



USAF Center for Unconventional Weapons Studies (CUWS) Outreach Journal

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Feature Item: "JCPOA Exemptions Revealed." Authored by David Albright and Andrea Stricker; Published by the Institute for Science and International Security; September 1, 2016; 5 pages.

[http://isis-online.org/uploads/isis-reports/documents/JCPOA Exemptions Revealed 1Sept2016 Final1.pdf](http://isis-online.org/uploads/isis-reports/documents/JCPOA_Exemptions_Revealed_1Sept2016_Final1.pdf)

The Joint Comprehensive Plan of Action (JCPOA) placed detailed limitations on facets of Iran's nuclear program that needed to be met by Implementation Day, which took place on January 16, 2016.* Most of the conditions were met by Iran. However, we have learned that some nuclear stocks and facilities were not in accordance with JCPOA limits on Implementation Day, but in anticipation the Joint Commission had earlier and secretly exempted them from the JCPOA limits. The exemptions and in one case, a loophole, involved the low enriched uranium (LEU) cap of 300 kilograms (kg), some of the near 20 percent LEU, the heavy water cap, and the number of large hot cells allowed to remain in Iran. One senior knowledgeable official stated that if the Joint Commission had not acted to create these exemptions, some of Iran's nuclear facilities would not have been in compliance with the JCPOA by Implementation Day.

Recently the Joint Commission created a Technical Working Group to consider further exemptions to Iran's stock of 3.5 percent low enriched uranium. This cap is set at 300 kg of LEU hexafluoride but Iran apparently has or could exceed the cap if no further exemptions are granted by the Joint Commission.

The decisions of the Joint Commission have not been announced publicly. The Obama administration informed Congress of key Joint Commission decisions on Implementation Day but in a confidential manner. These decisions, which are written down, amount to additional secret or confidential documents linked to the JCPOA. Since the JCPOA is public, any rationale for keeping these exemptions secret appears unjustified. Moreover, the Joint Commission's secretive decision making process risks advantaging Iran by allowing it to try to systematically weaken the JCPOA. It appears to be succeeding in several key areas.

Given the technical complexity and public importance of the various JCPOA exemptions and loopholes, the administration's policy to maintain secrecy interferes in the process of establishing adequate Congressional and public oversight of the JCPOA. This is particularly true concerning potentially agreement-weakening decisions by the Joint Commission. As a matter of policy, the United States should agree to any exemptions or loopholes in the JCPOA only if the decisions are simultaneously made public.

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Scout Warrior.com – U.S.

Air Force Stealthy B-2 Gets Massive Upgrade

The stealthy B-2 is slated to fly alongside the Air Force's new Long Range Strike - Bomber into the 2050s

By Kris Osborn

August 30, 2016

Air Force pilots of the 1980s-era stealthy B-2 Spirit bomber plan to upgrade and fly the aircraft on attack missions against enemy air defenses well into the 2050s, service officials said.

"It is a dream to fly. It is so smooth," Maj. Kent Mickelson, director of operations for 394th combat training squadron, told Scout Warrior in an interview.

In a special interview designed to offer a rare look into the technologies and elements of the B-2, Mickelson explained that the platform has held up and remained very effective – given that it was designed and built during the 80s.

Alongside his current role, Mickelson is also a B-2 pilot with experience flying missions and planning stealth bomber attacks, such as the bombing missions over Libya in 2011.

"It is a testament to the engineering team that here we are in 2016 and the B-2 is still able to do its job just as well today as it did in the 80s. While we look forward to modernization, nobody should come away with the thought that the B-2 isn't ready to deal with the threats that are out there today," he said. "It is really an awesome bombing platform and it is just a marvel of technology."

The B-2 is engineered with avionics, radar and communications technologies designed to identify and destroy enemy targets from high altitudes above hostile territory.

"It is a digital airplane. We are presented with what is commonly referred to as glass cockpit," Mickelson said.

The glass cockpit includes various digital displays, including one showing Synthetic Aperture Radar (SAR) information which paints a rendering or picture of the ground below.

"SAR provides the pilots with a realistic display of the ground that they are able to use for targeting," Mickelson said.

The B-2 has a two-man crew with only two ejection seats. Also, the crew is trained to deal with the rigors of a 40-hour mission.

"The B-2 represents a huge leap in technology from our legacy platforms such as the B-52 and the B-1 bomber. This involved taking the best of what is available and giving it to the aircrew," Mickelson said.

The Air Force currently operates 20 B-2 bombers, with the majority of them based at Whiteman AFB in Missouri. The B-2 can reach altitudes of 50,000 feet and carry 40,000 pounds of payload, including both conventional and nuclear weapons.



The aircraft, which entered service in the 1980s, has flown missions over Iraq, Libya and Afghanistan. In fact, given its ability to fly as many as 6,000 nautical miles without need to refuel, the B-2 flew from Missouri all the way to an island off the coast of India called Diego Garcia – before launching bombing missions over Afghanistan.

“Taking off from Whiteman and landing at Diego Garcia was one of the longest combat sorties the B-2 has ever taken. The bomber was very successful in Afghanistan and very successful in the early parts of the wars in Iraq and Libya,” Michelson added.

The B-2 crew uses what’s called a “long-duration kit,” which includes items such as a cot for sleeping and other essentials deemed necessary for a long flight, Mickelson explained.

B-2 Mission

As a stealth bomber engineered during the height of the Cold War, the B-2 was designed to elude Soviet air defenses and strike enemy targets – without an enemy ever knowing the aircraft was even there. This stealthy technological ability is referred to by industry experts as being able to evade air defenses using both high-frequency “engagement” radar, which can target planes, and lower frequency “surveillance” radar which can let enemies know an aircraft is in the vicinity.

The B-2 is described as a platform which can operate undetected over enemy territory and, in effect, “knock down the door” by destroying enemy radar and air defenses so that other aircraft can fly through a radar “corridor” and attack.

However, enemy air defenses are increasingly becoming technologically advanced and more sophisticated; some emerging systems are even able to detect some stealth aircraft using systems which are better networked, using faster computer processors and able to better detect aircraft at longer distances on a greater number of frequencies.

The Air Force plans to operate the B-2 alongside its new, now-in-development bomber called the Long Range Strike – Bomber, or LRS-B. well into the 2050s.

B-2 Modernization Upgrades – Taking the Stealth Bomber Into the 2050s

As a result, the B-2 fleet is undergoing a series of modernization upgrades in order to ensure the aircraft can remain at its ultimate effective capability for the next several decades, Mickelson said.

One of the key upgrades is called the Defensive Management System, a technology which helps inform the B-2 crew about the location of enemy air defenses. Therefore, if there are emerging air defenses equipped with the technology sufficient to detect the B-2, the aircraft will have occasion to maneuver in such a way as to stay outside of their range.

The Defensive Management System is slated to be operational by the mid-2020s, Mickelson added.

“The whole key is to give us better situational awareness so we are able to make sound decisions in the cockpit about where we need to put the aircraft,” he added.

The B-2 is also moving to an extremely high frequency satellite in order to better facilitate communications with command and control. For instance, the communications upgrade could make it possible for the aircraft crew to receive bombing instructions from the President in the unlikely event of a nuclear detonation.

“This program will help with nuclear and conventional communications. It will provide a very big increase in the bandwidth available for the B-2, which means an increased speed of data flow. We are excited about this upgrade,” Mickelson explained.

The stealth aircraft uses a commonly deployed data link called LINK-16 and both UHF and VHF data links, as well. Michelson explained that the B-2 is capable of communicating with ground control



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stations, command and control headquarters and is also able to receive information from other manned and unmanned assets such as drones.

Information from nearby drones, however, would at the moment most likely need to first transmit through a ground control station. That being said, emerging technology may soon allow platforms like the B-2 to receive real-time video feeds from nearby drones in the air.

The B-2 is also being engineered with a new flight management control processor designed to expand and modernize the on-board computers and enable the addition of new software.

This involves the re-hosting of the flight management control processors, the brains of the airplane, onto much more capable integrated processing units. This results in the laying-in of some new fiber optic cable as opposed to the mix bus cable being used right now – because the B-2's computers from the 80s are getting maxed out and overloaded with data, Air Force officials told Scout Warrior.

The new processor increases the performance of the avionics and on-board computer systems by about 1,000-times, he added. The overall flight management control processor effort, slated to field by 2015 and 2016, is expected to cost \$542 million.

B-2 Weapons Upgrades

The comprehensive B-2 upgrades also include efforts to outfit the attack aircraft with next generation digital nuclear weapons such as the B-61 Mod 12 with a tail kit and Long Range Stand-Off weapon or, LRSO, an air-launched, guided nuclear cruise missile, service officials said.

The B-61 Mod 12 is an ongoing modernization program which seeks to integrate the B-61 Mods 3, 4, 7 and 10 into a single variant with a guided tail kit. The B-61 Mod 12 is being engineered to rely on an inertial measurement unit for navigation.

In addition to the LRSO, B83 and B-61 Mod 12, the B-2 will also carry the B-61 Mod 11, a nuclear weapon designed with penetration capabilities, Air Force officials said.

The LRSO will replace the Air Launched Cruise Missile, or ALCM, which right now is only carried by the B-52 bomber, officials said.

Alongside its nuclear arsenal, the B-2 will carry a wide range of conventional weapons to include precision-guided 2,000-pound Joint Direct Attack Munitions, or JDAMs, 5,000-pound JDAMs, Joint Standoff Weapons, Joint Air-to-Surface Standoff Missiles and GBU 28 5,000-pound bunker buster weapons, among others.

The platform is also preparing to integrate a long-range conventional air-to-ground standoff weapon called the JASSM-ER, for Joint Air-to-Surface Standoff Missile, Extended Range.

The B-2 can also carry a 30,000-pound conventional bomb known as the Massive Ordnance Penetrator, Mickelson added.

“This is a GBU-28 (bunker-buster weapon) on steroids. It will go in and take out deeply buried targets,” he said.

<http://www.scout.com/military/warrior/story/1641631-air-force-stealthy-b-2-gets-massive-upgrade>

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Sputnik International – Russian Information Agency

Washington Scrambles to Counter Russia's Hypersonic Nuclear Missiles Before 2020

27 August 2016

The Pentagon appears to have been caught flatfooted by the revolutionary development of the Russian hypersonic weapons industry and is now exploring major upgrades to missile defense systems before it's too late. Earlier this week Russian defense industry officials revealed plans to deploy a revolutionary hypersonic maneuvering strike missile by 2020 leaving Washington scrambling to come up with a new missile defense shield capable of shooting down the elite weapon.

Lockheed Martin missile defense experts believe that the Pentagon is exploring ways to shoot down the maneuvering hypersonic missiles with options including a modified extended-range version of the Terminal High-Altitude Area Defense, called THAAD-ER, as well as high-powered lasers capable of shooting down missiles before they reach hypersonic speeds.

Last week, the Pentagon's Defense Advanced Research Projects Agency (DARPA) began the bidding discovery process for a system capable of intercepting hundreds of small drone-like systems as well as conventional missile systems that led defense industry analysts to wonder whether the US military was looking for a sophisticated multi-level laser system not only to tackle the proliferation of small drones but also potentially to counter Russia's hypersonic weapons renaissance.

The United States is also said to be developing hypersonic missiles and space vehicles as well, but defense industry insiders say that these efforts to counter Russia's growing military superiority may never get off the ground due to a lack of program funding.

"Comparable US programs are being funded at low levels and may never actually be deployed," said former Pentagon strategic policymaker Mark Schneider who added that unlike Russia's hypersonic missiles, US systems "will certainly not be nuclear capable under current policy."

Boris Obnosov, director of the state-run Tactical Missiles Corporation has high hopes for Russia's next-generation hypersonic weaponry saying "It's obvious that with such speeds – when missiles will be capable of flying through the atmosphere at speeds of seven to 12 times the speed of sound, all [air] defense systems will be weakened considerably."

US Navy Admiral Cecil Haney, commander of US Strategic Command, agrees with Obnosov's assessment warning last week that "Hyper-glide vehicle technology can complicate our sensing and our defensive approaches."

Obnosov believes that the development of the hypersonic weapons industry in Russia will not only serve to advance the Kremlin's military imperative, but may become the backbone of the country's economy.

"The development of hypersonic technology can be a catalyst for development of the entire industry, the entire national economy as they used to say," said Obnosov comparing the development of hypersonics to the launching of the first satellite – Sputnik I.

