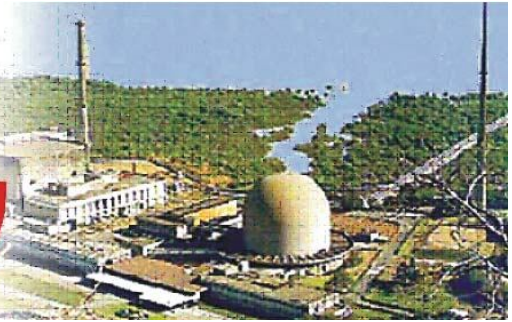


NUCLEAR SECURITY



A FORTNIGHTLY NEWSLETTER ON NUCLEAR DEFENCE, ENERGY AND PROLIFERATION FROM
CENTRE FOR AIR POWER STUDIES

Vol 09, No. 17, 01 JULY 2015

OPINION – R Rajaraman

India's Civil Nuclear Cooperation: The Story So Far

India's Uranium supplies have considerably stabilised, but the path to collaboration with international partners on building reactors has been bumpy. Ten years ago, India's nuclear energy capacity was appallingly low at 4 GWe. Some of the reactors were running well below capacity for lack of Uranium fuel which we could not import because of the sanctions. However, hope for a sustained economic growth of 8%-9% called for a corresponding growth of nuclear energy to about 20 GWe by 2020 and 50 GWe by 2050. The requirement was pretty large considering we had accumulated merely 4 GWe in close to six decades by then. Ergo, India went in for the nuclear agreement with the US, which, after 3 years of hard work led to lifting of the sanctions by the NSG

Once the deal was through and sanctions were lifted, the major benefits were expected on two fronts: a) import of Uranium, both natural and low enriched; and b) collaboration on building foreign reactors. On the first, India has made considerable progress. Agreements to purchase Uranium have been signed with Kazakhstan, Namibia, Mongolia, Niger and Canada. It is expected that Australia will follow soon. Existing reactors are back to running

Once the deal was through and sanctions were lifted, the major benefits were expected on two fronts: a) import of Uranium, both natural and low enriched; and b) collaboration on building foreign reactors. On the first, India has made considerable progress. Agreements to purchase Uranium have been signed with Kazakhstan, Namibia, Mongolia, Niger and Canada. It is expected that Australia will follow soon.

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at a decent capacity factor and a Uranium stockpile is being built.

The second expectation – of collaboration in building foreign reactors – was always the more ambitious and the onerous one. It was clear that

the capacity of the Indian reactor building community was just not enough to handle the kind of growth that was needed. Therefore India would have to arrange for other countries to build reactors in return for money. Soon after the Indo-US nuclear deal, this front too saw rapid initial movement. Reactors suppliers from the US, Russia and France were waiting in the wings and there seemed to be enough demand for all the three in India.

Initial agreements and MOUs were signed with a) Westinghouse and GE to build ABWR or AP 1000 reactors in Andhra Pradesh; b) Rosatom from Russia to build 8 more 1000 MWe VVER reactors in West Bengal; (they were already building two reactors at Kudankulam) and c) Areva from France to build 6 of their advanced EPR reactors of 1650 MWe each at Jaitapur in Maharashtra. Things seemed to be progressing well, but then came the Nuclear Liability Act!

Nuclear Liability Bill: With so much nuclear expansion planned, involving various parties from different countries, a nuclear liability law was needed. The Indian Parliament passed the Civil Liability for Nuclear Damage Bill in August 2010. The bill had several progressive measures including a total operator liability of 300 million SDRs (\$450 million) to be disbursed within 3 months to the victims of any accident. The bill's discussion in the Parliament coincided with the 25th anniversary of the Bhopal gas leak tragedy. There was a strong sentiment in India that on that occasion Dow Chemicals did not adequately compensate the victims. So the Parliament inserted a provision that gave the reactor operator (which is the Government of India) the right to recourse – after paying compensation to the victims – from the supplier. Such supplier liability, if their fault can be proved, is more the norm than the exception in most commercial purchases. Even in the context of nuclear reactors it was imposed in the Three Mile Island accident to sue not only the operator but also its designers and constructor.

However, in international transactions on reactor purchases no supplier liability is imposed. According to the Convention on Supplementary Compensation (CSC), the operator will be fully responsible for all liability. Not unexpectedly, all the suppliers from the US, France and Russia were unhappy with the India's supplier liability clause. It was not clear if any insurance company would give them a policy to cover such a liability where

estimates of damage are sometimes of astronomical proportions.

Russia: The government worked hard to find a solution acceptable to foreign suppliers, including a set of "Rules" (guidelines) for the operation of the Liability Bill, which mitigated the quantum of penalty. The reactor suppliers were still not persuaded. Finally a year ago there was a breakthrough with the Russians. The plan involved General Insurance Company, a public sector company in India, to evaluate each component of the Russian reactors and prescribe an insurance premium it will charge to cover any compensation Russia has to pay for an accident. The Government of India was willing to renegotiate the reactor price taking the insurance premium into account. The credit for this breakthrough goes to the Manmohan Singh government and its years of effort to make this happen.

Even before the international sanctions were lifted in 2008, the Russians were already building two 1000 MWe reactors at Kudankulam, using what is known in the trade as "Grandfathering", i.e. claiming that the agreement to build them had preceded the imposition of sanctions. (The international community chose to look the other way at this exception. In fact the Chinese are building two reactors near Karachi using the same "Grandfathering" argument.) One of these Kudankulam reactors is functioning and the other is expected to be commissioned within a year. In

last year's deal two more Russian reactors would be built at \$2.5 billion each and will generate electricity that, it is claimed, will cost customers just under Rs 6 a unit.

USA: Despite considerable effort by the UPA government significant progress on US reactors started only after Mr.

Modi's visit to Washington after coming to power. Joint Committees were formed and tasked with working urgently to find solutions. A set of solutions was announced during President

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Obama's visit to New Delhi in January 2015. The compromise called for half the supplier liability to be covered by Indian insurance companies and half by the Government of India. From its side, the US retracted on its demand to periodically inspect reactors and accepted the IAEA safeguards as adequate. India assured them that the Law of Torts can be used only against the operator, not the supplier. Of course, ultimately the deal is with the US companies and not the US government. Westinghouse and GE are believed to be examining the fine print. Since Toshiba and Hitachi have links with Westinghouse and GE respectively, we may also need a nuclear cooperation agreement with Japan even to buy the US reactors. We have been seeking a nuclear agreement with Japan, but haven't got one yet.

France: In March 2014, France and India agreed on a price equivalent of Rs 6 per unit, down from Rs 9.18 per unit quoted initially by the French company Areva. France also decided to provide India with a loan for the project at 4.8 per cent interest rate for 25 years for building six 1650 MWe EPR reactors. The big question is whether Areva can deliver on Rs 6 per unit? Their contract to build a similar plant at Hinkley, UK is reportedly at Rs 9.20/kWh (15 cents), even without supplier liability. In Finland, Areva has been struggling to build the same kind of EPR reactor it wants to build in India. It was scheduled for completion in 2009 but is not yet ready. The costs have gone up from € 3.2 billion to € 8.5 billion and still counting. Areva is also facing delays in building a nuclear plant in France itself, at Flamanville. On top of all this Areva has, as a company, has been going through huge financial problems lately. In such circumstances, the ability

of Areva to construct reactors in India remains an open question.

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On the positive side, Modi's recent visit to France produced an agreement between Areva and the Indian manufacturer of reactor components L&T, where the latter will supply some components for Areva reactors. If L&T produces key critical components for the EPR reactors, it could reduce costs significantly and perhaps also avoid the

problem of Areva sourcing these components from Japan. A precedent exists in China where Areva is constructing similar EPRs in Tishan at reportedly € 4 billion each, with Chinese technical cooperation that helps in lowering costs. Their construction is reported to be on schedule and within budget. Clearly we should watch the Chinese collaboration with Areva keenly.

Source: <http://policywonks.in/>, 19 June 2015.

OPINION – Justin Salhani

The 'Insane' Plan for More Useable Nuclear Weapons

A new and controversial report arguing for the production of low-yield, tactical nuclear weapons by the US released by a noted D.C. think tank has drawn heavy criticism from field experts, including one of the report's coauthors, who labeled the report's conclusions as "reckless" and "insane."

The report, released by the CSIS entitled "Project Atom: A Competitive Strategies Approach to Defining US Nuclear Strategy and Posture for 2025–2050", was produced by nine coauthors from four think tanks but the conclusions drawn were solely that of the

In Finland, Areva has been struggling to build the same kind of EPR reactor it wants to build in India. It was scheduled for completion in 2009 but is not yet ready. The costs have gone up from € 3.2 billion to € 8.5 billion and still counting. Areva is also facing delays in building a nuclear plant in France itself, at Flamanville.

Nuclear Strategy and Posture for 2025–2050", was produced by nine coauthors from four think tanks but the conclusions drawn were solely that of the

CSIS' Clark Murdock. "In order to execute its Measured Response strategy, the nuclear forces for both deterrence and extended deterrence should have low-yield, accurate, special-effects options that can respond proportionately at the lower end of the nuclear continuum," Murdock writes in the report.

