is often in the news: Israel.

Bulletin: Why didn't we encourage our allies to get rid of their nuclear weapons?

Bracken: If those countries gave up the bomb, then the United States would be the only Western democracy with nuclear weapons.

And by letting them keep their bombs, that allows them to punch above their weight in international affairs, due to the mere possession of nuclear weapons. There's a lot of subtle issues here; we can't put as much pressure as we'd like on our allies, although we can put all the pressure we want on Iran.

But I think we should try to encourage our allies to go down this road; it makes no sense for Britain to have nuclear weapons. And yet we've never pointed this out to London.

If the United States could have put pressure on any one country to disarm, it would have been the United Kingdom: there's a lot of domestic support for disarmament over there, and has been for years. Yet we fully supported Tony Blair's decision to spend all that money on an upgraded nuclear submarine fleet.

And I also think that France is a possibility for nuclear disarmament, especially at a time when they are cutting so much of their defense budget. The French nuclear force consumes an enormous fraction of the overall French defense, despite the fact that most French generals think that they will never use these things. It would be far more practical for them to concentrate on building light, mobile forces—they would be much more usable, in Africa, the Middle East, and other places where France is most likely to be involved.

Bulletin: If these nuclear systems are so expensive, unpopular, and unlikely to be used, then why don't these countries give up their nuclear forces of their own accord, without any encouragement from us?

Bracken: It gets complicated fast. For France, for example, to give up all its nuclear forces now would be to give up all pretenses of being a global power. Germany is clearly the major economic power in the European Union, and that doesn't leave much for France to claim for itself, outside of military power. I was just in Berlin, and the remodeling and rebuilding there has turned that city into a sort of anti-war peace museum. This is not true of Paris, with its large military museum on Les Invalides and Napoleon's Tomb—they're still, in some sense, celebrating French military prowess.

French dictionaries still come with maps on the flyleaf showing old French possessions from the height of the French empire.

And there's another element involved: If France did give up all its nuclear weapons and Britain didn't, then this would play on the huge inferiority complex that France has with Britain already. And that would really be intolerable, it seems to me, for Paris.

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So, one can think up all these reasons for our allies to want to give up nuclear weapons on their own, but then all these other factors come into play—it's not just technical issues about "counterforce versus countervalue" targeting.

I don't know why more analysts haven't looked at these interesting political and cultural questions regarding why our allies still have nuclear weapons. We always want to focus on Iran or North Korea.

Bulletin: Do these complications mean that the world is a more dangerous place now than it was in the Cold War?

Bracken: I think that we are at least living in a second nuclear weapons age.

While there were several nuclear powers in the previous era, the rivalry between the United States and the Soviet Union overshadowed the others, which meant that the dynamics then were largely bipolar. In contrast, today we live in a multipolar nuclear world.

For example, although I've described it as an anti-war museum, Berlin is selling six Dolphin-class submarines to the Israeli Navy, and they are almost surely to be used by the Israelis as carriers of nuclear weapons. Now, the Germans didn't have anything to do with the nuclear warheads, but that's what von Braun used to say about his involvement with the V-2: "I just build the rockets, and what the military does with them isn't my department."

To top things off, the sale of those submarines was not even reviewed by the Bundestag—the German legislature. It was totally an executive decision, done over their heads.

Now, I'm not saying that I oppose this decision; just that there are so many interesting dimensions. Yet in the United States the whole debate is reduced to a very narrow conceptualization of what a nuclear posture is.

Nuclear weapons are now integral to foreign and defense policies in the Middle East, South Asia, and East Asia, where governments have embraced them as necessary tools of regional stability and deterrence. This emerging global nuclear system will make it impossible to eliminate nuclear weapons for the next 50 years, although who knows what will happen in the longer term. The only solution for the near future is to manage the problem.

And everything is all inter-related. No one can look at the Middle East today and say: "We'll just separate the peace process between Israel and Palestine from the Iranian nuclear program or Iranian support for Hezbollah." Similarly, one can't just look at South Asia and just look at the conventional military balance.

Bulletin: Your 2012 book, *The Second Nuclear Age*, charged: "Nuclear forces were left to rot, technologically and intellectually." This issue came to a head recently, as shown in an *Associated Press* exposé last month. A subsequent *New York Times* followup reported that the Pentagon will have to spend billions of dollars over the next five years to make "emergency fixes" to its nuclear weapons infrastructure. Investigators said that things had gotten so bad that the crews that maintain the nation's 450 ICBMs had only a single wrench to share between them—and they have been forced to FedEx the one tool to three different bases in order to attach the nuclear warheads.