<http://sputniknews.com/russia/20160827/1044699399/russia-hypersonic-nuclear-missile-pentagon.html>

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The Korea Herald – Seoul, South Korea

Ruling Party Officially Backs THAAD Deployment Plan

August 30, 2016

The ruling Saenuri Party on Tuesday adopted an official stance to support the planned deployment of a U.S. anti-missile system to South Korea, saying it is the "least" Seoul can do to counter Pyongyang's evolving nuclear and missile threats.

The party lawmakers' unanimous backing for the plan to station a Terminal High-Altitude Area Defense battery on the peninsula by end-2017 came as opposition politicians are largely opposed to the plan.

"Adopting the official stance despite political differences over the THAAD deployment is the Saenuri Party displaying its strong will to stand at the vanguard of the efforts to overcome security challenges facing the country," Saenuri floor leader Chung Jin-suk said during a general meeting of party lawmakers.

The Saenuri leadership, consisting mostly of members loyal to President Park Geun-hye, has supported the deployment plan. But the party's adoption of the official stance would boost Park's push for the THAAD deployment.

In recent weeks, the commander-in-chief has repeatedly made emphatic calls for the public and political circles to back the THAAD deployment, saying that it is an "inevitable, self-defense" measure to defend the nation and its people.

Over the THAAD issue, the Minjoo Party of Korea has so far maintained an indecisive stance as Kim Chong-in, its former interim leader, has opposed moves by party lawmakers to resist the deployment plan.

But expectations are growing that Choo Mi-ae, who was elected MPK chief in a landslide victory on Saturday, might adopt a party stance against THAAD given that she is seen favoring more progressive party tenets and may want to draw the line in relation to Saenuri.

During her election campaign, Choo said that the MPK should adopt a collective position against THAAD, although following her election win she said, "My stance remains unchanged, but I will seek party consensus."

The MPK will hold a major gathering of lawmakers to determine whether it will officially oppose the THAAD issue.

The minor opposition People's Party, meanwhile, has been against the THAAD deployment from the outset, criticizing the MPK for its ambiguous stance over the security issue. (Yonhap)

<http://www.koreaherald.com/view.php?ud=20160830000352>

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Defense One – Washington, D.C.

Pentagon Eyes Missile-Defense Sensors in Space

Even as the Defense Department begins to build a giant new flight-tracking radar in Alaska, it is already thinking bigger — and much higher.

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Maxwell AFB, Alabama

By MARCUS WEISGERBER

August 30, 2016

MOORESTOWN, N.J.— Just west of the New Jersey Turnpike in Philadelphia’s suburbs, a latticework of steel is stretching skyward, preparing to support a prototype missile-defense radar so tall it required a local zoning variance. But even that won’t be high enough for Pentagon planners who think the real future of sensing is in orbit.

On a steamy August morning, a bright yellow crane hoisted beams to a small crew of workers, just about the only ones visible beyond a chainlink security fence. Only two weeks into the construction, the frame of this building was already several dozen feet high.

“We’re on a very aggressive schedule because we have to get the capability fielded by 2020,” said Carmen Valentino, the man in charge of the project for Lockheed Martin.

The latest piece of the Pentagon shield built to protect the United States from long-range ballistic missiles, the building will house the prototype Long-Range Discrimination Radar, which Lockheed Martin executives say will track enemy missiles more precisely than today’s sensors. Tests in New Jersey will help shape an even larger missile tracking radar being built in Alaska at Clear Air Force Station, a military outpost near the Arctic Circle that has watched for incoming ICBMs since the late 1950s.

Company executives here won’t say whose missiles the radar is built to track, but it’s no secret the radar in Alaska will face southwest, directly at North Korea, which has been test-firing rockets at an unprecedented pace this year.

“The number of tests has exceeded any previous year and we’re only seven months or eight months into it,” Vice Adm. James Syring, the director of the Missile Defense Agency said during a presentation at the Space and Missile Defense Symposium in Huntsville, Alabama, earlier this month.

Most concerning to the admiral was the June test of a Musudan, an intermediate-range missile that might be able to reach Guam, more than 2,100 miles away.

“The game has been escalated,” Syring said. “You couple this with what they’ve done with nuclear testing ... and now you begin to understand the foundation for the decision we made as a country ... to deploy a THAAD battery to the [Korean] peninsula.”

He also lamented North Korea’s mobile missile launchers, which the intelligence community has a difficult time spotting, and a recent test-launch from a submarine.

“Another game changer, what they did in demonstration, successfully ejecting a submarine-launched ballistic missile in April,” Syring said. “You think about the challenges that that will bring to our system from indications and warning and what we must overcome if that development continues to progress and succeed.”

Only six countries have submarines that can launch ballistic missiles operationally; North Korea would be No. 7. A missile sub would allow North Korea to maneuver beyond the field of view of fixed radars like the new one being built in Alaska.

That, plus the efforts by several militaries to develop superfast hypersonic missiles, have U.S. planners envisioning missile detectors in orbit.

“From a missile defense standpoint, we have to develop a future operational space layer,” Syring said. “Given where the threat is going, with hypersonics and more capability development with ICBMs and so forth, this persistent tracking and discrimination capability from space is a must.”

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The Missile Defense Agency is eyeing \$400 million “to develop and test” a space-based sensor. It has already started work on something called “space-based kill assessment”: satellites that will determine if a missile is successfully intercepted in space. The Missile Defense Agency wants to use these satellites shoot down test over the Pacific Ocean. The project involves putting small payloads on commercial satellites.

“I think it’s a vitally important, but yet understated, step on where we’re going to space,” Syring said.

And the payloads, he said, do not need to cost tens of billions of dollars like many Pentagon satellite projects.

“Space does not have to be expensive,” he said. “I challenge you to think on what can be done commercially, with commercial partners and in more rapid fashion.”

For now, ground radars like the one taking shape in New Jersey will be a bridge to the future.

The prototype radar will stand 73 feet tall, so high Lockheed needed a variance from the local government to build it. But that’s nothing compared to the radar in Alaska, which will have two 3,000 square-foot gallium nitride arrays that will watch North Korea.

“It will provide the advanced discrimination and search and discrimination capability for the [Ballistic Missile Defense System] that it doesn’t have today for long-range threat scenarios,” Valentino, the vice president of naval radar and future systems for Lockheed, said.

In other words, the radar will be able to tell the difference between ICBMs and decoys faster than existing radars. Getting tracking information sooner will make the missile interceptors more effective, he said. The radar will be able to see thousands of kilometers, “several times” farther than mobile radars that the Pentagon has sent to Japan to watch for North Korean missiles.

The radar in Alaska is just one in a series of improvements to the U.S. missile shield that the Obama administration has said are necessary to protect the U.S. from North Korean rockets.

Even though Lockheed is not slated to finish building the new Alaska radar until 2020, the Pentagon is already looking adding more ground radars and satellites that could track long-range missiles.

At the missile defense conference in Huntsville, Syring displayed a briefing slide that listed new “notional” Pacific and Atlantic radars. The radars are options for potential future requirements and are not funded projects.

“LRDR goes a long way to closing the ‘midcourse gap’ in the Pacific,” said Tom Karako, a missile defense expert at the Center for Strategic and International Studies. “While S-band [radar] is not as high frequency as an X-band, and while the Clear location does not have the reach of a radar on Shemya Island, it’s nevertheless an important step.”

Shemya is the tip of Alaska, 1,500 miles southwest of Clear Air Force Station and much closer to North Korea from where the Long-Range Discrimination Radar will reside. Midcourse intercept refers to shooting down a missile in the middle of its flight when it is outside the atmosphere.

Karako views the notional Pacific radar as an additional means to close the current “gap” in midcourse tracking and discrimination over the Pacific ocean.



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"We won't ever be able to completely close the midcourse gap and radically improve birth-to-death tracking and discrimination until we return to low-Earth orbit, infrared satellites," Karako said. "That's where they need to go."

<http://www.defenseone.com/technology/2016/08/pentagon-wants-put-missile-defense-radar-space/131162/?oref=d-river>

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Xinhua News – Beijing, China

S.Korean President Mentions Conditional THAAD Deployment before Leaving for Russia

Source: Xinhua

September 2, 2016

SEOUL, Sept. 2 (Xinhua) -- South Korean President Park Geun-hye on Friday made her first mention of a conditional deployment of the U.S. missile shield, or Terminal High Altitude Area Defense (THAAD), in South Korean soil, before leaving for Russia to participate in the Eastern Economic Forum.

"The essence of the problem in this matter is the North's nuclear and missile threats. If these threats are eliminated, the need to deploy the THAAD system would naturally disappear," Park said in a written interview with Russia's Rossiya Segodnya which was posted on a Cheong Wa Dae website.

It marked the first time the South Korean leader mentioned the conditional THAAD deployment, showing signs of a slight change in her hard-line position ahead of her trips to Russia and China that have strongly opposed the U.S. missile defense system.

Park is set to visit Vladivostok for two days to attend the second Eastern Economic Forum and hold a bilateral summit with Russian counterpart Vladimir Putin. The forum was launched last year to speed up development of the Russian Far East.

She will move to China to attend Group of 20 (G20) summit scheduled to be held in Hangzhou from Sunday to Monday.

Park, however, reiterated that the THAAD deployment is a measure of self-defense to protect from the Democratic People's Republic of Korea (DPRK)'s "ever-escalating" nuclear and missile threats.

She said there is no reason, nor practical benefit, for the THAAD system to target any third country, contrasting with repeated expressions of strong objections and worries from China and Russia.

Chinese and Russian objections to THAAD in South Korea came as the U.S. missile shield's X-band radar can peer deep into Chinese and Russian territories, breaking strategic balance in the region and damaging security interests of the two countries.

http://news.xinhuanet.com/english/2016-09/02/c_135654595.htm

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Inside Defense – Arlington, VA

State Department Official: Banning Nuclear Weapons 'Unrealistic'

By John Liang

August 30, 2016

An outright ban on nuclear weapons is "unrealistic," a State Department official said this week.

A United Nations "Open-ended Working Group on nuclear weapons" recently completed a report which "recommended with widespread support for the General Assembly to convene a conference in 2017, open to all States, with the participation and contribution of international organizations and civil society, to negotiate a legally-binding instrument to prohibit nuclear weapons, leading towards their total elimination."

That report was rejected by the United States.

"The United States calls on all states to reject unrealistic efforts to ban nuclear weapons," Principal Deputy Assistant Secretary of State for Arms Control, Verification and Compliance Anita Friedt said in an Aug. 29 speech in Astana, Kazakhstan, adding: "The OEWG final report and efforts to institute a legal ban on nuclear weapons fail to take account of the international security environment and will neither lead to the elimination of nuclear weapons nor uphold the principle of undiminished security for all.

"So, together let us reject division and instead agree that we share a common goal and recommit to the roadmap we are on, one that has proven results," she continued, adding: "Together we can make true the hope expressed by President Obama in Hiroshima: to refocus 'the wonders of science on improving life, rather than destroying it.'"

<https://insidedefense.com/insider/state-department-official-banning-nuclear-weapons-unrealistic>

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Breitbart.com – Los Angeles, CA

Report: Venezuela's Hugo Chavez Illegally Bought Weapons Materials from Iran

By FRANCES MARTEL

29 August 2016

The Brazilian magazine *Veja* has published what it claims to be an official Venezuelan government document authorizing the purchase of multiple chemicals used to make weapons from the government of Iran, a violation of UN sanctions, in 2009.

Veja has published excerpts of the document, including what it claims to be the signature of late dictator Hugo Chávez, on the document. The document allegedly authorizes the purchase of nitrocellulose, as well as the purchase of several necessary items for the establishment of a gunpowder factory and nitroglycerin production. The document is dated August 3, 2009.

If confirmed to be a real document, *Veja's* reporting would prove that Iran was continuing its weapons development long after the United Nations attempted to shut it down. It also proves Venezuela was violating UN sanctions to continue doing business with Iran. Iran's transgressions in selling chemicals for weapons development to Venezuela suggest the Islamic nation was even more

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flagrantly in violation of sanctions against it than previously anticipated during the development and subsequent approval of the Joint Comprehensive Plan of Action (the “Iran deal”) in 2015.

Following the signing of the Iran deal, which will allow the nation to continue its nuclear development in a decade or sooner, the nation’s Supreme Leader Ayatollah Khamenei issued a statement declaring that the United States had “surrendered” to Iran. The deal has been widely criticized for providing Iran a pathway to a nuclear weapon, an existential threat to neighboring Israel, as Iran’s leaders have repeatedly asserted their will to destroy the nation.