Funding for nuclear weapons comes from the DOD and the DOE. In recent years, the DOD has had to spread funding over a range of issues, such as cyber security and anti-terrorism, in addition to nuclear weapons. Murdock argues that developing smaller nuclear weapons will act as a deterrent against the military power of competing nations. This is necessary, he says, because the US' conventional military power – unarguably the strongest in the world – cannot be maintained.

Murdock's proposed strategy would not act as a deterrent but instead renew a nuclear arms race between global powers, experts specializing in nuclear weapons and disarmament told Think Progress. "There's a number of reasons why this idea doesn't make sense," Kingston Reif, the Director of Disarmament and Threat Reduction Policy at the Arms Control Association, said. "[I don't think that] Russia and China would understand its use to control escalation and not part of a campaign to change regimes in those countries." Such a move would be seen as provocative by the Chinese and Russians, Dr. Barry Blechman, a political scientist and cofounder of the Stimson Center who coauthored the report, told ThinkProgress.

With the strongest conventional military in the world at the US' disposal, experts believe that the threat of retaliation by conventional means is enough to deter the prospect of a nuclear attack. Murdock's idea for the US to expand its arsenal

of low-yield, tactical nuclear weapons and deploy them to allied countries was "terrible on so many grounds," Blechman said, because it would upset US allies uncomfortable with hosting nuclear weapons and would be "a huge waste of money."

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An even more concerning aspect that comes from Murdock's recommendations is the suggestion to distribute these low-yield nuclear weapons to allies around the world – primarily in Europe and southeast Asia. Experts worry about those weapons falling into the wrong hands.

"Terrorists might penetrate [bases where the weapons are held] and secure the weapons," Blechman said. He pointed to Turkey, where the jihadist movement the Islamic State holds territory across the border, as a concern.

Murdock's suggestions don't seem likely to be taken up by the government anytime soon. Apart from the threat they may pose to Russia and China, the two departments who give funding to the nuclear program have budget constraints.

However, a strong movement to remove American nuclear weapons hosted in Europe seems to have been derailed thanks in part to Russian President Vladimir Putin's aggression. Blechman pointed to a "rebirth of the adversarial relationship between NATO and Russia," as a reason why \$8-10 billion will be used to modernize the current nuclear arsenal....

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Source: <http://thinkprogress.org/>, 23 June 2015.

OPINION – Stephen J. Cimbala

Chinese Military Modernization: Implications for Strategic Nuclear Arms Control

Is it time for the US States and Russia to factor China into their dialogue on strategic nuclear arms reductions? China's political and military objectives in Asia and worldwide differ from those

of the US and Russia, reflecting a perception of that nation's own interests and of its anticipated role in the emerging world order.

Its growing portfolio of smart capabilities and modernized platforms includes stealth aircraft, antisatellite warfare systems, quiet submarines, "brilliant" torpedo mines, improved cruise missiles, and the potential for disrupting financial markets. Among other indicators, China's already deployed and future Type 094 Jin-class nuclear ballistic missile submarines (SSBN), once they are equipped as planned with JL-2 submarine launched ballistic missiles, will for the first time enable Chinese SSBNs to target parts of the US from locations near the Chinese coast.

Along with this, China's fleet of nuclear-powered attack submarines supports an ambitious anti-access/area denial (A2/AD) strategy to deter US military intervention to support allied interests in Asia against Chinese wishes. China's diplomacy creates additional space for maneuver between Russian and American perceptions. While China may lack the commitment to arms control transparency, the nation's current and future military modernization entitles Beijing to participate in future Russian-American strategic nuclear arms control talks. Entering China into the US-Russian nuclear-deterrence equation creates considerable analytical challenges, for a number of reasons. To understand these challenges one must consider the impact of China's military modernization, which creates two follow-on challenges: escalation control and nuclear signaling.

Military Modernization: China's military modernization is going to change the distribution of power in Asia, including the distribution of nuclear and missile forces. This modernization draws not only on indigenous military culture but also on careful analysis of Western and other experiences. As David Lai has noted, "The Chinese

way of war places a strong emphasis on the use of strategy, stratagems, and deception. However, the Chinese understand that their approach will not be effective without the backing of hard military power. China's grand strategy is to take the next 30 years to complete China's modernization mission, which is expected to turn China into a true great power by that time."

Chinese military modernization and defense guidance for the use of nuclear and other missile forces hold some important implications for US policy. First, Chinese thinking is apparently quite nuanced about the deterrent and defense uses for nuclear weapons. Despite the accomplishments of modernization thus far, Chinese leaders are aware that their forces are far from nuclear-strategic parity with the US or Russia. Conversely, China may not aspire to this model of nuclear- strategic parity, such as between major nuclear powers, as the key to war avoidance by deterrence or other means. China may

prefer to see nuclear weapons as one option among a spectrum of choices available in deterring or fighting wars under exigent conditions and as a means of supporting assertive diplomacy and conventional operations when necessary. Nuclear-strategic parity, as measured by quantitative indicators of relative strength, may be less important to China than the qualitative use of nuclear and other means as part of broader diplomatic-military strategies.

Second, China is expanding its portfolio of military preparedness not only in platforms and weapons but also in the realms of C4ISR and information technology. Having observed the US success in Operation Desert Storm against Iraq in 1991, Chinese military strategists concluded that the informatization of warfare under all conditions would be a predicate to future deterrence and defense operations.

As Paul Bracken has noted, the composite effect

China's diplomacy creates additional space for maneuver between Russian and American perceptions. While China may lack the commitment to arms control transparency, the nation's current and future military modernization entitles Beijing to participate in future Russian-American strategic nuclear arms control talks.

of China's developments is to make its military more agile—meaning, more rapidly adaptive and flexible. The emphasis on agility instead of brute force reinforces traditional Chinese military thinking. Since Sun Tzu, the acme of skill has been winning without fighting, but if war is unavoidable, delivering the first and decisive blows is essential. This thinking also stipulates that one should attack the enemy's strategy and his alliances, making maximum use of deception and basing such attacks on superior intelligence and estimation. The combination of improved platforms and command-control and information warfare should provide options for the selective use of precision fire strikes and cyberattacks against priority targets while avoiding mass killing and fruitless attacks on enemy strongholds.

Escalation Control: Another characteristic of the Chinese military modernization that is important for nuclear deterrence and arms control in Asia is the problem of escalation control. Two examples or aspects of this problem might be cited here. First, improving Chinese capabilities for nuclear deterrence and for conventional war fighting increases Chinese leaders' confidence in their ability to carry out an A2/AD strategy against the US or another power seeking to block Chinese expansion in Asia. This confidence might be misplaced in the case of the US. The US is engaged in a "pivot" in its military-strategic planning and deployment to Asia and, toward that end, is developing US doctrine and supporting force structure for "AirSea Battle" countermeasures against Chinese A2/AD strategy.

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Another problem of escalation control is the question of nuclear crisis management between a more muscular China and its Asian neighbors or others. During the Cold War era, Asia was a comparative nuclear weapons backwater, since the attention of US and allied NATO policy makers and military strategists was focused on the US-Soviet arms race. However, the world of the twenty-first century is very different. Europe, notwithstanding recent contretemps in Ukraine, is a relatively pacified security zone compared to the Middle East or to South and East Asia, and post-Cold War Asia is marked by five nuclear weapons states: Russia, China, India, Pakistan, and North Korea.

The possibility of a nuclear weapon use, growing out of a conventional war between India and Pakistan or China and India, is nontrivial, and North Korea poses a continuing uncertainty of two sorts. This latter nation might start a conventional war on the Korean peninsula, or the Kim Jung-un regime might implode, leaving uncertain the command and control over the nation's armed forces, including nuclear weapons and infrastructure.

There is also the possibility of a US-Chinese nuclear incident at sea or a clash over Taiwan escalating into conventional conflict, accompanied by political misunderstanding and the readying of nuclear forces as a measure of deterrence. Nuclear weapons would be involved in the conflict from the outset, as offstage reminders that the two states could stumble into a mutually unintended process of escalation.

The problem of keeping nuclear-armed states below the threshold of first use or containing escalation afterward was difficult enough to explain within the more simplified Cold War context. Uncertainties would be even more abundant with respect to escalation control in the aftermath of a regional Asian war. There is also the possibility of a US-Chinese nuclear incident at sea or a clash over Taiwan escalating into conventional conflict, accompanied by political misunderstanding and the readying of nuclear

forces as a measure of deterrence. The point is US and Chinese forces would not actually have to fire nuclear weapons to use them. Nuclear weapons would be involved in the conflict from the outset, as offstage reminders that the two states could stumble into a mutually unintended process of escalation.

An important correction or cautionary note must be introduced at this point. Policy makers and strategists have sometimes talked as if nuclear weapons always serve to dampen escalation instead of exacerbating it. This might be a valid theoretical perspective under normal peacetime conditions. However, once a crisis begins—and especially after shooting has started—the other face of nuclear danger will appear. Thereafter, reassurance based on the assumption that nuclear first use is unthinkable may give way to such an attack becoming very thinkable. As Michael S. Chase has warned, miscalculation in the middle of a crisis is a “particularly troubling possibility,” heightened by uncertainty about messages the sides are sending to one another and/or leaders’ overconfidence in their ability to control escalation.