Bracken: (Laughs.) Yes, I saw that. You can't make this up. This fits in very much with my findings and those of others. We've gone overboard in trying to save money.

But I want to point out something important, that's easily missed. I teach at a business school, and if you looked at a company that had these characteristics, you wouldn't blame the store clerks or the waitresses. You would blame senior management—the Department of Defense, the armed services—for its handling of the operation and maintenance of our nuclear weapons.

And all the studies that have been done of this issue all blame senior management for a lack of attention to the nuclear enterprise. These were major studies, one of which just came out two months ago.

The point here is not to blame the store clerks, but to blame who gets paid the big bucks to make the decisions. There have been inadequate efforts here.

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Bulletin: The *Times* article went on to say that things such as the broken blast door and the lack of tools were just a few of the many maintenance problems that had “been around so long that no one reported them anymore.” Promises of new infrastructure had been made for so long that the missile launch crews did not believe the new equipment would arrive during their careers.

Bracken: That’s right. There was a very good, concise summary of this done within the last year by Lesley Stahl of *60 Minutes* during a visit to Strategic Command. One thing I’ll never forget was when she was on camera with some Air Force officer who said that they’re not susceptible to cyber attack—because they don’t have any Internet access. They are still using those big floppy disks that I used way back in college. I think that’s really looking on the sunny side of the street.

Bulletin: Is this decline something new, or has it been festering for a long time? A *Wall Street Journal* article said: “Most Americans have thought as little as possible about nuclear weapons since the end of the Cold War.” Is that part of the reason why our missile command has been neglected?

Bracken: There are a number of factors, one of which is the Cold War’s end. Another is that the center of action in military operations has clearly been in areas like precision strike, information warfare, and other places.

But I think another dimension to this is that some people are so opposed to nuclear forces that they welcome their disappearing due to apathy and lack of maintenance. They would be the last ones to call out these problems because they think that if the problems go on indefinitely, the systems will just be too expensive to refurbish. And they think that’s a good thing.

But nuclear weapons are dangerous items to neglect, and there have been several well-documented accidents, which have been very troubling.

Although I do have to admit that I personally don’t think we were ever close to a nuclear launch or a detonation. Those who tell you that our nuclear forces are on a hair-trigger simply don’t know what they’re talking about—thank God.

If you had this force and only one wrench, you wouldn’t want to put it on a hair trigger either. We’re not that stupid. But the accidents we’ve had, have been bad enough.

Bulletin: The maintenance problems came on the heels of scandals over cheating on tests among nuclear forces. (In March, the Air Force fired nine officers and accepted the resignation of the commander at Malmstrom Air Force Base in Montana for failing to provide adequate oversight of the launch officers implicated in the scandal.) A newly released study by Gen. Larry D. Welch of the Air Force and Adm. John C. Harvey Jr. of the Navy found that in the tedious work of nuclear readiness, a culture of micromanagement flourished, creating busywork while huge problems with equipment and readiness were ignored. “Extreme testing” meant that the goal became scoring a near-perfect grade on exams, rather than making sure that the systems worked and the missile crews were ready to operate under combat conditions. Does that fit in with your observations?

Bracken: That squares with my experience and knowledge of the system from my research.

And it does raise a question that no one seems to want to ask: If things are so bad, if for some reason we did want to fire an individual nuclear weapon, could we? Would the weapon take off?

With all of the problems in our nuclear force, it seems to me that there’d be some real doubts. You really wouldn’t want to use one of these weapons, because you don’t know what is going to happen.

Now, if there was a massive Russian attack, I’m sure we could retaliate—we’ve got enough weaponry at our disposal, if we fire enough of them in a mass counterstrike, some are bound to work. But anything short of that is likely to offer only low-confidence options.

And if that’s what the situation is like here, it makes one wonder what it’s like in the former Soviet Union.

Bulletin: What could be done to improve things here?

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Bracken: I would support the idea of more pay, more recognition, less nit-picking, more focus on essentials like having the proper equipment—and fixing blast doors. And doing things to bolster morale, such as handing out a pin or patch for successfully completing a hundred missile alerts.