Venezuela’s ties to Iran are currently in the spotlight as Iranian Foreign Minister Mohammed Javad Zarif is making his way through Latin America. On Saturday, Zarif met with high-level officials in Caracas, where his Venezuelan counterpart Delcy Rodríguez praised Iran as a “friendly brother nation.”

“Iran and Venezuela have very good, warm, and friendly relations with independent politics and the people’s resistance in both nations,” Zarif is quoted in official Venezuelan media as stating. “This wide-ranging relationship consolidated by economic cooperation has been confirmed and can continue to consolidate and deepen,” he added.

Iran’s Mehr News reported the exchange as positively as Venezuelan television did. “Iran’s FM pointed to the warm and intimate relations between the two countries, adding Iran and Venezuela seek an independence spirit and resistance which could be developed into even more deeper and strategic policies in future,” Mehr reported.

The *Veja* weapons report is the latest in a string of similar revelations regarding illegal joint activity between Venezuela and Iran and its terror proxies. Both American academic experts and officials within the U.S. government have warned that Iran and Hezbollah have greatly expanded their footprints in the region. “Iran sponsors terrorism in Latin America by supporting Hezbollah and other terrorist groups through its various embassies throughout the region,” Center for a Secure Free Society (SFS) executive director Joseph Humire said this week: “Iran’s embassies in Latin America function more as intelligence centers than diplomatic outposts, which provide command and control over some of the Hezbollah networks in the region.”

Venezuela’s embassies in the Middle East, meanwhile, have reportedly been operating as document-falsification networks for years. Multiple reports in the past two years have accused Venezuela of printing false birth certificates, passports, and other essential documents for Hezbollah members, allowing them to travel more freely through the Western Hemisphere. According to the 2015 book *Boomerang Chávez*, current Venezuelan President Nicolás Maduro met Hezbollah leader Hassan Nasrallah in Damascus in 2007, in his capacity as minister of Foreign Affairs, to secure a deal involving drug trafficking and a false passport scheme. The book corroborated 2014 reports that among those provided a false Venezuelan passport was Suleiman Ghani Abdul Waked, Nasrallah’s close confidante.

Subsequent reports accused the Cuban government of providing impoverished Venezuela the funding necessary to print the passports.

Among the more compelling was a video surfacing on social media by a man identifying himself as Misael López Soto, a diplomat at Venezuela’s Baghdad embassy. In the video, López Soto says he has fled the embassy following the receipt of multiple death threats because he contacted Caracas in an attempt to stop the continuous falsification of documents for Middle Eastern terror-linked nationals.

<http://www.breitbart.com/national-security/2016/08/29/report-venezuelas-hugo-chavez-illegally-bought-weapons-materials-from-iran/>



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Army Times – Springfield, VA

U.S. Set to Destroy Big Chemical Weapon Stockpile

By Dan Elliot, Associated Press (AP)

August 31, 2016

DENVER — The U.S. Army plans to start operating a \$4.5 billion plant next week that will destroy the nation's largest remaining stockpile of mustard agent, complying with an international treaty that bans chemical weapons, officials said Wednesday.

The largely automated plant at the military's Pueblo Chemical Depot in southern Colorado will begin destroying about 780,000 chemical-filled artillery shells soon after this weekend, said Greg Mohrman, site manager for the plant. He declined to be specific, citing security concerns and possible last-minute delays.

Robots will dismantle the shells, and the plant will use water and bacteria to neutralize the mustard agent, which can maim or kill by damaging skin, the eyes and airways. At full capacity, the facility can destroy an average of 500 shells a day and is expected to finish in mid-2020.

The depot has already destroyed 560 shells and bottles of mustard agent that were leaking or had other problems that made them unsuitable for the plant.

Those containers were placed in a sealed chamber, torn open with explosive charges and neutralized with chemicals. That system can only destroy four to six shells a day.

The shells stored at the Pueblo depot contain a combined 2,600 tons of the chemical. They are being destroyed under a 1997 treaty.

Irene Kornelly, chairwoman of a citizens advisory commission that Congress established as a liaison between the public and the plant operators, said her group had no remaining safety concerns.

The Army stores an additional 523 tons of mustard and deadly nerve agents at Blue Grass Army Depot in Kentucky. Blue Grass is expected to start destroying its weapons next year, finishing in 2023.

<https://www.armytimes.com/articles/us-set-to-destroy-big-chemical-weapon-stockpile>

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Korea Portal – New York, NY

North Korea's Kim Jong Un Orders New Submarine with Multiple SLBM Launchers

By Yugee

August 27, 2016

On Friday, August 26, Tokyo Shimbun, a Japanese media, reported that North Korean leader Kim Jong Un ordered a new submarine that is capable of launching multiple ballistic missiles to be finished by 2018, which is also the 70th anniversary of the founding of the nation.

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The young ruler ordered the ruling North Korean Workers' Party to build a submarine which can fire two to three submarine-launched ballistic missiles or SLBMs, to be completed by September 9, 2018.

In a report, the Korea JoongAng Daily said mentioned that the North's present 2,000-ton Sinpo-class submarine can only fire one SLBM from about 10 meters under water and must return to a base to load another missile.

After Pyongyang's launch of two Musudan intermediate-range ballistic missiles, Kim purportedly ordered the construction of the submarine at a dinner attended by scientists and prominent figures on June 22. North Korea is anticipated to use the technology it acquired from studying a Soviet-era Golf-class submarine that the country acquired from Russia in 1993.

Also, according to a report from the Nihon Keizai Shimbun, Pyongyang is bent on creating a 3,000-ton weapon delivery system.

A South Korean military official said, "Kim Jong Un has the tendency to visit the testing site of new weaponry. After he visits a site, at the related unit, complete national support is provided."

Some analysts pointed out that it is likely that North Korea is determined to do anything in order to create and develop SLBMs as its new main asymmetrical military power.

Kim Keun Sik, a Kyungnam University political science professor said, "Nuclear or missile weapons have been developed since [North Korean founder] Kim Il Sung or Kim Jong Il. SLBMs can become Kim Jong Un's trademark."

On Thursday, 38 North, a website run by the United States-Korea Institute at John Hopkins University's School of Advanced International Studies that monitors Pyongyang, said that North Korea upgraded security at its Sohae Satellite Launching Station.

The upgrades to security, which can be seen through satellite imagery, could signify that the facility could be home to North Korean scientists, engineers, technicians, and support personnel.

<http://en.koreaportal.com/articles/21667/20160827/north-korea-s-kim-jong-un-orders-new-submarine-multiple.htm>

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The Korea Herald – Seoul, South Korea

N. Korea Still at Least Two Years Away from SLBM Deployment: US Expert

August 29, 2016

Despite last week's successful test of a submarine-launched ballistic missile (SLBM), North Korea appears to be still at least two years away from possible deployment of the weapon, a U.S. expert said.

The North conducted the latest in a series of SLBM test-firings Wednesday, sending the missile some 500 kilometers over the East Sea, the greatest distance the communist nation has achieved since it began SLBM tests last year.

Moreover, the missile was launched at a high angle, officials said, meaning the missile could have flown further, possibly more than 1,000 km, if it had been fired at a regular angle. Pyongyang's official Korean Central News Agency also said the missile was fired at a high angle.



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"The success of North Korea's latest submarine-launched ballistic missile test suggests the program may be progressing faster than originally expected. However, this does not mean it will be ready next week, next month or even next year," John Schilling, a top expert on North Korean rockets, said in comments carried by the website 38 North.

"Rather, the pace and method of the North's SLBM testing would suggest possible deployment in an initial operational capability by the second half of 2018 at the earliest," he said.

Schilling pointed out Russia's SLBM development process, saying the North appears to be following the model. In Russia's case, even after two years and 12 tests of varying degrees of "success" after its first successful launch from a submarine, there were still glitches to be found and fixed, he said.

"The North Koreans may skip some of these tests but rushing development almost certainly sacrifices reliability, and fielding inadequately tested or unreliable missiles could result in sunken submarines -- a high price to pay when the North has only a single ballistic missile submarine of limited capability," Schilling said.

The expert also noted that the North has only one GORAE-class submarine that could theoretically be used to field an SLBM, and cannot count on a single prototype submarine with one to two missiles to carry out wartime missions.

"Such a deployment would be more of a bluff than a game-changing threat," he said.

Moreover, the North's submarine has only been put to sea for short periods in coastal waters to verify basic seaworthiness and conduct a few launches, Schilling said. If it is meant to be an operational boat, it will need realistic testing in operational environments, such as exercises with its surface fleet, he said.

"While 38 North has reported on the North's building up of infrastructure to construct new submarines - upgrading, modernizing and erecting new construction halls at the Sinpo South Shipyard - so far no information is known about whether actual submarine construction has begun," Schilling said.

"A new submarine could probably be built within a two-to-three-year time frame, but the likelihood of building new models without further testing and refinement of the experimental GORAE-class seems low," he said. (Yonhap)

<http://www.koreaherald.com/view.php?ud=20160829000163>

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Sputnik International – Russian Information Agency

Arms Race: China's New Missile Defense System to Defend against US, South Korea

29 August 2016

With ongoing tensions in the South China Sea and on the Korean peninsula, Beijing has deemed its third-generation surface-to-air missile combat-ready.

In the latest sign of a new arms race between the United States and China, Beijing's Air Force has announced the completion of a new missile defense system.

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"Through innovation, ground-to-air defense troops are able to deal with far-range, medium-range and short-range missiles which can come in on high, medium and low altitudes," PLA Air Force spokesman Shen Jinke said in a statement released on China's Defense Ministry website, according to the International Business Times.

"The capability of China's air defense and anti-missile systems has greatly improved in the information age we live in. Our ground-to-air forces are now a powerful force to safeguard China's airspace sovereignty."

In the South China Sea, Beijing and Washington are at odds over China's construction of artificial islands in disputed maritime territory. While the US has accused China of attempting to establish an air defense zone, Beijing maintains it has every right to build within what it considers to be its own territory and that the island will be used primarily for civilian purposes.

In light of the Pentagon's continued "freedom of navigation" exercises through the region, the new missile system will ensure that China can defend against incoming projectiles in the event of an attack.

Seoul's plans to install a US-built Terminal High Altitude Area Defense (THAAD) system in South Korea is also a point of contention for Beijing. Ostensibly aimed at defending against a North Korean attack, in light of Pyongyang's recent ballistic missile tests, the THAAD platform's range also threatens the national security of both China and Russia.

"We will fully upgrade our strategic early warning, air strike, anti-aircraft and anti-missile, information countermeasure, air landing, strategic aerial delivery and comprehensive support," Shen added.

Last week, a Bill Gertz op-ed in the Asia Times noted that China and the United States appear to both be increasing missile stockpiles at an alarming rate.

"Beijing's arsenal of ballistic and cruise missiles has been growing steadily for decades as new systems were fielded in an array of ranges – short, medium and intercontinental," Gertz writes.

"Several long-range cruise missiles, capable of carrying nuclear or conventional payloads also are deployed."

This buildup, according to some, will inevitably lead to conflict.

"The problem is not whether the war will break out, but when," reads a report in China Military Online. "Our task is to develop the 'trump card' weapon for China before the war."

<http://sputniknews.com/asia/20160829/1044753120/china-third-generation-defense-missile.html>

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The Korea Herald – Seoul, South Korea

Two THAAD Batteries Necessary for S. Korea to Better Defend against N.K. SLBMs: U.S. Expert

August 30, 2016

At least two THAAD batteries are necessary for South Korea to better defend against North Korea's submarine launched ballistic missiles as a single unit can't cover all of the North's seas, a U.S. arms expert said Monday.



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Increasing THAAD batteries, however, doesn't guarantee full defense against the North's SLBMs because it's questionable whether THAAD is capable of intercepting missiles that are launched at high angles and involve atmospheric reentry, said Jeffrey Lewis, director of the East Asia Nonproliferation Program at the James Martin Center for Nonproliferation Studies (CNS).

"THAAD has a forward-looking radar with a 120-degree field of view. In the case of a single THAAD battery, North Korea's submarines would not have to travel very far out to sea to attack the THAAD system from behind the field of view of its radar," Lewis said, referring to the North's SLBM.