The “Thucydides Trap” and Nuclear Signaling: Chinese decisions about nuclear force modernization will not take place in a political vacuum. One important issue for US-Chinese strategic planning is whether China and the US will allow their political relations to fall into the “Thucydides trap,” which refers to the relationship between a currently leading or hegemonic military power and a rising challenger—as in the competition between a dominant Athens and a rising Sparta preceding the Peloponnesian War. The Thucydides trap occurs when a leading and rising power sees their competition as a zero-sum game in which any gain for one side automatically results in a commensurate loss in power or prestige for the other side. It is neither necessary nor obvious that US-Chinese diplomatic-strategic behavior be driven to this end. However, China’s challenges in Asia against US or allied Pacific interests might provoke a regional dispute with the potential to escalate into a more dangerous US-Chinese confrontation, including resort to

nuclear deterrence or threats of nuclear first use.

Even if both Washington and Beijing avoid the Thucydides trap, China has the option of using nuclear weapons for diplomatic or strategic objectives short of war or explicit nuclear threats. We miss important possibilities for the political exploitation of nuclear weapons if we confine our analysis of China’s options to threats or acts of nuclear first use or first strike. The following list includes some of the ways China might signal nuclear weapons use to support its foreign policy in possible confrontations with the

US or US Asian Allies: Nuclear tests during a political crisis or confrontation military maneuvers with nuclear-capable missile submarines or naval surface forces generated alert for air defense forces to reinforce declaration of an expanded air defense identification zone closed to all foreign traffic. Open acknowledgment of hitherto unannounced—and undetected by foreign intelligence—long- and intermediate-range missiles based underground in tunnels on moveable or mobile launchers. Adoption of a launch-on-warning policy in case of apparent enemy preparations for nuclear first use, cyber attacks against military and critical infrastructure targets in the US or against a US ally, including important military and command-control networks in Asia, preceded or accompanied by movement of forces to improve first-strike survivability against conventional or nuclear attack Relocation of People’s Liberation Army Second Artillery command centers to more protected sites Preparation for anti-satellite launches against US or other satellites in low earth orbit Mobilization of reserves for military units that are nuclear capable Shake-up of the chain of command for political or military control of nuclear forces or force components.

None of the preceding activities would necessarily be accompanied by explicit threats of nuclear first use or retaliation. Chinese political and military leaders would expect US intelligence to notice the actions and hope for US forbearance. China’s expectation might include either a willingness to settle a disagreement based on the status quo or

on some newly acceptable terms. Creative analysts or experienced military and intelligence professionals could expand the preceding list; it is neither exhaustive nor definitive of China's options for nuclear-related signaling.

Contrary to some expert opinion, the relationship between China's ability to exploit its nuclear arsenal for political or military-deterrent purposes and China's apparent expertise in cyber war deserves closer scrutiny. It is true nuclear war and cyber war inhabit separate universes in terms of organization, mission, and technology. Moreover, the consequences of a nuclear war would certainly be more destructive than any cyber war fought between the same states or coalitions. In addition, deterrence seems easier to apply as a concept to nuclear war, compared to cyber war. Among other reasons, the problem of attribution in the case of a nuclear attack is simple compared to the case of a cyber attack.

Notwithstanding the preceding caveats, in the information age it is likely that cyber and nuclear worlds will have overlapping concerns and some mutually supporting technologies. For the foreseeable future, nuclear-strategic command and control, communications, reconnaissance and surveillance, and warning systems—unlike those of the Cold War—will be dependent upon the fault tolerance and fidelity of information networks, hardware and software, and security firewalls and encryption. Therefore, these systems and their supporting infrastructures are candidate targets in any enemy version of the US Nuclear Response Plan (formerly Single Integrated Operational Plan). In thinking about this nuclear and cyber nexus, it becomes useful to distinguish between a state's planning for a preventive versus a preemptive attack.

During the Cold War, most of the nuclear-deterrence literature was focused on the problem of nuclear preemption, in which a first-strike

nuclear attack would be taken under the assumption that the opponent had already launched its nuclear forces or had made a decision to do so. On the other hand, preventive nuclear war was defined as a premeditated decision by one state to weaken a probable future enemy before that second state could pose an unacceptable threat of attack. Most Cold War political leaders and their military advisors rightly regarded preventive nuclear war as an ethically unacceptable and strategically dysfunctional option.

In a world in which the day-to-day functioning of military forces and civil society is now dependent upon the Internet and connectivity, the option of a preventive war with two phases now presents itself to nuclear-armed states. In the first phase, selective cyber attacks might disable key parts of the opponent's nuclear response program—especially nuclear-related C4ISR. In the second phase, a nuclear threat of first use or first strike might follow against an enemy partially crippled in its ability to analyze its response options or to order those responses into prompt effect. If this scenario seems improbable in the context of

China's military modernization and economic capacity create the potential for that nation to deploy within this decade or soon thereafter a "more than minimum" deterrent sufficient to guarantee unacceptable retaliation against any attack—especially if China's less-than-intercontinental-range forces are taken into account.

large states like the US, Russia, and China because of their force and command-control diversity and protection, consider how it might work in the context of confrontations between smaller nuclear-armed states, including hypothetical future India-Pakistan or Israel-Iran showdowns. Even in the cases of US conflict with China or Russia (or between China and Russia), nuclear crisis management would certainly include preparation for possible cyber attacks preceding or accompanying nuclear first use or first strike.

Conclusion: China is a possible but not inevitable partner for the US and Russia if the latter nations are to go forward with post-New START strategic nuclear arms reductions. China's military modernization and economic capacity create the potential for that nation to deploy within this

decade or soon thereafter a “more than minimum” deterrent sufficient to guarantee unacceptable retaliation against any attack—especially if China’s less-than-intercontinental-range forces are taken into account. Chinese missiles and aircraft of various ranges can inflict damage on Russian territory and on US-related targets in Asia, including US allies and bases. Nevertheless, an open-ended Chinese nuclear modernization in search of nuclear-strategic parity or superiority compared to the US and Russia is improbable and, from the Chinese perspective, pointless. From a broader diplomatic and military perspective, it appears the time has arrived for a triangular relationship instead of a two-sided dialogue on strategic nuclear arms reductions or limitations.

Source: Author is a Professor of Political Science at Pennsylvania State University in Brandywine, Pennsylvania. <http://www.isn.ethz.ch/>, 17 June 2015.

OPINION – Adam Mount

Russia’s Lethal Nuclear Arsenal Gets an Upgrade: Should NATO Worry?

Recently, Russian President Putin gave brief remarks at the opening ceremony of ARMY-2015, an exposition where Russia’s defense contractors demonstrated new military technology for foreign weapons buyers. The speech was relatively sedate. It omitted much of the aggressive rhetoric that has become commonplace for the Kremlin, amounting to little more than a sales pitch for Russia’s military systems. Highlighting several pieces of Russia’s plan to modernize its military, Putin mentioned that, “This year we will supply more than forty new intercontinental ballistic missiles [ICBMs] to our nuclear force.”

This simple statement ignited a minor fervor in NATO countries. Secretary of State John Kerry told reporters that, “Nobody should hear that kind of announcement... and not be concerned.” NATO

Secretary General Jens Stoltenberg said, “This nuclear sabre-rattling of Russia is unjustified.... It’s also one of the reasons we are now increasing the readiness and preparedness of our forces.” Reuters says Russia is “beefing up” its arsenal, CNBC asked whether it meant a new cold war, and many others worried about the prospect of a new arms race.

Reading through these statements, you would think that Russia had announced a new arms buildup that posed a significant threat to the West. In fact, Putin’s announcement was entirely in line with previous expectations and did not add major new capabilities to his nuclear arsenal. Russia continues to comply fully with the New START treaty, which limits strategic launchers like ICBMs. Because their Soviet-era ICBMs are aging out of service, Russian nuclear forces must take delivery of forty new ICBMs each year just to replicate their existing capability. Far from a threat, Russia’s ICBM modernization may actually make their arsenal more vulnerable. In short, the speech was barely an announcement and, because it held a moderate line on nuclear modernization,

probably more good news than bad.

Let’s take a closer look. Under New START, Russia must decline to reach an aggregate limit of 700 deployed launchers (meaning ICBMs, SLBMs, and heavy bombers) by 2018. Both Russia and the US are on track to meet these commitments. In fact, according to the latest data, Russia is far below this limit, holding its aggregate number of launchers steady at 515. The forty “new” ICBMs do not increase the number of ICBMs

deployed, but simply replace old missiles that have been in service since the 1970s.

It is entirely reasonable for Russia to replace its Soviet-era SS-18, SS-19, and SS-25 missiles with variants of the new SS-27 and the Sarmat heavy ICBM. The replacement process, which Russia hopes to complete by 2022, decreases the number of missiles in total, but packs more warheads onto

It is entirely reasonable for Russia to replace its Soviet-era SS-18, SS-19, and SS-25 missiles with variants of the new SS-27 and the Sarmat heavy ICBM. The replacement process, which Russia hopes to complete by 2022, decreases the number of missiles in total, but packs more warheads onto each missile, a vulnerability that the US would never accept in its own arsenal because it means that more Russian warheads can be attacked by fewer US warheads.

