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MAXWELL AFB, ALABAMA

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Security Studies
Volume 22, Issue 4, 2013

Imaginary Nuclear Conflicts: Explaining Deterrence Policy Preference Formation

By Zachary Zwald
November 2013

INTRODUCTION

Although the question of how policymakers arrive at their nuclear doctrine and force structure preferences is one of unparalleled importance, it has not received systematic attention in international relations. This article, therefore, develops and illustrates a behavioral model of nuclear deterrence preference formation wherein variation in such preferences is a function of the content and flexibility of one's theory-driven thinking. A policymaker determines the value of potential doctrine and force structure positions in the context of his or her beliefs about the nature of how nuclear conflict will likely begin and proceed—i.e., whether more as a result of rational and deliberate action or due to fear, misperception, and accident. This analysis challenges the dominant explanations of doctrine and force structure preference formation that are implicit in IR. It suggests how the dialogue of the deaf in domestic debates over nuclear weapons policy can be reduced in the future and provides new criteria by which to recast the proliferation optimist-pessimist debate.

Zachary Zwald is assistant professor at the USAF Counterproliferation Center (CPC), United States Air War College. He is currently a Stanton Nuclear Security Fellow at the Massachusetts Institute of Technology (MIT).

<http://www.tandfonline.com/eprint/X3IdQ3iEgMhV4qEgcXPc/full>

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USA TODAY

No Deal Reached in Talks on Iran's Nuclear Program

By Oren Dorell, USA TODAY
November 9, 2013

World powers failed to reach an interim deal with Iran over its disputed nuclear program after lengthy talks in Geneva despite days of encouraging signs from the White House that a deal was imminent.

Catherine Ashton, the European Union's top diplomat, said talks will resume on Nov. 20 in Geneva.

Ashton said there had been, "concrete progress but some differences remain," BBC reports.

The news came as Secretary of State John Kerry was joined by foreign ministers from the United Kingdom, France, Russia, China and Germany to hold a series of meetings with each other and with Iran's delegation, headed by Zarif.

France in particular objected to the proposed deal, questioning whether it would go far enough to limit Tehran's nuclear ambitions, AFP reported. French Foreign Minister Laurent Fabius said Iran's continued operations at its Arak nuclear reactor and its enriched uranium stockpiles should be addressed to remove Iran from the path of developing the capability to build a nuclear weapon without detection by foreign monitors.

"As I speak to you, I cannot say there is any certainty that we can conclude," Fabius said on France Inter radio, adding the country would reject a "sucker's deal," Reuters reported.

France, the United States and Israel suspect Iran's nuclear facilities are being used to develop a nuclear bomb. Iran insists its nuclear program is for peaceful means. The Obama administration has said it was discussing an interim deal with Iran, "a first step," to relax some sanctions if Iran stops advancing its industrial-scale nuclear program.

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According to Israeli newspaper *Haaretz*, Israeli officials said Iran would be asked under the deal to stop enriching uranium to 20% and to convert that stockpile into reactor fuel; not activate advanced centrifuges that are up to five times as fast as those currently operating, and reduce the number of centrifuges producing 3.5% enriched uranium. Iran was also asked not to activate its heavy water reactor, but could continue work to complete it, the paper said. Israel wants Iran to stop producing nuclear fuel and stop work at Arak.

The difficulty of the talks are a sign of how far both Iran's nuclear program and Western sanctions have progressed and how hard it is to roll them back, said Blaise Misztal, director of the Foreign Policy Project at the Bipartisan Policy Center, who has testified before Congress on Iran's nuclear program.

Iran has invested so much into increasing the pace, scale and efficiency of its nuclear fuel production program that it can't change course without losing face, Misztal said.

Western sanctions, spearheaded by legislation put in place by Congress, would be so hard to reinstate once repealed that lawmakers and others are pushing for real Iranian concessions to take place, not just an agreement, before offering such relief, Misztal said.

"It takes years to return sanctions," Misztal said. "And the (Obama) administration can't lift sanctions on its own. That requires an act of Congress and there's not much support for that at this point."

White House spokesman Jay Carney told reporters Friday that U.S. negotiators are working to secure a deal that "halts Iran's nuclear program from moving forward, and potentially rolls back parts of it."

The "first step" toward such an agreement, which Kerry was trying to secure in Geneva this weekend, would deal with Iran's most advanced nuclear activities and "increase transparencies so Iran will not be able to use the cover of talks to advance its program" while more comprehensive talks continue, Carney said.

An effective freeze would require stopping all of Iran's nuclear activities, Misztal said, including production of nuclear fuel that is 3.5% and that is 20% pure, installation of additional centrifuges to produce that fuel, research on advanced centrifuges that would enrich fuel faster and work on Iran's heavy water reactor at Arak.

And that "minimum freeze" would have to be accompanied by stricter inspections to make sure Iran abides by the agreement, Misztal said.

By all accounts that's not the kind of deal being discussed in Geneva, however, and the biggest reason is "how far (the Iranians) have come," Misztal said.

"The longer they keep their program going the more wedded they are to it. The harder it will be to give that up without losing face," he said.

The latest report by the United Nations nuclear watchdog, the International Atomic Energy Agency, found that Iran's nuclear program was advancing by almost every measure, according to a summary Misztal wrote in September.

Key findings of that report include:

- Production and stockpiles of low-enriched uranium are both at an all-time high.
- Production of medium-enriched uranium, which requires only 10% more work to reach weapons-grade, is at an all-time high. Iran has kept those stockpiles below the level Israel said would be its red line, however.
- And Iran has expanded its capacity to enrich more uranium faster, with thousands of centrifuges installed but not turned on, thousands more ready to be installed, and work continuing on more efficient models of centrifuges that allow Iran to produce nuclear fuel even faster.

Contributing: The Associated Press

<http://www.usatoday.com/story/news/world/2013/11/09/iran-nuke-talks-geneva/3483645/>



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Bloomberg Businessweek

Top Diplomats Grapple With Iran Over Half-Built Nuclear Reactor

By Jonathan Tirone, Indira A.R. Lakshmanan and Kambiz Foroohar, Bloomberg News

November 09, 2013

Envoys from Iran and world powers, seeking to break a decade-long diplomatic deadlock, grappled over a partly built reactor that could be configured to produce plutonium for nuclear weapons.

French Foreign Minister Laurent Fabius said that Iran's reluctance to suspend construction of its Arak heavy-water reactor remained one sticking point along with reducing stockpiles of 20 percent enriched uranium. A Western diplomat who asked not to be named because the negotiations are delicate said the U.S., the European Union and Iran have worked for months on a proposal and the French objections were overdone.

The Chinese and Russian foreign ministers were due to join their French, German, U.K. and U.S. counterparts in Geneva for a third day of talks today, where negotiators were aiming to complete an accord over Iran's nuclear program. Iran's Deputy Foreign Minister Abbas Araghchi told reporters that negotiations will be postponed to a future round unless a deal is reached tonight, the state-run Fars news agency said.

"We are still not there," Fabius told reporters in Geneva today. Without an Iranian pledge to stop work at the partially built Arak reactor, from which plutonium can be extracted and used for bomb-grade material, "we'll be faced with a fait accompli," he said in an interview with France Inter radio. "We want an agreement, but not a fool's bargain."

U.S. Secretary of State John Kerry resumed talks this afternoon with Iranian Foreign Minister Mohammad Javad Zarif and the EU's foreign-policy chief Catherine Ashton after more than six hours of talks yesterday. The Iranian foreign ministry said the U.K. and Germany are supporting the talks, according to Iran's Mehr news agency.

Lifting Sanctions

While talks have yielded compromises on both sides, diplomats are still struggling to end the deadlock over the suspected pursuit of weapons of mass destruction that has cast the specter of another Middle Eastern war. Iran has said it needs atomic power for energy and medical research, and that it's willing to limit the size and scope of nuclear activities that may lead to weapons. World powers are offering to lift some sanctions in return.

The Arak reactor "represents a long-term proliferation risk not a near-term risk," Daryl Kimball, executive director of the Washington-based Arms Control Association, said today by e-mail. "France and the other P5+1 powers would be making a mistake if they hold up an interim deal that addresses more urgent proliferation risks over the final arrangements regarding Arak."

Arak Monitoring

Nuclear weapons can be made with highly enriched uranium, which Iran is already capable of producing, or plutonium extracted from spent-fuel used in reactors like Arak.

Iran has told United Nations monitors that it would postpone operation of the heavy-water reactor in Arak. At technical discussions in Vienna last week, it wouldn't agree to shutter or convert the plutonium-producing facility to a light-water reactor, according to a Western diplomat who asked not to be identified because of the talks' sensitivity.

"Any reactor of that particular type is a serious concern," said Robert Kelley, a U.S. nuclear engineer who led UN investigations of Iraq's nuclear program. At the same time, the facility can be adequately monitored and Iran hasn't shown any intent to extract plutonium, meaning "Arak is not an immediate threat," he said.



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The objective of this negotiating round was an accord that would serve as a first step toward a comprehensive agreement. Supreme Leader Ayatollah Ali Khamenei sent a message of support on Twitter late yesterday praising Iran's negotiators, who have been criticized by conservatives at home for conceding too much.

'Important Gaps'

Kerry tempered expectations on his arrival, saying there were still "important gaps that have to be closed."

That message was relayed again today by Britain and Germany. While making "very good progress," any accord "has to be detailed, it has to be exhaustive, it has to be quite painstakingly arrived at," U.K. Foreign Secretary William Hague told reporters. "And therefore it is not surprising that there are detailed negotiations and that they may need to go on for some time."

Kerry traveled to Geneva from Israel, where he'd met Prime Minister Benjamin Netanyahu, one of the most outspoken critics of the recent diplomacy with Iran.

Netanyahu, who said yesterday that he "utterly rejects" any agreement that may emerge in Geneva, insists that Iran's nuclear program must be dismantled in full. Iran is willing to limit the "size, scope and dimensions" of uranium enrichment without bringing it to a complete halt, Araghchi said.

The presence of so many top foreign officials may still signal that a deal is possible.

"Foreign ministers don't show up to be embarrassed," said Jim Walsh, a security analyst at the Massachusetts Institute of Technology in Cambridge, who has traveled to Iran for talks with nuclear officials. "They're in town because they're close enough to a deal to come."

<http://www.businessweek.com/news/2013-11-09/top-diplomats-grapple-with-iran-over-half-built-nuclear-reactor>

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CRI ENGLISH.com – China

Iran, IAEA Sign Deal for Inspecting More Nuclear Facilities

Xinhua

November 12, 2013

Iran and the International Atomic Energy Agency (IAEA) signed a cooperation deal in Tehran on Monday to enable the UN nuclear watchdog to have access to more Iranian nuclear facilities for inspection.

According to the agreement signed by Ali-Akbar Salehi, the head of Atomic Energy Organization of Iran, and Yukiya Amano, the visiting chief of the IAEA, Iran will allow the UN nuclear watchdog's inspectors to visit Arak heavy water plant and Gachin yellow cake mine.

Salehi said the agreement "is a roadmap which clarifies the mutual steps to resolve the remaining issues" pertaining to the IAEA's questions on Iran's nuclear activities.

In the agreement, Iran announced its readiness to "voluntarily let the IAEA inspectors visit the Arak heavy water plant as well as the Bandar Abbas Gachin mine" in the south of the country, said Salehi.

"This shows Iran's flexibility (in its efforts) to close its case with the IAEA and to bar all the excuses used by some to hinder the progress of the work (nuclear issue)," Salehi added.

Amano said: "On the basis of this agreement between Iran and the IAEA, more cooperation will be done to reveal the truth and much serious work is required to be carried out in a three-month time, which begins from today."

"In this agreement, some points are not mentioned which had been referred to in our previous reports, and I emphasize that the agency will resolve the remaining issues with high spirit and through cooperation," added Amano.

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The cooperation within the framework should be completed in a three-month period, he emphasized.

Also, Salehi told the state IRIB TV on Monday that Iran will not accept the demands for the inspection of the sites which had been inspected in the past. He said implying the military site of Parchin suspected for some weapon-grade experiments.

Salehi said that Iran has plans for building nuclear reactors for producing radio medicines as well as building nuclear power reactors in both the north of Iran at the Caspian sea region and in the southern country near Persian Gulf. The information about these reactors will be made available to the IAEA in due time, he added.

On Monday, Iran's ambassador to the IAEA Reza Najafi announced here that Iran and the UN nuclear watchdog will hold another round of talks on Dec. 11 in Vienna, the official IRNA news agency reported.

Amano arrived in Tehran Monday for talks with Iran after the Islamic republic and six world powers failed to reach an agreement in their talks in Geneva on the weekend.

Before leaving Vienna airport for Tehran on Sunday, Amano said he hoped the coming meeting would "produce concrete results" to resolve the outstanding issues.

The IAEA has held more than 10 rounds of meetings with Iran since 2011, as it wants Tehran to answer allegations that it was trying before 2003, and possibly since, to develop nuclear weapons.

Iran denies seeking or ever having sought nuclear weapons. It had refused IAEA requests to visit some sites in Iran where activities are alleged to have taken place, consult documents and speak to certain scientists.

Meanwhile, the talks between Iran and the five permanent members of the UN Security Council - Britain, China, France, Russia and the United States - plus Germany, have been more focused on Tehran's current activities, in particular uranium enrichment, with Iran seeking relief on sanctions.

The three-day talks between these parties ended last weekend with no agreement, but a decision to resume in ten days.

Western countries have long been accusing Iran of developing nuclear weapons under the cover of a civilian nuclear program, but Iran says the suspicion is baseless and fabricated, insisting its nuclear program is for peaceful purposes.

<http://english.cri.cn/11354/2013/11/12/3441s797817.htm>

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Press TV – Iran

West must Respect Iran's Nuclear Rights: Poll

Wednesday, November 13, 2013

The results of a new poll by Press TV website show that an overwhelming majority of respondents across the world believe that the West should respect Iran's right to a peaceful nuclear energy program.

The poll, open between November 5 to 12, asked respondents if the West should respect Iran's nuclear enrichment rights under the nuclear Non Proliferation Treaty (NPT).

According to the poll, 89 percent of the voters agreed that the West should respect Iran's right to enrichment, while only 11 percent voted against the notion.