"South Korea needs two THAAD batteries to better cover ocean approaches. That is an obvious solution to at least part of the problem posed by the KN-11," the expert said in an article posted at Arms Control Wonk, a blog website he founded.

The assessment came after the North successfully conducted the latest SLBM test last week, sending the missile, designated KN-11, some 500 kilometers over the East Sea, the greatest distance the communist nation has achieved since it began SLBM tests last year.

Moreover, the missile was launched at a high angle, meaning the missile could have flown farther.

"North Korea fired it nearly straight up, reducing the range. If fired on a minimum trajectory, the KN-11 would have traveled much further than 500 km — over 1,000 km and probably much further," Lewis said.

Deploying two THAAD units, however, "does little to address the possibility of lofted attacks," he said.

"Lofting a long-range missile results in reentry at very high speeds and at a very severe angle. Whether THAAD can deal with a lofted KN-11 depends in part on the missile's range," he said. "There was a healthy debate in 1990s about THAAD's ability to intercept warheads reentering at higher speeds."

THAAD is designed to intercept medium-range ballistic missiles with ranges of 1,000-3,000 kilometers and in theory should have some capability to intercept intermediate-range missiles with ranges of 3,000-5,500 km. But the system has never been tested against an intermediate-range target, let alone on such an unusual angle of attack, Lewis said.

The Pentagon's testing office -- the office of Director, Operational Test and Evaluation (DOT&E) -- gives THAAD a good rating against medium-range ballistic missiles, but the lowest possible rating against Intermediate-range ballistic missiles, he said.

The expert stressed, however, that beefing up defenses could lead only to accelerating arms races.

"South Korea has every right to defend itself against ballistic missile attack, both through THAAD and indigenous missile defenses. I don't understand the public opposition to THAAD in South Korea," he said. "But even so, I don't think we can arms-race our way out of vulnerability with North Korea."

He said the North has too many countermeasures to defeat missile defenses.

"Deploying defenses and precision-strike capabilities will intensify the arms race rather than provide an escape from it," he said, adding that arms-racing is like a Gordian knot, "where our best efforts to wriggle free of vulnerability only tighten the ropes."

"Our best option, unpalatable as it may be, involves finding ways to discourage North Korea from developing new capabilities. Defense is a far less effective strategy," he said. (Yonhap)



<http://www.koreaherald.com/view.php?ud=20160830000128>

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Yonhap News Agency – Seoul, South Korea

N. Korea Urging Soldiers to Become Nuclear Arsenal: Report

August 30, 2016

SEOUL, Aug. 30 (Yonhap) -- North Korea is urging each of its soldiers to become a "nuclear arsenal" in the event of war breaking out on the Korean Peninsula, the U.S.-based Radio Free Asia (RFA) said Tuesday, citing sources from the reclusive country.

A source in North Hamgyong Province told RFA that the North Korean military issued the orders to soldiers during recent political lectures held in response to the ongoing joint military exercises between South Korea and the United States. The Ulchi Freedom Guardian (UFG) exercise is underway, with 25,000 American forces and 50,000 Korean soldiers participating in the annual drill.

According to RFA, the North Korean military specifically urged young soldiers in their teens and 20s to attack the enemy's aircraft carriers wearing nuclear backpacks.

The source said the North Korean military has even made claims that "the enemy's aircraft carriers will capsizes even if a nuclear backpack is detonated at a distance."

"This is aimed at reinforcing the psychological armament of North Korean soldiers and to prevent them from being afraid of war," the source said.

RFA said recently North Korea has newly established a battalion-sized nuclear backpack unit whose members are trained to infiltrate South Korea to detonate nuclear bombs.

The media outlet, however, said members of the unit did not know what their nuclear backpacks looked like.

In October last year, the North showed soldiers wearing backpacks bearing the radiation symbol during a military parade celebrating the 70th anniversary of the North's ruling Workers' Party. Similar backpacks were seen during a military parade in 2013.

<http://english.yonhapnews.co.kr/northkorea/2016/08/30/0401000000AEN20160830010100315.html>

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The Korea Times – Seoul, South Korea

Nuclear Submarine Unrealistic for S. Korea

By Jun Ji-hye

August 30, 2016

While politicians are calling for the development of a nuclear-powered submarine amid mounting threats of North Korea's submarine-launched ballistic missile (SLBM), the military is taking a cautious stance, apparently wary of possible repercussions from the United States.



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Members of the ruling Saenuri Party and some experts say the only measure to counter the North's SLBM threat is possessing nuclear subs that can operate at high speeds for long periods of time, but critics point out that the nation will face many problems if it is resolved to develop them.

The first question is whether the United States, which virtually controls the nuclear fuel reprocessing of South Korea, would approve of such reprocessing to operate a nuclear sub.

Some say that a revision of the Seoul-Washington nuclear cooperation deal, signed last year, would allow Seoul to produce uranium enriched to less than 20 percent when using U.S. ingredients, but critics point out that the agreement disallows nuclear fuel reprocessing for military purposes.

Yang Uk, a senior research fellow at the Korea Defense and Security Forum, told reporters that it is not hard to anticipate Washington's negative response to Seoul's move to develop a nuclear sub as the country tends to be reluctant to allow its allies to have strategic weapons.

Although a nuclear sub is not armed with nuclear weapons but uses nuclear fuel as a power source only, the development can still provoke controversy over whether or not the South Korean government shifts its position from the 1992 inter-Korean denuclearization declaration. Ahead of this, South Korea ratified the nuclear Non-Proliferation Treaty (NPT) in 1975 and has remained formally committed to it since then.

"Whether to build a nuclear sub is closely related to the government's principle of denuclearization, so it is not a simple question," a military official said on condition of anonymity.

The ensuing questions are possible protests from neighboring countries, especially China, which has already been protesting the planned deployment of a U.S. Terminal High Altitude Area Defense (THAAD) battery on South Korean soil by next year. China believes that the battery's AN/TPY-2 radar could be used to spy on the country's military activities and missiles, although Seoul and Washington maintain the stance that the system is designed to defend against North Korean missiles only.

Experts say Seoul's development of a nuclear sub could lead Japan to develop its own subs and push for nuclear armament, which would consequently cause a fierce arms race in the Northeast Asian region.

"From China's point of view, if the development of nuclear submarines is realized in Seoul and Tokyo, it would threaten Beijing's national security much more than THAAD would," said Park Won-gon, an international relations professor at Handong Global University.

Talk about the need to develop a nuclear sub has gained momentum here after the North successfully fired an SLBM, Aug. 24, which flew about 500 kilometers and landed in Japan's Air Defense Identification Zone (JADIZ) in the East Sea.

Rep. Chung Jin-suk, floor leader of the ruling party said, Monday, "The military should consider getting nuclear submarines that can deal with North Korea's SLBMs as they are a more serious threat compared to other land-based missiles as it is difficult to detect the launch point."

A nuclear sub can stay submerged and hidden as long as it has fuel and supplies for its crew, making it harder to track compared to conventional diesel-electric subs that have to surface frequently and operate a diesel engine to recharge their batteries.



Supporters for having nuclear subs say such vessels can be assigned to patrol around North Korean submarine bases, without being detected, and trail SLBM-armed subs heading out to sea.

http://www.koreatimes.co.kr/www/news/nation/2016/08/116_213064.html

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The Chosun Ilbo – Seoul, South Korea

N. Korea 'Could Deploy Submarine-Launched Missiles on Land'

By Yu Yong-weon

August 31, 2016

A U.S. military expert on Monday warned that North Korea could mount submarine-launched ballistic missiles on wheeled vehicles on land, which could make launches more difficult to detect.

Jeffrey Lewis of the James Martin Center for Nonproliferation Studies sounded the warning on his blog, pointing out that the Russian SS-N-6 missiles, on which North Korea's SLBMs are based, have already been modified into mid-range ballistic missiles.

Lewis said the missiles, which use solid fuel, could pose a threat if deployed on land since they would take less time to prepare for launch than liquid-fueled missiles.

North Korea used liquid fuel for attempted SLBM launches until April, when it replaced it with solid fuel. Recent tests suggest they can fly more than 500 km.

Lewis said in that case South Korea would need two of the U.S.' Terminal High-Altitude Area Defense battery, not just one as controversially planned at the moment.

"That is an obvious solution to at least part of the problem posed" by the SLBMs, he said.

But he added this would be a dangerous move for the region. "Deploying defenses and precision-strike capabilities will intensify the arms race rather than provide an escape from it... Our best option, unpalatable as it may be, involves finding ways to discourage North Korea from developing new capabilities. Defense is a far less effective strategy."

http://english.chosun.com/site/data/html_dir/2016/08/31/2016083101189.html

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The Korea Times – Seoul, South Korea

N. Korea Expected to Test Nuclear Warhead Soon

By Kang Seung-woo

August 31, 2016

North Korea's repeated threats to take a series of "eventful action steps" may lead to a test of a miniaturized nuclear warhead, according to analysts, Wednesday.

North Korean leader Kim Jong-un ordered a test of nuclear warheads and ballistic missiles capable of carrying nuclear warheads on March 15, but unlike missile tests, Pyongyang has yet to conduct a nuclear warhead explosion test, raising speculation that the North is expected to detonate a nuclear warhead in the near future.



USAF Center for Unconventional Weapons Studies

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"North Korea is expected to test a nuclear warhead soon among others, which will be the final piece to the nuclear weaponization puzzle, given that the repressive state has already displayed its nuclear materials through four nuclear tests and delivery systems behind numerous launches of ballistic missiles," said Chang Yong-seok, a senior researcher at the Institute for Peace and Unification Studies at Seoul National University.

"Through a nuclear warhead explosion test, the North is likely to try to show its nuclear weapons are an immediate threat."

A military official also said, "To advance its nuclear program, the North may conduct a nuclear warhead test and other missile launches."

Since Aug. 24, when it successfully test-fired a ballistic missile from a submarine, the North Korean leader and its foreign ministry have vowed to take the eventful action steps against the United States and South Korea on three occasions, leading the military to keep close tabs on the North Korean military's activities.

"The North Korean military has followed Kim's instructions since March, but it has yet to fully carry out them," said a South Korean military official, indicating the North's additional provocations.

An Chan-il, the head of the World Institute for North Korea Studies, also predicted the North Korean regime's provocative actions.

"In North Korea, the eventful action step carries a significant meaning, so it may be equivalent to an intercontinental ballistic missile test or a fifth nuclear test," An said.

He added that the North may carry out such plans on Sept. 9, its foundation day, or on Oct. 10, the founding day of its Workers' Party.

Along with possible nuclear or missile tests, small-scale North Korean provocations are likely, including a landmine attack near the inter-Korean border, like it did last year, according to Chang.

The United Nations Command said last week the North had planted anti-personnel mines on the northern side of a bridge in the truce village of Panmunjeom.

In addition, the country recently threatened a preemptive nuclear strike on South Korea and the United States in retaliation for the beginning of their war games, or the Ulchi Freedom Guardian exercise.

In a meeting with her senior secretaries on Monday, President Park Geun-hye ordered stern retaliation against any provocations from the North to make sure that such attempts would lead to the regime's self-destruction which An said was an instruction delivered after considering the present situation there.

Some also say that the North Korean leader would order provocations to tighten his grip on power in the wake of the recent defections of high-ranking North Korean diplomats and protest against the international community's budding move to impose additional sanctions on the country for its recent missile tests.

http://www.koreatimes.co.kr/www/news/nation/2016/09/116_213154.html

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Yonhap News Agency – Seoul, South Korea

N. Korea Building Railway Long-Range Missile Launchers on Railroad: Report

August 31, 2016

SEOUL, Aug. 31 (Yonhap) -- North Korea is building a mobile long-range missile launcher system that can move along the country's railroad tracks, the U.S.-based Radio Free Asia (RFA) reported Wednesday, citing sources in the communist country.

A North Korean resident in Kangwon Province told RFA that North Korean engineers have been working on the mobile missile system since May at a state-run motor vehicle factory.

The plant is under the supervision of the North's Second Economic Commission that is in charge of the ammunition industry.

The unidentified North Korean source said that technicians have built some six railway-mounted launcher vehicles per month.

Another source in North Hamgyong Province also said he heard the government is manufacturing vehicles to launch a long-range missile that can move over the country's railways.

According to the source, the North's Second Economic Commission is overseeing the production of mobile missile launchers as North Korean leader Kim Jong-un emphasized in March the need to diversify the country's nuclear attack capability against the enemy.