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Russian ICBM modernization is reasonably well understood and proceeding as expected, which is why veteran nuclear watcher Hans Kristensen noted last month that that Russia was expected to deploy forty ICBMs per year on average. If anything, the announcement represented a step back from Putin's pledge last year to deploy fifty new ICBMs this year, a clear concession to the acute fiscal pressures that are hemming in Russia's military modernization. Furthermore, the US should welcome any Russian effort to be transparent about its nuclear arsenal. The information transmitted through New START inspections and in public announcements like these is reassuring to both parties. It should be applauded rather than criticized, especially if they do not announce new capabilities.

Even if Russia were somehow to accelerate its nuclear modernization efforts, the US Department of Defense recognizes that Russia "would not be able to achieve a militarily significant advantage by any plausible expansion of its strategic nuclear forces, even in a cheating or breakout scenario under the New START Treaty."

Russia could deploy many more missiles and still remain behind the US in numbers of launchers and under the New START caps. Even if it cheated on the New START treaty and deployed still more, the Pentagon does not believe that this would significantly affect the strategic balance. The announcement should fall somewhere between mundane and reassuring. Instead, much of the West took the bait. Putin clearly hopes that his irresponsible talk

about nuclear weapons will strike NATO like a drum, sending fear and awe resonating through the alliance. He hopes to provoke a reaction that will distract attention from his conventional and hybrid aggression, raise Russia's stature in Eastern Europe, solidify his rule at home, and allow him to impose even greater military expenditures on his citizenry.

With the US repositioning heavy weaponry to its NATO allies in the Baltics and NATO itself planning

to more than double the size of its NATO Response Force (NRF), Russian rhetoric will only grow more shrill, reckless, and urgent in the coming year. And with the US presidential election kicking off, Putin is likely to find an audience that is ready and willing to amplify his alarmist rhetoric.

To be sure, Russia has made deeply dangerous moves with its nuclear arsenal. Its abrogation of the INF treaty and apparent lack of interest in returning to compliance undercuts US confidence that it is possible to reach negotiated solutions with Russia. Furthermore, Kremlin officials have also proven anxious to inject nuclear threats into non-nuclear crises, as when Putin rather strangely claimed to have prepared to raise the alert level for his nuclear forces to cover his aggression in Ukraine.

As former Secretary of Defense William Perry told a meeting in Vienna, "We are about to begin a new round in the nuclear arms race unless some brake is put on it right now." With rhetoric reaching a fever pitch, it is important to remember that the goal is not to plunge

eagerly into a new arms race, but to prevent one.

The episode of the forty ICBMs firmly underscores the need to be clear about Russia's actions, to demarcate the trivia from the substantive, the rhetoric from the threat. The US has no interest

Russia could deploy many more missiles and still remain behind the US in numbers of launchers and under the New START caps. Even if it cheated on the New START treaty and deployed still more, the Pentagon does not believe that this would significantly affect the strategic balance.

With the US repositioning heavy weaponry to its NATO allies in the Baltics and NATO itself planning to more than double the size of its NATO Response Force (NRF), Russian rhetoric will only grow more shrill, reckless, and urgent in the coming year.

at all in indulging Putin's effort to create tension at the nuclear level and every interest in confronting to Russia's aggression at the conventional level. To date, the White House has been exemplary in drawing this line, responding patiently but firmly to INF noncompliance while refusing to rise to Putin's nuclear threats. In response to a question about the forty ICBMs, White House press secretary Josh Earnest told reporters, "We've seen these reports. I don't have a specific reaction to them."

At the same time, the White House has moved assertively to strengthen NATO's ability to respond to aggression on its own terms, pledging to contribute high-end assets to the NRF's spearhead force. This Very High Readiness Joint Task Force (VJTF) will benefit from US special operations forces, logistical, artillery, and ISR capabilities. There are already calls in the US to fight fire with fire and add to our own nuclear forces. However, there is little reason to believe that building new nuclear capabilities or forward-deploying the ones we already have would restrain Russia. There is every reason to believe that Putin would take these steps as license to divert attention to the nuclear balance, to abrogate existing arms control treaties, to launch a new arms race, and to use his nuclear arsenal to cover aggression at lower levels—in short, to start a new Cold War.

It is better to fight fire with cold water. The US should firmly resist Russian aggression by deploying conventional forces in Europe and just as firmly resist the urge to respond to nuclear provocations. It will certainly not help to worry about "new" nuclear threats where there are none. The best way to prevent a new arms race is to refuse to engage in one.

Source: Adam Mount is a Stanton Nuclear Security Fellow at the Council on Foreign Relations. <http://www.nationalinterest.org/>, 25 June 2015.

NUCLEAR STRATEGY

RUSSIA

Putin Says Russia Beefing Up Nuclear Arsenal, NATO Denounces 'Saber-Rattling'

President Vladimir Putin that Russia was concerned about an anti-missile defense system

near its borders, after announcing that Russia would add more than 40 ICBM to its nuclear arsenal this year.

...Putin made his comments a day after Russian officials denounced a US plan to station tanks and heavy weapons in NATO member states on Russia's border.

Putin said it was the most

aggressive act by Washington since the Cold War a generation ago. US Secretary of State John Kerry expressed concern over Putin's missile announcement and said no one wanted to see backsliding "to a kind of a Cold War status."

Kerry told reporters at a news briefing that Putin's stance could be posturing but he added, "Nobody should hear that kind of announcement from a leader of a powerful country and not be concerned about what the implications are." Tension has flared anew between Russia and Western powers over Moscow's role in the Ukraine crisis, in which pro-Russian separatist forces have seized a large part of the country's east after Russia annexed Crimea from Ukraine in early 2014.

The EU and US imposed economic sanctions on Russia. But Washington and Moscow are still bound by a 2010 START that caps

deployed strategic nuclear warheads at 1,550 each and limits the numbers of strategic nuclear missile launchers to 800 by 2018. "More than 40 new intercontinental ballistic missiles able to overcome even the most technically advanced anti-missile defense systems will be added to the make-up of the nuclear arsenal this year," Putin, flanked by army officers, said in a speech at an arms fair west of Moscow.

Putin made his comments a day after Russian officials denounced a US plan to station tanks and heavy weapons in NATO member states on Russia's border. Putin said it was the most aggressive act by Washington since the Cold War a generation ago.

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...Putin said he thought the Minsk peace deal on Ukraine was balanced and fair and that if Russia did not agree with its contents it would not have signed it. Putin has repeatedly urged Russia to maintain its nuclear deterrence to counter what he sees as growing security threats. Moscow also reserves the right to deploy nuclear arms in Crimea. ...At a news briefing in Brussels, Stoltenberg said such rhetoric from Moscow explained the Western alliance's increased preparedness on the part of its forces to defend its member states closest to Russia. ...

Fears of a New Arms Race: Lithuanian Defence Minister Juozas Olekas said the planned deployment of US military equipment in eastern Europe, including his country, was a key step to ensure the region's defensibility against growing Russian military capabilities.... Russian officials warned that Moscow would retaliate if the US carried out its plan to store heavy military equipment in eastern Europe, including in the Baltic states that were once in the Soviet Union.

... US Army Colonel Steve Warren said the US was "simply prepositioning equipment that we can ... have there so we can more easily and more rapidly conduct our training exercises." "The equipment that we are moving into Europe is training equipment, it's not nuclear missiles. You know there's quite a difference there," Warren told reporters at the Pentagon. Asked if the US had explained that to the Russians, he said, "Yes." Putin has said Moscow will not be drawn into a new arms race although Russia is modernizing its armed forces. Putin said in his speech that 70 percent of the military equipment in use would by 2020 be the most up-to-date and top-quality.

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Russia has been developing the new Yu-71 vehicle for several years and has been keeping the project under tight wraps. Just in June *Jane's Intelligence Review* revealed the scope of the covert program.

...As of April, Russia had 515 deployed launchers so the addition of 40 or 50 more would leave it well below the START treaty limit, said Kingston Reif of the Arms Control Association think tank in Washington. ... Moscow is putting in place other types of ICBMs it produces on its own.... But lavish military spending is burdening Russia's national budget at a time when the economy is sliding towards recession, hammered by low oil prices and Western sanctions. The Kremlin portrays spending on the Russian arms sector as a driver of economic growth, but Putin's critics say it is excessive and comes at the expense of social needs.

Source: <http://www.reuters.com/>, 16 June 2015.

Russia, Like China, Tests Nuclear Vehicle to Beat US Defenses

America apparently has reason to worry; after China earlier in June conducted successful tests on a new hypersonic vehicle able to dodge missile defenses and deliver a nuclear strike, Russia just recently conducted a test of its own

on a similar hypersonic attack vehicle. Russia has been developing the new Yu-71 vehicle for several years and has been keeping the project under tight wraps. Just in June *Jane's Intelligence Review* revealed the scope of the covert program.... The most recent flight test of the strike vehicle was held in February 2015, when a prototype of it was released from a SS-19 missile launched from the Dombarovsky missile base in eastern Russia. While the test reportedly concluded unsuccessfully it shows the supreme importance the project - entitled Project 4202 - holds for the Russians, according to the report.