The US had the most participants in the poll with more than 1,500 respondents, Britain with just over 700, Canada under 500, Germany under 200, and Australia with over 120.

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The results came after closed-door talks over Tehran's nuclear program between Iran and the five permanent members of the United Nations Security Council -- the United States, China, Russia, France and Britain -- plus Germany, ended in Geneva last week. The intensive talks kicked off on November 7 and stretched into the early hours of November 10.

The two sides could not reach a deal in Geneva, but stressed that significant progress had been made and expressed optimism about the prospect of achieving a deal. The two sides agreed to continue negotiations on November 20 in the same venue.

Iran has accused the West of going back on their word in regards to a possible agreement over Iran's nuclear energy program.

On November 9, Iranian Foreign Minister Mohammad Javad Zarif spoke of divisions among the six powers following his meeting with US Secretary of State John Kerry and EU foreign policy chief Catherine Ashton.

The US, Israel and some of their allies claim that Iran is pursuing non-civilian objectives in its nuclear program, with Washington and the European Union using the allegation as a pretext to impose illegal sanctions on Iran.

Tehran strongly rejects the claim over its nuclear activities, maintaining that as a committed signatory to the NPT and a member of the International Atomic Energy Agency (IAEA), it has the right to use nuclear technology for peaceful purposes.

In addition, the IAEA has conducted numerous inspections of Iran's nuclear facilities but has never found any evidence showing that the Iranian nuclear program has been diverted toward military objectives.

<http://www.presstv.ir/detail/2013/11/13/334439/west-must-respect-iran-nuclear-right/>

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FARS News Agency – Iran

White House: Opposing Iran Deal Could Lead to War

Wednesday, November 13, 2013

TEHRAN (FNA) - The White House warned the Congress, which is currently mulling tougher sanctions on Iran over the country's nuclear energy program, that opposing a deal with Tehran could lead to war.

On Tuesday, the White House warned lawmakers that thwarting US diplomatic efforts in dealing with Iran's nuclear energy program could leave President Barack Obama little option but enter another war.

"The American people do not want a march to war," spokesman Jay Carney said, press tv reported.

He warned that if President Obama's efforts to solve the Iranian nuclear issue through diplomatic channels failed, or were blocked, he would be left with few other options including a military action.

"The American people justifiably and understandably prefer a peaceful solution" to Iran's nuclear issue "and this agreement, if it's achieved, has the potential to do that," Carney said.

The White House warning came as US lawmakers are seeking to ratchet up additional sanctions against Iran in a move that is directed at derailing negotiations over a diplomatic solution for Iran's nuclear energy program.

Iran and the six major world powers -- the United States, Britain, Russia, China, France and Germany -- discussed the issue behind closed doors in Geneva, Switzerland. The intensive talks kicked off on November 7 and stretched into the early hours of November 10.

The two sides could not reach a deal in Geneva, but stressed that significant progress had been made and expressed optimism about the prospect of achieving a deal. The two sides agreed to continue negotiations on November 20 in the same venue.

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US Secretary of State John Kerry said on Monday that negotiations between Iran and the group of six major world powers in Geneva came “extremely close” to yielding results.

“We were very, very close actually, extremely close,” Kerry told BBC in an interview.

<http://english.farsnews.com/newstext.aspx?nn=13920822000129>

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The Daily Star – Lebanon

Iran Blames France for Failure of Nuclear Talks

By Agencies

November 13, 2013

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TEHRAN/VIENNA: Iran, backed by Russia Tuesday, blamed friction among Western powers for the failure of Geneva talks that came tantalizingly close to a landmark deal on its nuclear program.

Foreign Minister Mohammad Javad Zarif dismissed claims by U.S. Secretary of State John Kerry that Iran had balked at the deal on offer from the six powers in last week’s talks.

He said it was French objections to the draft thrashed out by Tehran and Washington that had scuppered an agreement, echoing criticism of French Foreign Minister Laurent Fabius in the Iranian media.

“Mr. Secretary, was it Iran that gutted over half of U.S. draft Thursday night? And publicly commented against it Friday morning?” Zarif asked on Twitter.

Zarif spent nearly seven hours with Kerry in Geneva as both sides worked on the draft text of an agreement.

Fabius joined the talks Friday and immediately cast doubt on a deal.

The following day the foreign minister was even less upbeat.

“There are some points on which we are not satisfied,” Fabius told France Inter radio Saturday morning.

He cited concerns about the heavy water reactor Iran is building at Arak and its stockpiles of 20 percent enriched uranium.

Western governments fear that the 20 percent level marks a key stepping stone toward the 90 percent plus level required for a nuclear warhead.

Kerry denied that differences between the Western powers had led to the talks between Iran and the P5+1 – Britain, China, France, Russia and the United States, plus Germany – ending inconclusively early Sunday.

“The P5+1 was unified Saturday when we presented our proposal to the Iranians ... But Iran couldn’t take it,” Kerry said in Abu Dhabi Monday.

Russia backed Iran, however, saying it was not to blame for the failure to reach agreement.

“The draft joint document suited the Iranian side. But since decisions at negotiations are taken by consensus, it was not possible to make a final deal,” a Foreign Ministry source said in comments carried by Russian news agencies.

“And this was not the fault of the Iranians,” the source said.

“Such an interpretation simplifies to an extreme and even distorts what happened in Geneva.”

Diplomats insist that they remain close to a deal, however, and the talks are to resume in Geneva Nov. 20 at the lower level of political directors.



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Late Monday, Zarif cautioned Kerry that “putting a spin on the reality ... does not help generate trust in the negotiation process.”

He suggested Kerry’s remarks in the United Arab Emirates capital were intended to allay the concerns of the “hosting country,” referring to fears among Gulf Arab states of a rapprochement between Washington and their regional rival.

Zarif tried to ease Gulf Arab concerns, insisting that the talks were focused solely on the nuclear issue, and not on diplomatic relations between Tehran and Washington.

He said that Iranian envoys had been instructed to “garner the support of our brothers in the Persian Gulf” for a nuclear deal, which he said was “still within reach.”

Meanwhile, State Department spokeswoman Jen Psaki said Tuesday that Kerry believes it would be a “mistake” for the U.S. Congress to impose additional sanctions on Iran now amid negotiations with Tehran.

Psaki said Kerry, who will hold a closed-door briefing on Iran at the Senate Banking Committee Wednesday, wants a “temporary pause” in the imposition of additional sanctions on Tehran by U.S. lawmakers to allow diplomats for the United States and other world powers to negotiate with Iran on the nuclear issue.

Also, the International Atomic Energy Agency chief said that U.N. nuclear inspectors would be ready to verify the implementation of any agreement between Iran and six world powers on curbing the Islamic Republic’s atomic activities.

A day after he signed a cooperation pact with Iran granting the IAEA access to two nuclear-related sites, Yukiya Amano also said the body would issue its latest report on Iran’s nuclear program in coming days.

The IAEA’s talks with Iran – aimed at clarifying suspicions that Iran has carried out atomic bomb research – are separate from the big power’s diplomacy but both tracks center on fears that Tehran may be developing nuclear weapons capability.

“If there is some agreement between the P5+1 and Iran and if we are requested to implement some verification measures, we are prepared to implement them,” Amano told reporters at Vienna airport upon his return from Tehran.

Asked whether he now expected a slowdown in the expansion of Iran’s nuclear program, Amano said only that the IAEA’s next quarterly report on Tehran’s activities – a document that is scrutinized in the West – would be issued this week.

<http://www.dailystar.com.lb/News/Middle-East/2013/Nov-13/237698-iran-blames-france-for-failure-of-nuclear-talks.ashx#axzz2kXwduFl6>

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France 24.com – France

Iran's Arak Reactor: A Second Route to a Nuclear Bomb?

Agence France-Presse (AFP)

November 13, 2013

AFP - Iran's nuclear reactor being built at Arak figured highly in recent failed talks between Tehran and six world powers in Geneva, with France in particular wanting work there stopped.

The so-called "heavy water" reactor is of concern because, in theory, it could provide the Islamic republic with plutonium -- an alternative to highly enriched uranium used for a nuclear bomb.

Once completed, Iran could extract from Arak's spent fuel between five and 10 kilogrammes (10-20 pounds) of weapons-grade plutonium a year, enough for one nuclear weapon, experts estimate.



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Iran denies wanting to do any such thing, saying the reactor in western Iran, known as the IR-40, will be used to produce medical isotopes and for research.

Israel, widely believed to have nuclear weapons itself, has refused to rule out bombing Arak, as it is assumed to have done to an Iraqi reactor in 1981 and to a Syrian facility in 2007.

But experts say that the reactor, plagued by delays in construction, is a long way from being even close to as much concern as uranium enrichment.

Iran has almost enough uranium enriched to purities of 20 percent -- close to weapons-grade -- for a bomb's worth, if it chose to further enrich to this level.

At present, such a "break out" would be detected by the International Atomic Energy Agency, the UN watchdog.

But with the uranium stockpile growing and Iran installing more and more centrifuges, some more modern and faster, the worry is that one day it could do this so quickly that the IAEA would not notice in time.

Living with Arak

The IAEA, which monitors Arak, said in August that a planned start-up in the first quarter of 2014 was no longer achievable, and it remains unclear when it will come into operation.

Once it is, it needs to run for 12-18 months to produce spent fuel that could be used to extract plutonium, said Shannon Kile from the Stockholm International Peace Research Institute (SIPRI).

Moreover, Iran does not have a declared reprocessing facility to extract the plutonium, and a secret one would quickly be detected.

"Reprocessing facilities are large and produce radionuclide gaseous products which can be detected by environmental sampling, and that's true whether you have (IAEA) inspectors on the ground or not -- it can be done by airborne means for example," Kile told AFP.

Many analysts believe therefore that world powers at the next meeting in Geneva on November 20 should tolerate Iran completing and operating the IR-40 -- provided there are additional agreements.

These could include an undertaking by Iran to remove spent fuel from Arak to a third country or converting it to a less alarming "light water" reactor.

"The powers, including France and Israel and everyone else, could live with Iran completing and operating the reactor," if such safeguards are in place, Mark Hibbs from the Carnegie Endowment for International Peace told AFP.

"Arak represents a long-term proliferation risk, not a near-term risk, and it can be addressed in the 'final phase' of negotiations" between Iran and the six world powers, said Daryl Kimball from the Arms Control Association.

"France and the other P5+1 powers would be making a mistake if they hold up an interim deal that addresses more urgent proliferation risks over the final arrangements regarding Arak," he said.

<http://www.france24.com/en/20131113-irans-arak-reactor-second-route-nuclear-bomb>

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The Washington Free Beacon – Washington, D.C.

Pletka: Iran Could Make a Dirty Bomb Today

AEI Expert: Iranians are one month from rudimentary device, possibly year away from miniaturized weapon

By Washington Free Beacon Staff

November 13, 2013

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Vice President for Foreign and Defense Policy at the American Enterprise Institute Danielle Pletka said Iran currently has the capacity to build a “dirty” nuclear bomb Wednesday in a House Foreign Affairs committee hearing.

Iran could produce a “rudimentary” bomb that could be delivered in the back of a truck or a bus in a month, Pletka said. A more complex miniaturized weapon with a delivery device, according to Pletka, could take the regime approximately one year to manufacture:

MO BROOKS: When will they have a usable nuclear weapon? So how much time in your best judgement?

MIKE DUBOWITZ: Well the open reporting that I’ve seen is 2014/2015.

BROOKS: Ms. Pletka?

DANIELLE PLETKA: I think the problem that we’re going to face answering your question is what you mean by a ‘usable nuclear weapon.’ If you mean a dirty bomb, they could do it today. If you mean a rudimentary nuclear device that can be delivered in the back of a truck or a bus, a month. If you mean a weapon miniaturized on a delivery vehicle that works successfully, longer; probably a year, maybe even longer than that.

<http://freebeacon.com/pletka-iran-could-make-a-dirty-bomb-today/>

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Times of Israel – Israel

PM: Iran Already Has Wherewithal to Build Nuclear Weapons

UN agency report shows slowdown in enrichment, with only four centrifuges erected in past 3 months, compared to 1,500 in preceding 3 months

By Adiv Sterman

November 14, 2013

Iran has decelerated its rate of uranium enrichment because it already possesses the basic infrastructure for producing a nuclear weapon, Prime Minister Benjamin Netanyahu said Thursday.

Responding to an International Atomic Energy Agency report claiming that Iran had substantially cut uranium enrichment since the election of President Hassan Rouhani last June, Netanyahu said he was “not impressed,” and that Iran still strives to acquire nuclear weapons.

“Iran is not expanding its nuclear program because it already has the foundations needed for nuclear weapons,” the prime minister said. “The question is not whether they are expanding the program, but how to stop the Iranian military nuclear program.”

Netanyahu, who was speaking in English to a gathering in Jerusalem of young diaspora Jews who are in Israel as part of the Masa volunteerism and study program, added that Iran was under immense pressure due to international sanctions, and asserted that the Islamic Republic’s representatives were eager to sign an agreement with Western powers.

“Some people argue that if a deal is not reached with Iran, Iran will run away from negotiations,” he said. “I have news for you — they will not run away, it is the deal of their dreams.”

“I promise, Israel will not allow Iran to obtain nuclear weapons,” he concluded.

According to the IAEA report published earlier Thursday, only four centrifuges for the enrichment of high grade uranium had been erected in the Islamic Republic during the past three months, compared to 1,500 in the previous three months, Channel 2 News reported.

The report also deemed Iran a long way from being able to produce a nuclear weapon, as it had enriched only 196 kilograms of uranium, whereas a weapon would require a stockpile of at least 250 kilograms of enriched uranium.



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Over the past weekend in Geneva, the US, Russia, France, China, Britain and Germany — the so-called P5+1 — came close to signing an interim agreement with Iran that would offer limited sanctions relief in exchange for halting uranium enrichment to 20 percent purity, while enrichment to the level of 3.5% would continue.

Production of a nuclear weapon requires uranium enrichment to a purity above 90%.

US officials say the deal currently under discussion would be an interim agreement only, intended to suspend Iran's march toward a nuclear weapons capability for six months while a permanent arrangement is negotiated.

The world powers and Iran are scheduled to meet again on November 20 in Geneva to resume talks.