"North Korea has no other way but to produce such launchers because China has suspended the exports of large-scale vehicles capable of handling mobile missile launchers," the informant said.

Other North Korean sources claimed the mobile missile launchers moving along railroads are not effective in the strategic aspect because of the country's dilapidated railroad system.

<http://english.yonhapnews.co.kr/northkorea/2016/08/31/0401000000AEN20160831005700315.html>

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The Korea Times – Seoul, South Korea

N. Korea Leader Treats Nuclear Scientist Well Despite Reign of Terror

By Yi Whan-woo

September 1, 2016

North Korean leader Kim Jong-un is exceptionally favoring scientists and engineers tasked with nuclear development despite his growing reign of terror.

The young leader has been providing "all possible assistance" to nuclear researchers, including employees of a think tank under Pyongyang's Second Economic Commission and also the ruling Workers' Party's Munitions Industry Department.

The commission oversees the development of military technology in general, while the department is in charge of nuclear programs.

This is in contrast to the latest revelation that North Korean Vice Premier Kim Yong-jin was executed while two other senior officials — Kim Yong-chol and Choe Hwi — were banished to re-education farms.

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The three joined a slew of top military officers and politicians who were purged for petty reasons since the young dictator took power in December 2011. Kim Yong-jin was shot for having a "bad sitting posture" during a session of the Supreme People's Assembly in June.

"In contrast, Kim Jong-un is being generous toward nuclear and rocket scientists because they are indispensable in North Korea's pursuit of weapons of mass destruction," said Kim Yong-hwan, a North Korean studies professor at Dongguk University. "With accelerated international isolation, Pyongyang will desperately rely on nuclear programs for its survival and it will continue to treat its science and engineering talent respectfully."

The professor referred to the ongoing construction of Ryomyong Street, a luxurious residential complex in Pyongyang for its scientists, engineers, professors and other skilled workers involved in nuclear programs.

It will be built in addition to Changjun Street and Mirae (Future) Scientists Street, two other landmarks for nuclear and rocket scientists.

Citing his experience in the North Korean arms industry, a defector claimed that Kim Jong-un values researchers working on the nuclear development as "grains of gold."

Koh Yoo-hwan, also a professor at Dongguk University, said, "North Korea will have difficulty in replacing them if they were killed for petty reasons."

Other sources voiced similar views. They pointed out that the rocket scientists went unpunished even though North Korea was not successful in its test-launches of Musudan intermediate-range ballistic missile (IRBM) and submarine-launched ballistic missile (SLBM) until recently.

Pyongyang succeeded in test-firing a Musudan missile on June 22 and also an SLBM on Aug. 24.

The sources speculated that Kim Jong-un has also been excluding scientists and engineers from the purge because he does not consider them a threat in consolidating his grip on power.

Kim Jong-un, who is reportedly 32 years old, is believed to feel inferior about his inexperience as a head of state. He has seen seasoned military officers and politicians as a threat, especially when they were considered "disrespectful," according to the sources.

"Fortunately for science and engineering talent in North Korea, generally it is not in their nature to be interested in power." Koh said.

The employees at the Munitions Industry Department were seen smoking cigarettes with Kim Jong-un in the photos released by Pyongyang's media outlets following a successful SLBM test on Aug. 24.

The photos appeared to be showing Kim Jong-un's favor for scientists and researchers. Smoking before a ranking official is generally seen as rude in the Korean culture unless the official allows it.

Following North Korea's fourth nuclear test on Jan. 6 and long-range rocket launch on Feb. 7, Kim Jong-un invited nuclear and rocket scientists to Pyongyang to praise their efforts. He also called them "national heroes."

http://www.koreatimes.co.kr/www/news/nation/2016/09/485_213244.html

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Yonhap News Agency – Seoul, South Korea

China Could Have Provided N. Korea with Submarine Missile: U.S. Expert

September 2, 2016

WASHINGTON, Sept. 1 (Yonhap) -- China could have provided North Korea with the submarine-launched ballistic missile that the regime in Pyongyang successfully test-fired last week, a U.S. expert claimed Thursday.

Bruce Bechtol, a North Korea expert at Angelo State University in Texas, made the remark during an interview with the John Batchelor Show radio news program, calling the North's SLBM, known as KN-11, a "carbon copy" of China's JL-1 submarine missile.

"The missile that the North Koreans launched looks like it's a two-stage missile just like the JL-1. It looks like it's a solid-fuel missile just like the JL-1," Bechtol said, adding that the North Korean missile is believed to be "a JL-1 or a very, very close variant."

"Just looking at the JL-1 and the North Korean SLBM, they're looking exactly the same," he said.

Bechtol said that China has a record of providing the North with military hardware, saying the North acquired transporter-erector-launchers (TEL), a vehicle used in carrying and launching missiles, from China in recent years.

The professor also said that he has some joint research with space program expert Tal Inbar of Israel's Fisher Institute and the two shared the view that the North's SLBM could have come from China.

"He and I agree that there is really not any other missile that looks similar at all to this North Korean missile whereas the JL-1 looks like a carbon copy of it," he said.

The North successfully conducted the latest SLBM test last week, sending the missile, designated KN-11, some 500 kilometers over the East Sea, the greatest distance the communist nation has achieved since it began SLBM tests last year.

Moreover, the missile was launched at a high angle, meaning the missile could have flown farther.

State Department spokesman John Kirby declined comment on Bechtol's claims.

"I'm not able to speak to intelligence matters here from the podium," Kirby said at a regular press briefing.

<http://english.yonhapnews.co.kr/northkorea/2016/09/02/0401000000AEN20160902000400315.html>

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The Indian Express – Mumbai, India

China Says Developing New Type of Long-Range Bomber

China has already improved its ability to strike at targets far from home and there will be further improvements in the future, the Global Times quoted air force chief.

By Reuters

September 2, 2016

Issue No.1231, 2 September 2016

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Beijing - China is developing a new long-range bomber, the head of the Chinese air force was quoted as saying in state media on Friday, the latest move in its ambitious military modernisation programme.

China has already improved its ability to strike at targets far from home and there will be further improvements in the future, the Global Times quoted air force chief Ma Xiaotian as saying at an air force open day.

"We are now developing a new generation of long-range bomber, and you'll see it in the future," Ma said, according to the paper, without elaborating. China has been ramping up research into advanced new military equipment, including submarines, aircraft carriers and anti-satellite missiles. This has rattled nerves regionally and in Washington as China takes a more muscular approach to territorial disputes in places such as the South China Sea.

The air force, which has for years relied on large numbers of Chinese copies of Russian aircraft, is now also developing its own stealth fighters. In July, it put into service a new, domestically developed large transport aircraft.

Ma said the air force had entered into a "transformation" stage, changing its focus from quantity to quality, the report said.

<http://indianexpress.com/article/world/world-news/china-says-developing-new-type-of-long-range-bomber-3009210/>

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FARS News Agency – Tehran, Iran

Sunday, August 28, 2016

IRGC Navy Commander: US Not Able to Confront Iran Militarily

TEHRAN (FNA) - Commander of the Islamic Revolution Guards Corps (IRGC) Navy Rear Admiral Ali Fadavi downplayed the US military power to launch a war against Iran, stressing that Tehran has even harnessed Washington's power in the sea.

"The US doesn't enjoy the power to confront Iran militarily," Rear Admiral Fadavi said, addressing a gathering of Basiji (volunteer) forces in the Central city of Arak on Saturday night.

Noting that Washington's military power has now been confined in the sea, he said that the US warships haven't for years dared to approach Iran's territorial waters because 97 IRGC speedboats are always patrolling the Persian Gulf.

In relevant remarks in May, Rear Admiral Fadavi downplayed the US power, and said no naval force in the world dares to threaten the IRGC Navy and its speedboats.

"We at the IRGC Navy and in the sea give no care to the US power and our speedboats don't recognize the US aircraft carriers" as a power, Fadavi said, addressing a ceremony in the Southern city of Bandar Abbas.

"No one dares to give a dirty look at Iran let alone launching a war," he added.

Fadavi said the United States doesn't even think of attacking Iran for fear of a huge backlash to its interests.



"Due to the presence of IRGC forces, the Americans do not dare to get near the Iranian borders," Rear Admiral Fadavi said.

Referring to the failed US wars of the past decade, he said, "Washington seeks to weaken and marginalize countries that follow the Iranian Revolution as their role model; however, this is doomed to fail too."

"The US presence in the region causes insecurity and therefore it should leave," Rear Admiral Fadavi added.

<http://en.farsnews.com/newstext.aspx?nn=13950607000284>

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Tasnim News Agency – Tehran, Iran

Iran Confirms Arrest of Individual Close to Nuclear Negotiating Team

August 28, 2016

TEHRAN (Tasnim) – Iran’s Judiciary spokesman confirmed on Sunday reports on detention of an individual close to the country’s nuclear negotiating team by security and intelligence forces.

“News of the individual’s arrest is correct”, Gholam Hossein Mohseni Ejei said, speaking at a weekly press conference in Tehran.

He added, however, that the person was released on bail after a few days.

The official did not give any details about the individual or charges against him.

His remarks came after an Iranian lawmaker last week said a person close to the nuclear negotiating team had been arrested on charges of espionage.

Iran’s nuclear negotiators and representatives of the Group 5+1 (Russia, China, the US, Britain, France and Germany) held several rounds of talks over a period of 22 months before they reached an agreement on Tehran’s peaceful nuclear program in July 2015.

<http://www.tasnimnews.com/en/news/2016/08/28/1170890/iran-confirms-arrest-of-individual-close-to-nuclear-negotiating-team>

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The Times of Israel – Jerusalem, Israel

Iran Deploys Long-Range Missiles to Defend Fordo Nuclear Site

Protecting nuke facilities is paramount, says Iran air commander as state TV airs images of Russian-made S-300 launchers

By Agence France-Presse (AFP) and Times of Israel Staff

August 29, 2016

TEHRAN, Iran — Tehran has deployed a recently delivered Russian-made long-range missile system to central Iran to protect its Fordo nuclear facility, state television said Sunday.

Protecting nuclear facilities is paramount “in all circumstances” General Farzad Esmaili, the commander of Iran’s air defenses, told the IRIB channel.



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“Today, Iran’s sky is one of the most secure in the region,” he added.

A video showed an S-300 carrier truck in Fordo, raising its missile launchers toward the sky, next to other counter-strike weaponry.

The images were aired hours after supreme leader Ayatollah Ali Khamenei gave a speech to air force commanders, including Esmaili, in which he stressed that Iranian military power was for defensive purposes only.

“Continued opposition and hype on the S-300 or the Fordo site are examples of the viciousness of the enemy,” Khamenei said.

“The S-300 system is a defense system not an assault one, but the Americans did their best for Iran not to get hold of it,” he said.

The Russian-made missile defense system is one of the most advanced of its kind in the world, offering long-range protection against both airplanes and missiles. The first shipment arrived in Iran in April.

In 2010 Russia froze a deal to supply the system to Iran, linking the decision to UN sanctions instituted because of Tehran’s nuclear program. Putin lifted the suspension in July 2015, following Iran’s deal with six world powers that curbed its nuclear program in exchange for relief from international sanctions.

Israel has long sought to block the sale to Iran of the S-300 system, which analysts say could impede a potential Israeli strike on Tehran’s nuclear facilities. Other officials have expressed concern that the systems could reach Syria and Hezbollah, diluting Israel’s regional air supremacy.

The Fordo site, built into a mountain near the city of Qom has stopped enriching uranium since the January implementation of the nuclear deal.

Under the historic accord, Iran would have dismantled most of its estimated 19,000 centrifuges — giant spinning machines that enrich uranium, keeping only 5,000 active for research purposes.

Meanwhile, Iran maintains a diverse ballistic missile defense system and conducts regular missile tests.

Though not banned by the nuclear agreement, the tests violate United Nations resolution 2231, which calls on Tehran to refrain from ballistic missiles development, including testing, for eight years.

Tehran has said it would continue developing its ballistic missile program even after UN Secretary-General Ban Ki-Moon and other world leaders have said the missile tests were not in the spirit of the nuclear deal.

Iran has maintained it never sought to acquire nuclear weapons and never will, and the agreement does not prohibit legitimate and conventional military activities.

<http://www.timesofisrael.com/iran-deploys-long-range-missiles-to-fordo-nuclear-site/>

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Maxwell AFB, Alabama

Press TV – Tehran, Iran

UN Report on Chlorine Gas Attack in Syria Inconclusive: Russia

Wednesday, August 31, 2016

Syria and Russia have rejected findings by a UN-led investigation that claims Damascus used chlorine gas in two attacks in 2014 and 2015.