Project 4202 has been ramped up in the last five years to beat US missile defenses; hypersonic vehicles like China's new Wu-14 that is also in development can reach an estimated speed of ten times the speed of sound, or about 7,680 miles per hour, and are highly maneuverable, thereby thwarting American missile defenses which are based on a fixed trajectory.

The *Jane's* report indicates Russia will be able to produce up to 24 nuclear-capable Yu-71s by 2020 to 2025, emphasizing that "Russia appears to be considering the option of deploying its hypersonic system in a nuclear, as well as conventional, configuration." ... Former Pentagon official Mark Schneider, who closely tracks Russian strategic weapons programs, told the paper that the Chinese hypersonic program has the edge on Russia, noting, "both are reportedly nuclear-oriented and the Chinese program seems more successful." ... The US also has a hypersonic missile under development as part of its Prompt Global Strike program, although that program will feature conventional instead of nuclear weapons and aims to be able to precisely hit targets anywhere on earth within minutes.

Source: <http://www.israelnationalnews.com/>, 25 June 2015.

BALLISTIC MISSILE DEFENCE

USA

US has No Plans to Deploy Ballistic Missile Defense Ships in Black Sea

The US has no intention of permanently deploying Aegis ballistic missile defense warships in the Black Sea, US Assistant Secretary of State for Arms Control Frank Rose... . "We follow the Montreux Convention which prohibits us from deploying things on a permanent basis," Rose said. "But if contingencies required, we have the capability to send Aegis ballistic missile defense capable ships into the Black Sea."

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The US has temporarily sent Aegis warships into the Black Sea on multiple occasions. The US plans to have a land-based Aegis BMD system in Romania by the end of 2015. Moscow has

repeatedly raised opposition to US proliferation of missile defense systems near its border, claiming it represents a threat to Russia's strategic nuclear deterrent. US and NATO officials say that the system is not aimed at countering a Russian threat. The BMD systems were previously limited under the ABM Treaty between the US and Russia to avoid a strategic imbalance. The US backed out

of that treaty in 2001.

Source: <http://sputniknews.com/>, 25 June 2015.

NUCLEAR ENERGY

INDIA

Andhra Steps Up N-power Push with 2nd Site Offer

Andhra Pradesh, a state that had curiously turned down its initial electricity allocation of 530 MWe from the Kudankulam atomic power project a decade ago, is now in the race for a second nuclear site that could see it emerge as a major nuclear hub in the southern region. A team of officers from the DAE and the NPCIL are learnt to have met with the senior officers of the Andhra Pradesh government to discuss the feasibility of identifying a second coastal site to set up a nuclear plant in the state. Andhra Pradesh's concerted nuclear push marks a sharp departure from the state's strategy of focussing on gas-based capacity in the early part of the last decade, most of which is now struggling for want of fuel.

At present, there are just three states in the country – Gujarat, Maharashtra and Tamil Nadu – that have two or more nuclear sites. In case of Andhra Pradesh, the Centre has already shortlisted the Kovvada site to build a nuclear project with

the assistance of GE-Hitachi Nuclear Energy and discussions are currently on with an US-based nuclear vendor to arrive at a project proposal. Talks for a second site in Andhra Pradesh are aimed at housing two Russian-designed VVER 1000 reactors that were originally supposed to come up at Haripur in West Bengal. The states of Kerala, Karnataka and Odisha were also learnt to be in the reckoning for housing the units to be built with Russian assistance.

At the Kovvada site in Andhra Pradesh where GE-Hitachi Nuclear is expected to deploy two of its ESBWR-series reactors, pre-project activities – land acquisition and associated rehabilitation and resettlement, obtaining statutory clearances, site investigations to obtain data for design inputs – are in progress.

The project would be the second Russian-assisted nuclear station, after the 2,000 MWe Kudankulam project in Tamil Nadu. The DAE's site selection committee had earlier earmarked the Haripur site as a second site for the Russians to build a 2,000 MWe nuclear project, identical to the Kudankulam project. In 2011, Rosatom, the Russian counterpart of India's DAE, asked India for an alternate site after a series of local protests.

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In late 2013, when the first 1,000 MWe unit of the Kudankulam nuclear project was scheduled to be commissioned, a slugfest had erupted among the power-starved southern states to ensure that new claimants are kept out. Andhra Pradesh, which turned down its allocation

of 530 MWe of power from the 2,000 MWe station when the share of the generated electricity was initially firmed up nearly a decade ago, had then stepped up its demand for access to the Centre's 300 MWe "unallocated" quota.

But Tamil Nadu, the host state and biggest beneficiary, had then lobbied hard to completely exclude Andhra Pradesh from the "unallocated quota". "Andhra Pradesh was not in favour of taking power when the construction of the nuclear power plant began in

2002-03. The state was tentatively allocated 530 MWe power from the project but APTRANSCO (Andhra Pradesh's state-owned power utility) expressed unwillingness, and thus the power was re-distributed among other states," said a government official involved in the exercise. According to an order issued by the union power ministry in 2007, Andhra Pradesh was the only southern state excluded from the allocations.

Source: Anil Sasi, The Indian Express, 22 June 2015.

JAPAN

Shareholders Reject Zero N-Power Proposals

Shareholders of nine major power firms voted down proposals by fellow owners that the companies withdraw from nuclear plant business or impose strict conditions for restarting nuclear reactors. The nine, or all of the country's traditional major power firms except Okinawa Electric Power Co., which has no nuclear plant, made the

decisions at general meetings of shareholders. Leaders of many power companies sought understanding of their plans to restart nuclear reactors early to improve corporate earnings.

The nine are Tokyo Electric Power Co., Chubu Electric Power Co., Kansai Electric Power Co., Chugoku Electric Power Co., Hokuriku Electric Power Co., Tohoku Electric Power Co., Shikoku Electric Power

Shareholders of nine major power firms voted down proposals by fellow owners that the companies withdraw from nuclear plant business or impose strict conditions for restarting nuclear reactors.

Co., Kyushu Electric Power Co. and Hokkaido Electric Power Co.

TEPCO's meeting drew 2,066 shareholders, down 84 from the previous year. Proposals from shareholders totaled 15, the highest number on record for the company. The proposals included calls for decommissioning all of the firm's nuclear reactors and giving priority to using electricity generated by renewable energy sources, such as solar power. President Naomi Hirose said his company will make even more efforts to enhance nuclear plant safety so it can bring back into operation the Kashiwazaki-Kariwa nuclear plant in Niigata Prefecture, central Japan.

...Kyushu Electric faced a shareholder proposal that the firm keep its nuclear reactors idled until it finishes setting up reserves to prepare for damages that could arise if a severe nuclear accident hits the firm. But the proposal was voted down. Kyushu Electric will be able to put back a nuclear reactor into operation ahead of all other firms with nuclear reactors in Japan. Kyushu Electric plans to restart its Sendai power plant in Kagoshima Prefecture in mid-August.

The firm "aims to realize the restart as early as possible," President Michiaki Uriu said. Japan has 43 nuclear reactors across the country, all of which remain halted since September 2013 due to safety concerns following the triple reactor meltdown accident at TEPCO's plant. Without nuclear energy, three companies — Hokkaido Electric, Kansai Electric and Kyushu Electric — logged recurring losses for the latest year, which ended in March.

Source: <http://the-japan-news.com/>, 27 June 2015.

LATIN AMERICA

IAEA Meeting Discusses Nuclear Power Options in Latin America

Latin American countries considering the introduction of nuclear power got important insights earlier in June into the opportunities and challenges of developing new nuclear power projects from countries already using nuclear power. Policy

makers, project developers and other experts from Bolivia, Chile and Peru attended a regional meeting in Buenos Aires, along with experts from Argentina and Brazil. There are seven nuclear power reactors in operation in Latin America: three in Argentina, two in Brazil and two in Mexico.

Participants learned about Argentina's nuclear power programme and also discussed national energy policies and the status of nuclear power development in their countries...

The participants are now considering bilateral activities and also found that there is tremendous room for cooperation in Latin America.

..."For Bolivia, which is starting to develop nuclear power, this meeting has been an excellent opportunity,"

said Hernan Vera Ruiz, Nuclear Programme Coordinator at Bolivia's Ministry of Hydrocarbons and Energy....

The participants are now considering bilateral activities and also found that there is tremendous room for cooperation in Latin America. ... Several years ago, Uruguay and Chile started exploring the option of introducing nuclear power, and, more recently, Bolivia also announced its interest in including it in its national energy mix. The experts attending the IAEA Technical Meeting on Sharing Experience with Expanding and New Nuclear Power Programmes in Latin America also agreed to strengthen regional networking and information exchange.

...At the event, several Argentinian organizations provided an insight into the country's nuclear power programme. These included the Ministry of Federal Planning, the Atomic Energy Commission (CNEA), the Nuclear Regulatory Authority (ARN) and Nucleoeléctrica Argentina (NA-SA), the national nuclear operator, which is responsible for all new nuclear power plant projects in the country.

Argentinian participants underlined the importance their country attaches to regional cooperation in the nuclear sector, a driver for economic development. In 2006, the country's

government adopted a nuclear energy policy that included the development of three new power plant units: NA-SA signed agreements with the China National Nuclear Corporation to develop a third and a fourth unit at the Atucha site, while another agreement was signed with Russia to explore the possibility of a fifth unit at another site.

