



USAF Center for Unconventional Weapons Studies

(CUWS) Outreach Journal

Issue No. 1125, 25 July 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 resources 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.

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Feature Item: "Conventional Prompt Global Strike and Long-Range Ballistic Missiles: Background and Issues".

Authored by Amy F. Woolf; Specialist in Nuclear Weapons Policy. Published by the Congressional Research Service; May 5, 2014; 46 Pages.

<http://fpc.state.gov/documents/organization/226217.pdf>

Conventional prompt global strike (CPGS) weapons would allow the United States to strike targets anywhere on Earth in as little as an hour. This capability may bolster U.S. efforts to deter and defeat adversaries by allowing the United States to attack high-value targets or "fleeting targets" at the start of or during a conflict. Congress has generally supported the PGS mission, but it has restricted funding and suggested some changes in funding for specific programs.

CPGS weapons would not substitute for nuclear weapons, but would supplement U.S. conventional capabilities. They would provide a "niche" capability, with a small number of weapons directed against select, critical targets. Some analysts, however, have raised concerns about the possibility that U.S. adversaries might misinterpret the launch of a missile with conventional warheads and conclude that the missiles carry nuclear weapons. The U.S. Department of Defense (DOD) is considering a number of systems that might provide the United States with long-range strike capabilities.

The Air Force and Navy have both considered deploying conventional warheads on their long-range ballistic missiles.

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The Republic – Columbus, IN

Y-12 Nuclear Weapons Plant to Keep Protesters at a Distance after 2012 Break-In

THE ASSOCIATED PRESS (AP)

July 22, 2014

OAK RIDGE, Tennessee — When protesters show up at the Y-12 nuclear weapons plant in Oak Ridge on Aug. 6, facility security won't be as hospitable as in the past.

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For the second year in a row, the group holding a s "Names and Remembrance Ceremony" and reading the names of those who died in the Aug. 6, 1945 atomic bombing of Hiroshima, Japan, will not be allowed onto a grassy area near the Y-12 entrance.

Following a July 28, 2012, break-in by three Plowshares protesters, including an 82-year-old nun, the government erected a new security fence blocking access to the plant's sign and front yard.

The security fence was constructed of galvanized-steel barricades tied together end to end, and the NNSA said that was a temporary measure until it could construct the more-typical boundary fencing with barbed wire.

National Nuclear Security Administration spokeswoman Rebekah Nwangwa told the Knoxville News Sentinel the government still intends to build a permanent barrier.

"But we've not formulated any specific plans at this time and have not set a schedule for when we intend to pursue the installation of a new fence," Nwangwa said via email.

The Oak Ridge Environmental Peace Alliance tried legal measures to bring the fence down, but those proved unsuccessful.

Ralph Hutchison, the group's coordinator, said they haven't given up the effort. Hutchison said he still hopes that the NNSA will decide to take down the fence voluntarily, saying it was a "stupid" idea to put it up in the first place.

The cost of the fence has been questioned.

When the NNSA's contractors initially erected the "temporary" fence, the government estimated the cost at \$95,000. When that cost figure was challenged, a federal spokesman said the estimate had been revised to about \$41,000.

The NNSA's original estimate on a "permanent" fence was \$150,000. Some observers have suggested that cost is too high because the proposed fence would be constructed of wooden posts and barbed wire. But the government has not released a revised estimate.

At recent protests, including a weekly Sunday vigil at Y-12, peace activists have gathered in a small area off the shoulder a road directly across from the plant's main entrance.

Y-12 is a symbolic gathering point on Aug. 6 because of its role in the World War II Manhattan Project.

The Oak Ridge plant produced the enriched uranium that ultimately was used in "Little Boy," the atomic bomb that was dropped on Hiroshima.

<http://www.therepublic.com/view/story/439cfb0d5a644bcf8f82862f6fca137a/TN--Y-12-Protesters>

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Product Design and Development – Madison, WI

Sandia Ensures U.S. Nuclear Weapons Deterrent Can Remain Effective, Credible

By Sandia National Laboratories
Tuesday, July 22, 2014

It may sound strange to say that nuclear weapons must survive radiation. But as part of its mission of ensuring the nation's stockpile is safe, secure and effective as a deterrent, Sandia National Laboratories must make sure crucial parts can function if they're hit by radiation, especially a type called fast neutrons.

Sandia is responsible for non-nuclear components in all U.S. weapons systems and for overall system engineering and integration: pulling thousands of components together into a weapon. It qualifies systems — ensuring their safety and effectiveness — through computer simulations and rigorous testing at unique facilities that mimic radiation environments a weapon could face during deployment or an accident.

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Sandia developed a new way to do that after its facility for creating fast neutrons, the Sandia Pulsed Reactor (SPR), was shut down due to increased post-9/11 security concerns about its highly enriched uranium.

The laboratory created a science-based project called QASPR, Qualification Alternative to Sandia Pulsed Reactor. QASPR combines computer modeling and simulation, experiments and technology development, and draws on expertise throughout the labs, from materials science to transistor fabrication to sophisticated computer science. The idea is to create better radiation-hardened microelectronics for high-voltage transistors, part of a nuclear weapon's safety electronics, and to offer a way to qualify the electronics without SPR.

Sandia does more modeling and experimental work than ever before to qualify components to survive the fast neutrons produced by a nuclear burst, either from an enemy weapon or one of our own exploding nearby, said QASPR project manager Len Lorence.

Both modeling, experimental work vital

"It's very important both in the modeling and the experimental worlds that you not only get the right result but you get it for the right reason," Lorence said. "It's very important to understand the physics of what's going on."

Experiments don't simply validate computer models. They are key to developing models in the first place. QASPR didn't have the models it needed when it began in 2005. But researchers had time to work on them because the next re-entry system that needed the tools and expertise for qualification was still years away.

QASPR focuses on how transistors, which are crucial in some circuits, react to fast neutron radiation and what happens to its gain in less than a second — an eternity in nuclear weapons work. Transistors can provide gain, the amplification of current passing through a device.

Neutron damage can cause gain to plummet. Designers can compensate for that, but used SPR to check whether designs operated correctly.

QASPR uses unique facilities for studies

QASPR does similar studies at Sandia's Annular Core Research Reactor (ACRR), its Ion Beam Laboratory and two non-Sandia facilities. Each provides unique tests and complementary data that improve computer models.

One of the outside facilities is a fast-burst reactor similar to SPR and the second facility tests response to gamma radiation. ACRR, a long-pulse reactor, creates high levels of damage, although its long pulse makes it less ideal. Still, it provides a calibration point, which simplifies modeling and lets researchers concentrate on phenomena associated with rapid changes in transistor gain. The Ion Beam Laboratory acts as a surrogate for neutron radiation because ions can impart the same kind of neutron displacement damage as neutrons. It combines high damage levels like ACRR with short pulses in one facility. However, it only can irradiate a transistor or a few transistors together, rather than a circuit or component like the larger ACRR can.

QASPR also is creating better radiation-hardened microelectronics in Sandia's Microsystems & Engineering Science Applications fabrication complex. Some of those transistors are based on compound semiconductors, known as III-V for linking elements from the periodic table's columns III and V. Such compound semiconductor transistors are much more resistant to neutron radiation.

QASPR turns in early successes

Researchers spent QASPR's early years combining modeling and experiments to understand the basic mechanisms of the silicon commercial-off-the-shelf components then in use and studying III-V devices. This improved technology, along with more robust modeling and experiments, mitigates risk from the loss of SPR.

"It was a success story for QASPR," Lorence said. "We are able to provide information that ended up affecting the design for the future stockpile modernization effort."

Researchers are interested in the design phase because "we can catch things earlier, we can help guide the design, and ultimately do better qualification," he said.

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QASPR's computer modeling is hierarchal, beginning with studies of materials inside transistors, using fundamental physics modeling and quantum mechanical tools to understand how radiation damage occurs and evolves. Then researchers create a model of how transistor gain changes during and after radiation exposure. Next, models at the analog circuit level aggregate transistors and devices, such as resistors and capacitors, and ever-changing voltages — a complex world where some devices respond to gamma radiation but not neutrons.

“The hierarchical approach is very powerful, since it allows traceability from a high-level circuit response all the way down to the most fundamental atomistic material level,” Lorence said.

Thus, QASPR offers important information. “At the circuit level we can be very impactful, so much so that we can help the system qualification process, which was our goal,” he said.

QASPR and similar efforts to blend experiments and modeling will be needed as long as nuclear weapon electronics continue to evolve, Lorence said.

“It's hard to put into the stockpile the exact same thing that was originally put in the stockpile. At some point it's not possible, not cost-effective,” he said.

<http://www.pddnet.com/news/2014/07/sandia-ensures-us-nuclear-weapons-deterrent-can-remain-effective-credible>

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National Journal – Washington, D.C.

Progress Hard to Gauge on Homeland Antimissile Program: Auditors

By Rachel Oswald

July 22, 2014

Congressional auditors are complaining that a dearth of data is making it difficult to judge progress in improving a key homeland antimissile system.

The Pentagon was ordered under a 2013 law to report to Congress on specific efforts it was taking to improve the performance of the Ground-Based Midcourse Defense system -- the country's principal shield against a limited intercontinental ballistic missile strike. Pentagon officials eventually delivered the assessment in February, seven months late.

But while the document lists past and planned actions aimed at technological enhancements in the program, it fails to adequately explain how those steps would work in bringing about improvements to the system's performance, the Government Accountability Office said in an assessment released last week.

This lack of important contextual information, auditors said, is problematic for congressional defense panels' ability to perform oversight of the GMD program, which finally scored a critical intercept win in a June test after years of failures.

"Without an understanding of the effectiveness of these actions and plans, Congress may not have the information it needs when making difficult choices on where to spend limited funds," the GAO report concludes.

For example, the Missile Defense Agency informed Congress that it had upgraded the software of all first- and second-generation kinetic kill vehicles deployed on interceptors under the GMD system. However, the agency "did not describe the effectiveness of these improvements or whether these improvements have been confirmed to work as intended in flight tests," reads the report.

Additionally, while the Missile Defense Agency discussed its plans to create a better system for estimating interceptors' reliability, the agency failed to disclose how the new methodology would actually be put in place, according to auditors.

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Other gaps in information include the continued lack of a timeline for finalizing a new Ground Based Interceptor acquisition strategy. This comes in spite of the fact that the Pentagon would need such a strategy before it begins the process of purchasing 14 more interceptors for deployment in Alaska in fiscal 2018, the GAO report says.

<http://www.nationaljournal.com/global-security-newswire/progress-hard-to-gauge-on-homeland-antimissile-program-auditors-20140722>

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Yonhap News Agency – Seoul, South Korea

U.S. to Spend US\$5.8 Bln on Missile Defense System

July 23, 2014

WASHINGTON, July 22 (Yonhap) -- The United States plans to spend about US\$5.8 billion over the next five years on a missile defense program designed to intercept incoming warheads from countries like North Korea, according to the Congressional Budget Office.

In a report made public Tuesday, the budget office provided the historical and future budgets for the Missile Defense Agency's Ground-Based Midcourse Defense (GMD) program, a missile defense system aimed at fending off ballistic missile threats from North Korea and Iran.

The report was made at the request of Sen. Jeff Sessions (R-AL).

According to the report, the five-year budget of \$5.8 billion, including costs for research, development and evaluation, as well as operation and maintenance for the program, breaks down to \$1.15 billion in 2015, \$1.43 billion in 2016, \$1.25 billion in 2017, \$1.01 billion in 2018 and \$958 million in 2019.

North Korea's missile program has been a key security concern for the U.S., along with Pyongyang's nuclear weapons program. Last year, the North demonstrated its intercontinental ballistic missile capabilities by succeeding in putting a satellite into orbit aboard a long-range rocket.

The North also carried out three nuclear tests in 2006, 2009 and 2013.

Experts say, however, that the communist nation is not believed to have mastered the technology to make nuclear warheads small enough to fit on a missile.

<http://english.yonhapnews.co.kr/national/2014/07/23/4/0301000000AEN20140723000800315F.html>

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RIA Novosti – Russian Information Agency

US Military Inspectors to Fly Over Russian Territory

21 July 2014

MOSCOW, July 21 (RIA Novosti) – A group of United States inspectors will fly over Russia as part of the international Open Skies Treaty on July 21-26, a Russian Defense Ministry official said Monday.

“Over the period of July 21-26, as part of the international Open Skies Treaty, the US mission is to perform an observation flight over the territory of the Russian Federation aboard OC-135B US Air Force aircraft,” Sergei Ryzhkov, the head of the ministry's National Nuclear Risk Reduction Center, said.