"These conclusions lack any physical evidence, whether by samples or attested medical reports that chlorine was used," said Syrian Ambassador Bashar al-Ja'afari after a closed-door UN Security Council meeting over the report on Tuesday.

The report was "totally based on witnesses presented by terrorist armed groups," he added.

Russian Ambassador Vitaly Churkin also stated that he had "very serious questions" over the investigation's findings and suggested the panel should gather more information.

"There are a number of questions which have to be clarified before we accept all the findings of the report," he said.

The investigation was carried out by the Joint Investigative Mechanism of the UN and the Organization for the Prohibition of Chemical Weapons (OPCW), claiming that Syrian forces had used chlorine in two attacks against militants, once in 2014 and once in 2015.

Following the UNSC meeting, the UK and France called for sanctions against the Syrian government, but Churkin stressed, "There is nobody to sanction in the report... It contains no names, no specifics, no fingerprints."

"Clearly there is a smoking gun. We know that chlorine was most likely used, but there are no fingerprints on the gun," he added.

Damascus surrendered its stockpiles of chemical weapons to the OPCW-UN joint mission following an attack outside the Syrian capital two years ago.

Syria has been gripped by foreign-backed militancy since March 2011. United Nations Special Envoy for Syria Staffan de Mistura estimates that over 400,000 people have been killed in the conflict in Syria. The UN has stopped its official casualty count in Syria, citing its inability to verify the figures it receives from various sources.

<http://www.presstv.com/Detail/2016/08/31/482459/syria-russia-unscc-chlorine-attack>

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Islamic Republic News Agency (IRNA) – Tehran, Iran

31 August 2016

AEOI Chief: Construction of 2 Nuclear Power Plants to Start in Sept

Qazvin, Aug 31, IRNA – Vice President and Head of Atomic Energy Organization of Iran (AEOI) announced that the operations to construct two new nuclear power plant in Bushehr in Southern Iran will start in coming days.

'The construction of two new nuclear power plants will start in Bushehr on September 8,' Salehi said.

He said that it will take 10 years to complete the nuclear power plants.

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Salehi said that \$10 billion is needed to construct the nuclear power plants.

He pointed to Russia's cooperation with Iran on construction of the power plants, and said, 'In the cooperation contract with the Russians, the emphasis has been laid on making use of technical capabilities of Iran for implementation of the project.

<http://www.irna.ir/en/News/82212831/>

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Tasnim News Agency – Tehran, Iran

Boosting Defensive, Offensive Might, Iran's Inalienable Right: Leader

August 31, 2016

TEHRAN (Tasnim) – Leader of the Islamic Revolution Ayatollah Seyed Ali Khamenei underlined the need for strengthening the country's military power, describing it as natural and an "inalienable right".

Addressing Iranian Defense Ministry's officials and experts during a visit to an exhibition of the ministry's achievements in Tehran on Wednesday, Ayatollah Khamenei said Iran has "an inalienable and absolute right" to reinforce its defensive and offensive power.

In a world where bullying and domineering powers, who lack morality, conscience and humanity and have no qualms about invading countries and killing innocent people, are dominant, developing defensive and offensive industries is quite natural because security will not be achieved unless these powers feel the country's might, the Leader reiterated.

Imam Khamenei referred to the Islamic Republic's strategic position and the sensitive conditions of the West Asia region as more reasons why development of the defensive and offensive capabilities of the country is necessary.

The Leader noted, though, that Iran considers some limitations on development of its defense industries as "weapons of mass destruction like chemical and nuclear weapons are banned based on ideological and religious foundations."

"Apart from these (WMDs), there are no restrictions in other areas on boosting the defense and military power and making progress in these fields is a duty," Ayatollah Khamenei added.

Back in March, too, the Leader underscored the need for boosting Iran's military capabilities, warning that enemies are making use of every tool available to undermine the Islamic Republic.

Ayatollah Khamenei said at the time that if the Islamic establishment seeks technology and negotiations but lacks defense might, it will have to buckle in the face of any weak country posing threats.

<http://www.tasnimnews.com/en/news/2016/08/31/1175061/boosting-defensive-offensive-might-iran-s-inalienable-right-leader>

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The Washington Free Beacon – Washington, D.C.

Iran Satellite Launch Prompts Fear of Long Range Ballistic Missile Attack

Iran to launch 'friendship' satellite

By Adam Kredo

August 31, 2016

Iranian officials announced on Tuesday that the country is preparing to launch three new satellites into space, renewing concerns from defense experts about Iran's ongoing research into long-range ballistic missile technology that could help it fire a nuclear weapon at Western nations.

Mohsen Bahrami, the director of Iran's space agency— which has long been suspected of providing cover for weapons research—announced that Iran would launch its newest satellite, dubbed "Friendship," later this year.

"The Dousti (Friendship) satellite (built) by (experts at) Sharif University of Technology is the first satellite which will be launched in the second half of this (Iranian) year," which began on March 20, Bahrami was quoted as saying by the country's state-controlled press.

Defense experts and former U.S. officials told the *Washington Free Beacon* that the test is likely cover for Iran to pursue illicit intercontinental ballistic missile technology, which could enable the Islamic Republic to fire a nuclear weapon over great distances.

Asked about the reports on Tuesday, a State Department spokesman told the *Free Beacon* that it will not take a position on the launch before it has occurred.

"We're not going to speculate on the specifics of something that hasn't happened yet," the spokesman said. "Our longstanding concerns regarding Iran's ballistic missile development efforts remain, and are shared by the international community."

"If there are specific launches or other actions that are inconsistent with any relevant U.N. Security Council resolutions, we will address them through the appropriate channels," the spokesman continued. "And we will continue to work with our partners, and take any necessary unilateral actions, to counter ongoing threats from Iran's ballistic missile program."

Efforts are also being made to launch two other satellites within the next year, according to the announcement, which has raised concerns among Western defense experts about the Islamic Republic's pursuit of technology that would enable it to fire nuclear weapons over great distances.

"Iran has always used its satellite program as cover for developing an intercontinental ballistic missile capability. Recently, however, the Defense Ministry has also bragged that it has made its UAVs [unmanned aerial vehicles] satellite-guided in order to extend their range and bypass the need for line-of-sight control," said Michael Rubin, a former Pentagon official and expert on rogue regimes.

Iran's interest in this technology, combined with its newfound freedom under last summer's nuclear agreement, should raise red flags on the international stage, Rubin said.

"Add to that mix that Iran can trade and sell both technologies with North Korea in exchange for inspection-proof nuclear laboratory space," Rubin said. "In effect, in a three-fer for the Islamic Republic, all courtesy of the noxious mix of Obama's ambition and [Secretary of State John] Kerry's incompetence."

Iranian officials further disclosed over the weekend that construction had begun on an advanced satellite with remote sensing capabilities.

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U.S. officials have said that Iran's space research could be applied to the construction of intercontinental ballistic missiles, work that is prohibited under United Nations resolutions governing the nuclear agreement.

"Iran has successfully orbited satellites and announced plans to orbit a larger satellite using a space launch vehicle (the Simorgh) that could be capable of intercontinental ballistic missile ranges if configured as such," Vice Adm. J.D. Syring, head of the U.S. Missile Defense Agency, disclosed in April.

Syring's comment came on the heels of Iran's last test of its long-range Simorgh rocket.

Iran's test firing of ballistic missiles has emerged as a hot button issue in recent months as the Obama administration has worked against claims that the tests violate the nuclear deal. The Obama administration has claimed that the tests violate the agreement in spirit only.

The U.S. intelligence community has emphasized Tehran's desire to acquire intercontinental ballistic technology.

"Tehran has placed significant emphasis on developing and fielding ballistic missiles to counter perceived threats from Israel and U.S. and allied forces in the Middle East and to project power," U.S. defense officials disclosed in a 2014-15 threat assessment.

"Iran has a substantial inventory of missiles capable of reaching targets throughout the region, including U.S. military bases and Israel, and the regime continues to develop more sophisticated missiles," the report adds. "Iran has publicly stated it intends to launch a space launch vehicle as early as this year (2015), which could be capable of intercontinental ballistic missile ranges if configured as such."

Behnam Ben Taleblu, a senior Iran analyst at the Foundation for Defense of Democracies, told the *Free Beacon* that the entities responsible for building Iran's space satellites have close ties to the country's military industry.

"Iran's desire to continue launching new satellites into space should be a point of concern to American officials," Taleblu said. "To me, this does not merely appear to be an instance of a developing country attempting to produce technologies to boost its status or prestige. Rather, it may have a very real security application. Many scholars and missile analysts have long-suspected Iran's overly-adventurous space program to have been a cover to study, test, and eventually employ the technologies associated with the production of an intercontinental ballistic missile."

The upcoming tests could be a sign that Iran is seeking to refine its ballistic technology, raising concerns on the military front.

"It can be inferred that unless Tehran has reconfigured existing space-launch vehicles, it will either be the Safir or the Simorgh carrier rockets," Taleblu said. "As such, repeated testing of one launch-vehicle by Tehran may be an attempt to refine existing issues in the rocket's staging process."

<http://freebeacon.com/national-security/iran-satellite-launch-prompts-fear-long-range-ballistic-missile-attack/>

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Reuters (U.S. Edition) – New York, NY

U.S., Others Agreed 'Secret' Exemptions for Iran after Nuclear Deal: Think Tank

By Jonathan Landay

Thursday, September 1, 2016

WASHINGTON -- The United States and its negotiating partners agreed "in secret" to allow Iran to evade some restrictions in last year's landmark nuclear agreement in order to meet the deadline for it to start getting relief from economic sanctions, according to a think tank report published on Thursday.

The report, which was released by the Washington-based Institute for Science and International Security, is based on information provided by several officials of governments involved in the negotiations. The group's president David Albright, a former U.N. weapons inspector and co-author of the report, declined to identify the officials, and Reuters could not independently verify the report's assertions.

"The exemptions or loopholes are happening in secret, and it appears that they favor Iran," Albright said.

Among the exemptions were two that allowed Iran to exceed the deal's limits on how much low-enriched uranium (LEU) it can keep in its nuclear facilities, the report said. LEU can be purified into highly enriched, weapons-grade uranium.

The exemptions, the report said, were approved by the joint commission the deal created to oversee implementation of the accord. The commission is comprised of the United States and its negotiating partners -- called the P5+1 -- and Iran.

One senior "knowledgeable" official was cited by the report as saying that if the joint commission had not acted to create these exemptions, some of Iran's nuclear facilities would not have been in compliance with the deal by Jan. 16, the deadline for the beginning of the lifting of sanctions.

The U.S. administration has said that the world powers that negotiated the accord -- the United States, Russia, China, Britain, France and Germany -- made no secret arrangements.

A White House official, speaking on condition of anonymity, said the joint commission and its role were "not secret." He did not address the report's assertions of exemptions.

Diplomats at the United Nations for the other P5+1 countries did not respond to Reuters' requests for comment on the report. Iranian officials were not immediately available for comment.

The report's assertions are likely to anger critics of the nuclear deal. Republican presidential candidate Donald Trump has vowed to renegotiate the agreement if he's elected, while Democrat Hillary Clinton supports the accord.

Albright said the exceptions risked setting precedents that Iran could use to seek additional waivers.

Albright served as an inspector with the U.N. International Atomic Energy Agency (IAEA) team that investigated former Iraqi President Saddam Hussein's nuclear weapons program.

While Albright has neither endorsed nor denounced the overall agreement, he has expressed concern over what he considers potential flaws in the nuclear deal, including the expiration of key limitations on Iran's nuclear work in 10-15 years.

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EXEMPTIONS ON URANIUM, "HOT CELLS"

The administration of President Barack Obama informed Congress of the exemptions on Jan. 16, said the report. Albright said the exemptions, which have not been made public, were detailed in confidential documents sent to Capitol Hill that day -- after the exemptions had already been granted.

The White House official said the administration had briefed Congress "frequently and comprehensively" on the joint commission's work.

Democratic Senator Robert Menendez, a leading critic of the Iran deal and a senior member of the Senate Foreign Relations Committee, told Reuters in an email: "I was not aware nor did I receive any briefing (on the exemptions)."