But just as essential is that the Department of Defense and the armed services need to develop more intellectual capital in this field. They need to think about why we need nukes; what the important scenarios are, for us and other countries; how a nuclear war could start, and what difference it would make for the United States; and how arms control needs to be restructured to fit the situation of the 21st century and not a bipolar competition that ended in 1991.

These are not things that can be handled by simply changing some bureaucratic procedures. We have to ask, "What is the whole role of nuclear weapons in the 21st century?"

And I would go further and say that the problem today is not US nuclear weapons, but it's really other countries' nuclear weapons. That is what really influences what we should be buying.

Bulletin: Would you describe yourself as an optimist or a pessimist about the future?

Bracken: I'm an optimist, in that I sense that the problems relating to nuclear weapons in the 21st century are reaching such a level that they're attracting better people, smarter people, and more government interest. So attention is coming back to these issues; I've seen a lot of it just in the past year, with the attention given to the Air Force's problems being but one of several examples. At the same time, our nuclear force is wearing out from age, forcing us to take stock.

And we're coming to realize that other countries will likely have the Bomb for a long time, so we'd better understand how they think about it.

Dan Drollette, Jr. is a science writer/editor and foreign correspondent who has filed stories from every continent except Antarctica.

<http://thebulletin.org/interview-paul-bracken-american-nuclear-forces-21st-century7855>

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Federation of American Scientists (FAS) – Washington, D.C.

OPINION/Strategic Security

Rumors about Nuclear Weapons in Crimea

By Hans M. Kristensen

December 18, 2014

The news media and private web sites are full of rumors that Russia has deployed nuclear weapons to Crimea after it invaded the region earlier this year. Many of these rumors are dubious and overly alarmist and ignore that a nuclear-*capable* weapon is not the same as a nuclear *warhead*.

Several U.S. lawmakers who oppose nuclear arms control use the Crimean deployment to argue against further reductions of nuclear weapons. NATO's top commander, U.S. General Philip Breedlove, has confirmed that Russian forces "capable of being nuclear" are being moved to the Crimean Peninsula, but also acknowledged that NATO doesn't know if nuclear warheads are actually in place.

Recently Russian Deputy Foreign Minister Alexei Meshkov said that NATO was "transferring aircraft capable of carrying nuclear arms to the Baltic states," and Foreign Minister Sergei Lavrov reminded that Russia has the right to deploy nuclear weapons anywhere on its territory, including in newly annexed Crimea.

Whether intended or not, non-strategic nuclear weapons are already being drawn into the new East-West crisis.

What's New?

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First a reminder: the presence of Russian dual-capable non-strategic nuclear forces in Crimea is not new; they have been there for decades. They were there before the breakup of the Soviet Union, they have been there for the past two decades, and they are there now.

In Soviet times, this included nuclear-capable warships and submarines, bombers, army weapons, and air-defense systems. Since then, the nuclear warheads for those systems were withdrawn to storage sites inside Russia. Nearly all of the air force, army, and air-defense weapon systems were also withdrawn. Only naval nuclear-capable forces associated with the Black Sea Fleet area of Sevastopol stayed, although at reduced levels.

Yet with the Russian invasion of Ukraine and annexation of Crimea, a military reinforcement of military facilities across the peninsula has begun. This includes deployment of mainly conventional forces but also some systems that are considered nuclear-capable.

Naval Nuclear-Capable Forces

The Russian Black Sea Fleet in Sevastopol includes nuclear-capable cruisers, destroyers, frigates, corvettes, and submarines. They are capable of carrying nuclear cruise missiles and torpedoes. But the warheads for those weapons are thought to be in central storage in Russia.

There are several munitions storage facilities in the Sevastopol area but none seem to have the security features required for storage of nuclear weapons. The nearest national-level nuclear weapons storage site is Belgorod-22, some 690 kilometers to the north on the other side of Ukraine.

Backfire Bombers

There is a rumor going around that president Putin last summer ordered deployment of intermediate-range Tu-22M3 Backfire bombers to Crimea.

One U.S. lawmaker claimed in September that Putin had made an announcement on August 14, 2014. But even before that, shortly after Russia invaded Ukraine in March and annexed Crimea, *Jane's Defence Weekly* quoted a Russian defense spokesperson describing plans to deploy Backfires to Gvardiesky (Gvardeyskoye) along with Tu-142 and Il-38 in 2016 after upgrading the base. Doing so would require major upgrades to the base.