The Boeing OC-135B Open Skies aircraft flies unarmed observation flights over participating parties of the treaty. Russian specialists on board the plane will ensure the flight goes in line with the agreement.

The Treaty on Open Skies was signed by 27 member states of the Organization for Security and Co-operation in Europe (OSCE), in 1992 in Helsinki. The treaty is designed to enhance mutual understanding by allowing unarmed



aerial surveillance flights over the territories of its 34 current member states. Russia signed the treaty on May 26, 2001.

During the observation flights, the aircrafts fitted with sensors and cameras collect image data that can be shared among all signatories to support the monitoring of compliance with existing or future arms control treaties.

<http://en.ria.ru/world/20140721/191059376/US-Military-Inspectors-to-Fly-Over-Russian-Territory.html>

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Reuters – U.S.

U.S. CDC Says It 'May Never Know' How Bird Flu Mishap Occurred

By Julie Steenhuysen

Monday, July 21, 2014

CHICAGO (Reuters) - The U.S. Centers for Disease Control and Prevention "may never know" how a fairly harmless form of bird flu was cross-contaminated with a dangerous bird flu strain before it was sent to a laboratory outside of the CDC, an agency spokesman said on Monday.

That's because most of the materials used in the experiment to culture the virus were discarded shortly after they were used by the scientists performing the work, which occurred in March, CDC spokesman Tom Skinner told Reuters.

The CDC disclosed the bird flu incident as part of an internal investigation into the agency's mishandling of live anthrax in June, potentially exposing dozens of its own lab workers to the pathogen.

While no humans fell ill as a result of the bird flu breach, CDC Director Dr Thomas Frieden has called it "the most distressing" in a series of safety breaches at the agency because of the public risk posed by the virus.

Researchers at a high-security CDC influenza lab learned of their mistake in May. The contaminated bird flu samples had been sent to poultry researchers at the U.S. Department of Agriculture, who noticed their chickens all died.

It took another six weeks before the incident was reported to top brass at the CDC in early July, triggering an outside inspection of CDC labs that concluded on Friday.

Federal investigators are trying to piece together how it was that the laboratory never reported the incident up the chain of command.

Skinner said a key regulatory violation occurred when the CDC failed to properly document what it sent to the high-security biocontainment lab at the USDA.

"We thought we were sending H9N2," a far less dangerous form of bird flu, Skinner said. "We didn't know it was cross-contaminated."

Skinner said cross-contamination often can occur if improperly disinfected instruments come in contact with a growth medium, the material used to grow up the organisms, or if infected growth medium is inadvertently used.

"The mediums and all of the materials that were used to grow up this particular virus - all of that material likely has been discarded. We may never know exactly how cross contamination occurred," he said.

Skinner said outside investigators from the USDA's Animal and Plant Health Inspection Service (APHIS) concluded its investigation into the bird flu mishap on Friday.

Frieden has pledged to make sweeping changes to improve safety measures at CDC labs handling dangerous bacteria and viruses. It has shut down the two labs involved in the anthrax and bird flu incidents and has suspended the transfer of samples from high-security labs until their safety procedures are reviewed.



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The agency is also assembling a group of outside experts to advise on biosafety. That panel could be announced later this week, Skinner said.

Reporting by Julie Steenhuysen; Editing by Michele Gershberg and Diane Craft

<http://www.reuters.com/article/2014/07/21/us-usa-anthrax-birdflu-cdc-idUSKBN0FQ23N20140721>

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The Hill – Washington, D.C.

Senate Confirms Nuclear Security Official

By Timothy Cama

July 23, 2014

The Senate confirmed Madelyn Creedon to be the second highest ranking official at the National Nuclear Security Administration (NNSA).

Creedon was previously the Defense Department's assistant secretary for global strategic affairs since 2011, and has also worked for the Senate Armed Services Committee and the Energy Department.

"Madelyn Creedon's confirmation comes at a critical point for the National Nuclear Security Administration," Energy Secretary Ernest Moniz said in a statement. "She is well-prepared for her new role at the department as it follows a long career of public service in national security."

NNSA is part of the Energy Department. It is responsible for maintaining the country's nuclear weapons safely and securely and keeping international nuclear proliferation to a minimum.

Creedon reports to Lt. Gen. Frank Klotz, NNSA's administrator, in her new position.

<http://thehill.com/policy/energy-environment/213119-senate-confirms-nuclear-security-official>

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The Korea Herald – Seoul, South Korea

N.K. Nuclear Reactor Experiencing Problems: U.S. Think Tank

July 19, 2014

WASHINGTON (Yonhap) -- North Korea temporarily shut down its 5-megawatt nuclear reactor, a key facility in its production of plutonium, or operated it at reduced levels following problems with a dam providing cooling water, a U.S. think tank said Friday.

The website 38 North, run by the U.S.-Korea Institute at Johns Hopkins School of Advanced International Studies, made the analysis based on satellite imagery, citing the absence of "white foam discharge" that occurs when the reactor runs.

The foam was absent in the May 16 image, but reappeared on imagery from May 18-22, according to the website.

"Imagery from early April to mid-May indicates that the 5-MWe reactor was probably shut down or operated at reduced power levels for an undetermined amount of time," it said.

The reactor at the North's main Yongbyon nuclear complex has been the source of weapons-grade plutonium for the communist nation. The small reactor is capable of producing spent fuel rods which, if reprocessed, could give the regime enough plutonium to make one bomb a year.

The suspected shutdown or reduced operations came after a sand dam built in March across the Kuryong River to provide cooling water for the reactor failed in two places between April 7 and May 16, the website said.

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When it became apparent the dam was failing, the reactor's operators could have "worried its loss could cause the river channels to shift further to the east away from their cistern, and shut down or reduced the power of the reactor for safety reasons," the website said.

"When that didn't happen, because the dam did not completely fail and the river water was higher than normal, the decision was made to restart it," said.

In addition to the 5-megawatt reactor, the North has also been building a larger-scale light water reactor at Yongbyon that experts say could give Pyongyang enough plutonium to make about five or six weapons a year.

The new reactor is "externally complete" but the facility has yet to become operational, according to 38 North.

It is unclear whether the start-up has been delayed or if the project is proceeding according to schedule, but if it has been delayed, one possible cause could be the difficulty the North Koreans face in producing light water reactor fuel assemblies, it said.

Another possibility could be the continued failure of the dam, meant to ensure a steady, reliable supply of water for the reactor's cooling system, it added.

<http://www.koreaherald.com/view.php?ud=20140719000109>

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China Topix – New York, NY

North Korea Claims Missile Tests Are for Protection Against U.S.

By Christl Leong

July 20, 2014

North Korea has denounced the United Nations on Saturday after the latter urged it to comply with UN restrictions, claiming that the test launches were precautionary measures against the U.S.

Following a number of ballistic missile launches in recent months, the UN Security Council condemned North Korea on Thursday for violating UN council restrictions.

Eugene Gasana, Rwandan UN Ambassador and July council president, urged North Korea to fully comply with the council resolutions.

In response, North Korea's Foreign Ministry issued a statement Saturday criticizing the UN and calling its condemnation of Pyongyang "absolutely intolerable."

It claimed that the ballistic missiles were launched in response to increasingly "madcap war maneuvers" by the U.S.

It argued that military measures carried out by the Korean People's Army were exercises to practice its right of self-defense intended to protect the country against U.S. aggression and nuclear threat.

The statement added that Pyongyang would resolve to strengthen its military to defend against bigger powers, saying that the North would only be able to achieve peace when it's strong enough to dissuade forces from threatening it.

Last year, North Korea's National Defense Commission announced plans to continue its nuclear and long-range rocket program, declaring that these were part of its efforts to target the United States, which it described as the "sworn enemy of the Korean people."

The United Nations, U.S. and other countries have levied sanctions against North Korea for its repeated ballistic missile and nuclear test launches since 2006.

Last week, Japan filed a diplomatic protest in Beijing accusing the North of violating U.N. Security Council resolutions when the latter fired two ballistic missiles in waters near its border with the Korean Peninsula.

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UN Secretary General Ban Ki Moon urged Pyongyang on Thursday to work towards developing confidence and building mutual trust with its neighbors.

<http://www.chinatopix.com/articles/4454/20140720/north-korea-claims-missile-tests-protection-against.htm>

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Yonhap News Agency – Seoul, South Korea

U.S. Missile Defense on Korean Soil Not Related to China: Seoul

July 21, 2014

SEOUL, July 21 (Yonhap) -- South Korea on Monday brushed aside Chinese concerns about the possible deployment of an advanced U.S. missile defense (MD) system on its soil, stressing its purpose would be to detect North Korean missile launches.

As an integral part of the U.S.-led air defense system for the region, the Terminal High Altitude Area Defense (THAAD) is designed to intercept short-, medium- and intermediate-range ballistic missiles at high altitudes in their terminal phase.

Its possible deployment on Korean soil has drawn keen attention as it would mean Seoul joining the U.S. MD system, also joined by Japan, which mainly aims to counter the rising influence of China in the region.

"The system, if deployed, would not cover beyond the Korean Peninsula, so we can say that it does not much relate to China," defense ministry spokesman Kim Min-seok told a regular briefing.

Noting that neither its range nor altitude would threaten China, he said the possible deployment of "X-Band Radar" also does not carry significance for China as its main objective is to detect ballistic missiles fired from North Korea."

As part of a THAAD battery, X-Band Radar, which operates independently, would provide the U.S. detection capabilities extending across much of eastern China.

"China has not directly mentioned the THAAD system in an official fashion so far," Kim said.

But Beijing has long voiced its opposition, with Chinese Vice Foreign Minister Liu Zhenmin saying earlier this month that he believes Seoul will be "cautious" on the issue and that his country does not want to "see tension or an arms race" in the region.

South Korea has made it clear that it has no plan to buy the THAAD battery for deployment on the Korean Peninsula, but that it is not opposed to the U.S. deploying it here to better protect its forces stationed in Korea.

Seoul has been working to develop its own defense system known as the Korean Air and Missile Defense System, known as KAMD, a low-tier, multiple-interception program, while trying to upgrade its current Patriot Advanced Capability-2 interception system to the PAC-3 system and develop L-SAM surface-to-air missiles.

<http://english.yonhapnews.co.kr/national/2014/07/21/6/0301000000AEN20140721006200315F.html>

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The Hankyoreh – Seoul, South Korea

John Kerry Says N. Korea Has Gotten “Quieter” in the Past Year

By Park Hyun, Washington correspondent

July 22, 2014

US Secretary of State John Kerry remarked on July 20 that North Korea had gotten “quieter” as a result of cooperation between the US and China on their policy toward the North.

On July 20, Kerry appeared on an interview with American broadcaster NBC. When asked about critics who accuse US President Barack Obama of lacking a clear foreign policy, Kerry said, “A bunch of critics [. . .] want to jump to

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conclusions without looking at the facts. But the facts could not be more clear: The United States of America has never been more engaged in helping to lead in more places than we are now.”

Kerry offered North Korea as the first example of what he was talking about. “I just came back from China where we are engaged with the Chinese in dealing with North Korea. And you will notice, since the visit last year, North Korea has been quieter. We haven’t done what we want to do yet with respect to the denuclearization, but we are working on that and moving forward,” Kerry said.

Kerry’s remarks indicate that he considered the fact that North Korea has not carried out a nuclear test or launched any long-range missiles since his visit to South Korea, China, and Japan in April 2013 to be a diplomatic success. But this impression is a far cry from the reality that absolutely no progress is being made on dialogue with North Korea or the six-party talks, and that tensions remain high on Korean peninsula, with North Korea launching short- and mid-range missiles.

This also leads to the suspicion that Kerry is only interested in nuclear tests and long-range missile launches, since these directly affect US security. Of course, considering the increasing domestic and international criticism for the Obama administration’s foreign policy, Kerry’s choice of North Korea as an example can be seen as a desperate move.

Along with US policy toward North Korea, Kerry cited the removal of chemical weapons from Syria and the nuclear negotiations with Iran as examples of diplomatic success.

“The United States is in the center leading and trying to find an effort to make peace where peace is very difficult,” Kerry said, arguing that the Obama administration is on the “right track” in its preference for peaceful and diplomatic engagement to hasty deployment of troops.

http://english.hani.co.kr/arti/english_edition/e_northkorea/648003.html

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The Irrawaddy - Chiang Mai, Thailand

Burma May Build Nuclear Reactors for ‘Research’: Minister

By *THE IRRAWADDY*

Tuesday, July 22, 2014

RANGOON — Burma is preparing to build nuclear reactors for “research purposes” at some point in the future, according to the country’s minister for science and technology.