Netanyahu has been vehemently opposed to the possible interim deal between the P5+1 and Iran since news of the possible breakthrough emerged last Thursday, leading to a rare public disagreement between Jerusalem and Washington.

"There are not just two possibilities on the Iranian issue: A bad deal — or war. This is incorrect," Netanyahu said in the Knesset Wednesday. "There is a third possibility — and that is continuing the pressure of sanctions. I would even say that a bad deal is liable to lead to the second, undesired, result."

Iran has denied it intends to produce nuclear weapons, a claim disbelieved by Western powers, Israel and watchdog agencies such as the IAEA.

Raphael Ahren contributed to this report.

<http://www.timesofisrael.com/pm-iran-already-has-where-withal-to-build-nuclear-weapons/>

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The Washington Post

Kerry: Nuclear Deal with Iran Will Be 'Failsafe' so it will have No Nuclear Weapons Capability

By Associated Press (AP)

Thursday, November 14, 2013

WASHINGTON — Secretary of State John Kerry said Thursday that any deal negotiated with Iran will be "failsafe" and will guarantee that Tehran will not have the capacity to develop nuclear weapons.

Trying to reassure skeptical lawmakers and U.S. allies, Kerry told MSNBC that the Obama administration wants time to negotiate a deal with Iran that would protect Israel, U.S. interests and the region and "guarantee failsafe that Iran will not be able to have a nuclear weapon."

Kerry said he spoke shortly before the televised interview with Israeli Prime Minister Benjamin Netanyahu to assure him that the U.S. understands Israel's deep concerns about Iran's nuclear program, which it sees as a threat to its security. Kerry said he told Netanyahu that the U.S. and Israel both agree that Iran should not be allowed to become a nuclear-armed nation.

But he said that while the Obama administration wants Congress to hold off on imposing any new sanctions while negotiations continue, Israel wants to see more sanctions to force Tehran to surrender any nuclear weapons capabilities.

Kerry, who has been briefing lawmakers on the most recent negotiations with Iran that took place in Geneva last week, said that Iran would likely view any new U.S. sanctions as a "bad faith" move in the talks and would embolden hard-liners in Tehran who do not want Iran to surrender any nuclear capabilities. Iran insists its program is being developed for peaceful purposes.

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http://www.washingtonpost.com/world/national-security/kerry-nuclear-deal-with-iran-will-be-failsafe-so-it-will-have-no-nuclear-weapons-capability/2013/11/14/47a586fc-4d3f-11e3-bf60-c1ca136ae14a_story.html

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Space Daily.com

Iranian ICBM Threat to U.S. a Distant Prospect, Think Tank Says

By Staff Writers

Beirut, Lebanon, United Press International (UPI)

November 14, 2013

Despite Israeli claims Iran will have an intercontinental ballistic missile capable of reaching the U.S. East Coast in two- to three years, the International Institute for Strategic Studies, a London think tank, says it's "highly unlikely" Iran could deploy an operational ICBM "within the next decade."

And the institute says test trials would give the Americans as much as five years warning to develop countermeasures.

The Israelis, who view Iran's nuclear and missile programs as an existential threat, insist Tehran wants to acquire ICBM capability with the U.S. East Coast as its target.

These claims have intensified as Prime Minister Binyamin Netanyahu's right-wing coalition seeks to torpedo U.S.-led Western efforts to negotiate a rapprochement with Iran to scale back its nuclear program.

Israel believes this would rule out any U.S. military action against the Islamic Republic's nuclear project, leaving the Jewish state isolated.

Netanyahu declared on CBS television Oct. 23, shortly after his address to the U.N. General Assembly in New York, that Iran is building ICBMs to reach ... the Americans mainland within a few years."

But the IISS observed in a study released Thursday there's no near-term prospect of that and Iran has two options when it comes to producing ICBMs.

The first is to develop one from an operational intermediate-range missile, or IRBM, like its Sejil-2 system, a two-stage, solid-fuel missile first test-flown in 2008. It has a range of 1,250 miles.

The second is to expand on liquid-propulsion systems like its Ghadr missile, a single-stage weapon derived from North Korea's No Dong weapon. It has a range of 1,000 miles.

An Iranian ICBM would need a range of 6,250 miles to reach the U.S. East Coast.

The IISS observed France, "whose solid-propellant missile development program matured at a faster pace than Iran's, needed more than decade to advance from a medium-range missile," like Iran's Sejil-2 with a 14-ton engine, "to a 20-ton motor for the intermediate-range M4 missile.

"It took France another 14 years before it would develop and deploy the 6,250-mile-range M51 missile."

The IISS noted China "experienced a similar timeline" for advancing from medium- to long-range systems with its JL-1/DF-21 and JL-2/DF-31 missiles.

"It is, therefore, reasonable to conclude that Iran is unlikely to move on to producing an operational intermediate-range, powered by a 20- to 25-ton first-stage motor within the next five years.

"An ICBM powered by a first-stage motor in excess of 30 tons would likely require an additional 5- to 10 years, if not more," the study said.

"Under such a timeline, Iran would not be expected to field an operational ICBM before the middle of the next decade," it concluded.

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The institute conceded the Iranians "could break with the missile-development experience of other nations ... and forgo development of an IRBM, and proceed directly from Sejil-2 to an ICBM."

But it said "such a leap in capability would entail considerable technical risk, and would not be consistent with the structured engineering approach Iran has adopted for its missile programs."

There is no "publicly available evidence" it has ground-tested a solid-fuel power plant larger than Sejil-2's first-stage motor.

"If ground-testing of a 30-ton motor were to start today, an initial flight test could conceivably commence in two- to three years, or late 2015 at the earliest," the study said.

"Based on the experience of others, flight trials ... of the new missiles under operational conditions would require another four years, if not more.

"The soonest Iran might have an operational, solid-propellant ICBM under this scenario would be late 2019," the IISS observed.

"But this assumes that Iran could mature its technical and manufacturing capacity smoothly and efficiently, while skipping the critical step of perfecting an IRBM before attempting to create an ICBM.

"It also assumes that Iran could proceed more quickly than France, China or India did in their respective efforts to develop long-range missiles. There is nothing in Iran's history of missile development to suggest that this is remotely possible."

Iran says it does not seek missiles with a range over 1,250 miles -- enough to blast U.S. warships and air bases in the Persian Gulf or Israel.

Gen. Amir Ali Hajizadeh, commander of the Aerospace Division of the Revolutionary Guards Corps, which oversees Iran's missile program, said Oct. 2 this was "because our enemies are within this range."

http://www.spacedaily.com/reports/Iranian_ICBM_threat_to_US_a_distant_prospect_think_tank_says_999.html

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Defense News.com

US Report: 1st Sub-launched Nuke Missile Among China's Recent Strides

November 11, 2013

By WENDELL MINNICK

TAIPEI — For the first time in the country's history, China's sea-based nuclear deterrent nears initial operational capability (IOC), according to a forthcoming report by a US congressional commission on China.

China's JL-2 submarine-launched ballistic missile could reach IOC later this year, according to an early draft of the report by the US-China Economic and Security Review Commission.

With a range of 4,000 nautical miles, the People's Liberation Army Navy (PLAN) will have its first credible sea-based nuclear deterrent against the US mainland, mated with the Type 094 Jin-class nuclear ballistic missile submarine (SSBN). China has deployed three Jin-class SSBN and "probably will field two additional units by 2020."

The report also states that China is pursuing two new classes of nuclear submarines — the Type 095 guided-missile attack submarine (SSGN) and the Type 096 SSBN. The Type 096 will likely "improve the range, mobility, stealth, and lethality" of the PLAN's nuclear deterrent.

US military facilities on Guam are coming into conventional missile range for China, according to the report.

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Though China does not have the ability to strike land targets with sea-based cruise missiles, the report states China's navy is developing a land-attack cruise missile capability, most likely with the Type-095 SSGN and Luyang-III (Type 052D) guided-missile destroyer. This will enhance China's "flexibility for attacking land targets throughout the Western Pacific, including US facilities in Guam."

In June, according to the report, the People's Liberation Army Air Force accepted 15 new H-6K bomber aircraft. An improved variant of the H-6, the K variant has extended range and can carry China's new long-range, land-attack cruise missile (LACM). "The bomber/LACM weapon system provides the PLA Air Force with the ability to conduct conventional strikes against regional targets throughout the Western Pacific," including Guam.

The report states China is working on extending the range of the DF-21D anti-ship ballistic missile. With its current range of 810 nautical miles, it can already threaten US naval vessels throughout the Western Pacific. At 1,600 nautical miles from China, Guam falls outside the DF-21D's range.

Other developments cited in the report include progress on China's first aircraft carrier, the Liaoning, which conducted its first successful carrier-based takeoff and landing with the J-15 Flying Shark fighter jet in November 2012, certified its first group of aircraft carrier pilots and landing signal officers during the ship's first operational deployment in June, and verified its flight-deck operations process in September.

"The PLAN will continue to conduct short deployments and shipboard aviation training until 2015 to 2016, when China's first J-15 regiment is expected to become operational," the report states.

The document discusses other impressive surface ship developments. In 2012, China launched two new classes: the Luyang-III guided-missile destroyer and the Jiangdao (Type 056) corvette. Construction resumed for the Luyang-II (Type 052C) guided-missile destroyer and serial production continues for the Jiangkai-II (Type 054A) guided-missile frigate. "Most of these units will likely be operational by 2015," according to the report.

Quoting Andrew Erickson and Gabe Collins, both renowned PLA experts, the report states that "by 2015, China will likely be second globally in numbers of large warships built and commissioned since the Cold War's end ... by 2020, barring a US naval renaissance, it is possible that China will become the world's leading military shipbuilder in terms of numbers of submarines, surface combatants and other naval surface vessels produced per year."

One of the many disturbing conclusions in the report is the suggestion that China's military modernization is "on track to alter the security balance in Asia over the next five to 10 years, challenging decades of US military preeminence."

And as the US military and diplomatic community work feverishly to improve Sino-US ties, China is "rapidly expanding and diversifying its ability to conduct conventional strikes against US and allied bases, ships, and aircraft throughout the region."

<http://www.defensenews.com/article/20131111/DEFREG03/311110015/US-Report-1st-Sub-launched-Nuke-Missile-Among-China-s-Recent-Strides?odyssey=nav%7Chead>

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Yonhap News Agency – South Korea

Chance of N. Korea Abandoning Nuclear Weapons 'Near Zero': Expert

November 14, 2013

BEIJING, Nov. 14 (Yonhap) -- The chance of North Korea giving up its nuclear weapons is "close to zero," a former South Korean national security adviser said Thursday, voicing pessimism over diplomatic efforts to restart the long-stalled talks aimed at ending the North's nuclear ambition.

Chun Yung-woo, a former career diplomat who served as the top presidential security adviser between 2010 and 2013, said North Korea may decide to abandon its nuclear weapons only if it faces a regime collapse because of its pursuit of a nuclear arsenal.



"Given the sacrosanct value Pyongyang attaches to nuclear weapons, the chance of denuclearization is close to zero even under the best of circumstances," Chun told a forum in Beijing hosted by Seoul-based think tank the Asan Institute for Policy Studies.

"Under the current circumstances, North Korea has no reason to abandon its nuclear ambition. However, I do not agree with those who argue that North Korea will never give up its nuclear capabilities at any price under any circumstances," said Chun, who also served as South Korea's top nuclear envoy between 2006 and 2008.

"If North Korea is given no other choice but between regime collapse with nuclear weapons and survival without them, there is a chance that they will opt for the latter, although I would not rule out the possibility of Pyongyang preferring a collapse with nuclear weapons," Chun said.

China is accelerating its diplomatic efforts to reopen the six-party talks, "however, the best time to reconvene the six-party talks is when there is a reasonable chance to produce anything positive," Chun said.

Unless North Korea publicly demonstrates its willingness to give up its nuclear weapons, the six-party talks "would become nothing more than a talk shop where North Korea would keep playing games," Chun said.

The six-party talks, which involved the two Koreas, the U.S., China, Russia and Japan, have been dormant since late 2008. Since conducting its third nuclear test in February, North Korea has repeatedly expressed its willingness to rejoin the six-party process "without preconditions."

South Korea and the U.S. have been demanding North Korea to show its sincerity by first taking steps to denuclearize itself. China has been more accommodating toward North Korea, urging South Korea and the U.S. to lower the bar for Pyongyang to sit down at the negotiating table.

<http://english.yonhapnews.co.kr/national/2013/11/14/46/0301000000AEN20131114004200315F.html>

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The Japan News – Japan

Govt to Study 2 Additional Missile Defense Systems

November 15, 2013

The Yomiuri Shimbun

The government will next fiscal year begin studying the introduction of two new interceptor missile systems, which have been developed and deployed in the United States, to make the nation's missile defense more multilayered to improve its capability to deal with North Korean ballistic missiles, according to sources.

The government will study the introduction of the Terminal High Altitude Area Defense (THAAD) missile system and the ground-based Standard Missile 3 (SM-3) system.

Japan's missile defense system is designed on the premise that enemy missiles are intercepted in flight by SM-3 interceptor missiles fired from Aegis destroyers or by ground-based Patriot Advanced Capability-3 (PAC-3) missile units.

The THAAD system is capable of shooting down ballistic missiles in space and in the upper atmosphere on reentry. It can deal with missiles over wider areas, even if SM-3 missiles fail to intercept enemy ballistic missiles.

The ground-based SM-3 units are able to deal with missiles whenever they may be fired, because it is not necessary to deploy them aboard Aegis destroyers.

Using Aegis destroyers to intercept enemy missiles is difficult over the long term because two or more Aegis destroyers must always be deployed in the Sea of Japan.

As each PAC-3 unit can defend an area only tens of kilometers wide, some defense experts have pointed out holes in the nation's defense system.



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Meanwhile, Defense Minister Itsunori Onodera on Saturday visited the Air Self-Defense Force's Kyogamisaki Sub Base in Kyotango, Kyoto Prefecture, where a TPY-2 early-warning radar, known as X-band radar, will be established.

An X-band radar is capable of detecting the launch of a ballistic missile more quickly than conventional types.

After inspecting the base, Onodera told reporters: "As we speak, North Korea is continuing technological development of its missiles. Unless the accuracy of radar improves, [Japan's] defense system will be adversely affected. It's important to enhance our systems."