Republican Senator Bob Corker, the committee chairman and leader of the opposition in Congress to the nuclear deal, said the administration was "willing to accommodate Iran at every turn to implement a flawed agreement that granted Tehran billions in sanction relief and paved the way for the industrialization of its nuclear program."

Corker, however, did not address the exemptions.

As part of the concessions that allowed Iran to exceed uranium limits, the joint commission agreed to exempt unknown quantities of 3.5 percent LEU contained in liquid, solid and sludge wastes stored at Iranian nuclear facilities, according to the report. The agreement restricts Iran to stockpiling only 300 kg of 3.5 percent LEU.

The commission approved a second exemption for an unknown quantity of near 20 percent LEU in "lab contaminant" that was determined to be unrecoverable, the report said. The nuclear agreement requires Iran to fabricate all such LEU into research reactor fuel.

If the total amount of excess LEU Iran possesses is unknown, it is impossible to know how much weapons-grade uranium it could yield, experts said.

The draft report said the joint commission also agreed to allow Iran to keep operating 19 radiation containment chambers larger than the accord set. These so-called "hot cells" are used for handling radioactive material but can be "misused for secret, mostly small-scale plutonium separation efforts," said the report. Plutonium is another nuclear weapons fuel.

The deal allowed Iran to meet a 130-tonne limit on heavy water produced at its Arak facility by selling its excess stock on the open market. But with no buyer available, the joint commission helped Tehran meet the sanctions relief deadline by allowing it to send 50 tonnes of the material -- which can be used in nuclear weapons production -- to Oman, where it was stored under Iranian control, the report said.

The shipment to Oman of the heavy water that can be used in nuclear weapons production has already been reported. Albright's report made the new assertion that the joint committee had approved this concession.

Reporting by Jonathan Landay; editing by John Walcott and Stuart Grudgings

<http://www.reuters.com/article/us-iran-nuclear-exemptions-exclusive-idUSKCN1173LA>

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Mehr News Agency – Tehran, Iran

Iran to Remind US Misconducts in JCPOA

Friday, 2 September 2016

TEHRAN, Sep. 02 (MNA) – A senior member of Iran’s High Council of Supervising the Implementation of the JCPOA recounted that a meeting on US sabotaging the the JCPOA obligations is on the way.

“As the Leader said, the negotiator colleagues did their best at the uppermost of their efforts, but the opposite side, headed by the US, is making trouble,” said Ali Akbar Velayati, a senior member of Iran’s High Council of Supervising the Implementation of the JCPOA on Thursday.

The veteran diplomat, who was the foreign minister of the Islamic Republic of Iran for 16 years, reiterated that the Americans do not make their promises unless under pressure; something that Velayati said he had seen before.

“The Islamic Republic of Iran practiced what was promised in the JCPOA, according to the agreed timeline and even earlier than promised occasions,” Velayati voiced regret, “but the Americans have failed to oblige to the agreement.”

The official told the local media in Tehran that an imminent meeting on US disloyalty to the JCPOA will be held soon in early future.

<http://en.mehrnews.com/news/119425/Iran-to-remind-US-misconducts-in-JCPOA>

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The Diplomat – Tokyo, Japan

China to Supply Pakistan with 8 New Stealth Attack Submarines by 2028

Four of the subs will be constructed in China and the remaining four in Pakistan.

By Franz-Stefan Gady

August 30, 2016

China will provide the Pakistan Navy with eight modified diesel-electric attack submarines by 2028, the head of the country’s next-generation submarine program told the Pakistan National Assembly’s Standing Committee on Defense during the committee’s visit to the Naval Headquarters in Islamabad on August 26, according to local media reports.

The Pakistani senior naval official’s statement in front of the committee members provides official confirmation that the program is moving ahead, although it is still unclear whether a contract has been signed. In April, a senior Pakistan Navy official announced that Karachi Shipyard & Engineering Works (KSEW) had secured a contract to produce four of the eight submarines, which will be fitted with air-independent propulsion (AIP) systems.

The defense deal is valued at \$4 to \$5 billion and China is expected to extend a long term loan at a low interest rate. It has not officially been confirmed what type of submarine will be supplied to the Pakistan Navy by the China Shipbuilding Trading Company (CSTC) and there has been considerable speculation on the subject in the past (See: “Confirmed: Pakistan Will Buy Eight Chinese Subs”):

[T]he Wuhan-based China State Shipbuilding Industrial Corp (CSIC) supposedly had already signed a contract in April 2011 to deliver six Type 032 Qing-class conventional attack submarines by 2016/2017. (...) [O]ther media sources report that Islamabad will build submarines under license

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based on the Qing-class vessels displacing 3,000 tons: "Pakistan will also build two types of submarines with Chinese assistance: the Project S-26 and Project S-30. The vessels are to be built at the Submarine Rebuild Complex (SRC) facility being developed at Ormara, west of Karachi."

The majority of analysts speculate that the new submarine will be a lighter export version of the People Liberation Army Navy (PLAN)'s Type 039 and Type 041 *Yuan*-class conventional attack submarine, excluding the sub's AIP system, which might be procured independently.

According to *IHS Jane's Fighting Ships*, the Type 041 *Yuan*-class is "a diesel electric attack submarine (SSK), potentially with Stirling air-independent propulsion, that is armed with YJ-2 (YJ-82) anti-ship missiles and a combination of Yu-4 (SAET-50) passive homing and Yu-3 (SET-65E) active/passive homing torpedoes."

It purportedly is one of the quietest subs in the PLAN's inventory. The scaled-down 2,300-ton export version is designated S20. The first four submarines are expected to be delivered by the end of 2023; the remaining four will be assembled in Karachi by 2028. The new subs are expected to form the the sea-based arm of Pakistan's burgeoning nuclear second-strike triad.

The Pakistan Navy is in middle of upgrading its undersea warfare capabilities. In June, Turkish state-owned defense contractor STM won a contract for the mid-life upgrade of three *Agosta* 90B-class (aka *Khalid*-class) diesel-electric attack submarines equipped with air-independent propulsion systems.

<http://thediplomat.com/2016/08/china-to-supply-pakistan-with-8-new-stealth-attack-submarines-by-2028/>

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War is Boring.com

OPINION/Article

The United States Is Getting More and More Irritated at Russia's Nuke Treaty Violation

Moscow's apparent new missile tests patience in Washington

By ELAINE GROSSMAN

August 27, 2016

Omaha, Nebraska—Russia continues to rattle the United States with its alleged breach of a 1987 bilateral agreement aimed at eliminating medium-range ground-based missiles, according to a senior State Department official.

"We have made it very clear to our Russian colleagues that our patience is not indefinite," said Frank Rose, the State Department's top diplomat for arms control, compliance and verification. "We will work closely with our allies to ensure that Russia does not gain any benefit from its violation."

Translation—this is bad. But unless Moscow actually deploys the prohibited missile, don't expect a dramatic U.S. response anytime soon.

Congressional Republicans, who pushed the Obama administration three years ago to publicly acknowledge the treaty violation, won't greet this news warmly. Neither will many arms-control advocates who call for treaty enforcement.

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The United States in July 2014 formally accused Russia of breaking provisions in the Intermediate-range Nuclear Forces Treaty that ban either nation from building, flight-testing or possessing ground-based cruise missiles with ranges between 300 and 3,400 miles. Russian leaders deny they have violated the pact, commonly referred to as the INF agreement.

Washington has not publicly named the weapon at the focus of the controversy. But over the past two years, U.S. diplomats have dismissed theories that it's a variant of an existing cruise missile, according to security experts. U.S. Defense and State Department officials say it appears Moscow has yet to deploy what they describe as the new "state-of-the-art" missile.

Russian flight tests of the ground-launched cruise missile are said to have already violated the pact, so the damage is done. But U.S. diplomats have been pressing the Kremlin to adhere to the INF terms going forward. They're calling on Russia to stop any further development or flight tests, and prove that all nonconforming missiles and launchers are being destroyed.

"We have been in a very active engagement with the Russians over the past ... three years to try to bring them back into compliance," Rose said, speaking July 27, 2016 at a military symposium here. "To date, our efforts have not been successful. But we have not thrown in the towel."

It's a hard sell, U.S.-based Russia experts say.

If Moscow had wanted to adhere to international norms, it could have developed the missile only after withdrawing from the INF Treaty. Doing so, though, would have subjected the Kremlin to international opprobrium for exiting an agreement popular in Europe and Asia, where nations sit within range of ground-based missiles the accord was meant to eliminate, said Steven Pifer of the Brookings Institution.

Instead, Russia gambled on quietly developing a banned missile and exploiting Washington's reluctance to discuss sensitive intelligence data about it. That reticence about revealing intelligence details hampers U.S. efforts to foster global opinion against the violation, Pifer said.

Last November, Rose said the Obama administration was contemplating "possible economic and military responses" that might "motivate Russia" to "resolve the issue diplomatically." Others have since described U.S. and European economic sanctions against Russia—along with the NATO's recent force buildups, new security collaborations and military exercises—as a substantial response to Moscow's overall uptick in aggressive behavior, to include the prohibited cruise-missile testing.

Russia also has complicated the matter by floating counter-accusations that U.S. Aegis missile deployments in Romania violate the 1987 agreement. The United States denies this, saying Aegis is configured for use only in missile defense.

Onsite inspections would be required to prove the Aegis deployments could not be used as offensive ground-launched cruise missiles, said Ivo Daalder, a former U.S. ambassador to NATO. The Russian allegation is "invalid," he said. But now that it "in the air," the Aegis issue must be dealt with if Moscow's breach is to be resolved, Daalder said.

Should the Kremlin move to deploy the prohibited weapon, the Pentagon has contemplated three possible response approaches. Fielding "active defenses" to protect allies against any cruise missile attacks. Using "counterforce capabilities" to strike the cruise missiles themselves on the ground. Or deploying "countervailing strike capabilities" akin to the Russian weapons.

Some of these options would comply with the INF Treaty, while others would not, Brian McKeon, a top Defense Department policy official, said in 2014 congressional testimony.



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“In the event that Russia does deploy and it becomes obvious to the world that they have violated the treaty, then I’m confident that the administration will respond forcefully” with one or more of the three options, one former senior Pentagon official told War Is Boring. The individual spoke on condition of not being named, citing the sensitivity of reaction timing.

Each response category raises potential complications, though. Cruise missiles are relatively small and difficult to locate on the ground, and striking them could be highly inflammatory. These missiles also are hard to defend against in flight, Daalder noted. And the Pentagon can barely afford its existing equipment modernization plans without adding an expensive, new ground-based missile to the budget, Pifer said.

Should Moscow’s action compel Washington to openly develop new medium-range missile capabilities of its own, that could also put the White House—rather than the Kremlin—on the hot seat for withdrawing from the treaty first, Pifer said.

Any U.S. move to develop similar ground-based missiles that flout the treaty also would be unnecessary, said Hans Kristensen of the Federation of American Scientists. The Pentagon is already fielding thousands of treaty-compliant, air-launched AGM-158 Joint Air-to-Surface Standoff Missiles on bombers and attack jets that could threaten virtually any target in Russia, he said.

Virtually any new military response to the Russian violation holds the potential to spark a tit-for-tat arms race, reminiscent of the Cold War.

“We don’t want to create an action-reaction cycle, if at all possible,” Rose said July 27. “But be assured. One, our patience is not indefinite, and two, we will do what is necessary to protect the United States and our allies from potential threats.”

Presently, Washington’s European allies don’t have much stomach for challenging Russia on the INF Treaty issue, Daalder said.

Germany recently said a Russian withdrawal from the INF Treaty “would fundamentally shake security architecture beyond Europe.” But an alliance split over the matter is plain to see and one that Moscow is exploiting. NATO on July 9 devoted just two sentences to the topic in its 16,469-word Warsaw summit communiqué, and stopped short of alleging a Russian violation.

“I think it’s very unlikely that we would want to do anything without the full support of our allies,” Rose told War Is Boring on the military conference sidelines in July. “This is not really just an arms-control treaty. It goes to the fundamental issue of Eurasian security.”

“The Russians think they can have their cake and eat it, too, [and] that we won’t do anything,” said Jeffrey Lewis of the James Martin Center for Nonproliferation Studies. “I think that’s a bad precedent to set.”

Lewis said Washington should share with its European and Asian allies more data about the new missile and how its deployment would threaten them. That could ratchet up pressure on the Kremlin to return to compliance, he said.