The state-run New Light of Myanmar reported Tuesday that Minister Ko Ko Oo was asked about Burmese government plans for nuclear research during a session of the Upper House in Naypyidaw n Monday. He responded that the country “might build nuclear reactors for research purposes at an appropriate time,” according to the report.

“Myanmar is carrying out tasks for human resources development in nuclear technology and will build nuclear reactors when the required infrastructure has been built,” the newspaper paraphrased the minister as saying.

Ko Ko Oo, while admitting that nuclear energy can be dangerous, reportedly claimed that “correct application of it can be beneficial as the technology can be applied in various fields including health, agriculture, livestock breeding etc.”

“The union minister added that it is necessary to build a nuclear reactor in order to conduct nuclear researches more effectively but the government at present is still trying to implement measures for protection against nuclear radiation, drafting laws for nonproliferation of nuclear weapons, building infrastructure for nuclear technology and development of human resources in nuclear technology,” it said.



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During the former military regime, Burma was suspected of developing nuclear technology with help from North Korea, raising fears the country's military rulers could gain access to nuclear weapons. Concerns were also raised overseas when Russia announced in 2007 it would build a nuclear reactor in Burma.

The current quasi-civilian government signed a key nuclear nonproliferation agreement with the International Atomic Energy Agency in September last year.

<http://www.irrawaddy.org/burma/burma-may-build-nuclear-reactors-research-minister.html>

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Yonhap News Agency – Seoul, South Korea

China Calls for U.S. to Lower Bar for Nuclear Talks with N. Korea

July 24, 2014

BEIJING, July 24 (Yonhap) -- Chinese Vice Foreign Minister Zhang Yesui has told a group of South Korean lawmakers that the United States must lower the bar for resuming long-stalled multilateral talks on ending North Korea's nuclear weapons program, a South Korean delegate who attended the meeting said Thursday.

The rare comments by Zhang were in line with China's policy toward North Korea, but highlighted a fundamental gap that remains between Washington and Beijing over how to restart the six-nation talks that have been dormant since late 2008.

Zhang made the comments on Wednesday during a meeting with a group of South Korean lawmakers, led by Rep. Lee Seok-hyun of the main opposition New Politics Alliance for Democracy. Lee serves as a vice speaker of the National Assembly.

"The United States is demanding North Korea show its willingness to give up its nuclear (weapons program), while maintaining a high threshold," Zhang was quoted as telling the lawmakers, according to the South Korean delegate.

Zhang also criticized the U.S. policy of trying to "achieve its target even before the talks resume," the delegate said on condition of anonymity.

The vice foreign minister reiterated China's stated goal of "resuming the six-party talks at an early date."

"Unless dialogue resumes, North Korea will have a chance to advance its nuclear capabilities. And we don't want this to happen," Zhang was quoted as saying.

Zhang also told the lawmakers that China is making efforts "through various channels" to prevent North Korea from developing nuclear weapons.

North Korea has warned that it will not rule out carrying out "a new form of nuclear test" since earlier this year. Since its third nuclear test in February last year, Pyongyang has repeatedly expressed its willingness to reopen the six-party talks "without preconditions."

South Korea and the U.S. have maintained that North Korea must first demonstrate its sincerity toward denuclearization before the disarmament-for-aid talks can resume.

The six-party forum, which involves the two Koreas, the U.S., China, Russia and Japan, has not been held since late 2008.

<http://english.yonhapnews.co.kr/national/2014/07/24/61/0301000000AEN20140724009700315F.html>

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Want China Times – Taipei, Taiwan

China Tests Terminal High Altitude Missile Defense System

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Staff Reporter

July 24, 2014

China's defense ministry has revealed that the People's Liberation Army test-fired a new type of air defense missile with similar capability to the American Terminal High Altitude Area Defense system on July 23, according to Global Times, a paper published under the auspices of the Communist Party mouthpiece People's Daily.

A Chinese military expert told the Global Times anonymously that there are essentially three kinds of air defense systems in service. The first, including the US Patriot PAC-2 and PAC-3 and the Russian-built S-300 and S-400 is designed to intercept targets in the lower atmosphere. Because the attack range of these missiles is only between 20-30 kilometers, they are mostly designed to intercept short-range ballistic missiles.

Taking the Terminal High Altitude Area Defense system as an example, the expert said that the second kind of air defense system is designed to intercept targets between 180-200 kilometers away. Israel's Arrow 2 and Arrow 3 midcourse missiles are the third kind of air defense system particularly used against short- and medium-range ballistic missiles with altitude above 200 kilometers.

China is probably testing a second kind of missile similar to the Terminal High Altitude Area Defense of the United States because the PLA did not mention terms such as midcourse in its official statement. However, the expert pointed out that it is too early to reach any conclusion since it will take a large amount of testing for China to complete the design of its first midcourse defense system with the capability to intercept targets from space.

China tested its ground-based midcourse defense system twice in 2010 and 2013, the Guangzhou-based Southern Metropolitan Daily reported. The Chinese defense ministry said the system was not designed to launch an offensive against another country but only to defend China from attack.

<http://www.wantchinatimes.com/news-subclass-cnt.aspx?id=20140724000127&cid=1101>

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The Moscow Times – Moscow, Russia

Russia Concerned by U.S. Proposal for Missile Shield in South Korea

Reuters

July 24, 2014

Russia voiced concern on Thursday over a U.S. proposal to station elements of a missile defense shield in South Korea, saying the move could provoke an arms race in the region.

The commander of U.S. troops stationed in South Korea last month said he had proposed deploying a THAAD advanced missile-defense system to the country to counter the threat of North Korea's weapons capabilities.

"Such U.S. statements cannot but cause concern," the Foreign Ministry said in a statement. "This development will inevitably have a negative impact on the strategic situation in the region and could provoke an arms race in Northeast Asia."

Moscow, whose ties with Washington are at their lowest point since the Cold War over the Ukraine crisis, reiterated long-running opposition to U.S. plans to deploy a global missile shield, including in Europe, which it fears will weaken its nuclear arsenal and shift the balance of power.

"It is impossible not to see that this [U.S. proposal] is really about the prospect of further expanding the geography of the deployment of the U.S. global missile defense system," the ministry said.

The U.S. has carried out a site survey in South Korea for possible locations for the THAAD battery, but no final decisions have been made to deploy the system, local media has reported.

<http://www.themoscowtimes.com/news/article/russia-concerned-by-u-s-proposal-for-missile-shield-in-south-korea/504052.html>

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Korea Times – Seoul, South Korea
July 25, 2014

US Dismisses Russian Concerns about THAAD System in S. Korea

The United States said Thursday an advanced missile defense battery it plans to deploy to South Korea is not aimed at Russia, after Moscow expressed concern that the system would negatively affect the regional situation and provoke an arms race.

The U.S. military plans to bring a Terminal High-Altitude Area Defense (THAAD) missile defense battery into South Korea to help deter threats from North Korea. The U.S. has conducted a site survey for the system, though no decision has been announced as to where to put it.

Russia's foreign ministry voiced concerns about the plan, saying in a statement earlier Thursday that the plan "cannot but cause concern" and claiming that it will "inevitably have a negative impact on the strategic situation in the region and could provoke an arms race in Northeast Asia."

State Department deputy spokeswoman Marie Harf dismissed such concerns. "We have very clearly said that we are committed to missile defense, but also to missile defense cooperation with Russia, which would enhance the security of both NATO and of Russia," Harf told reporters at a Foreign Press Center briefing.

"I understand there are strong opinions in Russia about missile defense. We have been very clear that it is not aimed at them and we are looking at a variety of other threats and we will continue talking to them and being transparent with them about why we are doing what we are doing," she said.

Harf said the U.S. remains firm in its position that North Korea should first take concrete steps to demonstrate it is committed to giving up its nuclear program before the long-stalled six-party talks on denuclearization reopen.

"We've said that the North Koreans need to take certain steps before we can get back to the table and will continue to have those conversations," she said in response to a request for comment on Chinese Vice Foreign Minister Zhang Yesui's remarks that the U.S. should lower the bar for resuming the six-party talks.

She also said the U.S. sees a "quite a bit of urgency" in the nuclear issue. "That's why ... there should be a high bar here. It is a very dangerous threat," she said. "We've seen increasingly provocative rhetoric coming out of North Korea, including with recent missile launches that are in violation of UN Security Council resolutions."

Harf stressed that Washington is not ignoring the North Korean nuclear issue, adding that the U.S. has "a whole team very focused on working with our partners and the rest of the six parties as well to see if we can get back to the table."

Asked for comment on the recent agreement on the establishment of a hotline between the South Korean and Chinese defense ministries, the spokeswoman said the concept of hotlines in general is good because it could be helpful in resolving territorial disputes like those surrounding the South and East China seas.

"Anything that can reduce tensions and try to get these disputes resolved peacefully we do think is a good thing. That's just one of those steps that we tend to observe across the board," she said. (Yonhap)

http://www.koreatimes.co.kr/www/news/nation/2014/07/205_161678.html

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RT (Russia Today) – Moscow, Russia

‘Doomsday Sputnik’: Russia Said to Launch New Missile-Attack Warning Satellite

July 19, 2014

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After years of delay, Russia plans to deploy this year the first satellite of its new constellation replacing the space component of the early warning system, Russian media reported. It will also double as an emergency communication satellite.

The satellite was developed for the military, so naturally little is known about it. Identified by disambiguation 'product 14F142', it is expected to be launched in the fourth quarter of 2014, according to Kommersant newspaper.

The spacecraft will be the first in a constellation, aimed to replace the old Oko-1 early warning system, which allows Russia survey countries possessing nuclear-capable ballistic missiles and detect possible launches.

Oko-1 is currently in bad shape. To be fully operational, it needs four 73D6 satellites in placed in a highly elliptical orbit, dubbed 'Molnya' (lightning) orbit, to provide full-time coverage of the area of interest, and an additional backup satellite in a 71X6 geosynchronous orbit. Russia lost the last of the 71X6s in April this year and has not launched replacements for the 73D6s since 2008, with only two still operational.

The Russian military assured that the ground-based network of early warning radar stations, which the country considerably upgraded in the past years, is robust enough to compensate for the blind spot in the space component, but they may not be completely earnest.

A replacement for Oko-1, the EKS (Unified Space System), has been in development since at least 2000 and was initially expected the star space tests in 2009. But the project faced a set of delays and a round of public bickering and a court battle between the Defense Ministry and Energia space corporation, which builds the platforms for the satellite. Now Kommersant says all the disputes and setbacks are in the past, with the spacecraft almost ready for launch.

The 14F142 is to be launched by a Soyuz-2.1b rocket and a Fregat third stage to a Tundra orbit – a highly elliptical orbit similar to Molnya, but with twice its period. The newspaper source says the instruments build by Kometa Corporation will be able to detect launches of submarine-launched ballistic missiles and launches of some cruise missiles.

In addition to detecting a launch, the spacecraft will be able to calculate the projectile's flight parameters, which will be handy for ground radar stations locking on it. It will also provide communication functions for the military, allowing commands for a retaliatory nuclear strike to be transmitted, should things really go that far south, Kommersant said.

Amid preparation for the launch the military are upgrading Oko-1 ground station in Serpukhov-15 to take control of the 14F142.

<http://rt.com/news/174076-early-warning-satellite-russia/>

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RIA Novosti – Russian Information Agency

Borei-Class Submarines Enter Service Ahead of Russian Navy Day

25 July 2014

MOSCOW, July 25 (RIA Novosti) – Two Russian submarines are entering service just in time for the Russian Navy Day, which falls on July 27 this year: a Yasen-class nuclear attack submarine Severodvinsk and a Borei-class ballistic missile submarine Alexander Nevsky.

Construction of the Severodvinsk began in 1993, but its completion was significantly delayed because of limited funding as a result of economic problems Russia faced in the 1990s. The submarine was finally launched in 2010.

The submarine, whose rivals are the US Navy's Seawolf-class and Virginia-class submarines, is equipped with the Russian equivalent of the US Tomahawk missile, which can carry a nuclear warhead and has a firing range of up to 3,000 kilometers (1,800 miles).

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The Yasen-class submarine also has additional missiles that can be used for high-precision strikes against ground targets.

The Borei-class Alexander Nevsky submarine began trials in October 2010. It was involved in test-firing Bulava intercontinental ballistic missiles, which all Borei-class submarines are equipped with. Aleksander Nevsky is the first series-built submarine of the Borei class.

Two additional Borei-class submarines and two Yasen-class submarines are currently under construction. In total, Russia plans to build 8 Borei-class submarines and 8 Yasen-class submarines by 2020.