Russia appears to have four operational Backfire bases: Olenegorsk Air Base on the Kola Peninsula (all naval aviation is now under the tactical air force) and Shaykovka Air Base near Kirov in Kaluzhskaya Oblast near Belarus in the Western Military District (many of the Backfires intercepted over the Baltic Sea in recent months have been from Shaykovka); Belaya in Irkutsk Oblast in the Central Military District; and Alekseyevka near Mongokhto in Khabarovsk Oblast in the Eastern Military District. A fifth base – Soltsy Air Base in Novgorod Oblast in the Western Military District – is thought to have been disbanded.

The apparent plan to deploy Backfires in Crimea is kind of strange because the intermediate-range bomber doesn't need to be deployed in Crimea to be able to reach potential targets in Western Europe. Another potential mission could be for maritime strikes in the Black Sea and Mediterranean Sea, but deployment to Crimea will only give it slightly more reach in the southern and western parts of the Mediterranean Sea (see map below). And the forward deployment would make the aircraft much more vulnerable to attack.

Iskander Missile Launchers

Another nuclear-capable weapon system rumored to be deployed or deploying to Crimea is the Iskander-M short-range ballistic missile. Some of the sources that mention Backfire bomber deployment also mention the Iskander.

One of the popular sources of the Iskander rumor is an amateur video allegedly showing Russian military vehicles rolling through Sevastopol on May 2, 2014. The video caption posted on youtube.com specifically identified "Iskander missiles" as part of the column.

A closer study of the video, however, reveals that the vehicles identified to be launchers for "Iskander missiles" are in fact launchers for the Bastion-P (K300P or SSC-5) coastal defense cruise missile system. The Iskander-M and Bastion-P launchers look similar but the cruise missile canisters are longer, so the give-away is that the rear end of

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the enclosed missile compartments on the vehicles in the video extend further back beyond the fourth axle than is that case on an Iskander-M launcher.

While the video does not appear to show Iskander, Major General Alexander Rozmaznin of the General Staff of the Ukrainian Armed Forces, reportedly stated that a “division” of Iskander had entered Crimea and that “every missile system is capable of carrying nuclear warheads...”

The commander of Russia’s strategic missile forces, Colonel General Sergei Karakayev, recently ruled out rumors about deployment of strategic missiles in Crimea, but future plans for the Iskander-M short-range ballistic missiles in Crimea are less clear.

Russia is currently upgrading short-range ballistic missile brigades from the SS-21 (Tochka) to the SS-26 (Iskander-M) missile. Four of ten brigades have been upgraded or are in the process of upgrading (all in the western and southern military districts), and a fifth brigade will receive the Iskander in late-2014. In 2015, deployment will broaden to the Central and Eastern military districts.

The Iskander division closest to Crimea is based near Molokino in the Krasnodar Oblast. So for the reports about deployment of an Iskander division to Crimea to be correct, it would require a significant change in the existing Iskander posture. That makes me a little skeptical about the rumors; perhaps only a few launchers were deployed on an exercise or perhaps people are confusing the Iskander-M and the Bastion-P. We’ll have to wait for more solid information.

Air Defense

As a result of the 1991-1992 Presidential Nuclear Initiatives, roughly 60 percent of the Soviet-era inventory of warheads for air defense forces has been eliminated. The 40 percent that remains, however, indicates that Russian air defense forces such as the S-300 still have an important secondary nuclear mission.

The Ukrainian military operated several S-300 sites on Crimea, but they were all vacated when Russia annexed the region in March 2014. The Russian military has stated that it plans to deploy a complete integrated air defense system in Crimea, so some of the former Ukrainian sites may be re-populated in the future.

Just as quickly as the Ukrainian S-300 sites were vacated, however, two Russian S-300 units moved into the Gvardiesky Air Base. A satellite image taken on March 3, 2014, shows no launchers, but an image taken 20 days later shows two S-300 units deployed.

Conclusions and Recommendations

Russia has had nuclear-capable forces deployed in Crimea for many decades but rumors are increasing that more are coming.

The Russian Black Sea Fleet already has many types of ships and submarines capable of carrying nuclear cruise missiles and torpedoes. More ships are said to be on their way.