Currently, one X-band radar is set up in Aomori Prefecture. But U.S. forces decided to deploy another X-band radar partly because North Korea succeeded in developing a long-range ballistic missile capable of hitting the U.S. mainland.

Though the new X-band radar will be operated by U.S. forces, information about missile launches will also be provided to Japan.

<http://the-japan-news.com/news/article/0000788584>

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The Korea Herald – South Korea

N. Korea Ready for 4th Nuclear Test, yet No Imminent Sign: Seoul

November 15, 2013

North Korea is ready to conduct another nuclear test, but no imminent sign has been detected at its main site in the northeastern tip, South Korea's defense ministry said Friday.

South Korea's vice defense minister Baek Seung-joo briefed lawmakers of the ruling Saenuri Party on the condition of the Punggye-ri test site in its northeastern region during a meeting of the special security committee on North Korea's nuclear weapons amid rising speculation over another test.

The southern tunnel of the underground test site can be used for another explosion at any time, but currently there are no imminent signs for such action, Baek was quoted as saying by participants.

The western tunnel, where the third explosion took place in February, is currently under construction, Baek said. Pyongyang is expected to acquire 6 km of weapons-grade plutonium by the end of next year if the Yongbyon nuclear reactor continues to operate in the current phase, he noted.

The communist state has resumed operations at its previously mothballed Yongbyon nuclear complex, which would allow the North to extract plutonium from spent fuel rods.

The nation's main nuclear reactor was shut down under an agreement reached at nuclear disarmament-for-aid talks in 2007. The assessment comes as experts raise suspicion that North Korea is preparing for another nuclear test that could be conducted any time soon for the purpose of gaining a strategic edge in resuming multilateral nuclear disarmament talks, which have been halted since 2008.

On Thursday, Victor Cha, a North Korean expert and former White House security official, said the North could conduct its fourth nuclear weapons test as early as late this year.

Recent satellite imagery showed that North Korea has made new tunnel entrances at its nuclear test site in a sign it is preparing to conduct more underground explosions there in the future, said 38 North, a website operated by the U.S.-Korea Institute at Johns Hopkins School of Advanced International Studies.

Seoul's defense ministry estimates that North Korea has made considerable progress in its nuclear development program in light of its third nuclear test. But many still doubt whether the impoverished state has mastered the technology necessary to produce a nuclear warhead that can be mounted on an inter-continental ballistic missile. (Yonhap news)



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<http://www.koreaherald.com/view.php?ud=20131115000586>

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RIA Novosti – Russian Information Agency

Russian Navy Likely to Receive 2nd Borey Nuclear Sub by Year-End

9 November 2013

MOSCOW, November 9 (RIA Novosti) – A second Borey-class nuclear-powered submarine, the Alexander Nevsky, will most likely be delivered to the Russian Navy around the end of November or early December this year, Russia's United Shipbuilding Corporation said Friday.

"The Alexander Nevsky has completed state trials. It is currently undergoing some finishing works following recommendations by a state inspection commission," the company said in a statement.

"The signing of the acceptance act could take place sometime at the end of November or early December, followed by deployment at its home base," the statement said.

The state sea trials of the Alexander Nevsky were suspended in September following an unsuccessful launch of a Bulava submarine-launched ballistic missile from the submarine.

Russian Defense Minister Sergei Shoigu ordered to hold five additional launches of the troubled SLBM at the time.

However, the trials of the submarine were resumed in October, and the vessel is expected to be put into service with the Navy even without additional Bulava testing.

The first Borey-class submarine, the Yuri Dolgoruky, was commissioned into the Northern Fleet in January.

The Borei class is set to become the mainstay of the Russian Navy's strategic nuclear deterrent fleet, replacing the aging Project 941 (NATO Typhoon class) and Project 667 class (Delta-3 and Delta-4) boats.

A total of eight Borey-class submarines are to be built for the Russian Navy by 2020.

http://en.ria.ru/military_news/20131109/184598005/Russian-Navy-Likely-to-Receive-2nd-Borey-Nuclear-Sub-by-Year-End.html

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Aviation Week.com

Russia Develops Multiple Nuclear Systems

By Bill Sweetman

Source: *Aviation Week & Space Technology*

November 11, 2013

Russia is making new nuclear delivery systems a national priority, with a new ballistic-missile submarine class and missile in production; continued deliveries of a modern, road-mobile ICBM; and reports of a new silo-based heavyweight weapon.

The nation is arming its bomber fleet with a new cruise missile and plans a new bomber (as does the U.S.), while tactical nuclear weapons are still considered an option for major combined-arms theater-scale wars.

Western experts across the hawk-to-dove spectrum tend to agree that Russia's motivation is a perception of conventional-force weakness relative to the U.S., NATO and China, which in turn stems from the Russian economy's inability to support rapid modernization of air, land and naval forces. However, some go further than this and argue that the Russian emphasis on nuclear weapons is destabilizing and could lead to the breaking of some nuclear weapon treaties.

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The largest Russian program is the modernization of its strategic missile forces. President Vladimir Putin pledged in 2012 that those forces would receive more than 400 new missiles within 10 years, a complete overhaul of the arsenal.

Some of these new missiles are already in production. The RT-2UTTKh Topol-M (identified by the U.S. and NATO as the SS-27 Sickle-B) was deployed in silos in the late 1990s and as a road-mobile ICBM in 2006. The 104,000-lb., cold-launched missile is carried on a 16-wheel transporter-erector-launcher (TEL) vehicle.

The Topol-M was designed on the assumption that the 1993 Strategic Arms Reduction Treaty (Start) II would come into force, banning land-based missiles with multiple independently targeted reentry vehicles (MIRV), so the original versions were all single-warhead missiles. Nevertheless, after Russia declined in 2002 to ratify Start II (in response to the U.S. abrogation of the Anti-Ballistic Missile treaty), development started on a version of the Topol-M with MIRVs.

This, the RS-24 Yars, was declared operational in mid-2011 in its silo-launched version, and it is now replacing the single-warhead Topol-M across the board in both silo-launched and road-mobile versions. At some silo sites, Yars is replacing the aging liquid-fueled UR-100Nutt (SS-19). Yars is variously reported to be capable of carrying four or six MIRVs.

Underscoring the importance of the Topol-M's descendants, Topol/Yars technology forms the basis of the RSM-56 Bulava submarine-launched ballistic missile, developed in parallel with the Project 955 Borey-class SSBN. The first Project 955 boat, Yuri Dolgorukiy, was accepted for service at the beginning of this year but will not be armed with missiles until 2014.

The six-warhead Bulava has had a troubled testing history. The 20th flight test of the missile failed in September. Before that, the missile had experienced seven successful tests in a row, following a sequence of complete or partial failures blamed on quality control and other issues.

There is also to be a gap in deliveries of the Borey SSBN. The first three Project 955 submarines, all of which have been launched, are being succeeded by a revised model, the 955A. The first of these, Knyaz Vladimir, was only laid down in July: Putin, attending the ceremony, said five 955As should be ready by 2020, bringing the Borey-class fleet to eight boats—a very ambitious schedule by post-Cold War standards.

Beyond that, notes leading Russian nuclear-arms analyst Pavel Podvig, an affiliate of the Center for International Security and Cooperation at Stanford University, “it appears that Russia has successfully managed to confuse everyone with its new missile-development programs.” Since even the officially unveiled Russian systems have more names than one of Tolstoy's aristocrats, the potential for confusion with developmental systems is huge. The absence of Soviet secrecy does not solve the problem, rather allowing for official and unofficial sources to disseminate diverse and often conflicting stories.

Four officially announced flight tests of a “new ICBM” between September 2011 and June 2013 seem to point to the development of a weapon that will supersede Topol and Yars in production, both developed by the Moscow Institute of Thermal Technology (MITT). It has been associated with the designation RS-26 and may be the missile referred to as Yars-M and Avangard, but recently it has most consistently been identified as Rubezh (Frontier).

The Rubezh missile is believed to be mated to a new six-axle TEL, the Belarus-built MZKT-27291, which was unveiled this year. If it is used with this launcher, it must be smaller than the Topol/Yars family and easier to move. As in the case of some other recent ICBM tests, official announcements described it as a “maneuverable” system. According to Russian media, Deputy Prime Minister Dmitry Rogozin, speaking after the test in June, called the new ICBM a “missile-defense killer—neither current nor future American missile defense systems will be able to prevent that missile from hitting a target dead on.” It is expected to be operational next year.

Like the Yars with MIRVs—an upgraded version of an existing missile—the apparently all-new Rubezh originated after the end of the Start II and ABM treaties. Despite Washington's protestations to the contrary, Russia has continued to insist that U.S. ballistic missile defense plans are aimed at tipping the nuclear balance between the two nations. Technically, it is possible that the missile could carry a maneuverable, evading warhead: Such a system, the Advanced Maneuvering Reentry Vehicle (AMaRV), was tested in 1979-80 in the U.S. as a counter to ballistic missile defense



systems, which are designed to intercept nonmaneuvering targets. The AMaRV can also be launched on a flattened, aero-ballistic trajectory to reduce the defender's warning time.

Mark Schneider, an analyst with the hawkish National Institute of Public Policy, suggests another potential issue with the new weapon: It could represent the start of a breakout from the Intermediate-Range Nuclear Forces (INF) treaty signed in 1987, which bans both the U.S. and Russia from deploying any ground-launched missiles, nuclear or conventional, with a 270-3,000-nm range (500-5,500 km). Schneider notes that the Russian military has yet to release any images of the Rubezh missile. "They have not even released a photo of the missile in flight, which is very usual. That would probably tell if it has two or three stages," he explains. If it is a two-stage missile, he says, it would be an INF violation. Podvig, however, remains convinced that the missile is an ICBM.

The relatively small Rubezh could be the basis of a project disclosed in April—the revival of rail-mobile missiles, extinct since the retirement of the last RT-23UTTH (SS-24 Scalpel) train in 2005. Russian media say MIRT is the prime contractor, and either the Rubezh or the bigger Yars could be carried. The advantage of a rail-mobile missile, Russian commentators suggest, is that it is faster than a road-mobile ICBM—it could be relocated as far as 1,000 km in 24 hr.

Following behind the Rubezh, according to multiple reports, is a new heavy liquid-fueled ICBM to replace the R-36M2 (SS-18 Mod 6 Satan), a late-1980s development of a design that originated in the 1960s. Forty R-36M2s remain in service and can carry ten MIRVs each.

According to Russian media reports, the Makeyev design bureau was selected in 2011 to develop the new heavy missile, which is to replace the R-36M2 starting late in the decade. This was an unusual move since Makeyev has previously specialized in submarine-launched ballistic missiles (SLBM)—but the design team seems to have distinguished itself in the development of the modernized R-29RMU2 missile, which has been deployed aboard aging Delta IV-class submarines, helping to fill the gap caused by delays to the Bulava SLBM.

Bomber forces continue to be upgraded with the service entry of the Kh-101 cruise missile on the Russian air force's 63 Tu-95MS and 13 Tu-160 bombers. More importantly, however, development of the PAK DA bomber has started, with the aim of replacing the bomber fleet after 2020. It was announced in April that the conceptual design and specification of the new bomber had been approved, with the Tupolev bureau being selected to lead the program. It is expected to be a blended wing-body, stealthy, subsonic aircraft.

If the picture surrounding strategic weapons is confusing, Russian tactical systems are a morass of Soviet-style ambiguity. Much discussion revolves around a single system: the 9K720 Iskander missile produced by the KBM company.

The Iskander is a tactical ballistic missile in a class that is extinct in the U.S. and Europe, being more than twice the size of the U.S. MGM-140 Army Tactical Missile System. It is one of very few all-new nonstrategic weapons to have entered service in Russia in large numbers since the early 1990s, becoming fully operational in 2010. The Russian army plans to acquire a total of 120 Iskander systems, each with two missiles, by 2018.

On a basic level, the Iskander is an INF-compliant replacement for KBM's 9K714 Oka (SS-23 Spider), which was scrapped under that treaty. It is a single-stage missile with a 480-kg (1,060-lb.) warhead and a nominal range of 400 km. An Iskander-E export version has been offered, with range reduced to 280 km to comply with Missile Technology Control Regime limits. The initial version has inertial guidance, but in 2011 an Iskander was tested with a digital scene-matching guidance system.

Most observers agree that the Iskander is physically capable of exceeding INF range limits. A detailed report from Finland's National Defense University estimates that the weapon's range is likely to be 700 km or more, with the standard warhead, based on contemporary solid-propulsion performance standards. Only in a low-trajectory, high-drag profile would the weapon's range be inside INF limits. However, the Iskander remains INF-compliant unless it is test-fired beyond the 500-km limit. A more direct violation would be the full-range testing of the Iskander-K, using the same launch vehicle and control system but armed with a turbojet-powered cruise missile.



The Iskander is not officially described as nuclear-capable, but it is designed to be fitted with a variety of different warhead types. Notes Podvig: "I don't think Iskander is actually a nuclear system, but it appears to be nuclear-capable, and Russia would like to keep ambiguity about that." Schneider notes that although Iskander is a single-stage weapon, it is shipped and stored in two components.

This meshes with the long-standing belief of some U.S. intelligence officials that in the 1990s and early 2000s, Russia engaged in technically illegal "hydronuclear" tests in which the metallic cores of nuclear weapons are compressed explosively but only to a point where small nuclear effects are released. These tests, those officials have argued, could allow Russia to develop new low-yield warheads suited to the relatively accurate Iskander vehicle. This would result in a system that could be suited to the Russian concept of a "de-escalatory" nuclear strike in a conventional campaign, if a high-value target could be found.

The "de-escalatory" doctrine emerged after the 1999 Kosovo war as an equalizer in the case of threatened conventional defeat. "It's a concept that appears to be quite popular in Russia these days," Podvig says. "Apparently, the thinking is that if Russia uses nuclear weapons in a conflict, everybody would just stop to avoid further escalation."