Russia has been stepping up the development of its navy since Crimea became part of the Russian Federation in March. In addition to the Russian naval base in the Crimean city of Sevastopol, Russia is developing a port in the country's southern city of Novorossiysk, so that part of Russian's Black Sea Fleet vessels and troops could be deployed there.

By 2017, six Adm. Grigorovich-class frigates and six improved Kilo-class diesel-electric submarines will join the Black Sea Fleet.

Russia is also awaiting the delivery of two French-made Mistral-class assault carriers. The first one, Vladivostok, is expected in St. Petersburg in October, where it will be equipped with Russian weapons. The second carrier, Sevastopol, should be delivered in 2015.

http://en.ria.ru/military_news/20140725/191246567/REVIEW-Borei-Class-Submarines-Enter-Service.html

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Gulf News – Doha, Qatar

Iran Warned of 'Last Chance' as Nuclear Deal Deadline Missed

July 19, 2014

Reuters/Vienna - Iran faced Western pressure on Saturday to make concessions over its atomic activities after it and six world powers failed to meet a July 20 deadline for a deal to end the decade-old dispute but agreed to keep talking.

The countries agreed to extend the high-stakes negotiations by four months, and let Iran access another \$2.8 billion of its cash frozen abroad during that period, though most sanctions on the Islamic Republic stayed in place.

Germany - one of the major powers trying to persuade Iran to curb its nuclear program - warned that the extended talks might be the last chance for a long time to reach a peaceful solution.

Echoing the views of other envoys, a Western diplomat said there had been some progress during nearly three weeks of marathon discussions in Vienna's 19th century Coburg palace and that gaps in positions were not "unbridgeable".

But, the senior diplomat added: "We cannot accept that Iran stays at current levels of enrichment."

The six powers want Iran to significantly scale back its uranium enrichment program to make sure it cannot produce nuclear bombs. Iran says the program is entirely peaceful and wants sanctions that have severely damaged its oil-dependent economy to be lifted as soon as possible.

After years of rising tension between Iran and the West and fears of a new Middle East war, last year's election of a pragmatist, Hassan Rouhani, as Iran's president led to a thaw in ties that resulted in the current nuclear negotiations.

The announcement to give diplomacy until Nov. 24 came in the early hours of Saturday, a day before the July 20 deadline that Iran, the United States, Britain, France, Germany, Russia and China had earlier set for an agreement.

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"These few months until November could be the last and best chance for a long time to end the nuclear argument peacefully," German Foreign Minister Frank-Walter Steinmeier said.

"Iran must show it is willing to dispel all doubts about the peaceful nature of its nuclear program," he said.

Under the terms of the extension of the negotiations, Iran will be able to access during this time a relatively small portion of an estimated more than \$100 billion held abroad, in return for limits to its nuclear program.

It prolongs - with some adjustments - an interim deal hammered out in Geneva last year, under which Iran halted its most controversial nuclear work in exchange for some easing of sanctions. The six-month deal - which allowed Iran to receive \$4.2 billion - was designed to create time and space for the negotiation of a permanent agreement.

U.S. officials stressed that most sanctions against Iran would remain in place for now.

"Iran will not get any more money during these four months than it did during the last six months, and the vast majority of its frozen oil revenues will remain inaccessible ... We will continue to vigorously enforce the sanctions that remain in place," said U.S. Secretary of State John Kerry.

It remains uncertain whether four more months of talks will yield a final deal, since major underlying differences remain after six rounds of meetings since February.

"We are definitely convinced it's doable, it's a question of political will," the senior Western diplomat said. "I think they (Iran) really want to get this done."

In exchange for the \$2.8 billion, Kerry said, Iran agreed to take several steps, including to keep neutralizing its most sensitive uranium stocks - uranium that has been enriched to a level of 20 percent purity - by converting it to fuel for a research reactor in Tehran used to make medical isotopes.

French Foreign Minister Laurent Fabius told Reuters in Cairo that major disagreements remained though some had been resolved.

"If we had thought there was no potential for a deal we would have stopped immediately," he said.

Some members of the U.S. Congress are eager to impose new and tougher sanctions on Iran. U.S. officials said on Saturday they would continue to oppose new sanctions as long as the negotiations were underway but would drop their opposition if the talks collapsed. "We understand Congress' desire to hold Iran's feet to the fire," one of them said.

Iran says it would be willing to delay development of an industrial-scale uranium enrichment program for up to seven years and to keep the 19,000 centrifuges it has installed so far for this purpose, but Washington says this is still too many.

Enriched uranium can be used to make fuel for nuclear power plants, Iran's stated aim, but can also provide material for bombs if refined further, which the West fears may be the country's ultimate aim.

European Union foreign policy chief Catherine Ashton - who leads the talks for the powers - and Iranian Foreign Minister Mohammad Javad Zarif said in a joint statement that the talks would resume in the coming weeks.

<http://www.gulf-times.com/region/216/details/401056/iran-warned-of-%E2%80%98last-chance%E2%80%99-as-nuclear-deal-deadline-missed>

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The Star Online - Penang, Malaysia

West still Struggles to Cut Feared Bomb Risk in Iran Nuclear Talks

By Fredrik Dahl and Louis Charbonneau

Monday, July 21, 2014

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VIENNA (Reuters) - Major powers appear to have made only limited headway in making sure Iran will not be able to build an atomic bomb any time soon, underlining the uphill task they face after talks that began in February were extended by four months.

Western officials say some progress was achieved during the most recent round of negotiations with Iran - enough to justify continuing the high-stakes diplomacy.

Crucially, they said they believe Iran's negotiators genuinely want to reach an agreement in order to win relief from sanctions that have severely damaged its oil-dependent economy, rather than trying to gain more time for nuclear advances.

"I am convinced that they are committed," a senior Western diplomat said, after Iran and the six world powers failed to meet a self-imposed July 20 deadline for a comprehensive accord and decided to prolong the talks until late November.

But it is unclear to what extent that is shared by Supreme Leader Ayatollah Ali Khamenei, who wants an end to sanctions but is seen as wary of a detente with the West.

On the most contentious issue in the decade-old standoff - Iran's capacity to make nuclear fuel that has military uses as well as the civilian ones Tehran argues for - positions remain far apart.

The United States, France, Germany, Russia, China and Britain want Iran to scale back its nuclear programme. Iran says it is entirely peaceful and wants sanctions lifted quickly.

"We still have a considerable way to go," a U.S. administration official said.

Iran's enrichment capacity goes to the heart of the dispute over its atomic ambitions as it determines the so-called breakout timeline - how long it would take to produce enough highly refined uranium for one nuclear weapon.

Iran says it is only enriching uranium to run atomic energy power plants.

In line with a breakout estimate voiced by U.S. Secretary of State John Kerry in April, Western experts say it may be as little as two months - a figure Washington is believed to want to see significantly stretched out, perhaps to a year.

There is a "vast divide" between the sides over the future size of Tehran's enrichment programme, said Robert Einhorn, a former top U.S. official who was involved in policy on Iran.

BREAKOUT "MYTH"

Iran would also need to manufacture the actual weapon and then mount it on a ballistic missile for it to be an immediate risk. But acquiring bomb-grade uranium is seen as the most difficult and time-consuming challenge for any aspiring nuclear weapon state.

Some experts said the hypothetical breakout timeline for Iran - which dismisses as a "myth" such talk - is not likely to change much as a result of new action to limit its nuclear programme that it agreed in Vienna to undertake in the next few months.

Under the terms of the extension of the negotiations, U.S. officials said Iran by late November would turn more of its most sensitive stockpile - uranium enriched to a fissile purity of 20 percent - from oxide into fuel for a research reactor in Tehran.

"It makes it much more difficult ... to use it to further enrich the highly enriched uranium that could be used for a nuclear weapon," one senior administration official said.

Iran will also dilute three tonnes of uranium refined to two percent - far below the 90 percent level required for bombs.

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These measures are in addition to steps Iran already has implemented under an interim, six-month agreement reached in Geneva in November, especially the suspension of its most controversial enrichment, to a fissile purity of 20 percent.

That deal resulted in a "modest but worthwhile" lengthening of the time needed for any bomb bid, Einhorn said.

But Olli Heinonen, a former chief U.N. inspector, said Iran by the end of the new four-month period would still have some 7.5 tonnes of uranium refined to about 3.5 percent, the level used to fuel nuclear power plants. If enriched to weapons-grade, experts say, that stash could yield about five or six bombs.

With Iran's uranium stocks and number of centrifuges, "the technical breakout time - two months as Secretary Kerry has said earlier - does not change", Heinonen said in an email.

Centrifuges spin at supersonic speed to refine uranium.

U.S. expert David Albright welcomed the new steps but also said they had little impact on theoretical breakout scenarios.

INSPECTIONS MAY "DETER" BREAKOUT

Albright's Institute for Science and International Security in June said Iran could amass material for a nuclear bomb in three months or less, rejecting a finding by Iranian experts that cited a time frame six times longer.

Dismissing such Western estimates, Iranian Foreign Minister Mohammad Javad Zarif said that "small but powerful constituencies have irrationally advanced the idea that Iran can produce enough fissile material for a bomb in months."

After years of rising tension between the Islamic Republic and the West, last year's election of pragmatist Hassan Rouhani as Iran's president led to a thaw in ties that resulted in the current nuclear negotiations.

Iran says it would be willing to delay development of an industrial-scale uranium enrichment programme for up to seven years and to keep the 19,000 centrifuges it has installed so far for this purpose. Washington says this is still too many.

"Until recently the U.S. was still pushing 1,500, though they always realized it was never a realistic number," a source familiar with U.S. thinking said. Other diplomatic sources confirmed that Washington still wanted a centrifuge figure in the low thousands, a goal backed by the three European powers.

Some experts agree with Iran that there are other ways to ensure that the country does not produce nuclear weapons, including frequent access to its enrichment facilities by inspectors of the U.N. International Atomic Energy Agency.

"It is the number of inspections, not the number of centrifuges, that will deter any Iranian thought of a 'breakout' to bolt for a bomb," said Joseph Cirincione, head of the Ploughshares Fund, a U.S.-based security foundation.

Editing by Jeremy Gaunt

<http://www.thestar.com.my/News/World/2014/07/21/West-still-struggles-to-cut-feared-bomb-risk-in-Iran-nuclear-talks/>

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Khaleej Times – Dubai, U.A.E.

Iran Eliminates Sensitive Stockpile under Interim Nuclear Deal: IAEA

The IAEA update also showed that Iran had started up a long-delayed facility to convert some of its lower-grade enriched uranium gas into oxide and had fed about 1,500kg of the material into the conversion process.

Reuters

21 July 2014

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Iran has moved to eliminate its most sensitive stockpile of enriched uranium gas under an interim nuclear deal reached with six world powers last year, according to a monthly update by the UN nuclear watchdog obtained by Reuters on Sunday.

The report by the International Atomic Energy Agency (IAEA) showed that Iran had met the terms of the six-month agreement, under which it limited its atomic activities in exchange for some easing of sanctions that are crippling its economy.

The preliminary accord had been due to expire on Sunday but will be extended with some adjustments, after Iran and the six powers failed during negotiations in Vienna to meet a self-imposed July 20 deadline for a long-term deal to end the decade-old nuclear standoff and agreed to continue talking.

The four-month extension underlines the difficulties negotiators face in settling the dispute permanently even if Iran has met its commitments under the initial agreement, as Sunday's IAEA report suggests.

The six powers - the United States, France, China, Russia, Germany and Britain - want Iran to significantly reduce its uranium enrichment programme to make sure it cannot produce nuclear bombs. Iran says it is peaceful and wants sanctions on the oil-dependent economy to be lifted as soon as possible.

After years of rising tension between Iran and the West and fears of a new Middle East war, last year's election of a pragmatist, Hasan Rohani, as Iran's president led to a thaw in ties that resulted in the current nuclear negotiations.

Under the accord reached in Geneva on November 24, designed to buy time for talks on a comprehensive solution, Iran halted the most controversial aspect of its nuclear programme - enrichment of uranium gas to a fissile concentration of 20 per cent.

It also undertook to dilute or convert to oxide its remaining stockpile of the material - nearly 210kg - during the half-year period, which Sunday's IAEA report showed it had now completed. That stockpile was closely watched by the West as the level of enrichment represented a relatively short technical step away from that required for nuclear weapons.

Iran says it is only refining uranium to fuel nuclear power plants or research reactors, not to develop a nuclear weapons capability as the West suspects.

The IAEA update also showed that Iran had started up a long-delayed facility to convert some of its lower-grade enriched uranium gas into oxide and had fed about 1,500kg of the material into the conversion process, as agreed in November.

Western experts say it would take more time to make a bomb from uranium oxide than from gas, lowering any risk of a quick breakout for a nuclear weapon.