Even in Washington, though, the matter is receding as the White House and Congress grapple with the Russian annexation of Crimea, its suspected hacking of Democratic campaign computers, and an incident last spring in which one of its jet fighters repeatedly buzzed a U.S. warship in the Baltic Sea.

While Rose condemned the alleged treaty violations, he acknowledged the Kremlin began developing the new cruise missile only as its Backfire bomber and other theater-strike capabilities began aging out.



A decade before the State Department made public its formal accusation, then-Russian defense minister Sergei Ivanov in 2004 proposed a “joint withdrawal” from the INF Treaty.

At the time, Russian officials said medium-range missiles might become necessary to address threats from potential nearby adversaries, such as China and Pakistan. But the United States refused to renounce the agreement, insisting it continued to bolster regional security.

“They are probably developing these capabilities ... because their theater-strike capability has declined,” Rose told War Is Boring. “And this helps kind of close a gap.”

Still, Pifer said, the Russians “have more than enough to deter those countries” of concern. “They don’t need an intermediate-range missile to do that.”

Elaine Grossman is an investigative reporter who writes about national security and foreign affairs. This article was independently reported with partial funding support from a Ploughshares Fund journalism grant.

<https://warisboring.com/the-united-states-is-getting-more-and-more-irritated-at-russias-nuke-treaty-violation-4feab0fa631e#.ff92cq1bn>

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The Korea Times – Seoul, South Korea

OPINION/Article

THAAD Seen Through Eyes of China, Russia, US

By Oh Young-jin

August 28, 2016

Why is China so upset at South Korea's decision to allow the advanced U.S. anti-missile battery on its soil as to threaten all-out retaliation?

Is Beijing's position identical to that of Russia, its former Cold War ally and rival, now being on the same side once again against the U.S.?

Are the interests of Seoul and Washington as coincidental as they appear?

These questions are pivotal to understanding the changing the dynamic triggered by the Seoul-Washington decision to deploy the terminal high-altitude area defense (THAAD) system.

First, let's look at the stances of the two allies.

Seoul finds itself in an untenable position. As it explained to China and Russia, Seoul feels naked to North Korea's growing threat through its nuclear weapons and missiles.

Regarding the insecurity felt by its people, the government led by President Park Geun-hye was under pressure to do something. Park obviously knew the THAAD card should best remain as an option. But it couldn't find the ground to reject the U.S. request to bring it in for the protection of its troops stationed in Korea.

With THAAD coming, Park now can say that it is a self-protective measure, which is not an entirely wrong statement. One THAAD battery heading for Korea won't cover the entire southern half of the Korean Peninsula but would be enough to protect U.S. bases. The U.S. forces that survive North Korean missile attacks would be joined by reinforcements from the U.S. mainland. It should be



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remembered that in the event of war, civilians are considered collateral with lower priority than military assets in the order of protection.

That explains why the Seoul metro area, the population center, are excluded from the THAAD coverage. Already they are within the range of thousands of short-range North Korean rockets that are expected to go into action during the first hours of conflict. Simply put, the two's interests partially dovetail as long as they do: THAAD is supposed to strengthen the survivability of the existing U.S. troops for regrouping and accommodating reinforcements, which Seoul takes as the U.S. commitment to helping it fight against the North.

Then, what makes China unhappy? It can be explained from two aspects.

First, however Seoul may try to explain that THAAD is a defensive measure against the North, it falls on Beijing's deaf ears because the system is too close for comfort, feeling its key cities and military assets on the borderline with the North exposed to intrusive U.S. electronic eyes that come as a key component of the system. Then, it would point out that THAAD will be operated by Americans with Seoul providing the land for the system to be located. Therefore, Seoul's guarantees sound unpersuasive to Beijing.

Then China considers Washington its rival with their interests clashing on a wide front now focusing on South China Sea and the Korean Peninsula. The U.S. feels the same, as its pivot to Asia policy is the natural growth of Washington's long-term identification of China as its rival. China, brimming with confidence from its growing economic and military power, is trying to revert to its pre-Opium War era when it was the supreme power in Asia. From its humiliating experiences, it is strongly suspicious of western forces.

Russia, the U.S.'s former rival, has its own case of paranoia that is not entirely the product of its own imagination. Of course, much of its current stance stems from the same fear that China has about the world's only superpower.

It apparently doesn't take on face value U.S. claims that THAAD deployment is conditional on the threat of the North's weapons of mass destruction (WMDs), meaning when it disappears, they will be removed. Moscow has heard the same tune before. When the U.S. built anti-missile systems in Romania and Poland over Russia's objections, the U.S. cited Iranian threats but they remain or show no signs of being dismantled one year after the U.S.-Iran nuclear deal that has lifted sanctions on Tehran. Then, Moscow may well remember the Reagan era when it was forced into a massive arms race with the U.S. that proved to be the straw that broke the back of the camel that was the Soviet Union.

U.S. President Reagan's pet project was the strategic defense initiative (SDI) or Star Wars that provided the framework for the U.S. efforts to build its missile defense (MD).

The U.S. refused to re-sign the anti-ballistic missile (ABM) treaty with Russia after its 30-year term expired in 2002. The ABM treaty bans the development of missile interceptors so the U.S. is free to develop interceptors that work in space as well.

If there are a couple jumps in logic, one conclusion is that if the U.S. completes an indefatigable shield that protects itself against any missile attacks, where would it leave us?

It is extensively agreed that the fear of mutual assured destruction prevented the U.S. and Soviet Union from making a first strike during the Cold War era.



Wouldn't the U.S. feel an itch to strike first, if it has no fear of such a retaliatory attack? Especially, if a character like Donald Trump is in the White House. Maybe out of his love for Russian President Putin, he may push the buttons to hurl missiles at China.

Often, war starts at the misinterpretation of the other's move so the answer to this question lies as much with the U.S. as with Russia or China. It all comes down to how much the three trust each other. As things stand now, little to say the best.

This lack of trust also explains why there is so much fuss over THAAD in Korea.

Finding a creative way out of this dilemma will serve as touchstone to whether Korea is a prawn that tames three whales – U.S., China and Russia – a variation from the old saying of "the prawn whose back is broken in a whales' fight," which got Foreign Minister Yun Byung-se in trouble for self-flattery.

Oh Young-jin is The Korea Times' chief editorial writer.

http://www.koreatimes.co.kr/www/news/nation/2016/08/667_212856.html

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The Hill – Washington, D.C.

OPINION/Contributors

Iran Looks to Latin America to Revive Missile Infrastructure

By Emanuele Ottolenghi, contributor

August 29, 2016

With the presidential campaign in full swing, U.S. media may be forgiven for downplaying the news of Iranian Foreign Minister Mohammad Javad Zarif's six-nation tour of Latin America last week. His visit, however, should elicit concern in Washington.

Iran has long relied on Latin America to evade Western sanctions, including, critically, on ballistic missiles technology. Now sanctions are gone and Iran's missile activity no longer banned, but Tehran continues to use America's backyard to develop long-range missiles capable of carrying nuclear warheads.

Earlier this month, the Brazilian journalist Leonardo Coutinho confirmed the strategic importance of Latin America to Iran's military program in the magazine La Veja. Coutinho exposed an official document dated Aug. 3, 2009, showing that then-Venezuelan President Hugo Chávez had approved a \$1.3-million investment for a joint venture between Venezuela's state defense contractor, CAVIM, and Iran's Parchin Chemical Industries.

The project involved the establishment and improvement of facilities for producing nitrocellulose and nitroglycerine, both key components of solid rocket fuel. Cooperation between Iran and Venezuela's military sectors has been well-known for years, but it was the first time an official document has emerged showing Chávez's approval of joint military industrial projects.

The sum is trivial, but the timing and the partnerships are of critical importance. Iran's missile program came under intense international pressure after the U.N. Security Council passed two resolutions (1696 and 1737) in 2006, enacting sanctions against Iran's procurement efforts. Specifically, Resolution 1737 named Parchin Chemical Industries as a key player in Tehran's ballistic missile program. European Union and U.S. sanctions passed in 2007 and 2008 targeted



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Parchin Chemical Industries as well, and sought to freeze its assets and block its financial transactions.

The approval of funds came less than a year after the U.S. Treasury targeted the Iranian company, making it difficult to procure technology and materials, let alone pay for them. By establishing facilities in a foreign country where Iran was already intent on creating joint commercial and banking ventures, Parchin found a gateway to evade sanctions. Eventually, the U.S. Department of State sanctioned CAVIM in 2013 for this and other joint Iran-Venezuela projects, but by then, Iran had had four quiet years to advance its solid rocket-fuel production.

The La Veja scoop is thus a reminder of the objectives that underlie Zarif's Latin America charm campaign. These are the types of investment, after all, that Iran made in Latin America in the last decade, building on the strength of an ideological alliance with like-minded regimes that share the Islamic Republic's anti-Americanism. The document also revealed a critical flaw in the nuclear agreement reached last summer.

The Joint Comprehensive Plan of Action, or JCPOA, stipulates that the EU will de-sanction Parchin Chemical Industries in seven years, although it (and CAVIM) will remain under U.S. sanctions. United Nations Security Council Resolution 2231, which endorsed the JCPOA, lifted the ban on Iran's ballistic-missile activity entirely, replacing it with a toothless call for Tehran to refrain from doing so. As it happens, Iran has already conducted multiple tests since the implementation of the nuclear agreement in January 2016 — most recently last July.

The infrastructure Iran established in Latin America to advance its missile program during the sanctions era will now make it easier for Tehran to further its program. It will also make it possible for Iran's allies, which stood by their partner during the sanctions era, to cash in on joint projects and benefit from the technology Iran is developing on their soil.

Prior to the nuclear deal, Iran relied on anti-American regimes like Venezuela, Cuba and Bolivia to withstand missile and nuclear sanctions. Now, as the deal is implemented, Washington must not look away as the Islamic Republic revives its missile infrastructure in Latin America.

Ottolenghi is a senior fellow at the Foundation for Defense of Democracies in Washington.

<http://thehill.com/blogs/pundits-blog/international/293632-iran-looks-to-latin-america-to-revive-missile-infrastructure>

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South China Morning Post (SCMP) – Hong Kong, China

OPINION/Editorial

US is Taking a Step Backwards by Developing 'Smarter' Nuclear Bomb

Washington is devoting US\$1 trillion to a 'precision' atomic weapon but history tells us that other powers will follow suit, leading to a new arms race

SCMP Editorial

Wednesday, 31 August, 2016

Anew generation of American nuclear weapons is leading the world down a worrying path. They are smaller and more precise than the bombs they will replace, prompting fears of a temptation to

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use them. Other nations, especially the US' greatest rivals China and Russia, will likely be eager to acquire their own, sparking a new arms race. It is a slippery slope that can be prevented only with renewed global effort to pursue disarmament.

US President Barack Obama won the Nobel Peace Prize in 2009 in large part for a pledge to strive for a world free of nuclear weapons and make disarmament a centrepiece of his country's defence policy. The US energy department's announcement earlier this month that the B61-12 model bomb was on course to go into production in 2020 after the recent completion of a testing phase goes against that promise. Even if it leads to the scrapping of existing weapons, its technical advantages make it an enticing option to turn to.

One use could be against North Korea, which tests and stores its nuclear arms in deep underground tunnels. The new bomb is computer-guided and has four fins for easy manoeuvrability, making it ideal for precision attacks on deeply buried targets. Its explosive force can be adjusted to minimise collateral damage, lessening concern that civilian populations will be put at risk. That could lead to a temptation not just to break the taboo against using atomic bombs that has prevailed since two were dropped on Japan in 1945, but to use them first rather than in retaliation.

Developing such weapons has long been about deterrence, but is also expensive. The latest US programme will cost US\$1 trillion over 30 years; it was funding on such a scale that led to the collapse of Russia's predecessor, the Soviet Union, which had been locked in a race with the US to build nuclear bombs and missiles during the cold war. Both sides now have substantially smaller arsenals, but an agreement by Washington and Moscow in 2010 to further reduce stockpiles has failed to make progress. Obama's programme to modernise his country's weapons has already spurred Chinese and Russian efforts to follow suit.

Stopping the momentum will be increasingly difficult. Should nuclear arms be less about deterrence than conventional military power, there is every chance of them being used again. Governments have to be responsible; they have to work afresh for their elimination, just as they have done with chemical and biological weapons.

<http://www.scmp.com/comment/insight-opinion/article/2011481/us-taking-step-backwards-developing-smarter-nuclear-bomb>

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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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