The doctrine attracted more attention in September 2009, when the joint Russian-Belarus Zapad exercise included a simulated nuclear attack on Warsaw, Poland. The concern is that the combination of low-yield weapons and "de-escalatory" strikes could lower nuclear thresholds to a dangerous level.

http://www.aviationweek.com/Article.aspx?id=/article-xml/AW_11_11_2013_p48-632594.xml

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RIA Novosti – Russian Information Agency

No Submarine-Launched Bulava Missile Tests Seen Until 2014

13 November 2013

ST. PETERSBURG, November 13 (RIA Novosti) – The Russian Navy has postponed any further trials of the troubled submarine-launched Bulava ballistic missile until 2014, Navy Commander Adm. Viktor Chirkov said Wednesday.

"All plans have been moved to next year in accordance with the schedule of state trials," Chirkov said at a conference on prospects for military shipbuilding until 2050.

Ivan Kharchenko, a first deputy chairman of the Russian Military-Industrial Commission, had said in mid-September that new test launches would start later this year.

Defense Minister Sergei Shoigu has ordered five additional launches of the Bulava SLBM following a failed launch on September 6, when a missile fired during state trials of the Alexander Nevsky nuclear-powered submarine in the White Sea fell during the second minute of flight.

With that failure, eight of 19 or 20 test launches of the Bulava have officially been declared unsuccessful. Some analysts suggest the real number of failures may be considerably higher, however.

The three-stage Bulava SLBM carries up to 10 MIRV warheads and has a range of 8,000 kilometers (5,000 miles).

Despite the test failures officially blamed on manufacturing faults, the Russian military has insisted that there is no alternative to the Bulava as the main armament for Russia's new Borey-class strategic submarines.

The first Borey-class submarine, the Yury Dolgoruky, was commissioned into the Northern Fleet in January.

http://en.ria.ru/military_news/20131113/184690050/No-Submarine-Launched-Bulava-Missile-Tests-Seen-Until-2014.html

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National Journal

U.S. Pessimistic About Missile-Defense, Arms-Control Progress with Russia

By Rachel Oswald, *Global Security Newswire*
November 13, 2013

WASHINGTON -- The United States is "not making much progress" in arms-control and missile-defense talks with Russia, a senior Obama administration official admitted on Tuesday.

"It's important to have Russia's support on both" topics, Madelyn Creedon, assistant secretary of Defense for global strategic affairs, told a conference organized by the Atlantic Council in Washington.

"To be frank we're not making much progress on that front but we'll continue to try," she said.

This past summer, President Obama called for negotiating a treaty with Russia that would limit both sides' deployed long-range nuclear arsenals to roughly 1,000 warheads each. Each country currently has until 2018 to cap their fielded strategic nuclear weapons at 1,550 apiece under the New START pact. However, a planned August meeting with Russian President Vladimir Putin -- during which Obama's proposal could have been addressed -- was canceled due to disagreements on antimissile matters. It has not been rescheduled.

Russia also has indicated it will not presently engage in new nuclear-weapon reductions with the United States because of unresolved concerns about U.S. missile-defense activities in Europe. The Kremlin fears U.S. interceptors planned for fielding in the coming years secretly could be aimed as its strategic nuclear arms and refuses to accept U.S. promises that the antimissile systems are intended to protect against Middle Eastern threats.

Creedon, though, stood by the Obama administration's planned European Phased Adaptive Approach for missile defense. Under the multi-year effort the U.S. military is slated to field advanced missile interceptors on warships based in Spain and at facilities in Romania and Poland.

"We've made a substantial commitment to EPAA," said Creedon, who was recently nominated by the White House to the position of principal deputy administrator of the National Nuclear Security Administration.

She indicated that regardless of whether an international agreement is reached with Iran that would curb the Persian Gulf state's ability to develop a nuclear weapon, the United States is "ironclad" in its resolve to deploy next-generation interceptors in Europe under Phases 2 and 3 of the EPAA plan.

"We are definitely committed to that," said Creedon at the Atlantic Council event on NATO deterrence and collective defense.

There has been concern in Poland that Washington might cancel its plans to around 2018 field interceptors in the country that would be capable of defeating intermediate-range ballistic missiles. The United States twice previously axed plans to field different types of interceptors in the Eastern European country in response to changing understandings of the ballistic missile threats posed by Iran and North Korea.

U.S. policy on European missile defense is not based solely on the current Iranian missile threat, Creedon said.

"It's not where is Iran going. It is where is anyone [in the world] going that has offensive missile capabilities and how do we think about defending" against them, she said.

Not everyone though, is so certain Congress -- confronted as it is with enormous budget challenges -- would continue to support paying for missile defenses in Europe if the threat calculus were to be drastically altered.

Former Defense Undersecretary Walter Slocombe told the forum he found it "hard to believe that if there really were a fundamental change" in Iranian nuclear policy that Congress would continue to be "so keen" on financing antimissile assets primarily aimed at safeguarding Europe.

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<http://www.nationaljournal.com/global-security-newswire/u-s-pessimistic-about-missile-defense-arms-control-progress-with-russia-20131113>

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Minneapolis Star Tribune – Minneapolis, MN

Air Force to 'Add More Rigor' to Screening of Candidates for Nuclear Commander Jobs

By ROBERT BURNS, Associated Press (AP)
November 13, 2013

WASHINGTON — The Air Force will more carefully screen future candidates for nuclear commander positions as a result of the recent firing of the two-star general overseeing land-based nuclear missiles,, the general in charge of the service said Wednesday.

"We're going to add more rigor," Gen. Mark Welsh, the Air Force chief of staff, told reporters, including the addition of an Internet search of the person's name that could turn up any damaging information.

Welsh said the change has nothing to do with the job performance of Maj. Gen. Michael Carey, a 35-year veteran who was relieved of command last month for unspecified personal misbehavior that other officials said was related to alcohol use.

After being removed as commander of 20th Air Force, in charge of the Air Force's fleet of 450 Minuteman 3 nuclear missiles, Carey was shifted to an unspecified job at Air Force Space Command, which has no responsibility for nuclear weapons, pending the completion of an investigation into his alleged misconduct.

Welsh praised Carey's service record but said he had stumbled in a way that could not be tolerated. He said Carey acknowledged to him that he had engaged in an "embarrassing period of behavior" while on a business trip.

"He would say that to you," Welsh said. "It's exactly what he said to me: 'I've embarrassed myself, my Air Force, I'm sorry.' "

Carey was fired two days after the sacking of a senior Navy admiral who was second-in-command at U.S. Strategic Command, which is the military's nuclear war-fighting organization.

Their removal came amid a series of disclosures by The Associated Press about security and leadership lapses, training problems, and an assertion by one mid-level nuclear officer that he had found "rot" inside his nuclear missile unit at Minot Air Force Base, N.D.

Welsh said that the hiring process for nuclear commanders will now include a more intensive pre-screening of candidates, to include a review of potential personal health issues -- both physical and mental.

"As a result of our recent relief of one of our nuclear commanders we have changed our hiring process," he said, referring to Carey. "We will now do a pre-screening that is a little more intensive than we've done before." He said the Air Force previously did this kind of screening only after a candidate had been nominated.

The pre-screening will include a Google search, a simple task that hadn't been done before.

"It might be worth knowing that before you nominate somebody for a key job," he said.

Welsh said this change is part of a broader effort to assess more effectively the capabilities and suitability for promotion of general officers in all parts of the Air Force.

<http://www.startribune.com/politics/national/231751581.html>

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The Washington Post

Hagel Cites “Troubling Lapses” in Professionalism within Ranks of US Nuclear Forces

By Associated Press (AP)

Friday, November 15, 2013

WASHINGTON — Defense Secretary Chuck Hagel is commenting publicly for the first time on what he calls “troubling lapses” of professionalism within the ranks of U.S. nuclear forces.

Hagel alludes to a series of missteps revealed by The Associated Press among those who work with the Air Force’s nuclear missile force, including a failed inspection. Two senior nuclear commanders were fired amid misconduct investigations.

Hagel is speaking Friday at the headquarters of the military’s nuclear war-fighting command in Omaha, Neb.

In prepared remarks, Hagel says the failures had been exposed by what he called “close scrutiny” and the Pentagon’s most rigorous evaluations.

Hagel says the nuclear weapons force has “no room for error.” He praises the retiring head of the command for enforcing tough standards.

http://www.washingtonpost.com/politics/hagel-cites-troubling-lapses-in-professionalism-within-ranks-of-us-nuclear-forces/2013/11/15/3a8d208c-4e12-11e3-97f6-ed8e3053083b_story.html

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Institute of Peace and Conflict Studies (IPCS) – New Delhi, India

OPINION/ Article #4169

India & Pakistan: Is Hatf-9 Inherently Destabilising?

By Gurmeet Kanwal, Strategic Analyst, Delhi

November 11, 2013

On 05 November 2013, Pakistan’s Strategic Forces Command once again tested the 60-km range Hatf-9 (Nasr) short-range ballistic missile (SRBM). Salvoes of four missiles were fired from multi-tube launchers. According to the ISPR, the nuclear-tipped Nasr missile has in-flight manoeuvre capability. The missile was first tested in April 2011 and then again in May 2012 and in February 2013. It is reported to be a replica of the Chinese M-20 missile.

Dr Shireen Mazari, Chief Executive Officer, Strategic Technology Resources, has said that the Nasr missile is a technology demonstrator and has not yet been inducted into the nuclear arsenal. "We are signalling our acquisition of tactical missile capability and miniaturisation technology. This will allow our already developed cruise missiles - the Hatf-VIII (Ra'ad), which is an air-launched cruise missile (ALCM) and Hatf-VII (Babur), which is a ground-launched cruise missile (GLCM) - to be miniaturised for sea-launched submarine capability in order to move on to a second-strike capability."

Tactical nuclear weapons (TNWs) like the Nasr are inherently destabilising and there are several compelling reasons for leaving these out of the nuclear arsenal. Firstly, these are extremely complex weapons (particularly sub-kiloton mini-nukes, because of the precision required in engineering) and are difficult and expensive to manufacture and support technically. Inducting them into service even in small numbers would considerably raise the budget of the strategic forces.

Secondly, the command and control of TNWs needs to be decentralised at some point during war to enable their timely employment. Extremely tight control would make their possession redundant and degrade their deterrence value. Decentralised control would run the risk of their premature and even unauthorised use – Kissinger’s ‘mad major

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syndrome'. Thirdly, since the launchers must move frequently to avoid being targeted, dispersed storage and frequent transportation of TNWs under field conditions increases the risk of accidents. Lastly, the employment of conventional artillery and air-to-ground precision weapons by the enemy may damage or destroy stored nuclear warheads.

It was for many good reasons that the US and its NATO allies and the Soviet Union and Warsaw Pact forces developed, produced, stockpiled in large numbers and planned to use tactical nuclear weapons as weapons of war. Even the mini-nukes and the so-called 'clean' enhanced radiation neutron bombs would have, if used in substantial numbers in a European war, afflicted a few hundred million civilians, including future generations, with long-term radiation sickness of incalculable magnitude.

The professed military utility of blunting a major armoured offensive is debatable as the attacker would ensure that he does not present a concentrated target before the bulk of tactical nuclear weapons, or at least their delivery systems, have been destroyed in an initial phase that itself would turn out to be apocalyptic. Even then, the attacker would concentrate rapidly for short durations only at the point of decision and then disperse quickly. In the well-developed, semi-urban terrain of Punjab on both the sides of the Indo-Pak boundary, collateral damage would be unavoidable. Hundreds of thousands of civilian casualties would be politically unacceptable and unmanageable for an army fighting a war.

Political and diplomatic reasons also militate against the use of tactical nuclear weapons. A nuclear posture with a first use option – NATO's in Europe and Pakistan's current nuclear policy – is both repugnant and dangerous. It is also destabilising and naturally escalatory in nature. With the ongoing mega media revolution, public opinion is bound to undermine the credibility of the use of tactical nuclear weapons, and as deterrence is more than anything else a mind game, the lack of credibility does nothing for enhancing deterrence. Rather it creates new dangers.

The command and control of tactical nuclear weapons has naturally to be decentralised during war to enable their timely employment. Extremely tight control would make their possession redundant and degrade their deterrence value by several orders of magnitude. Decentralised control would run the risk of their premature and even unauthorised use based on the discretion of field commanders, however discerning and conscientious they may be.

Dispersed storage and frequent transportation under field conditions, since the launchers must move from hide to hide to avoid being easily targeted by the enemy, increases the risk of accidents as well as complicate nuclear security. The employment of conventional artillery and air-to-ground precision weapons by the enemy may damage or destroy forward stored nuclear warheads and, though the probability is low, may even set off a nuclear explosion. Also, widely dispersed nuclear warheads are difficult to guard effectively and may fall into Jihadi hands – a fear that cannot be taken lightly in the epicentre of Islamist fundamentalist terrorism.

Even though Pakistan has chosen to acquire these dangerous weapons, India has wisely opted not to go down the TNW route. The Nasr missile is said to be Pakistan's answer to India's Cold Start doctrine. The Pakistan army proposes to use the Nasr missile to drop a low-yield nuclear warhead on Indian mechanised forces that have entered Pakistani territory with a view to stopping the Indian offensive in its tracks. It is a patently flawed approach as, in response to a nuclear attack on its forces, India will execute its nuclear doctrine of massive retaliation and Pakistan will cease to exist as a functional nation state. Surely, that is not the end state that the Pakistan army is prepared to accept.

<http://www.ipcs.org/article/india/pakistan-is-hatf-9-inherently-destabilising-4169.html>

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New York Times
OPINION/Op-Ed Contributors

Ending Nuclear Overkill

By BENJAMIN H. FRIEDMAN and CHRISTOPHER A. PREBLE
November 13, 2013

Issue No. 1090, 15 November 2013

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WASHINGTON — Over 20 years after the Cold War, America’s nuclear arsenal remains bloated. True, it now deploys only about 1,600 strategic nuclear weapons — down from 12,000 in 1990 — and the Obama administration has proposed to cut the number to as few as 1,000 if Russia agrees.

Still, while America’s nuclear arsenal is useful to deter attacks on the United States and its allies, it is much larger than necessary.

So what is holding the United States back? Recent improvements in missile technology and international politics allow deeper reductions. The real problem is Washington’s outdated nuclear strategy, and the internal Pentagon politics that drives it. That strategy is built on maintaining a triad of long-range delivery systems — bomber aircraft, intercontinental ballistic missiles and submarine-launched ballistic missiles — developed early in the Cold War.