As the IAEA confirmed in a series of monthly updates since the agreement took effect on January 20 that Iran lived up to its part of the deal, the Islamic Republic has gradually gained access to some of its frozen cash held abroad.

After Sunday's IAEA report, it looked set to receive a last instalment of \$550 million out of a total of \$4.2 billion over the half-year period. During the extra four-month period it will receive an additional \$2.8 billion for continuing to comply with the interim deal and for undertaking some new measures, including turning 20 per cent uranium oxide into nuclear fuel.

US officials say Iran still has more than \$100 billion in foreign assets which it has problems accessing due to financial sanctions imposed in recent years over its nuclear programme.

A US official said on Saturday that last year's agreement had been "a success in halting the progress of the Iranian programme and rolling it back in exchange for a relatively modest relief that has been provided over the six months".

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But it remains unclear whether the extension of the talks until late November will yield a final settlement on wider curbs to Iran's nuclear activities in exchange for a gradual end to sanctions, experts and diplomats say.

"There continue to be important gaps ... between the parties," said the senior US official, speaking on Saturday after the extension was agreed with Iran.

http://khaleejtimes.com/kt-article-display-1.asp?xfile=data/middleeast/2014/July/middleeast_July185.xml§ion=middleeast

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Los Angeles Times – Los Angeles, CA

Iran's Leader Appears Unbending on Core Nuclear Issues, Say Experts

By Paul Richter, reporting from Vienna

July 21, 2014

Iran's agreement last year to join international negotiations over its disputed nuclear program stirred a new debate about the country's enigmatic supreme leader, Ayatollah Ali Khamenei.

Was the cleric an implacable revolutionary, as he claimed, who would never yield to the West? Or did he have a less visible pragmatic side that could allow compromise over his country's controversial nuclear program?

This month's international negotiations in Vienna over that program have filled in more details about the elusive leader. And in the view of some Western officials and private experts, the emerging portrait is not encouraging for those who hope for a landmark nuclear deal that would restrict Iran to nonmilitary nuclear activities and resolve a top world security issue.

The talks, which were extended for four months after failing to reach a deal by a July 20 deadline, suggested that Khamenei may be willing to compromise on some important issues. But on the contentious core question – Iran's uranium enrichment capacity – Khamenei signaled he won't yield to the demands of six world powers for a scaled-back program, but rather insists on having a bigger effort, sooner, than the world powers will accept.

This month's round seemed to resolve another much-discussed issue: whether Khamenei would stand back and give a free hand to a negotiating team led by relative moderates. Since Khamenei surprised Western officials -- and his negotiators -- on July 7 by laying down, in surprising technical detail, a set of negotiating "red lines," it has been clear that he guides the Iranian moves.

"The leader of the revolution, Ayatollah Khamenei, leads the negotiations," Iranian President Hassan Rouhani tweeted on Sunday.

Since the Obama administration and Iran began secret talks last year that opened the way for negotiations, a bargain has been implied. The six world powers -- the United States, Britain, China, France, Germany and Russia -- would lift tough sanctions on Iran's economy in exchange for a rollback of its uranium enrichment infrastructure.

But it appears Khamenei wants to take home a victory on both issues: elimination of the sanctions and preservation of almost all of the nuclear program.

"He doesn't seem ready to make the fundamental compromise," said Suzanne Maloney, an Iran specialist at Brookings Institution.

Robert Einhorn, who was a member of President Obama's inner circle of Iran advisors until last year, wrote last weekend that Iran has been quietly moving the goal posts on enrichment.

For years it focused on a demand that the West accept its right to a domestic enrichment program. But since the administration accepted that idea, Iran has increased its demands: Now it says it's entitled to an industrial-scale enrichment program, unlimited research and development, and a seven-year "sunset clause" on the deal, after which it will have the same leeway as other countries.

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Einhorn calls the quiet expansion of these demands “rights creep.”

Khamenei is essentially saying that he wants to be able to live up to all his promises to Iranians on how the nuclear program, a matter of national pride, can never get smaller, but will only expand.

His view is that world powers’ demands for less hardware, more intrusive inspections and suspension rather than elimination of sanctions are just more Western bullying that he won’t accept.

“If a deal is going to have his imprimatur, it has to preserve his dignity and respect the founding principles of the Islamic revolution,” said Ali Vaez, an Iran specialist in Istanbul for the International Crisis Group.

U.S. officials have been saying that the negotiations aren’t between two equal parties. Iran is a repeat violator of international rules and has to acknowledge that and change its behavior, they say.

But Khamenei “doesn’t see this as a negotiation of equal parties, either – he expects the other side to give in,” said a Western diplomat, who requested anonymity citing the sensitivity of the issue.

Khamenei’s tough positions this month suggest he’s ready to walk away from a deal, if necessary, even though that would mean more economic hardship for Iran’s battered middle class and potentially more social unrest.

Iran has shown flexibility on some important points, the six world powers say. For example, it has been discussing design changes to its Arak heavy-water reactor to reduce its production of plutonium, which could be used to make weapons.

But compromises on such issues won’t be enough to bring home an agreement. Congress, which will probably have the power to kill a deal once it is signed, is more focused on enrichment capacity than any other issue.

Is it possible that Khamenei’s demands are only posturing and he might yield at the last minute?

So far, said Maloney of Brookings Institution, “there’s really no evidence to suggest that’s the case.”

<http://www.latimes.com/world/middleeast/la-fg-iran-nuclear-talks-20140721-story.html>

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The Daily Star – Beirut, Lebanon

Rouhani: Nuclear Talks 'Only Way' Forward

Agence France-Presse (AFP)

July 22, 2014

TEHRAN: More negotiations are the only solution to Iran's decade-long nuclear standoff with the West, President Hassan Rouhani said Tuesday.

Rouhani's remarks were his first on the four-month extension until November of talks with world powers agreed in Vienna last week after the two sides said progress made so far was still short of a final breakthrough.

"Negotiations are the only way that is before us and we are hopeful of success in these negotiations," Rouhani was quoted as saying by the official IRNA news agency.

The five permanent members of the U.N. Security Council - Britain, China, France, Russia and the US - plus Germany, want to render Iran incapable of developing an atomic weapons capability.

In exchange, Iran wants painful sanctions choking its economy lifted, with negotiators insisting they also seek to preserve what Tehran calls its right to a civilian atomic program.

Influential Iranian MP Aladin Borujerdi also welcomed Sunday the four-month extension, saying it showed all sides "have the will to reach a comprehensive agreement."

The main sticking point in the negotiations is believed to be Iran's insistence on developing a uranium enrichment capacity that is far higher than what the West regards as acceptable.

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Such capacity, Iran contends, would guarantee fuel for its sole nuclear power plant in Bushehr after the current supply contract with Russia expires in 2021.

The process of enriching uranium can produce fuel for reactors but also the core of a nuclear bomb if purified to higher levels. Iran has always denied that it is pursuing an atomic bomb.

The final say on Iran's nuclear activities and its negotiating decisions rests with supreme leader Ayatollah Ali Khamenei, the ultimate authority in the Islamic republic.

The U.N. atomic agency said Monday that Iran had eliminated all of its most sensitive nuclear material in line with an interim deal struck with the West last November and implemented in January.

As of July 20, Tehran had cut half its stock of 20-percent enriched uranium down to five-percent purity, while the rest was converted into uranium oxide, the International Atomic Energy Agency said.

Iran had also refrained from enriching above the five-percent level at any of its nuclear facilities, the IAEA report said, a finding that could lower international fears that Tehran still sought to build a bomb.

<http://www.dailystar.com.lb/News/Middle-East/2014/Jul-22/264730-rouhani-nuclear-talks-only-way-forward.ashx#axzz38FtbhikV>

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Business Insider – New York, NY

IAEA Worried about Slow Progress in Iran Nuclear Probe: Sources

By Fredrik Dahl, Reuters

July 22, 2014

VIENNA (Reuters) - The U.N. nuclear watchdog is concerned about Iran's current lack of engagement with an investigation into its suspected atomic bomb research, ahead of a deadline next month for Tehran to step up cooperation, diplomatic sources said on Tuesday.

Western officials want Iran to address questions by the International Atomic Energy Agency (IAEA) on allegations of past efforts to develop a nuclear weapons capability, something the country denies.

They say Iran clarifying the IAEA's concerns would also influence a diplomatic push by six world powers to negotiate an end to a decade-old standoff over the Islamic Republic's nuclear program, suggesting some sanctions relief may depend on it.

Iran says it is a peaceful project to generate electricity.

It rejects the IAEA's suspicions as based on false and fabricated information from its enemies, but has promised, since pragmatist Hassan Rouhani became president in mid-2013, to work with the Vienna-based U.N. agency to clear them up.

Under a phased cooperation pact hammered out late last year, an attempt to jumpstart the long-stalled IAEA investigation, Iran agreed two months ago to implement five nuclear transparency measures by Aug. 25, two of which directly dealt with the nuclear bomb inquiry.

However, so far there appears to have been little - if any - movement by Iran to engage on them, the sources said on condition of anonymity.

They said there was still time for Iran to meet its commitments, noting that it in the past occasionally had waited until the last minute, for example when it provided details in May about another issue that forms part of the IAEA's probe.

But the slow pace of cooperation may reinforce an impression in the West about continuing Iranian reluctance to give the IAEA the information and access to sites and people that it says it needs for its investigation.

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There was no immediate comment from Iran or the IAEA.

U.S. officials say it is vital for Iran to address the IAEA's suspicions if the parallel negotiations between Tehran and the United States, France, Germany, Britain, China and Russia on a long-term deal to end the dispute are to succeed.

Those talks - which were extended by four months after the sides failed to meet a July 20 deadline for an accord - aim to set verifiable, civilian limits to Iran's nuclear program and lift punitive sanctions.

"PAST SINS"

The IAEA's inquiry focuses specifically on what it calls the possible military dimensions (PMD) of Iran's atomic activities.

After years of what the West saw as Iranian stonewalling, Iran as a first step in May gave the IAEA information it had requested as to the purpose in developing Exploding Bridge Wire detonators, which can be used to set off an atomic explosive device. Iran says it was for civilian use.

But, the diplomatic sources said, it does not appear to have started moving on the two PMD issues it agreed to clarify by late August - concerning alleged work on explosives and computer studies related to calculating nuclear explosive yields.

They were among 12 specific areas listed in an IAEA report issued in 2011 with a trove of intelligence indicating a concerted weapons program that was halted in 2003 - when Iran came under increased international pressure - but also suggesting some activities may later have resumed.

A U.S. official described the IAEA's investigation as one among "very difficult subjects" in the Iran nuclear diplomacy.

"That said, we have discussed a way forward on PMD, how we can help leverage these negotiations to get the kind of cooperation necessary to meet what the IAEA has set out," the official said, speaking on Saturday after Iran and the six powers agreed to extend their negotiations until Nov. 24.

Iran's denials of nuclear arms aspirations - saying such arms are banned by Islamic values - could make it virtually impossible for it to own up to any illicit work.

"Achieving an Iranian confession of past sins is not going to happen," Greg Thielmann, a senior fellow at the Arms Control Association research and advocacy group, said.

Instead, the focus should be on "strict limits on Iran's nuclear capability and intrusive" monitoring, he added.

Editing by Raissa Kasolowsky

<http://www.businessinsider.com/r-iaea-worried-about-slow-progress-in-iran-nuclear-probe-sources-2014-22>

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Press TV – Tehran, Iran

Iran, P5+1 to Resume Nuclear Talks in September: Tehran

Wednesday, July 23, 2014

Iran and the P5+1 will resume their negotiations to discuss ways to reach a final agreement over Tehran's nuclear energy program in September, Iran's Foreign Ministry Spokeswoman Marzieh Afkham says.

"September 1 has been set for the first round of talks during the extended period," Afkham said at her weekly press briefing on Wednesday.

She added that the two sides would probably hold expert-level meetings before the new round of negotiations.

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“Based on the agreement reached [between Iran and the P5+1], suspension of sanctions will remain in place and no new sanctions will be imposed on Iran,” she explained.

She emphasized that the extension of talks does not mean their failure, but it indicates the two sides’ political will to proceed with the path of negotiations.

Afkham’s comments came after Iran’s Foreign Minister Mohammad Javad Zarif said on Tuesday that the P5+1 group has no “everlasting chance” to reach a final nuclear agreement with Iran.

The right to enrich uranium, the Arak heavy water reactor (in central Iran) and sanctions against Tehran are among the bones of contention between Iran and the P5+1, the top diplomat added.

Iran and the five permanent members of the UN Security Council – the US, France, Britain, Russia and China – plus Germany agreed on the extension of talks until November 24 with a view to achieving a permanent deal that would end the decade-old dispute over Iran’s nuclear energy program.