In the city of San Carlos de Bariloche, CNEA runs the Bariloche Atomic Centre, which is dedicated to research, education and human resource development, and has been training experts from different countries in the region for many years. As for ARN, it has built an international network for learning and cooperating with other regulatory bodies. NA-SA, for its part, places much importance on communication, building a strong relationship with the local community, involving and educating local stakeholders and running regular information campaigns.

Brazil's nuclear power programme includes two units at Angra in operation, with another one under construction. Its national plan until 2030 includes scenarios to add nuclear generation capacity in a range between 4000 and 8000 MW. Site selection is underway.

Bolivia's Ministry of Energy has developed a comprehensive national nuclear programme that includes three main projects: deploying a cyclotron and increasing the use of nuclear applications in medicine in the short term; building a small research reactor (30 kW) to foster science and technology in the medium term, with plans to sign a contract in the near future and start operations in 2020; and a nuclear power programme for the long term, which is in the initial phase of development.

Chile expressed interest in nuclear power some 10 years ago and has already prepared pre-feasibility studies. Last year, the country's

government launched a national energy agenda as a forum to discuss its future energy policy. In addition, Chile's National Energy Commission is currently performing energy studies. As for Peru, its national energy policy has the objective of increasing electricity production two- to four-fold by 2030. The country's energy policy emphasizes low carbon emissions and energy sustainability, including nuclear power as an option.

Source: Elisabeth Dyck, <https://www.iaea.org/>, 19 June 2015.

URANIUM PRODUCTION

GENERAL

Uranium Mining Industry to 2020: Global Industry Analysis and Forecast Just Published

The report provides information on the global uranium mining industry together with the key demand drivers affecting the industry. Global Uranium Mining to 2020' report comprehensively covers global identified resources of uranium, reasonably assured resources by country, the historical and forecast data on global uranium mine production, planned and committed mine expansions and production by country, production by mining method and production by major mines.

Global uranium mine production according to global uranium report was 56,184 tonnes in 2014, down by 5.4% compared with 2013, with Kazakhstan being the leading producer, followed by Canada and Australia... . Global uranium mine production was 56,184t in 2014, down by 5.4% compared with 2013. The increase in global production in recent years is mainly due to an increase in output from Kazakhstan.

The report also includes demand drivers affecting the global uranium mining industry Membership expired, renew now to activate link, profiles of major uranium producing companies and information on the global major active, exploration and development projects by region.

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compared with 2013. The increase in global production in recent years is mainly due to an increase in output from Kazakhstan. With power generation being a significant end use for uranium, the Fukushima nuclear power plant accident has had an impact on long term nuclear power policies in Germany, Belgium, France and Switzerland, switching in favor of capping and eventually phasing out nuclear power plants. However, there is demand for nuclear capacities from other parts of the world, and demand has a unique regional footprint.

Source: <http://www.whatech.com/>, 29 June 2015.

NUCLEAR COOPERATION

FRANCE–SAUDI ARABIA

France and Saudi Arabia to Study Nuclear Power

France has become the latest country to sign a pact with Saudi Arabia to explore the possibility of building nuclear power plants in the kingdom. The two countries will carry out feasibility studies for a pair of reactors using technology developed by French nuclear specialist Areva.

Agreements covering nuclear waste disposal contract and nuclear safety were also announced at the first Franco-Saudi Joint Commission in Paris... Few other details were revealed during the event where a mix of contracts worth around \$12bn were confirmed, including a huge order by Saudi Arabian Airlines for Airbus passenger jets first announced at the Paris Airshow.

... Saudi Arabia has previously announced plans to install 17GW of nuclear power by 2032 and has signed a string of similar collaborations in recent years with countries including China, Korea, Argentina, the US and with Russia. Saudi aims to develop large capacities of nuclear and renewable energy in an effort to wean its economy off the huge volumes it consumes for power generation. Despite the recent agreements, no firm contracts are in place and nuclear power in Saudi Arabia is still many years away.

Source: <http://www.utilities-me.com/>, 25 June 2015.

INDIA–CANADA

After a Pause of Four Decades, India to Receive Nuclear Fuel Supply from Canada

India is expected to start receiving nuclear fuel from Canada in autumn this year to power its atomic power plants, marking resumption of supply more than four decades after the North American country suspended supply of yellowcake in the backdrop of Pokhran-I atomic tests by India in 1974.

Senior officials of Cameco, Canada's leading and one of the world's largest uranium producers, visited India to discuss modalities for supplying nuclear fuel to the country, officials said. This followed signing of the uranium supply agreement between the two countries during Prime Minister Narendra Modi's visit to Canada in April. ... Tracking of nuclear fuel to be supplied will be carried out as per IAEA safeguards as agreed by India and to the satisfaction of Canada. Canada will supply 3,000 metric tonnes of uranium to energy-hungry India under a \$254 million five-year deal to power atomic reactors.

Canada was the first country to complete the requirements for civil nuclear cooperation after India secured the unconditional waiver from the NSG in 2008. Subsequently, India and Canada signed a civil nuclear cooperation agreement in 2010. This was followed by the signing of an administrative arrangement in 2012. Cameco has been holding commercial negotiations with Indian entities ever since for supply of uranium to fuel nuclear power plants in the country which has faced uranium shortage in the past. ... The Canadian civil nuclear trade mission to India in October will explore partnership for joint research and collaboration. This could include jointly producing civil nuclear reactors with Indian partners or setting up of nuclear reactors by Canadian companies, he said. ...

Source: *Dipanjana Roy Chaudhury, The Economic Times, 15 June 2015.*

SA Seeks Nuclear Deals, Alliances to Counter Iran

Saudi Arabia is pursuing its own nuclear projects and building alliances to counter Iran, which is

days away from a potential atomic deal Riyadh fears could further destabilise the region. The US and other major powers will hold talks with Iran in Vienna, aiming to finalise by 30 June an agreement to prevent Tehran from getting a nuclear weapon. Gulf states led by Saudi Arabia, the world's top oil exporter, have concerns that Iran, Riyadh's regional rival, could still be able to develop a weapon under the emerging deal to end 12 years of nuclear tensions. They also worry Washington is not taking their concerns about Iran's "destabilising acts" in the Middle East seriously enough.

...France and Saudi Arabia announced a feasibility study for building two nuclear reactors in the kingdom. Like its neighbour the UAE, Saudi Arabia wants to diversify its energy sources and has plans for 16 reactors. The Paris pact is the third nuclear accord Riyadh has signed this year. Recently, it reached a deal with Russia on economic, technical and scientific ties for the peaceful use of atomic energy. In March, the kingdom signed a preliminary deal for nuclear cooperation with South Korea.

... The nuclear agreement was among investments totalling about \$12 billion finalised during the Paris visit by Deputy Crown Prince and Defence Minister Mohammed bin Salman. Improved links with France highlight a deepening of ties between the Gulf and major powers beyond the region's traditional ally the US. ...But an editorial in the Saudi Gazette said cooperation between Russia and Riyadh will ensure "national unity and security" for both of them....

Source: <http://www.pakistantoday.com.pk/>, 26 June 2015.

NUCLEAR NON-PROLIFERATION

IRAN

How an Iran Nuclear Deal could Reshape the Middle East

It wasn't the first time arch-foes Iran and the US have squared off in a sporting event in recent

years. But the men's volleyball match last week in Tehran – coming in the final days of tense international negotiations over Iran's nuclear capabilities – seemed to take on added significance. The game itself seemed beyond history. Both anthems were played. Both flags hoisted. Iran then won 3-0 before some 12,000 cheering fans.

But on Iranian television, the US anthem was muted. In the words of one conservative Iranian analyst here, the anthem "brings bad memories" and would have been just a little too much. "We're not at the stage of playing the American anthem," he said. No one here in Iran is pretending that a friendly volleyball game – or even a successfully

concluded nuclear containment deal this week between Tehran and world powers (led by the US) – will erase decades of enmity and mistrust. Nor will it likely stop the bitter trade of accusations over terrorism, human rights violations and armed interventions.

But take a snapshot now, before the self-imposed deadline for a deal arrives on 30 June, and it's clear Iran's place in the world has already shifted. While not quite yet "in from the cold," it does seem to have at least a foot in the door. You can see that in the re-establishment of direct (albeit limited) diplomatic ties with the UK last year, in the phone calls between the US and Iranian presidents, and in the two countries essentially fighting on the same side in the battle against ISIS.

Fierce Critics: You can also see that, of course, in the historic agreement in principle, agreed to back in April, on curbing Iran's nuclear program, a potential deal that has had its share of fierce critics here in the Middle East and on Capitol Hill. Internally, Iran is also showing subtle signs of a country in the midst of important change. Not long ago, "the nuclear issue was taboo, no one dared to say anything as far as the nuclear issue was concerned," said Sadegh Zibakalam, an outspoken Tehran University professor who was once

sentenced to prison for writing a letter questioning the program's value.