The triad grew from compromises between the United States Air Force and Navy, not from a coherent strategy to protect American interests.

In the 1950s, the Air Force had a near monopoly on nuclear delivery, until thermonuclear warheads made ballistic missiles viable. The Navy, hustling to regain relevance and budget share, managed to deploy them on Polaris submarines. The Air Force, meanwhile, developed various land-based missiles.

During the Kennedy and Johnson administrations, interservice nuclear competition abated. The Navy and Air Force learned to cooperate to grow the whole budgetary pie. Pentagon and congressional support for each leg of the triad meant that no administration had the stomach to eliminate one.

During the Cold War it was more reasonable, within the logic of nuclear competition with the Soviet Union, to justify such large arsenals. Different deployment capabilities made it harder for the Soviets to knock out America’s ability to retaliate.

But while the Cold War is long over, the triad remains.

The main justification continues to be “survivability” — maintaining mutually assured destruction with enemies. That keeps enemies from using the threat of a first strike as blackmail to prevent the United States from defending allies.

But as is often the case in politics, the public justification differs from reality. In fact, America’s nuclear weapons themselves are made to sidestep the MAD trap: warhead design and ever-improving accuracy optimize the ability to destroy enemy nuclear forces before they launch, not retaliate afterward. Contrary to much official rhetoric, Washington’s nuclear war plans have always focused on a pre-emptive strike against enemy weapons.

One reason for that posture is the doubt that the United States would invite its own destruction to protect foreigners. As a result, deterrence theorists tell us, protecting allies from nuclear rivals requires the ability to escape enemy retaliation by destroying all of their nuclear weapons first.

In the early days of the triad, that mission gave each delivery system a discrete role. ICBM’s had the accuracy and reliability to target most missile silos. Bombers would deliver warheads powerful and accurate enough to destroy especially difficult targets. And submarines, because their missiles were relatively inaccurate but essentially invulnerable, would be held in reserve to threaten Soviet cities in a second strike, thus encouraging Soviet leaders to sue for peace.

Pre-emption is pricey, though. It takes several nuclear weapons to ensure that you can destroy one enemy weapon. Worse, pre-emption encourages an arms race. Fear of a first strike encourages enemies to build more weapons for defense, requiring more weapons to pre-empt them, and so on. That helps explain why U.S. military budgets have long been insufficient to achieve clean first strikes against all rivals.

In short, America’s nuclear policy is a contradictory muddle: an underfunded first-strike force justified by second-strike rhetoric. These days, a submarine-based monad makes more sense. For one thing, survivability is easier to achieve. America’s current adversaries are unable to track its submarines, let alone target them. Moreover, leaps in accuracy



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have reduced the size of the force needed. Submarine-launched missiles are actually more accurate than the land-based kind and, with conventional weapons, can now threaten any enemy arsenal.

And potential targets for American nuclear weapons are growing scarcer. New nuclear powers like North Korea struggle to deploy even a handful of delivery vehicles. Targeting China's few long-range missiles demands intelligence to find them, not sheer numbers of warheads to hit them. Russia can no longer afford nuclear parity, especially given its plans to modernize its nonnuclear forces.

Whatever aggressive plans these rivals have are deterred by America's allies and conventional military superiority, making nuclear weapons overkill in most cases.

Most important, deterrence is easier to achieve than nuclear weapons enthusiasts typically admit. Even the Soviet Union, we now know, was eager to avoid a major conventional war, let alone a nuclear escalation. Today's rivals are even more easily contained by American and allied conventional strength.

The idea of nuclear weapons cannot be abolished. And because nuclear weapons contribute to deterrence, they remain a wise investment for the United States, but one that need not cost so much.

Moving from a triad to a submarine-only monad wouldn't be easy, but the political situation is changing. Budget-conscious service chiefs may see nuclear weapons as an attractive target, especially given their irrelevance in recent wars.

Pentagon competition helped create the triad; restored competition could help kill it.

Benjamin H. Friedman and **Christopher A. Preble** are scholars at the Cato Institute and the authors, with Matt Fay, of the report *"The End of Overkill? Reassessing U.S. Nuclear Weapons Policy."*

<http://www.nytimes.com/2013/11/14/opinion/ending-nuclear-overkill.html?hpw&rref=&r=1&>

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Federation of American Scientists (FAS)
OPINION/FAS Strategic Security Blog

New Nuclear Notebook: Chinese Nuclear Force Modernization

By Hans M. Kristensen
November 13, 2013

China continues to upgrade bases for mobile nuclear medium-range ballistic missiles. The image above shows one of several new launch pads for DF-21 missile launchers constructed at a base near Jianshui in southern China.

A new satellite image* on Apple Maps shows the latest part of a two-decade long slow replacement of old liquid-fuel moveable DF-3A intermediate-range ballistic missiles with new road-mobile solid-fuel DF-21 medium-range ballistic missiles.

Similar developments can be seen near Qingyang in the Anhui province in eastern China and in the Qinghai and Xinjiang provinces in central China.

This and other developments are part of our latest Nuclear Notebook on Chinese nuclear forces, recently published by the *Bulletin of the Atomic Scientists*.

New Nuclear Notebook

In the Nuclear Notebook, Robert Norris and I estimate that China currently has roughly 250 warheads in its nuclear stockpile for delivery by land- and sea-based ballistic missiles, aircraft, and possibly cruise missiles.

This is a slight increase compared with previous years that reflects the introduction of new intercontinental ballistic missiles (ICBMs) and submarine-launched ballistic missiles (SLBMs). China is the only nuclear weapon state party to the

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Non-Proliferation Treaty that is increasing its nuclear stockpile, which might grow a bit more over as more missiles are fielded over the next decade.

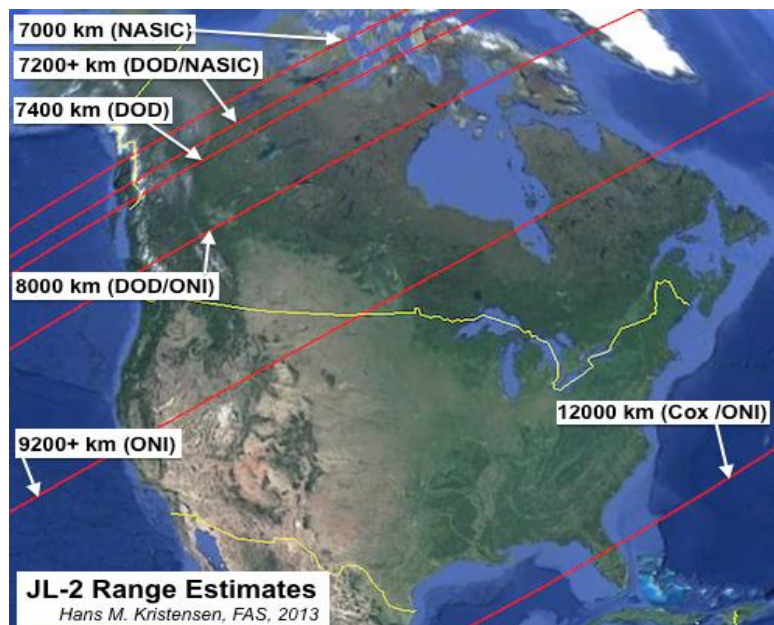
Even so, the Chinese nuclear modernization is very slow, as in the case of the introduction of DF-21 medium-range ballistic missiles (MRBMs) at Jianshui and the apparent (temporary?) leveling out of ICBM deployments; China is clearly not in a hurry to reach parity with the United States or Russia anytime soon (if at all) but instead seems focused on safeguarding its minimum retaliatory nuclear deterrent. Even so, the breadth of Chinese nuclear capabilities is widening with introduction of a class of ballistic missile submarines and cruise missiles that might have nuclear capability. With these come new scenarios and command and controls issues that are not yet apparent or understood.

Several interesting publications have made contributions to the public debate on China's nuclear force operations and modernization over the past few years. Most valuable has been the work by Mark Stokes at Project 2049, most noticeably his 2010 report on China's nuclear warhead storage and handling system. Also in 2010, M. Taylor Fravel and Evan Medeiros provided valuable analysis of China's search for assured retaliation. Retired Russian general Victor Yesin claimed in 2012 that China has 1,300-1,500 nuclear warheads more than assumed by the U.S. intelligence community – a Georgetown University study even imagined 3,000 warheads (we consider these estimates exaggerated). And renowned scholars John Lewis and Xue Litai described last year what they view as an increasing complexity of Chinese nuclear war planning.

The SSBN Force

Since our previous Notebook in 2011, most attention has been on the status of China's new ballistic missile submarines (SSBN) and Julang-2 SLBM. After a series of technical difficulties, the DOD reported in May 2013 that the JL-2 "appears ready to reach initial operational capability in 2013."

The range of the JL-2 has been the subject of much speculation, and we are struck by how much the range estimates vary and how much experts and news media continued to use outdated estimates or claim that the missile will be able to target the entire United States from Chinese waters. A review of the various estimates published by U.S. government agencies since 1999 shows estimates spanning from 7,000 km to as much as 12,000 km (see image below), although most hover around 7,200+ km.



US range estimates for China's Julang-2 SLBM vary considerably, but most are around 7,200+ km.



The latest range estimates of 7,000+ km (NASIC) to 7,400+ km (DOD) show continued uncertainty within the U.S. Intelligence Community about the JL-2 capability. But both estimates also reaffirm that the missile cannot be used to target the continental United States from Chinese waters. Doing so would require a range of at least 8,400 km – and that would only reach Seattle. To target Washington DC from Chinese waters, the range would have to be at least 11,000 km. With the current range estimate of about 7,200+ km, a JL-2 equipped SSBN would have to sail deep into the Sea of Japan between the island of Hokkaido and Russia's Primorsky Krai oblast to target Seattle, or venture far into the Pacific northeast of Tokyo. To target Washington DC, the SSBN would have to sail even further and launch from a position between the Aleutian Islands and Hawaii – more than halfway across the Pacific Ocean. Due to the apparent noise level of Chinese missile submarines and the extensive anti-submarine capabilities of the United States, that would indeed be risky sailing in a war.

Sending SSBNs far into dangerous water would be China's only option to fire missiles directly at the United States if Chinese leaders wanted to avoid shooting across Russian territory (all China's ICBMs launched at the United States from their current deployment areas would overfly Russia).

A JL-2 equipped SSBN could of course target U.S. territories outside the continental United States, including Alaska and Guam, from Chinese waters. To target Hawaii, and SSBN would have to launch from a position in the Sea of Japan or the Philippine Sea.

All of that just to say that JL-2 – despite what you might hear on the Internet – cannot be used to target the continental United States. Instead, it is a regional weapon capable of targeting Alaska, Guam, India and Russia from Chinese waters.

So far three Jin-class SSBNs have been delivered and one or two more are in various stages of construction. By 2020, according to information obtained from ONI, China might operate 4-5 SSBNs (see image below). Now that China has said something about its submarines (see sections below), it would help if it would also say something in its next transparency initiative about how many SSBNs it plans to build. The United States, Russia, France and Britain have all shown their plans and there's no reasons China cannot do so as well.

US Navy Projection For Chinese Naval Forces 2000-2020*

Platform	Total Numbers				
	2000	2005	2010	2015	2020
Diesel Attack Submarines	60	51	54	57-62	59-64
Nuclear Attack Submarines	5	6	6	6-8	6-9
Nuclear Ballistic Missile Submarines	1	2	3	3-5	4-5
Aircraft Carriers	0	0	0	1	1-2
Destroyers	21	21	25	28-32	30-34
Frigates	37	43	49	52-56	54-58
Corvettes	0	0	0	20-25	24-30
Amphibious Ships	60	43	55	53-55	50-55
Coastal Patrol (Missile)	100	51	85	85	85
Platform	Approximate Percent Modern				
	2000	2005	2010	2015	2020
Diesel Attack Submarines	7%	40%	50%	70%	75%
Nuclear Attack Submarines	0%	33%	33%	70%	100%
Destroyers	20%	40%	50%	70%	85%
Frigates	25%	35%	45%	70%	85%
Notes:					
Numbers based on initial operating capability (IOC)					
2005 numbers from 2005 DoD <i>Military and Security Developments Involving the PRC</i>					
2010 numbers from 2010 DoD <i>Military and Security Developments Involving the PRC</i>					
Modern Surface Combatants: Multi-mission combatant built or extensively upgraded since 1992. Includes LUHU DD, LUHAI DD, LUZHOU DDG, LUYANG I/II/III* DDG, SOVREMENNY I/II DDG, JIANGWEI I/II FF, JIANGKAI I FF, JIANGKAI II FFG*					
Modern Submarines: Second generation submarines that are capable of employing anti-ship cruise missiles or submarine-launched intercontinental ballistic missiles. Includes: KIL0 636 SS, SONG SS, YUAN SSP*, SHANG SSN*, JIN SSBN*					
*On-going construction program. Other major programs under construction include JIANGDAO FFL and YUZHAO LPD					

* Source: Office of Naval Intelligence, obtained under the Freedom of Information Act, Hans M. Kristensen/FAS, 2013



A *Washington Times* article recently described how many of China's state-run press outlets have reported that China's SSBNs "are now on routine strategic patrol," and quoted the an article concluding that this "means that China for the first time has acquired the strategic deterrence and second strike capability against the United States."

The first claim – that China's SSBNs are now on routine strategic patrol – is wrong. Although it has operated an SSBN (the Xia) since the early 1980s, China has never conducted an SSBN deterrent patrol. And since the JL-2 is not yet operational, the SSBNs are certainly not on patrol yet. But even once the JL-2 becomes operational, it is not clear whether China will operate the SSBN fleet in the way other nuclear weapons states operate their SSBNs. For one thing, it seems unlikely that the Chinese leadership would authorize deployment of nuclear weapons onboard SSBNs unless in a crisis situation.