The two sides sealed an interim deal in Geneva, Switzerland, on November 23, 2013, for a six-month period. The deal, which took effect on January 20, expired on July 20.

Under the deal, dubbed the Geneva Joint Plan of Action, the six countries undertook to provide Iran with some sanctions relief in exchange for Tehran agreeing to limit certain aspects of its nuclear activities.

<http://www.prestv.com/detail/2014/07/23/372451/iran-p51-to-resume-talks-in-sept/>

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RIA Novosti – Russian Information Agency

Almost 32% of Syrian Chemical Weapons Destroyed - OPCW

24 July 2014

MOSCOW, July 24 (RIA Novosti) – The Organization for the Prohibition of Chemical Weapons (OPCW) said Thursday that 31.8 percent of chemical weapons, removed from Syria earlier this year, have been destroyed.

The process to destroy the dangerous chemicals is under way at facilities in Finland, the United States and the United Kingdom.

All 1300 metric tons of chemicals removed from the Syrian Arab Republic by the joint mission of the Organization for the Prohibition of Chemical Weapons and of the UN have been delivered to destruction facilities outside the country, OPCW Director-General Ahmet Üzümcü announced on Thursday.

“Destruction activities are now underway in all locations,” Üzümcü told the OPCW Executive Council in The Hague.

In its meeting on Thursday, the OPCW Executive Council adopted a decision regarding the destruction and verification of 12 former chemical weapons production facilities in Syria.

Under this decision, seven hangers will be razed to the ground and five underground structures will be permanently sealed, rendering them inaccessible.

These destruction activities of chemical weapons production facilities are scheduled to begin within 60 days.

<http://en.ria.ru/world/20140724/191193728/Almost-32-of-Syrian-Chemical-Weapons-Destroyed---OPCW.html>

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The Hindu – New Delhi, India

India, China under Pressure to Develop Naval Arsenals

Focused on preserving its ‘strategic autonomy,’ India is validating its nuclear deterrent

By Atul Aneja

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July 23, 2014

New Delhi -- The battle for energy resources in South China Sea and Indian Ocean is persuading India and China to develop their naval arsenals that have a prominent nuclear dimension.

Focused on preserving its "strategic autonomy," India is validating its nuclear deterrent, riding on some of the recent technological advancements of the Defence Research and Development Organisation (DRDO), the premier body, which is steering the effort to establish an atomic deterrent.

The gap in India's capacity to launch a retaliatory second strike, following a nuclear attack, is set to be bridged with the integration of a Submarine Launched Ballistic Missile (SLBM) on the hull of the domestically developed Arihant nuclear submarine, which is set to undergo sea trials.

"During the trial phase, the Arihant will test-fire the fully developed BO-5 missile as part of the sea trials," said Avinash Chander, the head of DRDO, referring to the SLBM, which can strike from a moveable platform at a maximum distance of 2,000 km.

China's response

As India builds its deterrent, China has fully developed its fourth-generation nuclear powered submarines, capable of targeting sea-going or land-based objects with torpedoes and missiles, the *People's Daily* reported.

The Chinese seem to be responding with calibrated assertion, following the Pivot to Asia of the United States, which entails beefing up America's military profile in the Asia-Pacific, including the energy rich, South China Sea.

Analysts say that the competition for energy and other resources in the Indian Ocean and the South China Sea, which should not spill over into open conflict, has emerged as a major factor in the establishment of stable deterrents.

In May, China deployed 80 ships, including seven warships, to protect its oil rig in the South China Sea, in an area that was hotly contested by Vietnam. On its part, naval sources said the Indian Navy aspires to broaden its footprint along the Indian Ocean, in an area that includes the resource rich East African coastline, and stretches as far as Antarctica.

<http://www.thehindu.com/news/national/india-china-under-pressure-to-develop-naval-arsenals/article6238859.ece>

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MSN News.com

Sierra Leone's Chief Ebola Doctor Contracts the Virus

By Umaru Fofana of Reuters

July 23, 2014

FREETOWN, July 23 (Reuters) - The head doctor fighting an outbreak of the deadly Ebola virus in Sierra Leone has himself caught the disease, one of a growing list of medical workers infected while battling to halt its spread across West Africa.

Ebola has killed 632 people across Guinea, Liberia and Sierra Leone since an outbreak began in February, putting strain on a string of weak health systems facing one of the world's deadliest diseases despite waves of international help.

In a sign of the growing frustrations with the failure of region's governments to tackle the outbreak, a Liberian whose brother died from the disease set fire to the Health Ministry in protest on Wednesday.

A statement from the president's office said 39-year-old Sheik Umar Khan, a Sierra Leonean virologist credited with treating more than 100 Ebola victims, had been transferred to a treatment ward run by medical charity Medecins Sans Frontieres.

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A source at the ward confirmed that the doctor was alive and receiving treatment, but gave no details of his condition.

Khan has been hailed a "national hero" by the Health Ministry for his efforts to lead the fight against an outbreak that has killed 206 people in the West African nation.

There is no cure or vaccine for Ebola, which can kill up to 90 percent of those infected, although the mortality rate of the current outbreak is around 60 percent.

It was not immediately clear how Khan had caught the virus. His colleagues told Reuters that he was always meticulous with protection, wearing overalls, mask, gloves and special footwear.

Three days ago, three nurses working in the same Ebola treatment center alongside Khan died from the disease.

Tarik Jasarevic, a spokesman for the World Health Organization, said around 100 health workers had been infected by Ebola in the three countries, with 50 of them dying.

"Personal protection equipment is very hot. But there is a very strict procedure how you wear it, how you take it off, what can be re-used or not," he said.

Earlier this month, Samuel Muhumuza Mutoro, a senior Ugandan doctor working in Liberia died after treated infected patients.

"AFRAID FOR MY LIFE"

The latest WHO figures, released on Saturday, showed that there were 19 new deaths and 67 new cases within the four days since its previous statement.

The Ebola outbreak started in Guinea's remote southeast and has since spread across the region's poorly controlled borders. Symptoms of the highly infectious disease are diarrhea, vomiting and internal and external bleeding.

Part of Liberia's Health Ministry was destroyed on Wednesday when Monrovia resident Edward Deline set fire to the building in protest over the death of his 14-year-old brother from Ebola.

"The health (workers) here are not doing enough to fight this virus. They are taking this to be a money making thing while our people are dying," Deline told journalists after he was arrested by police.

Local and international health workers face a combination of fear, suspicion and local traditions for burying the dead as they try to prevent Ebola spreading further.

During a Reuters visit to the Kenema treatment center in eastern Sierra Leone in late June, Khan said he had installed a mirror in his office, which he called his "policeman", to check for holes in his protective clothing before entering an isolation ward.

Nevertheless, Khan said he feared Ebola. "I am afraid for my life, I must say, because I cherish my life," he said in an interview, showing no signs of ill health at the time.

"Health workers are prone to the disease because we are the first port of call for somebody who is sickened by disease. Even with the full protective clothing you put on, you are at risk."

<http://news.msn.com/world/sierra-leones-chief-ebola-doctor-contracts-the-virus>

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Washington Examiner – Washington, D.C.

OPINION/Op-Ed

Patriot Missile Interceptor System is a Key to International Security for the U.S.

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Maxwell AFB, Alabama

By Richard J. Rowe

July 19, 2014

For the past month, the world's attention has been divided. We watched the World Cup with passion and excitement, even as we were buffeted by global crises in Iraq, Nigeria, the Korean Peninsula and Eastern Europe.

In the opening round of the World Cup, a well-played, deep ball resulted in the Netherlands' Robin van Persie's sudden header to tie reigning world champions, Spain. Where were Spanish interceptors at this critical moment?

Sports analogies can be helpful in strategic considerations for the employment of military forces. A challenge to potential military operations across the globe is the proliferation of ballistic missiles.

Beyond Russia and China, other nations control several thousand missiles that must enter the calculations of combatant commanders for deterrence or response.

Where U.S. partners possess the capacity to counter the ballistic missile threat, we have an immediate advantage in the ability to quickly build force capabilities for deterrence, defense and offensive operations.

With key partners such as Japan, Korea, and NATO, the availability of strong security capabilities, such as the modernized Patriot missile system, provide a tremendous advantage.

When Patriot is deployed internationally, U.S. forces are able to prioritize air, ground and maritime assets, while the partner nation provides needed capacity for response to the missile threat and the potential quick strike disruption.

Our nation's military has proven the value of Patriot with successful deployments now in the third decade in Korea, Europe, the Middle East and Southwest Asia.

Other nations are continually looking to become Patriot partners, like Poland, which recently announced that Patriot is one of two finalists for its new Polish Shield.

Meanwhile, the European Union executes its neighborhood policy with Ukraine and other Eastern European Nations, Russia has roared and annexed Crimea.

With Russia's recent actions and the September NATO Summit in Wales on the horizon, transatlantic missile defense and its future are at the forefront U.S.-European security discussions.

While Ukraine membership in NATO is a future possibility, the region includes NATO members and neighbors who are well aware of Russia's capability.

These more recent NATO members who emerged from the Soviet-dominated Warsaw Pact are potential beneficiaries of President Obama's proposed \$1 billion European security fund.

Additionally, they are among those asked by NATO Secretary General Anders Fogh Rasmussen to step up their own contributions to their collective defense.

NATO members such as Turkey must heed the threat of the Syrian civil war and more recently ISIS operations into western Iraq. The increasing likelihood of involvement by other nations such as Iran introduces emergent threats to include the introduction of ballistic missiles.

For years, Europe has chosen to divert funding away from missile defense programs, forcing the U.S. to carry the majority of the burden. But when incorporated into a partnership that spreads costs around 12 nations, Patriot is a prime example of a stronger, more efficient alliance between the U.S. and allies.

It is imperative that the U.S. and our partners sustain Patriot modernization, as well as critically needed common operating standards to protect our coalition forces.

Today, as we design our forces to meet the evolving national security strategy, our nation is shifting to smaller force packages and shorter deployments.

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As a result, we are likely to continue to put increased pressure on our Special Operations capabilities, our deployable air packages, and our forces to build partner capabilities.

In many of the tough places our soldiers, marines, sailors, and airmen go, they will find the threat includes air and ballistic missile threats. As our next generation continues the mission, they deserve the quality of protection provided by the Patriot, a modern, world-class defense system.

Major General Richard J. Rowe, Jr. (U.S. Army Retired) served in senior leadership positions with U.S. Forces-Iraq, Joint Force Headquarters-National Capital Region, U.S. Northern Command (NORTHCOM), U.S. Army Training and Doctrine Command, and the 82d Airborne Division.

<http://washingtonexaminer.com/patriot-missile-interceptor-system-is-a-key-to-international-security-for-the-u.s./article/2551037>

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Forbes.com
OPINION/Contributor

Ukraine Lesson: Missile Defense Is the Missing Link in U.S. Global Strategy

By Loren Thompson
July 21, 2014

Senator Dianne Feinstein said Sunday that tensions between Russia and the United States have reverted to Cold War levels as a result of Moscow's continuing role in Ukraine. She should know: Feinstein chairs the Senate Intelligence Committee, and she's old enough to remember just how bad it got at some points in that 40-year standoff. For instance, during the Cuban missile crisis senior U.S. policymakers believed the two superpowers were teetering at the abyss of nuclear war.

A lot has changed since those desperate days in the Autumn of 1962, and not all the changes are positive. Russia's nuclear force is much bigger, consisting of over 400 intercontinental ballistic missiles, additional sea-launched missiles, and long-range bombers. China has acquired its own nuclear arsenal, and today stands roughly where Russia did back then in terms of its ability to target America. North Korea has detonated several nuclear devices, and Iran appears to be well along in its own bid to develop weapons of mass destruction.

Somehow, though, concern about nuclear war has receded in Washington to a point where it barely ever gets mentioned anymore — even though all of the aforementioned states either have the ability to target U.S. territory or are actively seeking it. With the exception of a handful of “survivalists” branded as fanatics by popular culture, nobody in America ever thinks about what to do in the event of a nuclear attack, and our nation's leaders regularly stumble into commitments that put them at odds with the interests of other nuclear powers.

Ukraine is simply the latest example. Washington continues to pressure Russian leaders about their involvement in a country that is barely a one-hour plane flight from Moscow as if there is no danger of East-West tensions escalating to the point of conflict, despite the obvious historical precedent offered by how the U.S. reacted when Russia sought to expand its own military presence on America's doorstep.