Rumors about future deployment of Backfire bombers to Crimea would, if true, be a significant new development, but it would not provide significant new reach compared with existing Backfire bases. And forward-deploying the intermediate-range bombers to Crimea would increase their vulnerability to potential attack.

Some are saying Iskander-M short-range ballistic missiles have been deployed, but no hard evidence has been presented and at least one amateur video said to show “Iskander missiles” instead appears to show a coastal missile defense system.

New air-defense missile units that may have nuclear capability are visible on satellite images.

It is doubtful that the nuclear-capable forces currently in Crimea are equipped with nuclear warheads. Their dual-capable missiles are thought to serve conventional missions and their nuclear warheads stored in central storage facilities in Russia.

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Yet the rumors are creating uncertainty and anxiety in neighboring countries – especially when seen in context with the increasing Russian air-operations over the Baltic Sea and other areas – and fuel threat perceptions and (ironically) opposition to further reductions of nuclear weapons.

The uncertainty about what's being moved to Crimea and what's stored there illustrates the special problem with non-strategic nuclear forces: because they tend to be dual-capable and serve both nuclear and conventional roles, a conventional deployment can quickly be misinterpreted as a nuclear signal or escalation whether intended or real or not.

The uncertainty about the Crimea situation is similar (although with important differences) to the uncertainty about NATO's temporary rotational deployments of nuclear-capable fighter-bombers to the Baltic States, Poland, and Romania. Russian officials are now using these deployments to rebuff NATO's critique of Russian operations.

This shows that non-strategic nuclear weapons are already being drawn into the current tit-for-tat action-reaction posturing, whether intended or not. Both sides of the crisis need to be particularly careful and clear about what they signal when they deploy dual-capable forces. Otherwise the deployment can be misinterpreted and lead to exaggerated threat perceptions. It is not enough to hunker down; someone has to begin to try to resolve this crisis. Increasing transparency of non-strategic nuclear force deployments – especially when they are *not* intended as a nuclear signal – would be a good way to start.

Hans M. Kristensen is the director of the Nuclear Information Project at the Federation of American Scientists where he provides the public with analysis and background information about the status of nuclear forces and the role of nuclear weapons.

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The Lowry Interpreter.org – Sydney, Australia
OPINION/Commentary

China: Lines Blur between Nuclear and Conventional Warfighting

Dr. Lora Saalman
19 December 2014

China recently tested its WU-14 hypersonic device, marking its third flight test this year. These tests have elicited analysis for their impact on Beijing's military capabilities, including their potential to break through missile defences.

They merit even closer attention, however, for what they signal about possible shifts in Chinese views on deterrence, transparency and strategic stability.

The WU-14 flights are just the latest installment of Chinese military systems revealed to the world through tests and roll-outs. Other examples in recent memory include China's anti-satellite test (ASAT) in 2007, its ballistic missile defence (BMD) tests in 2010, 2013 and 2014, as well as its unveiling of the J-20 stealth fighter in 2010. This is not to mention its flight of an unmanned aerial vehicle (UAV) in 2013, test of the intercontinental ballistic missile DF-31A in 2014 and recent revelations regarding the DF-41.

The level of sophistication and deployment of many of these systems remains to be seen. Still, these roll-outs indicate that China is shifting from transparency based on intent to one rooted in capabilities.

At one level, these displays allow a more accurate assessment of the systems that constitute Beijing's deterrent. At another level, they indicate that China's decades-old postures of no-first-use, de-mating and even credible minimum deterrence must be re-evaluated in accordance with the dynamism of its growing capabilities.

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At first glance, Beijing's approach towards conventional and nuclear deterrence may appear distinct and static. China's conventional deterrence is based on war-fighting, counter-force, asymmetry and pre-emption. This is contrasted with its nuclear deterrence posture, which has for decades been founded on non-war-fighting, counter-value, asymmetry and no-first-use. It is often taken for granted that these two deterrence postures are isolated, with their only real point of intersection being asymmetry. Yet, there are indications that China's conventional and nuclear deterrence are far less independent and fixed than its rhetoric suggests.