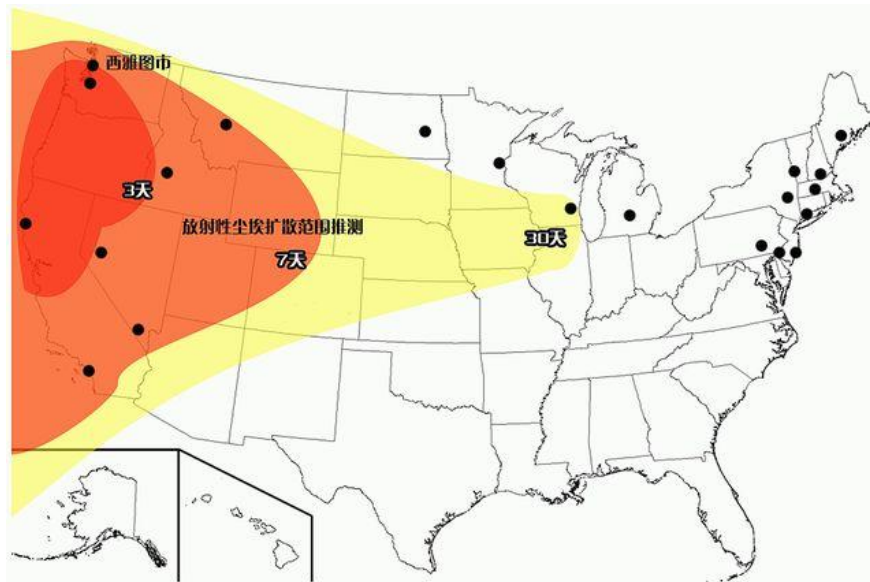
The second claim – that China for the first time has acquired the strategic deterrence and second-strike capability against the United States – is also not correct. China has had a nuclear deterrent and second-strike capability against the continental United States since 1981 when the silo-based DF-5 ICBM became operational. In 2008, that posture of 20 missiles was broadened with the addition of the road-mobile DF-31A ICBM. Even before the JL-2 has become operational, China already has about 40 ICBMs that can target the U.S. mainland.

Once the Jin/JL-2 weapon system becomes operational, China would theoretically be able to conduct SSBN deterrent patrols. But that will not in itself provide a submarine-based strike capability against the continental United States from Chinese waters because of the range limitations described above.

The So-Called Targeting Map

Chinese news media carried several stories in September about increasing transparency of the submarine force. Despite claims about "revelations," the articles did not reveal much that wasn't already known. That said, any official news about the secretive submarine force and its operations is of course better than nothing – and perhaps a new beginning.

What created the most attention in the United States, however, was a map (see figure below) that allegedly showed radioactive fallout over the western part of the country apparently following a Chinese submarine attack with the future JL-2 SLBM. I have not been able to find the original article with the map on Global Times but there were plenty of dramatic spin-offs in U.S. papers suggesting the image showed Chinese plans for a strike on the United States. And some hinted that publication in "state-run media" somehow reflected Chinese government endorsement of the information.



A map on a Chinese web site describes fictive fallout from hypothetical Chinese nuclear strike on the United States.



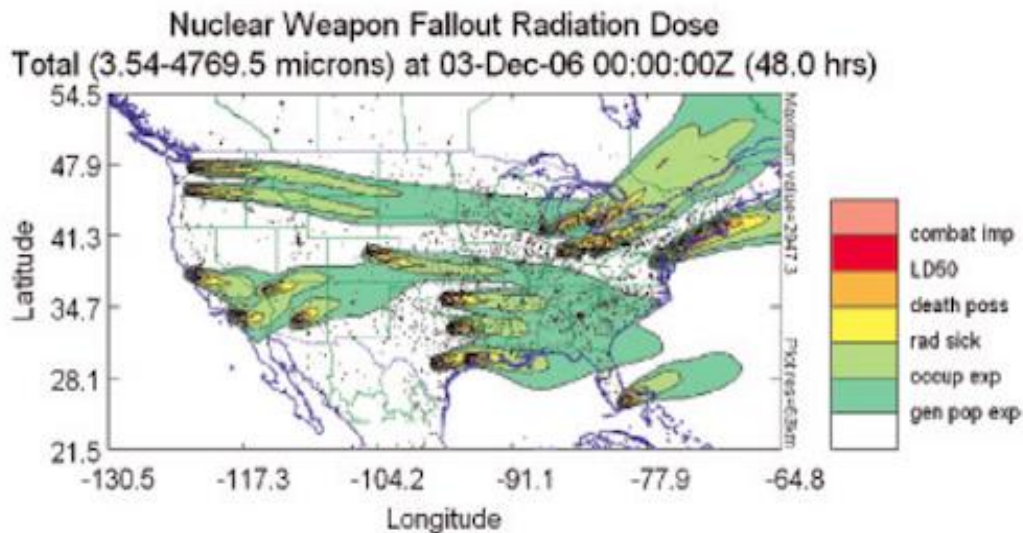
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Instead, the map **appears** on huanqiu.com, a glossy military-techno web site without official government status. And the publication is not an “article” but a series of 30 slides with text below each image by someone who appears to have vacuum-cleaned the much of the information from the Internet – including from some of my publications. Statements made in other news **articles** by “military experts” Du Wenlong (identified as a senior researcher with the PLA Academy of Military Scientists) and Li Jie (affiliation not identified) do not appear in the slides. The Google translator lists the slides editor’s name as [Shen Then] and the artist that drew the map is identified as Pei Shen.

In other words, this map does not appear to be an official government product and does not appear to reflect official Chinese nuclear strike planning.

The map shows three colored regions of radioactive fallout progressively spreading across the United States after 3, 7, and 30 days. One city (Seattle) is identified and 20 other black dots appear to mark locations of major cities. Many are misplaced – and some are odd.

The radioactive fallout patterns on the map are also not very good and appear to be fictive. In reality, radioactive fallout patterns are much more narrow, depending on wind and precipitation. In 2006, FAS and NRDC published a **report** in which we used advanced computer programs to simulate hypothetical Chinese nuclear strikes on the United States. They showed not surprisingly that use of only 20 missiles against American cities would kill tens of millions of people. Back then China only had about 20 DF-5A missiles that could reach the continental United States. But their 20 4-Megaton warheads would cause enormous devastation and extensive radioactive fallout throughout much of the United States (see figure below).



Fallout from attack on 20 US cities with 20 DF-5A 4-MT ground burst warheads.

Source: Hans M. Kristensen, et al., Chinese Nuclear Forces and U.S. Nuclear War Planning, FAS/NRDC, November 2006, p. 191.

Since then, China has introduced the DF-31A ICBM, each of which carries a smaller (but still significant) warhead. The second simulation we did therefore examined the effect of 20 DF-31A missiles, each with a 250-kiloton warhead. These explosions would also kill tens of millions of people but cause considerably less radioactive fallout (see figure below).



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Fallout from attack on 20 US cities with 20 DF-31A 250-kiloton ground burst warheads.

Source: Hans M. Kristensen, et al., Chinese Nuclear Forces and U.S. Nuclear War Planning, FAS/NRDC, November 2006, p. 193.

Additional information: Chinese Nuclear Forces, 2013, <http://bos.sagepub.com/content/69/6/79.full.pdf+html>

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

<http://blogs.fas.org/security/2013/11/chinanukes2013/>

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The National Interest.org
OPINION/Commentary

Russia Flexes Its Nuclear Muscles

By Nikolas K. Gvosdev
November 14, 2013

Two decades after the Cold War removed the Damocles' sword of mutually-assured destruction in a sea of nuclear fire from over our heads, and, in the words of George P. Shultz, William J. Perry, Henry A. Kissinger and Sam Nunn, "made the doctrine of mutual Soviet-American deterrence obsolete", the Russian decision to update, modernize and upgrade its nuclear forces is seen as a worrisome harbinger of a new era of strategic competition between Moscow and Washington. But Russian president Vladimir Putin is simply carrying out a 2012 election promise: "We should not tempt anyone by allowing ourselves to be weak. We will, under no circumstances, surrender our strategic deterrent capability. Indeed, we will strengthen it." Russia has signed a series of arms-control treaties with the United States that place strict limits on both the number of nuclear warheads and delivery vehicles, but both Moscow and Washington contend that arms limitations accords do not prohibit the replacement of ageing devices and the modernization of systems.

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Many Americans hoped, however, that over time Russia would allow its nuclear force to atrophy, and indeed, in the economic collapse that followed the implosion of the Soviet Union, a post-Soviet Russia appeared unable to maintain its nuclear establishment. Indeed, one of the rationales behind American aid to assist Russia in securing its stockpiles of weapons and to retain some semblance of its nuclear establishment (the Nunn-Lugar program) was the fear that a sudden collapse of Russia's ability to wind down its Soviet nuclear inheritance would cause Russia to proliferate weapons, materials and personnel to other aspiring nuclear states. Since 1991, Russia has indeed destroyed large numbers of strategic nuclear (as well as chemical and biological) weapons as well as their delivery systems. However, even having accepted Cooperative Threat Reduction assistance for nearly twenty years to secure its arsenal and to destroy old weapons and obsolete systems, the Kremlin decided to embark on the next generation of weapons and delivery systems that will preserve a credible Russian nuclear deterrent for the 21st century. Pavel Podvig, an expert on Russian nuclear policy, characterizes the Russian approach as striking a balance between "disarmament and modernization." Indeed, the Russian government is moving beyond simple "life-extension" or technical modifications of older existing systems—the SS-18, SS-19 and SS-25 intercontinental ballistic missiles (ICBMs) and the SS-N-18 and SS-N-23 submarine-launched ballistic missiles (SLBMs) in favor of developing new missiles, warheads and delivery systems. Lieutenant General Sergei Karakayev, the commander of the Strategic Rocket Forces, has stressed that by 2021, nearly the entire Russian strategic nuclear force will have been modernized.

Last month, the Russian government unveiled spending plans that would double the amount allocated for the country's strategic nuclear forces, to reach 46 billion rubles (\$1.4 billion) by 2016. That announcement was followed by a "snap check" of the country's nuclear deterrent, held at the end of October, in which both land-based and submarine-launched ballistic missiles were fired and Russian air and missile defense systems were tested at the Kapustin Yar proving grounds. This nuclear exercise was designed to remind the United States (as well as other powers) that Russia is no paper tiger, at least when it comes to its deterrent capabilities.

If announced plans are executed in full, what would Russia's nuclear force look like by the end of the decade?

Russia has been developing a new class of "boomers" (nuclear-powered submarines which carry ballistic missiles)—the so-called *Borei*-class (Project 955). The *Yuri Dolgoruky*, the first of this design, began its sea trials at the end of 2008, formally entered service at the beginning of this year, and will begin full-time patrols at the start of 2014. The second and third subs in this class, the *Alexander Nevsky* and the *Vladimir Monomakh*, are currently in their testing phase. By the 2020s, Russia expects to have eight of these new subs in service and deployed.

Project 955 vessels are expected to carry the new SLBM RSM-56 Bulava (Mace), a new design with a series of countermeasures (including deploying decoys and being able to execute evasive maneuvers) and shielding capabilities that are all designed to defeat missile defense systems or mitigate the damage they might inflict. The Bulava is also designed to carry up to ten hypersonic warheads each capable of independent, individual guidance.

Russian bombers are being upgraded to carry a new, precision-strike, long-range (up to 6,000 miles) cruise missile in both a conventional (Kh-101) and nuclear (Kh-102) formats. It can strike targets at a further distance and carry a heavier warhead than its Kh-55 predecessor. This new system is important because the range, speed and maneuverability of the Kh-101/102 is meant to compensate for a lack of Russian forward-operating air bases and thus "cannot provide distant fighter escort for its bomber fleet." Ten TU-160 "Blackjack" bombers are set to be modernized by 2020, to serve as interim substitutes until Russia's next generation PAK-DA bomber is built.

Russia's land-based ICBMs, some 80 percent of the force, is expected to consist by 2016 of new rockets that entered into service in the post-Soviet period—the Topol-M (SS-27) (deployed both in silos and in a rail-transported version) and the RS-24 Yars (SS-29), with a new version (the Yars-M/RS-26) available as of this year. By 2020, if all goes according to plan, Russia will deploy 170 Topol-Ms, 108 Yars, and 30 remaining life-extended SS-19s—numbers which reflect an optimistic appraisal of the capacity of the missile industry to produce sufficient quantities of both models. Russian ICBMs are also expected to be equipped with the "Vozzvaniye" (Proclamation) system, which would be expected to defeat missile-defense systems by allowing for post-launch retargeting of missiles to new locations.



Russia is also likely to retain most of its small, battlefield tactical nuclear weapons and the delivery systems for anti-air, maritime and ground contingencies, with no significant cuts below an effective 2000 weapon threshold. The 2010 Military Doctrine modifies earlier versions by limiting the possible use of tactical nuclear weapons in conventional conflicts to situations where Russia has been directly acted on and its survival as a state is in the balance—as a means to offset superior conventional capabilities of a potential foe.

Nuclear weapons hold a special pride of place in Russia's strategic conception of itself as a great power. It is only in the nuclear realm (and in the related field of space flight) that Russia retains parity with a United States which otherwise far surpasses Russia in all other categories of national power—in terms of economic output, global reach, number of allies, or ideological "soft power." Russia's possession, even after a series of arms treaties, of a still-sizeable nuclear arsenal is also what guarantees Russia its "special relationship" with the United States, and why no U.S. president can afford not to take a Russian president's calls. It also remains a key tenet of Russian national-security doctrine to maintain a strategic balance with the United States and to rely on its nuclear forces to continue to deter adverse U.S. actions, especially since Russia no longer can match U.S. conventional forces. (This remains the underlying reason why U.S. efforts to move forward on missile defense, even, as U.S. officials constantly stress, such efforts are not directed at Russia are still seen as so threatening by Moscow—and why Russia continues to trumpet its new systems which it predicts can foil and defeat U.S. missile defense systems).

Strengthening Russia's nuclear forces also has political cachet. It reinforces the national security credentials of the government by suggesting, as Putin did last year, that a failure to modernize the nuclear deterrent sends a dangerous signal of Russian weakness. At the same time, the Russian defense, missile and nuclear industries—still key players in the constellation of state companies—always benefit from new state infusions of cash. As Thomas Nichols has pointed out, important motivations for the Kremlin to pursue this agenda move beyond strategic imperatives to also keeping "the nuclear missile industry and the officers who run it employed and happy, and ... to make the Russian public think that they're being protected."

But these last two objectives can be met without any guarantees that the funds spent will actually produce results. And here it is important to note important gaps between stated plans and executable outcomes. Reading the press releases of the Russian Ministry of Defense alone does not provide the entire story.