It's not as though Russian President Vladimir Putin hasn't warned us about where this all could end up. Just months ago his forces staged a massive nuclear exercise that included multiple launches of long-range ballistic missiles and cruise-missile salvos from heavy bombers. The exercise included the first Russian test of a submarine-launched ballistic missile in the Pacific in over ten years. And yet Washington continues to press on in Ukraine — a country where regional expert Stephen Cohen says a third of citizens are actually more sympathetic to Moscow than the West.

If Washington is going to continue injecting itself into regional crises near other nuclear-armed powers — in Eastern Europe, the Western Pacific and elsewhere — it needs to get a lot more serious about defending itself

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against nuclear attack. Right now, it spends less than 1% of its \$600 billion military budget on strategic defense of the homeland, preferring instead to threaten any potential nuclear aggressor with massive retaliation. This strategy, which goes by the bland name of deterrence, is a catastrophe waiting to happen. It leaves the U.S. largely unprotected against nuclear aggression, and has been perverted over time so that any attempt at constructing real defenses is deemed to be dangerous.

What's really dangerous is the ahistorical belief that deterrence will last forever, despite the rise of new nuclear powers, the spread of extremism, and all the other factors complicating the old bilateral strategic relationship between Moscow and Washington. Deterrence is essentially a psychological strategy that places all of its emphasis on shaping the behavior of adversaries. That might work for a long time if the enemy is rational, but what if he isn't? What if he is insane, or accident-prone, or has lost control of local factions within his military force that control nuclear weapons?

Imagine, for example, what might have happened if Ukraine had not voluntarily relinquished its portion of the old Soviet nuclear arsenal shortly after gaining independence. Who might control those weapons today? The point being that one way or another, nuclear weapons are likely to be used again, and if they are used against America our current strategy of visiting "unacceptable damage" on adversaries in a second strike will be cold comfort. The United States needs a much more robust capability to cope with such attacks, otherwise it runs the dual risks of massive destruction or ignominious retreat every time it gets into a standoff with another nuclear-armed nation.

The logical place to begin is by expanding the current Ground-based Midcourse Defense deployed on the U.S. West Coast for intercepting ballistic warheads in space, long before they reach U.S. shores. That system might be able to cope with a small attack on the U.S. homeland by China or North Korea, but it lacks the breadth and depth to deal with larger attacks, especially those originating in Russia. The system needs to be expanded to the East Coast of the U.S., and backed up by a second layer of interceptor missiles so that defenders have multiple shots at each incoming warhead. It also needs a much more resilient network of radars and infrared sensors in space to provide continuous tracking of attacking weapons.

(Disclosure: Many of the companies working on current missile defense programs contribute to my think tank.)

I'm not talking about big money here. The additional increment of capability can be had for 1-2% of the defense budget, far less than the Pentagon is planning to waste on hopeless cases like Iraq and Afghanistan. But if we then double missile-defense outlays again, to 5% of current military spending — about \$30 billion annually — we can start investing in a system for intercepting hostile missiles in their initial "boost" phase — meaning before they release multiple warheads and penetration aids that greatly complicate interception later in their trajectories. This requires getting much closer to the places from which missiles might be launched, which presumably means using forward-deployed aircraft and warships such as an enhanced version of the Navy's Aegis system.

Whatever kill mechanisms and tracking technologies are employed in this system, in the end the U.S. needs a layered architecture of sensors, interceptors and communications links that is globally integrated. The Pentagon's Missile Defense Agency has done all the research necessary to identify what is required, but has not been funded to a level commensurate with the threat. Part of the reason why was that policymakers were wedded to old ways of thinking, such as the Cold War belief that really capable missile defenses would "destabilize" deterrence. Common sense suggests strong defenses could actually bolster deterrence.

The simple fact is that when you rely on a psychological strategy as the main pillar of national security, you can never know for sure how safe you are. After all, we aren't mind readers. We will never know what Vladimir Putin or other foreign leaders are really thinking. What we can know, with far greater precision, is how missile defenses are likely to fare against nuclear attacks of varying sizes. For a small fraction of the present Pentagon budget, America could have this vital backup to its deterrent posture. Failure to pursue such a system leaves the nation vulnerable to the one manmade threat that could destroy the republic.

Loren Thompson writes about national security, especially its business dimensions. His focus on the strategic, economic and business implications of defense spending as the chief operating officer of the non-profit Lexington Institute and Chief Executive Officer of Source Associates.

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<http://www.forbes.com/sites/lorenthompson/2014/07/21/ukraine-lesson-missile-defense-is-the-missing-link-in-u-s-global-strategy/>

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The Hankyoreh – Seoul, South Korea

OPINION/Editorial

[Editorial] Real Security Would Be Rejecting THAAD

July 22, 2014

On July 20, Defense Minister Han Min-gu said on a KBS broadcast, “If the US deploys THAAD on the Korean peninsula, it will help to deter North Korean nuclear weapons and missiles and strengthen our security posture on the peninsula.”

On July 21, Defense Ministry spokesperson Kim Min-seok commented on the issue as well. “Bringing THAAD to Korea basically has little to do with China,” Kim said.

THAAD, a high-altitude missile interception system, is a key component of the American missile defense system. Deploying a single THAAD unit costs more than 2 trillion won (US\$1.95 billion). We are not persuaded by US claims that its desire to install THAAD on the Korean peninsula is motivated solely by the threat posed by North Korea.

Beijing has issued several warnings about deploying THAAD on the Korean peninsula, since it regards THAAD as being aimed at China. Importantly for China, the X-band radar that is operated along with THAAD has a detection range of 1,000km, which includes key areas inside China.

If the US deploys THAAD with United States Forces Korea (USFK), China and Russia will take this to mean that South Korea has joined the US missile defense system. If THAAD is deployed in South Korea, the country will become the front lines in a confrontation between the US and China, and it is clear that Sino-South Korean relations would deteriorate.

In addition, there is a good chance that deploying the THAAD system would provoke North Korea to pour even more energy into developing missiles, making inter-Korean relations even more difficult. It would also complicate efforts to locate a solution for issues affecting the Korean peninsula, including the North Korea nuclear issue.

The South Korean Ministry of National Defense claims that THAAD is necessary because it would be difficult to intercept North Korea’s Rodong ballistic missile with the USFK’s Patriot 3 if North Korea shot it into a higher orbit. However, there is little evidence to support this argument.

For the Ministry to ignore this and take active steps to basically roll out the red carpet for THAAD is effectively the same as accepting a clear strategic disadvantage in pursuit of an ambiguous tactical advantage. In addition to this, once THAAD is deployed with USFK, pressure would increase for South Korea to purchase the system for itself.

Suspensions are increasing that the South Korean government is rashly supporting the deployment of THAAD to repay the US for agreeing to its request to delay the transfer of wartime operational control (OPCON). While the South Korean government claims that it is staying clear of the US missile defense system, in reality it appears to be gradually joining the system.

If the government is truly concerned about security, it must definitely reject the deployment of THAAD.

http://english.hani.co.kr/arti/english_edition/e_editorial/647975.html

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The Korea Times – Seoul, South Korea

OPINION/Editorial

July 22, 2014

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'No' to US Missile Defense

Former Defense Minister Kim Kwan-jin used to make it clear that Korea would not join the U.S. missile defense system. No sooner had Kim left the post than his successor in effect reversed that pledge.

"If the United States deploys THAAD on the Korean Peninsula through its forces stationed here, it would help to deter North Korea's nuclear or missile attacks, and enhance security setup on the peninsula," new Defense Minister Han Min-gu said, appearing on a KBS program Sunday.

It does not take a military expert to know the Terminal High Altitude Area Defense constitutes an integral part of the U.S. missile defense system. U.S. Forces Korea may introduce and operate it at its own cost for the time being, but it will be a matter of time before Washington tells Seoul to take it over or buy a separate unit.

The government needs to reaffirm its clear stance with respect to USFK's plan at least for three reasons.

First, it is too expensive, costing 2 trillion won (\$2 billion) per unit plus 1.2 trillion won as operating cost for 20 years. Second, the system — designed to intercept short- and medium-range ballistic missiles at high altitudes in terminal phases — has few practical uses in coping with possible North Korean attacks. Third, China has long said, directly and indirectly, Beijing would regard its deployment on South Korea's soil as Seoul's crossing the red line in bilateral relationship.

So it was a shallow excuse that Kim Min-seok, the ministry's spokesman, said China has made "no official comments" on the plan. "The system, if deployed, would not reach beyond the Korean Peninsula, so we can say that it has little to do with China," Kim also said. Yet he did not say that X-Band Radar, a part of the THAAD battery, would provide the U.S. detection capabilities extending across much of eastern China.

To recap, Korea will likely buy an expensive missile defense system which has less use for repelling North Korean provocations than serving as part of the U.S. encirclement of China. It will also force Pyongyang to adhere to its nuclear and missile programs more desperately, and may even irritate Russia, throwing Northeast Asia into a mad race of military buildup and running squarely counter to President Park Geun-hye's much-trumpeted initiative of the "Northeast Asia peace process."

Nobody denies the need for strengthened alliance with the United States. But alliance should not be a goal by itself, but a means of maximizing national interests. Joining the U.S. missile defense system apparently brings far more harm than gains, if not directly pushes the nation into the crosshairs of a regional missile war.

The Park administration should be able to say, clearly, "no" to the THAAD deployment. Weighing heavy on Koreans' minds in this regard is the possibility that Washington will demand its deployment in exchange for delaying its transfer of wartime operational command to Seoul.

Seoul must not allow itself to become the theater of renewed Cold War — or a possible hot war — in Northeast Asia. Once the missile defense system is here, it will be too late for regrets.

http://www.koreatimes.co.kr/www/news/opinion/2014/07/202_161520.html

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Kyiv Post – Kyiv, Ukraine
OPINION/Op-Ed

George Woloshyn: Time for MAD-lite

By George Woloshyn
July 22, 2014

Almost five months have elapsed since Russia's direct and unprovoked aggression against Ukraine's "territorial integrity" resulted in its annexation of Crimea. A few weeks later, Russia followed up with its claim to another 40



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percent of Ukrainian territory under the guise of a fictitious “Novorossia,” and unleashed a bloody and destructive invasion that has already cost thousands of lives and billions in damage.

All this against a backdrop – 20 years earlier - of an ill-fated Budapest Memorandum in which the U.S., Russia, and the United Kingdom (followed by China and France) provided assurances of Ukrainian sovereignty and territorial integrity in exchange for Ukraine’s relinquishment of its nuclear arsenal and acceptance of the United Nations' Non-Proliferation Treaty.

Although the U.S. and the United Kingdom have acknowledged that Russia breached its obligations, their “assurances” have proven to be worthless - they have even refused to provide Ukraine with weapons to defend itself! Any first year law student would tell you that the Budapest Memorandum is now null and void, and the global system of nuclear disarmament, treaties, and guarantees has been tested and failed.

As regards Ukraine’s responsibilities under the United Nations' Non-Proliferation Treaty, Article X allows a state to leave the treaty – upon 90 days notice - if “extraordinary events, related to the subject matter of this treaty, have jeopardized the supreme interests of the country.”

Furthermore, NATO has taken the position that *no* notice is required if there is a state of “general war.” It would be hard to dispute that the presence of thousands of foreign military personnel and weapons and the shelling of villages and downing of aircraft from across the border is not a “general war” in all but name.

Although the downing of MH17 has, for the moment, riveted world attention on the daily tragedies unfolding in eastern Ukraine, there is no indication (as yet) that anything has changed.

World attention will swing back to other events and the utterly disgraceful and shameful stance of both the European Union and the United States will continue.

Putting aside the mutually suicidal nuclear factor as more hypothetical than plausible, the current stand-off between Europe and the U.S., on the one hand, and a rogue Russia, on the other, is reminiscent of a Walt Disney cartoon: the little mouse (Russia), with an economy the size of Italy’s (a mere 5 percent that of Europe and the United States) baring its teeth and pressing up threateningly against the terrified cat that is 20 times larger.

Given the relative lopsidedness of economic strength (“soft” power), can any of the world’s leaders explain why NOT deliver a crippling blow - with strong sectoral sanctions - to the Russian economy? Had we done this already, we would not be picking up bodies from Ukrainian fields.

Now that it is increasingly evident that there is a nuclear-armed, rogue country, with a crazed leadership rattling its saber around the borders of Europe; and now that it is obvious that Ukraine can no longer rely on US and EU assurances, it is time for Ukraine to reconsider its relationship to Europe and the West. Ukraine has proven, during these four months of war and invasion, its prudence, self-restraint, and dedication to the maintenance of democratic and civil order and civil liberty. If it is to ensure its own security and, incidentally, discourage further Russian encroachments and claims on the border states of Europe, it must, once again, position itself as a nuclear power.