This stems from at least five factors:

1. China's Second Artillery has been responsible for both its conventional and nuclear missiles since the early 1990s. The potential for crossover between these two domains has only grown since that time, particularly in light of its training of personnel and advances in missile technology in recent years.
2. China's conventional and nuclear command and control centres are reportedly co-located. This means that an attack, whether through advanced conventional systems or cyber-attacks, while intending to negate conventional command and control centres, could also threaten China's nuclear command and control, thus leading to escalation.
3. China's system of tunnels leaves gaps in the understanding of its nuclear and conventional forces. While there has been debate about the potential trove of nuclear warheads within China's Great Wall Engineering project, the issue is less one of quantity than of overall inability to account for location, systems and practices that some Chinese experts maintain verify nuclear posture.
4. With its pending deployment of a submarine-based arm of its nuclear deterrent, Beijing's policies of de-mating and low alert levels are likely to change, if not in rhetoric than in reality. Continued de-mating would demand uploading of nuclear warheads in a crisis, thereby negating their survivability. This posture is likely to change by sheer operational necessity.
5. Advances in hypersonic, high-precision and boost-glide capabilities by the Second Artillery, which fields both conventional and strategic missiles, suggest that the line between the two may be blurring. The nuclear-capable nature of these systems, combined with robust discussions within China of their pre-emptive nature, cast questions on whether Beijing's posture of no-first-use will endure for systems intended not simply for conventional attack, but also as a means of penetrating missile defences.

All of these issues merit greater analysis, but the last one in particular demonstrates the complications inherent in Chinese experts suggesting that Beijing's nuclear posture is static and can be verified using its capabilities. Beijing's suite of weapon systems is diversifying in the hands of organisations that are responsible for both conventional and nuclear deterrence. Furthermore, devotion of co-mingled personnel and systems to both conventional and nuclear training and scenarios demonstrates the inherent complexity of arguing for pre-emption and restraint at the same time.

Much has been made of the centrality of no-first-use in Beijing's nuclear posture, with some Chinese experts arguing that China values transparency of intent over capabilities. Yet, with all of its recent weapons tests and omissions of intent, such as the absence of references to no-first-use in Chinese reports on Xi Jinping's visit to the Second Artillery and in China's official defence document *The Diversified Employment of China's Armed Forces*, Beijing's official posture may be undergoing a re-evaluation.

More analysis is needed into the points of intersection and divergence between Chinese concepts of conventional and nuclear deterrence. Particular attention should be paid to how these arenas are being shaped by Beijing's advances in survivability with the Type 094 and Type 096 submarines, ASATs, missile defence, DF-31A, DF-41 and WU-14.

Among these systems, the WU-14 that underwent tests in January, August and December is reportedly pursuing boost-glide, high-precision and hypersonic capabilities among its attributes. Such systems illustrate Beijing's steps towards enhancing its ability to break through missile defences and to reach new accuracy, speeds and distances.

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Enhanced precision, speed, range, maneuverability and multiple-targeting must be factored into evaluations of Beijing's nuclear posture.

The time has come to begin formally expanding strategic dialogues with China to include exchanges and panels devoted to co-mingling of conventional and nuclear capabilities, whether in the domains of land, air, sea, space or cyberspace. Without such exchanges, the gap left from misalignment of Chinese capabilities and posture threatens to increase the risk of miscalculation and to exacerbate strategic mistrust.

Dr. Lora Saalman is an Associate Professor at the Asia-Pacific Center for Security Studies. Dr. Saalman's research focuses on China's nuclear and conventional weapons and cyber security policies vis-à-vis India, Russia, and the United States.

The views expressed in this op-ed are those of the author and do not reflect the official policy or position of APCSS, the US Pacific Command, the US Department of Defense, or the US government.

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<http://www.lowyinterpreter.org/post/2014/12/19/China-Lines-blur-between-nuclear-and-conventional-warfighting.aspx?COLLCC=3764582519&>

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ABOUT THE USAF CUWS

The USAF Counterproliferation Center 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 Director for Nuclear and Counterproliferation (then AF/XON), now AF/A5XP) and Air War College Commandant established the initial manpower 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 .

The Secretary of Defense's Task Force on Nuclear Weapons Management released a report in 2008 that 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." As a result, 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 continuing education through the careers of those Air Force personnel working in or supporting the nuclear enterprise. This mission was transferred to the Counterproliferation Center in 2012, broadening its mandate to providing education and research to not just countering WMD but also nuclear deterrence.

In February 2014, the Center's name was changed to the Center for Unconventional Weapons Studies 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.

The CUWS'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.

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