For one thing, the next generation systems have flaws. Nearly half of the tests of the Bulava missile—meant to be the signature piece of the new *Borei*-class boomers—have failed, with some experts questioning whether the other tests which were classed as "successes" are also masking problems. If the Bulava continues to have problems, then the modernized SS-N-23s (R-29RMU Sinevas) will have to stand in; these also had problems during their initial test runs in the early 2000s. There were delays in getting the 4th *Borei* sub (*Knyaz Vladimir*) started, due to disagreements over price between the government and the United Shipbuilding Company, which controls the Sevmash yards where the submarines are constructed. Indeed, disappointment over the company's continued problems with completing civilian and military projects on schedule and cost was a key factor in the May 2013 dismissal of its CEO Andrei Dyachkov by deputy prime minister Dmitry Rogozin, who oversees the defense industry—only 11 months after his appointment. The Yars-M, which was expected to be ready for service later this year, is delayed and will likely begin its tests only in 2014. In assessing some of the failures in procurement, Podvig has noted the "lack of proper quality control at various stages" of the manufacturing process as a key culprit; whether these issues can be effectively resolved in the next several years remains to be seen. Also left undecided is whether the ambitious spending program will be sustained, particularly as Russia's economic growth slows and the Kremlin is forced to decide between additional "guns" or shifting more back into "butter."

And in the grand scheme of things, will this Russian nuclear modernization—even if it is only partially and incompletely achieved—fundamentally change the global balance of power? Nichols argues that these developments do not change the pre-existing realities of the U.S.-Russia strategic relationship; even with older Soviet-legacy systems, Russia still retains the capacity to strike the U.S. homeland with hundreds of warheads, and given the reality that "the United States doesn't actually have a national missile defense system" and that "the odds of creating one by 2020 are ... exactly



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zero," whether Russia chooses to replace its *Typhoons* and *Deltas* with *Boreis*, or has Yars-M missiles in place of the older SS-18s, doesn't make much difference.

For an Obama administration that holds out the promise of a world without nuclear weapons, however, the Russian decision to renovate its nuclear posture creates real difficulties, especially when Russia is also resuming long-distance patrols and conducting exercises. (The Russian claim that these new efforts are in direct response to U.S. missile-defense efforts also creates political difficulties.) The United States is not comfortable with a unilateral approach to downsizing its nuclear stockpile; Washington prefers to do so in concert with Moscow also committed to reductions by a formal treaty. Moreover, if Moscow is committed to nuclear modernization, then it increases the pressure on the U.S. to match the Russian program. It also means that the United States cannot count on cost savings by assuming that a larger portion of Russia's nuclear force would be retired due to age—and thus not replaced. Additionally, if U.S. strategists were calculating that they could sell a lower U.S. nuclear force on the grounds that most of Russia's deterrent was concentrated in more vulnerable, fixed ICBMs sites—then having more mobile land missiles (since the prohibition on rail-mobile ICBMs was not carried over into the New START agreement) and a new class of more capable submarines changes those equations. Just as U.S. conventional assumptions—for instance, that the Caribbean since the end of the Cold War had become an American mare nostrum and thus U.S. assets and attention could be directed elsewhere—have been challenged by the resumption of even small-scale Russian air and naval deployments—so to the Russian push to upgrade its nuclear forces may push the administration to scuttle any plan for shifting the U.S. nuclear posture to the most minimal one needed for deterrence.

Nikolas K. Gvosdev, a contributing editor at The National Interest, is a professor of national-security studies at the U.S. Naval War College. The views expressed are entirely his own.

<http://nationalinterest.org/commentary/russia-flexes-its-nuclear-muscles-9399>

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The Gatestone Institute
OPINION/Article

Does the U.S. Still Need a Nuclear Deterrent?

By Peter Huessy
November 15, 2013

Preble and Friedman argue in the *New York Times* that the current and planned U.S. nuclear force is sufficient; that it was designed to be pre-emptive, and that, during the Cold War, the Soviet Union had no aggressive designs against the U.S.

The second-strike capability of the planned U.S. Triad -- complementary systems on land, sea and air -- has served America well for nearly the past seven decades. If America's adversaries could eventually locate these submarines, they could over time, take out much, or all, of the U.S. sea-based force in surreptitious attacks under the surface of the ocean. How would the U.S. know why a number of submarines did not return to base? The annual research and acquisition costs (\$12 billion) of modernizing all three legs of the Triad would be the same as what Americans now spend on going to the movies every year.

In the nation's debate over maintaining our nuclear deterrent, two questions are often asked: why do we need these weapons and how many should we keep?

While there is no exact formula, one answer that makes no sense has once more been put forward by two researchers at the CATO Institute. Benjamin Friedman and Christopher Preble argue that the current and planned nuclear deterrent force can be cut significantly by eliminating all U.S. nuclear bombers and land-based missiles, and leaving only 12 submarines for the entire U.S. nuclear deterrent force.

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Preble and Friedman further assert that since the U.S. deterrent is designed to *strike first* in a crisis rather than relying upon a on a secure, *second-strike* retaliatory capability, we should have in our arsenal fewer such weapons. They also argue that at the height of the Cold War, the Soviet Union had no aggressive designs against us so the Triad of forces -- three separate but complementary missile and bomber systems on land, at sea and in the air -- that was deployed by the United States during that period need not be continued because the U.S. was no longer deterring a real threat. They argue, in fact, that the force the U.S. deployed was determined largely by inter-service rivalry, rather than by the analysis of a genuine threat. Finally, they claim that the current and planned U.S. deterrent is not really relevant to today's threats, such as terrorism and cyber warfare, and thus can be safely and dramatically cut.

Let us look at the facts.

For nearly 70 years the U.S. has maintained a nuclear deterrent second to none. It has also extended its deterrent over some 31 allies in Europe and Asia. The result? The U.S. has maintained the peace between the nuclear super powers for nearly 70 years. Before, the great powers, each century, averaged between five and eight great wars, in which each year, on average, more than 1% of the world's population perished[1].

Another success of the nuclear deterrent posture the U.S. maintained throughout the Cold War and after was that other nations -- such as Germany, Taiwan, and Japan -- feeling safely protected by America's nuclear umbrella, did not feel compelled to build their own nuclear weapons.

The success of this deterrent was in large part due to the U.S. Triad. This United States nuclear force structure so complicated any plans for an attack from an adversary that stability was maintained by America's nuclear umbrella for nearly seven decades -- a perfect record.

This peace was not maintained by accident. As President Kennedy explained after the Cuban missile crisis, the ICBM was "my ace in the hole", even though the U.S. also deployed at the time two other legs of the Triad, including the Polaris sea-based submarine and the strategic B-52 nuclear bomber.

The revolutionarily designed ICBM not only kept the peace during the Cuban missile crisis; today, a half a century later, it continues to be a critical backbone of the U.S. strategic nuclear deterrent. The 450 Minuteman III missiles now deployed in five states are the most cost-effective and least expensive leg of the Triad, as well as immensely stabilizing: its huge target base cannot be taken out by a sudden attack.

Having the Triad -- land-based ICBMs, sea-based submarines and their missiles and the bombers on alert, ready to be airborne -- gave the United States, during the Cold War, unparalleled flexibility to deal with various crises. The land-based missiles gave the U.S. stability -- no one could strike those dispersed silos without prompting a strong retaliatory response from the United States. Not only could the submarines remain at sea for many months, but their current invulnerability from attack under the sea -- the Russians cannot find them -- continues to give the U.S. a secure, second-strike retaliatory capability.

The U.S. nuclear-armed bombers can be airborne quickly, safe from attack, and can be used to signal to an adversary that "we mean business." During the crisis on the Korean peninsula on March 28, 2013,, for example, U.S. B-2 bombers flew many hours to the Pacific and assured the Republic of Korea that we would not let Pyongyang get reckless.

Even more importantly, the three legs provide the U.S. with a hedge against technological surprise, and any resulting significant change to the military and political landscape by which, for example, U.S. submarines at sea might become vulnerable to attack. If the U.S. relied solely on submarines, as Preble and Friedman propose, an American president could be faced with a sudden adverse change in the balance between the U.S. and our enemies, with possible deadly consequences.

To bolster their argument that nuclear weapons are today of less deterrent value, Preble and Friedman make two erroneous claims: they assert that our allies' conventional forces alone are more than sufficient to deter "today's rivals," including those with nuclear weapons. And they conclude that the only reason the U.S. built and deployed three legs of the Triad was because of inter-service rivalry, rather than from geostrategic necessity.



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To be clear, they do concede that US nuclear deterrence is needed. But they apparently remain very much confused as to how to maintain a deterrent they acknowledge we should keep.

This deterrent may also have stopped the possible use of conventional firepower against central Europe by the Soviet Union, the Republic of Korea by North Korea [the DPRK] and Taiwan [Republic of China] by the People's Republic of China [PRC].

Even though the Cold War is over, American nuclear deterrence remains needed for all these contingencies, especially given the rapid and historically unprecedented current nuclear modernization efforts of Russia, China [PRC] and North Korea. All three nations are building new ballistic missiles, bombers, submarines and cruise missiles at a pace not seen even during the height of the Cold War.

Preble and Friedman may believe nuclear deterrence is less useful today but these American adversaries apparently do not.

The idea that a conventionally armed Taiwan, for example, is by itself powerful enough to deter aggression from a nuclear or conventionally-armed China, for example, is preposterous. A 2009 RAND study, for instance, found that by 2020, Taiwan will not be able to be defended -- even with the help of the United States -- from a Chinese air attack.

Furthermore, as detailed by Mark Schneider and me, Russia has repeatedly threatened the use -- even pre-emptively -- of nuclear weapons against the United States and its allies. Under Russian military doctrine, actually, the first use of nuclear weapons is deemed a "de-escalatory" strategy[2].

There remains, therefore, little doubt that nuclear dangers persist, despite the wishful thinking of these CATO analysts.

Their analysis also suffers from two deeply troubling flaws: The first is the assertion that the Triad of nuclear forces they now seek to destroy was put together more as a result of bureaucratic ambition than strategic necessity. The father of the Minuteman missile program, however, was former USAF General Bernard Schriever, who said over 30 years ago that both sea-based and land-based missile technologies were developed in response to the Soviet-launched satellite, Sputnik, and the resulting American vulnerability to ICBM attack which the Soviet space launch demonstrated.

It was not, therefore, inter-service rivalry that led to the dual development of Minuteman and Polaris elements of the Triad, so much as absolute necessity. The nation's absolute survival was at stake. Conventional wisdom at the time, said Schriever, from both the USAF and Navy, was that such long-range missile technologies could not be developed. He said that he believed otherwise, and went on to be the major USAF factor behind the successful deployment of the first Minuteman missile, which as President Kennedy acknowledged, kept the peace during the Cuban missile crisis.

The CATO analysis also claims that U.S. deterrent relied upon a policy of "going first" in a crisis, to initiate the use of nuclear weapons.

Every commander of U.S. nuclear forces since General Larry Welch in 1985, up to the just-retired General Robert Kehler, Commander of US Strategic Command, have addressed this issue, and over several decades have repeatedly been unanimous in their view that U.S. deterrent policy has never been predicated on the first-use of nuclear weapons in a conflict.

During the height of the Cold War, the U.S. had the option of stopping Soviet aggression in Western Europe with a nuclear armed strike. Contrary to what Preble and Friedman assert, the Soviets did indeed have plans to invade Western Europe; they could be seen regularly exercising their forces in anticipation of just such an aggression. Preble and Friedman's assertion that the Soviets played only a defensive role in Europe during the Cold War is simply incorrect. Moreover, U.S. conventional and nuclear retaliatory capability was designed to stop aggression, not initiate it, as can be seen in the history of U.S. nuclear deterrent policy by the National Institute of Public Policy and their new study from September 2013, "Minimum Deterrence: Examining the Evidence".



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Current US policy has also repeatedly underscored the necessity of a secure second-strike retaliatory capability -- a policy explained in the administration's April 2010 Nuclear Posture Review.

To have such a strategy, a Triad of forces -- spread over land, sea and air -- is needed. To throw such a capability away and rely on only 12 submarines -- five at sea at any one time and the remainder at two bases in Georgia and Washington state -- as the CATO analysis proposes we do, is a high-risk gamble. Enemies of the U.S. are working hard to find American submarines at sea, as well as the U.S. surface fleet, according to the top military leader in the U.S. Navy.

If America's adversaries could eventually locate these submarines, they could, over time, take out much, or all, of the U.S. sea-based force in surreptitious attacks under the surface of the ocean. How would the U.S. know why a number of its submarines did not return to base? Thus assured of no retaliation, America's adversaries could then proceed to use force against the U.S. and its allies.

As the country learned from the proceedings at a meeting at Kings Bay, Georgia, at the nation's Trident base on November 7-8, co-hosted by the former President of the Navy League, Sheila McNeill, the Camden Partnership and this author, the United States now spends 6/10ths of 1% of the U.S. federal budget on its nuclear deterrent, compared to 4.4% in 1991, the year the Cold War ended. That is close to an 87% decline. The CATO analysis asserts there is a lot of spare funding that can be easily cut from U.S. nuclear deterrent forces, although all evidence points in the opposite direction.

Even fully modernized, the peak expenditure by the U.S. for its nuclear deterrent probably planned for 2025-6, would be 5/10ths of 1% of its federal budget on nuclear deterrence -- a percentage less than what is spent today, and lower than at any other time during the entire nuclear age[3].

The annual estimated acquisition and research costs (\$12 billion) to modernize all three legs of the U.S. Triad is the same as what Americans now spend on going to the movies every year[4].

For keeping the peace for nearly the past seven decades, the cost for the Triad is a bargain. For promising to keep the peace for the next seven decades, it is an offer one cannot refuse.

[1] Former White House Special Assistant to the President, Frank Miller, Address to the Henry Jackson Society, March 20, 2013, House of Commons, London.

[2] Mark Schneider, Remarks to the Kings Bay Triad Conference, November 8, 2013, Kings Bay Naval Base, Georgia.

[3] Lt Gen James M. Kowalski, Commander, USAF Global Strike Command, "The True Cost of Deterrence," March 2013.

[4] Statistical Abstract of the United States, 2010, US Department of Commerce, US GPO.

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