Now, it is openly discussed, and Zibakalam's sentence was reduced to a fine. Iran was also visited recently by a European Union delegation and a flurry of foreign businessmen flying in to assess the opportunities should a final deal be signed. A French hotel chain has already opened what the Financial Times described as the first Western-managed hotel in Tehran since the Islamic Revolution in 1979. And Iranian officials are also speaking with new confidence about their place in the world should an international agreement come to pass. An Iranian Foreign Ministry spokeswoman told CBC News that, in the event of a successful conclusion, Iran expects other countries, such as Canada, to fall in line and respect it. Iran also expects to play a bigger role both regionally and internationally.

Reshape the Middle East: The end to Iran's isolation has the potential to reshape a Middle East power structure that has long depended on Shia Muslim

Tehran shunted to the sidelines. The possibility of its re-emergence onto the world stage has already made uneasy allies of Israel and Saudi Arabia, Iran's Sunni Muslim rival. They are now joined by nervousness not only over how effective this nuclear containment might be, but over what any international détente with Iran would have on its influence.

Over time, a deal could well change the political calculus in the region, tilting it in Iran's direction. (It could also affect the dynamics of the international oil market.) Without sanctions, and hooked up again to the world's economic mainline, Iran could once again grow its economy and perhaps become a regional economic heavyweight. Unlike so many countries in the region, it is internally stable, with a young and highly educated middle class who are clearly anxious to reach out to the world.

At the most hopeful, a more confident, more economically buoyant Iran might begin to whittle away at some of the world's mistrust and even encourage more freedoms at home. On the other hand, a more economically powerful Iran could also play a more strident role in the Middle East. Worth asking is what an emergent Iran would mean for the Syria conflict and the Iranian-backed Hezbollah's role in it. For the fight in Yemen. Or for the convulsive situation in neighbouring Iraq.

And what will it mean for the US-Iran relationship long term? "It is possible to forget and forgive past experiences, but...Iran cannot do it all on its own," says University of Tehran international affairs specialist Foad Izadi. "It is possible to go

beyond history, but it has to be a two-way street." If nothing else, a deal with Iran this week would be a huge validation for diplomacy – sanctions, engagement and negotiation – to solve potentially deadly problems even among the most bitter enemies.

In a region where might has so often been deployed to resolve differences, a successful conclusion here would be hugely significant, though, in some quarters, not necessarily welcome, news. The novelty of peacemaking may well be lost in the flurry of table-thumping by opponents, and in the many questions about what the world will look like with Iran once again on board.

Source: Article by Nahlah Ayed, <http://www.cbc.ca/news/world/how-an-iran-nuclear-deal-could-reshape-the-middle-east-1.3128285>, 29 June 2015.

White House Confident Final Iran Nuclear Deal is in Reach

The Obama administration's effort to reach a final nuclear agreement with Iran is expected to slip past its deadline, though US officials expressed confidence a deal is within reach. "At this point, I would anticipate the negotiations will extend past

Iranian officials are also speaking with new confidence about their place in the world should an international agreement come to pass. In the event of a successful conclusion, Iran expects other countries, such as Canada, to fall in line and respect it. Iran also expects to play a bigger role both regionally and internationally.

the deadline," White House press secretary Josh Earnest told reporters. "Our negotiators will remain in Vienna past the deadline in pursuit of a final agreement." Earnest declined to handicap the chances of reaching a deal, but said a final agreement "is within our sights." "I would hesitate to put numbers on it at this point," he said. "Obviously our negotiators understand the stakes in the negotiations."

The administration previously aimed to have a final agreement completed by June 30, capping off a nearly two-year effort to curb Iran's nuclear program. The US and five other world powers are finalizing technical language on a framework deal, reached in April, that would place limits on Teheran's nuclear capabilities to prevent it from building a weapon in exchange for international sanctions relief. But negotiators meeting in Vienna have faced several last-minute stumbling blocks, including the pace of sanctions relief and the scope of inspections on Iran's nuclear sites.

Complicating the already tense talks was the decision by Iran's chief negotiator, Foreign Minister Mohammad Javad Zarif, to return home — possibly to discuss the parameters for a final deal with Iran's leaders. Zarif is expected to return to Vienna on 30 June. Earnest said US negotiators are willing to talk for a few more days but reiterated President Obama would be willing to walk away from a deal that does not close off Iran's path to a nuclear bomb or force it to submit to "intrusive" inspections. "If the Iranians refuse to agree to a final agreement that is consistent with the framework that was reached in April, then there won't be an agreement," Earnest said. He noted the lapse is not unusual. Talks over a preliminary agreement were slated to end March 31 but instead were completed on April 2.

It is unclear how much longer the talks will last, but observers see July 9 as the real cutoff date to

strike a deal. If an agreement is presented to Congress before July 9, lawmakers will have only 30 days to review it before Obama can begin lifting sanctions on Iran imposed by Congress, under a bill passed in May. But if it is filed after, the review period jumps to 60 days.

Supporters of the deal fear that a longer review process could allow opponents more time to mobilize to kill the deal in Congress. ... If Obama must wait longer for Congress, that increases the odds that regional conflicts in the Middle East could complicate the review, said Parsi, who is in Vienna for the talks.

A conflict in Yemen, which has pitted Iranian-backed Shiite rebels against the US-backed government cast a pall over talks on a preliminary agreement in March, although the deal was eventually sealed. The White House already faces a tough task in selling the deal to skeptical members of Congress. Top Republican senators, and some Democrats, are raising pressure on the administration by signaling they intend to try to stop the agreement. Senate Foreign

Relations Committee Chairman Bob Corker (R-Tenn.) sent a scathing letter to Obama earlier this month, saying the US has made "breathtaking" concessions to Iran that could lead to a "bad deal."

... Those demands are crucial to verifying Iran's claim that its nuclear program is for peaceful purposes only, lawmakers say. Those concerns were heightened when Iran's Supreme Leader Ayatollah Ali Khamenei said last week he would not allow inspections of military sites allegedly involved with the country's nuclear program. He also demanded the US and its negotiating partners lift all sanctions immediately after the deal is reached.

A senior US official said on 29 June that negotiators offered language that would allow the IAEA, the

It is unclear how much longer the talks will last, but observers see July 9 as the real cutoff date to strike a deal. If an agreement is presented to Congress before July 9, lawmakers will have only 30 days to review it before Obama can begin lifting sanctions on Iran imposed by Congress, under a bill passed in May. But if it is filed after, the review period jumps to 60 days.

UN's nuclear watchdog, to inspect all sites in Iran suspected of nuclear activity, including military installations. But not all of Iran's military facilities may be open to inspectors. ... Iran's negotiating partners have demanded that sanctions relief be gradually implemented as inspectors verify Tehran is abiding by the terms of the agreement. The US also wants sanctions to be able to be "snapped back" if Iran violates the deal. But opponents worry sanctions won't be easily snapped back. There's some internal tension among the negotiating partners over reimposing economic penalties. Russia and China, who are veto-wielding members of the UN Security Council, are eager to do business with Tehran. Even if Iran is found to violate the deal, it could be difficult to get all countries to agree to bring back sanctions. ...

Source: <http://thehill.com/policy/international/246475-white-house-confident-final-iran-nuclear-deal-is-in-reach>, 29 June 2015.

UNSC May Convene to Discuss Iran Nuclear Program Resolution before August

The UN Security Council may convene to discuss adoption of the resolution on Iran's nuclear program as early as in July, before the coming session of the General Assembly, a diplomatic source told *Sputnik*. "I think so, yes," a source at the nuclear talks on Iran told *Sputnik* answering the question whether the Security Council may convene to discuss the resolution on Iran before the session of the UN General Assembly in August. "Hopefully [UNSC will convene] before," he added. The source also said "there will be one [SC resolution] if there is a deal." He noted that the P5+1 negotiators have reached an agreement within the group. ...

Source: <http://sputniknews.com/politics/20150629/1024003872.html>, 29 June 2015.

NUCLEAR TERRORISM

GENERAL

Global Initiative to Combat Nuclear Terrorism 2015 Plenary Meeting

Partner nations and official observers of the GICNT gathered in Helsinki, Finland, 16-17,2015, for the GICNT's 9th senior-level Plenary Meeting. Since it was launched in 2006, the GICNT has grown into a partnership of 86 nations and 5 official observers committed to strengthening global capacity to prevent, detect, and respond to nuclear terrorism. The Plenary Meeting underscored the GICNT's unique ability to bring together policy, technical, and operational experts to enhance partners' capabilities to address difficult and emerging nuclear security challenges.

The meeting opened with host welcome remarks by Ambassador Klaus Korhonen,

Ministry for Foreign Affairs of Finland. Foreign Minister Timo Soini gave the keynote address on behalf of Finland.

The Russian Federation and US were selected as Co-Chairs of the GICNT for the term 2015-2019. The Co-Chairs thanked all GICNT partner nations and official observers for their continued commitment to advancing the GICNT's mission and welcomed Iraq as a new partner and the United Nations Interregional Crime and Justice Research Institute (UNICRI) as a new official observer. The Co-Chairs also recognized the Republic of Korea (ROK) for its leadership as Implementation and Assessment Group (IAG) Coordinator. In this capacity, the ROK played a critical role in implementing the GICNT strategy announced at the 2013 Plenary Meeting in Mexico City, which called for an increase in practical, topically- and regionally-focused activities, such as workshops

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and exercises....