Ukraine has retained significant nuclear expertise, fuel cycle capabilities, and a large nuclear power program. Ukrainian territory contains 15 nuclear power plants, uranium deposits, milling operations and heavy water production capability. Although it currently lacks a capability for uranium enrichment, it is one of the few nations that possesses the technical means to do so, and to rejoin the nuclear weapons club.

Throughout the cold war, the US doctrine of MAD (mutual assured destruction) is largely credited with maintenance of a (more or less) peaceful and stable environment between the Free World and the USSR. Ukraine does not need to match Russia – or any other power - in nuclear arms. It has no claims or designs on its neighbors, nor does it aspire to “superpower” status. But it DOES need a respectful arsenal of tactical nuclear weapons capable of inflicting so much damage on any prospective aggressor as to avert any threat and keep the peace. Instead of a MAD doctrine – it needs a MAD-lite doctrine...a doctrine of mutual assured **deterrence**.

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As Putin, himself has stated: "If you cannot count on international law, then you must find other ways to ensure your security. ... This is logical: If you have the bomb, no one will touch you."

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<https://www.kyivpost.com/opinion/op-ed/george-woloshyn-time-for-mad-lite-357301.html>

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Foreign Policy.com – Washington, D.C.
OPINION/Argument

A North Korean in Iran

Why ongoing and close ties between Pyongyang's and Tehran's nuclear programs are cause for concern.

BY Olli Heinonen and Simon Henderson

July 23, 2014

The death from natural causes of an old man in North Korea this month should have been the closing chapter of the tale of Pakistan's nuclear and missile cooperation with the Hermit Kingdom. Instead, it may mark the next episode in the saga of Iran's controversial nuclear program.

Jon Pyong Ho, who was 88, had been a highly decorated general in the Korean People's Army, as well as a senior figure in the Korean Workers' Party, Pyongyang's version of the Communist Party. He had been a crucial figure in transforming North Korea into a nuclear-weapon state and, even more controversially, was his country's interlocutor with Pakistani nuclear scientist A.Q. Khan, the "father" of Islamabad's nuclear arsenal. One of the rare pieces of documentary evidence of such collaboration is a letter that Jon wrote to Khan in 1998, thanking the Pakistani scientist for his help and mentioning the payoffs the North Koreans had made to Pakistani generals. "Please give the agreed documents, components etc. to Mr. Yon [the newly appointed liaison with Khan] to be flown back when our plane returns after delivery of missile components," Jon wrote, an apparent reference to North Korea acquiring Pakistani centrifuges.

Although North Korea initially chose the plutonium route to a nuclear bomb, while Pakistan chose enriching uranium, both countries' nuclear programs have a great deal of overlap. Pakistan's Ghauri missiles, the initial launch vehicles for its nuclear weapons, are copies of the North Korean Nodong missile. North Korea's centrifuges at the uranium-enrichment plant at Yongbyon are copies of the so-called P-2 centrifuge, a design acquired through Khan.

Such was Jon's esteem that North Korean leader Kim Jong Un reportedly paid personal condolences at his wake on July 9, the day before the funeral. According to North Korean newspaper *Rodong Sinmun*, the funeral itself was a full-blown official event, organized by a committee of 88 top officials.

The first figure on that list of top officials was Kim Yong Nam. This prominent North Korean official is currently the president of the Supreme People's Assembly and has also served in many other top positions, including as minister of foreign affairs. His name set off alarm bells among North Korea watchers because, in 2002, Kim led a North Korean delegation to Damascus, Syria, where it signed an agreement believed to be related to Syria building a clandestine copy of Pyongyang's plutonium-producing reactor. Five years later, the Israeli Air Force destroyed the facility. Now it appears that Kim may be positioned to play the same role with Iran that Jon once played with Pakistan.

Kim's work has also made him a frequent visitor to Tehran. While Iranian President Hassan Rouhani has avoided being photographed at a nuclear plant -- a notable contrast to his predecessor, Mahmoud Ahmadinejad, who loved to be seen striding next to a cascade of centrifuges -- he has shown no such reluctance with Kim. There are several photos of the two men in Tehran in August 2013, when Kim came for Rouhani's inauguration. And in 2012, Kim was Pyongyang's representative at the Non-Aligned Movement's summit in Tehran. At the official welcoming ceremony, Kim strode alongside Ahmadinejad while reviewing an Iranian military honor guard, and later the two

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men witnessed the signing of a scientific and technological agreement. No details were provided about the agreement, other than it would include setting up joint scientific and technological laboratories, the exchange of scientific teams, and the transfer of technology in the fields of information technology, energy, environment, agriculture, and food.

On the same 2012 visit, Kim had a one-on-one meeting with Supreme Leader Ali Khamenei. Iran's top leader told him that North Korea and Iran have "common enemies" and that "in the march towards great goals, one should be serious, and pressures, sanctions, and threats should not cause any crack in determination."

One example of transfer of technology that has concerned Washington and other capitals has been in the field of missiles. Iran's Shahab-3 missile is, like Pakistan's Ghauri, a locally produced version of the North Korean Nodong missile. A Shahab-3 missile fired from Iran has the range to reach Israel, as well as threaten Tehran's Gulf Arab rivals. But North Korea has developed bigger missiles, which, if transferred, would extend Iran's reach and payload delivery. The International Atomic Energy Agency has also raised concerns about redesign work by Iran on the Shahab-3 re-entry vehicle to allow it to carry a new payload, which could be a nuclear device.

Public North Korean contacts with Iran have continued this year. In February, Iranian Foreign Minister Javad Zarif took a break from negotiations with international powers over his country's nuclear program to hold talks with North Korean Deputy Foreign Minister Ri Gil Song aimed at bolstering bilateral ties. Zarif reportedly emphasized the entitlement of all countries to the right to benefit from peaceful nuclear technology, and Ri supported "Iran's peaceful nuclear policy."

One particular area of concern for the global powers negotiating with Iran is that North Korean technicians will provide Iran with advanced centrifuge technology. Pyongyang has apparently mastered production of the P-2 centrifuge. These are much more efficient than the P-1 centrifuges that Iran currently uses, and they are more proven than the IR-2m that Iran is trying to develop, apparently due to technical difficulties with making the P-2 type and shortages of key raw materials.

Such a move would complicate the negotiations over Iran's nuclear program, which have already been extended until late November after the parties failed to reach an agreement by the original July 20 deadline. The talks over North Korea's illicit nuclear program are going even worse: The legacy of Jon Pyong Ho is moving forward, as the United States opts for a strategy of "strategic patience" -- waiting North Korea to return to the negotiating table. North Korea's restarted reactor at Yongbyon is producing new plutonium, its centrifuges are enriching uranium at the same site and possibly unknown locations, and preparations are under way for another nuclear test.

So far, there are no indications that any diplomatic agreement over Iran's nuclear program will shed light on Pyongyang with Tehran's possibly nuclear collaboration. But it would be rash indeed to argue that the absence of evidence shows that nothing has gone on.

Olli Heinonen, a former deputy director-general for safeguards at the International Atomic Energy Agency, is a senior fellow at the Harvard Kennedy School's Belfer Center for Science and International Affairs. Simon Henderson is a Senior Fellow at the Washington Institute for Near East Policy.

http://www.foreignpolicy.com/articles/2014/07/23/a_north_korean_in_iran_nuclear_programs

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The New Indian Express – Chennai, India
OPINION/Columns

Counter Pak Nuke Tactics

By Manpreet Sethi
24th July 2014

In Pakistan's nuclear strategy, the primary task of its nuclear weapons is not to deter that of India's, but to avoid an engagement with a superior military capability. Rawalpindi is aware of the risk of having to confront India as long

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as it pursues terrorism. But, it believes its nuclear weapons provide a shield that constrains India from militarily punishing it.

India has responded to this strategy by suggesting and illustrating (with Kargil) that there is space to fight a conventional war even in the presence of nuclear weapons. Over time, India has also tweaked its military doctrine to make this viable. This has obviously disturbed Pakistan. For, if an Indian conventional response can still be tailored to remain below Pakistani red lines, then its nuclear weapons have obviously failed.

Pakistan cannot afford this. It has to keep its nuclear weapons relevant and in the face of India, and the world, if it has to prevent a military offensive provoked by self-sponsored terrorism. It is in this context that the idea of battlefield use of nuclear weapons, or what are colloquially called tactical nuclear weapons (TNWs), comes in handy. The very nature of such weapons projects a lowering of the nuclear threshold. The objective is to reclaim the space that India maintains exists for a conventional war despite the presence of nuclear weapons.

In playing this game, Pakistan is not seeking to exploit the military aspect of the TNW. It has no illusions about the military effectiveness of the weapon. At the same time, Pakistani decision makers well understand that escalation control, even in the event of a single use of a tactical nuclear weapon, could well have profoundly tragic consequences. But, the policy of brinkmanship is used by the country for deterrence. In TNW, Rawalpindi has found another tool of keeping India, and by extension the international community, on the edge. In its scheme of things, Pakistan would not have to use the TNW, but only the threat of their use, to deter India.

Pakistan is using its TNWs, therefore, to send a political signal, not to win on the battlefield. In fact, it realises that in order to prevail even in a tactical situation, it would need a large TNW arsenal, which may be beyond the capacity of its fissile material accumulation. But, the purpose of the threat to use low-yield nuclear weapons on military targets is not to cause battlefield damage of a substantive nature, but to threaten to create a new situation that deters India from a conventional response.

Pakistan's strategy of exploiting the political potential of TNWs is based on two assumptions. One, their use would bring about a sufficient material and psychological shift in hostilities to stun India into a halt. Confronted with the prospect of further escalation, the nature of Indian polity would choose war-termination over escalation. This, Pakistan believes, would checkmate India's ability to exploit its superior conventional capability since it would not have the will to act. A second assumption that Pakistan makes is that TNW use would not be seen as provocation enough by India, or the rest of the world, to merit a nuclear response that would lead to further escalation. So, the international community will stop India from continuing its conventional campaign or undertaking nuclear retaliation. As is evident, Pakistan is not miscalculating India's capability, but its credibility to act.

India's response to Pakistan's TNW must address these assumptions. In fact, India does not need to develop TNWs of its own, but to focus on enhancing the credibility of its nuclear deterrence. Pakistan does not doubt India's capability, but its political will in mounting retaliation. It tends to believe that India, despite the use of the TNW, would face an asymmetry of interests in mounting a nuclear response. The doubt in the mind of the adversary appears to be whether India with a strategic culture of military restraint would find it prudent, and more importantly, morally acceptable to inflict damage (and risk more on itself) in response to a threat that is not itself mortal.

It is this doubt that India must remove from the adversary's mind. Having based its deterrence on the threat of punishment, it is imperative that the assuredness or the certainty of retaliation to cause unacceptable damage be sufficiently and credibly conveyed. This could be achieved by reinforcing the public profile of the nuclear command and control at both the military and the political levels. There is need for greater transparency of structures and processes that assure nuclear retaliation. Knowledge of the fact that measures are being taken (without these being disclosed) to ensure survivability of the arsenal, as well as the chain of command at the primary, secondary and tertiary levels, and of the communication systems, should be occasionally mentioned. Secondly, it should also be made widely known that Indian troops have the ability to fight through tactical nuclear use. This would send a message of preparedness to handle such use without bringing conventional operations to a halt or even confronting the political leadership with the choice of war termination, as assumed by Rawalpindi. Thirdly,

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strengthening the profile of the Strategic Forces Command in public perception is necessary. The knowledge of the existence of the organisation that is mandated and is prepared to handle deterrence breakdown would assure the Indian public, while also sending a signal of intent and purpose to the adversary. Fourthly, better evidence and communication of political resolve to undertake retaliation is necessary. Periodic statements from authoritative levels like the National Security Adviser or Commander-in-Chief, SFC, or occasional news reports about meetings of Political Council of the National Command Authority would signal the seriousness of government's attention to the nuclear backdrop that confronts India.

The purpose of the Indian nuclear weapon is narrow and limited to safeguarding the country against nuclear coercion, blackmail or its possible use. The path it has chosen to achieve this is through the suggestion of deterrence by punishment. This strategy seeks to deter nuclear use by conveying a certainty of retaliation in response to a first use, irrespective of its yield or choice of target. For India, therefore, any use of the nuclear weapon would have strategic implications. Pakistan may have introduced a new element with TNW, but India must let it be known that it would play the nuclear game according to its own rules.

The author is an Indian Council of Social Science Research senior fellow at the Centre for Air Power Studies, New Delhi.

<http://www.newindianexpress.com/columns/Counter-Pak-Nuke-Tactics/2014/07/24/article2345369.ece>

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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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