The Plenary reviewed key outcomes from the following events held since the 2013 Plenary Meeting: To further develop Working Group products and plan future activities, Greece and the US hosted Nuclear Detection Working Group (NDWG) workshops, France hosted a Response and Mitigation Working Group (RMWG) workshop, and Lithuania hosted a Nuclear Forensics Working Group (NFWG) workshop. The IAG Coordinator reported progress made since the previous GICNT Plenary meeting in Mexico City, Mexico, in 2013. Major IAG meetings held over the past two years included:

Endorsement of GICNT Documents: The IAG Coordinator introduced three documents produced in the IAG Working Groups for endorsement by GICNT Partner Nations. Partner nations adopted these documents by consensus, and they are now considered official products of the GICNT.

The NDWG has also developed the "Exercise Playbook" – a collection of realistic scenarios that illustrate key nuclear detection challenges and can be used to help partners organize national-level exercises to promote practical implementation of nuclear detection best practices.

The NDWG Exercise

Playbook: The NDWG has also developed the "Exercise Playbook" – a collection of realistic scenarios that illustrate key nuclear detection challenges and can be used to help partners organize national-level exercises to promote practical implementation of nuclear detection best practices. The "Exercise Playbook" is intended to be a "living document" that could be further refined and updated. The IAG Coordinator encouraged partners to consider submitting additional case studies and exercises that could be incorporated into the document.

"Atlas Lion" Outcomes Considered: Partners discussed key outcomes from the "Atlas Lion" exercise and identified several priorities that senior leaders would likely focus on during a real-world nuclear security incident. Several partners shared their national-level perspectives, which provided potential models and best practices for

other partners. Partners agreed that key themes from "Atlas Lion," including interagency communication and coordination, international cooperation and assistance, public messaging, and promoting capacity-building in detection, forensics, and response, are critical topics that should continue to be the focus of future GICNT activities. "Atlas Lion" and the outcomes of several other GICNT activities implemented over the past two years have validated the existing structure of the GICNT, which serves as a platform for cross-disciplinary exchanges among groups of experts in different fields and underscores the value of cooperation among these different groups.

Endorsement of a New IAG Coordinator: The Co-Chairs introduced the Kingdom of the Netherlands as the candidate for the next two-year IAG Coordinator term. The Co-Chairs highlighted the Netherlands' contributions to nuclear security, including hosting the 2014 Nuclear Security Summit, 5th GICNT Plenary Meeting in 2009, and the March 2015 NFWG event, "Glowing Tulip," as well as chairing the NDWG since 2010. The Plenary endorsed the Kingdom of the Netherlands as IAG Coordinator by consensus.

Partner Nations Look Forward to 2017: The Netherlands, in its capacity as the new IAG Coordinator, announced the continuation of Morocco and Australia as Chairs of the RMWG and NFWG, respectively. The IAG Coordinator also announced the selection of Finland as the new NDWG Chair.

Building on the proposals made by the former IAG Coordinator and partners' feedback during the Plenary, the incoming IAG Coordinator presented ideas for a two-year strategy for advancing the GICNT's mission. The IAG Coordinator recognized partners' interest in continuing the strategic direction agreed upon at the Mexico Plenary, in

particular by holding more practical activities, such as workshops and exercises, focused on building partners' capabilities. The IAG Coordinator emphasized the utility in holding additional regional activities that identify and advance approaches to addressing unique regional nuclear security challenges. The IAG Coordinator also highlighted the need to continue exploring cross-disciplinary themes across Working Groups to promote interaction between various disciplines. Addressing challenges related to sustainability of expertise and facilitating the exchange of best practices on legal and regulatory frameworks were identified as two specific examples of cross-disciplinary topics in need of further GICNT focus. In addition, the IAG Coordinator expressed interest in identifying options for promoting the participation of industry representatives in GICNT activities. The IAG Coordinator concluded his remarks by offering to host a high-level meeting during the GICNT's 10th anniversary in 2016.

From 2015-2017, GICNT partners will advance the IAG's plan of work by continuing to support the development and implementation of practical activities that promote capacity-building across the GICNT focus areas of nuclear detection, forensics, and response and mitigation. Several activities will be designed to promote regional cooperation, while also seeking to develop best practices that can be shared with and benefit the global partnership. The GICNT will also emphasize the importance of developing thematic series of events, ensuring continuity between each event, and making sure that all activities build strategically upon one another to continue enhancing partners' capabilities. In organizing future exercises, the GICNT will seek to focus on key fundamentals of exercise design, implementation, and self-assessment to help enable partners to develop expertise for developing and improving national-level exercise programs. Improving the use of the GIIP will play a key role in promoting continued collaboration and information sharing between events....

Source: <http://www.officialwire.com/>, 17 June 2015.

NUCLEAR SAFETY

EU-TURKEY

EU Energy Union: Turkey should Develop Nuclear Safety in Line with EU

For Turkey's accession process to the EU, it needs to develop an adequate framework to ensure a high level of nuclear safety, said EU energy union chief Maros Sefcovic on 19 June 2015. Sefcovic, the vice-president of the European Commission in charge of the Energy Union, told Anadolu Agency that Turkey's nuclear safety should be in line with the Euratom Treaty and secondary legislation. The aims of the Euratom Treaty were to establish uniform safety standards to protect the health of workers and the general public and to foster progress in the peaceful use of nuclear energy.

"The European Commission is aware of the Akkuyu nuclear plant project. It is not for the European Commission to take a position on the suitability of the construction of a nuclear plant in Akkuyu, but the commission is assessing the nuclear stress test assessment report prepared by Turkey which also covers seismic issues," according to Sefcovic. The European Parliament (EP) ruled in its latest assessment on June 10 that Turkey's nuclear plans were unsafe, urging the construction of the country's first nuclear plant be stopped. The EP's report also contained a section recommending that approval be sought from neighboring countries on nuclear projects.

...He highlighted all EU member states have their sovereign right to decide on their national energy mix, but added this must be in line with EU law. "Our policy in the nuclear area aims to ensure that member states using nuclear energy comply with the highest safety standards, radiological protection and waste management," he explained. He added Turkey was expected to align its legislation with the EU's Environmental Impact Assessment Directive and the Strategic Environmental Assessment Directive with respect to trans-boundary issues.

Meanwhile, Turkish Energy Minister Taner Yıldız said on 15 June 2015 the EP was not objective in its nuclear report on Turkey. Yıldız challenged US actions the plant would be built on fault lines which could lead to a risk of earthquakes. The construction of the Akkuyu nuclear plant will begin in 2016 and Russia's state-owned nuclear company, Rosatom, will have operating rights on the \$22 billion plant.

Source: <http://www.hurriyetdailynews.com/>, 21 June 2015.

FRANCE

EDF Reactor Seen Facing 'Difficulties' by Nuclear Safety Chief

More safety faults could be uncovered in France's flagship nuclear reactor being built by Electricite de France SA and Areva SA in Normandy, a regulator warned. "There are difficulties" in the execution of the project, Pierre-Franck Chevet, head of the French nuclear safety regulator, told a parliamentary hearing in Paris.... "As we enter into the period of startup trials and the qualification phase, there could be more anomalies. We'll have to deal with them."

The atomic regulator was summoned to explain to lawmakers its finding of potential weaknesses in the steel used in the lid and bottom of the reactor's core vessel. Having qualified the discovery as "serious or very serious," Chevet ordered the companies to carry out additional tests on the components to prove they are safe, raising questions about construction costs and delays.

"There is no doubt" that the anomalies found in the steel of the vessel parts go against French regulations and international standards, Remy Cateau, head of pressurized equipment at the nuclear safety regulator, told the hearing. Some concentrations of carbon could create weaknesses in the alloy and have never been seen

The anomalies found in the steel of the vessel parts go against French regulations and international standards, Some concentrations of carbon could create weaknesses in the alloy and have never been seen before in France's existing nuclear fleet.

before in France's existing nuclear fleet, he said. ...Reactor vessels have to resist decades of radioactivity, heat and pressure — 60 years in the case of this model — and can't be changed once the generator has started. In the case of an accident,

components also need to withstand thermal shocks if cold water is introduced to prevent a meltdown.

... EDF takes responsibility for the faults and is overseeing the additional tests, Laurent Thieffry, head of the Flamanville reactor project, told the hearing. Areva will measure the strength of the metals in all areas, as well as the manufacturing process, said Bertrand de l'Epinois, head of safety at Areva. Construction of the Flamanville reactor began in December 2007, with the date for completion repeatedly pushed back from an initial goal of 2012. The most recent completion date is 2017, while the cost has more than doubled to 8.5 billion euros (\$9.5 billion), from 3.3 billion.

Source: <http://www.bloomberg.com/>, 25 June 2015.

PAKISTAN

Nawaz Sharif Satisfied with Pakistan's Nuclear Safety

PM Sharif discussed Pakistan's nuclear, missile and space programmes with the newly-appointed chief of an army division which manages atomic arsenal, and expressed satisfaction over the safety and security of the strategic weapons. During a meeting with the Director General of SPD, Lt Gen Mazhar Jamil, Sharif appreciated security and safety mechanisms and said the SPD has played an important role in strengthening Pakistan's defence capabilities. ...SPD is an important component of NCA which is headed by the Prime Minister and exercises complete command and control over the country's nuclear and strategic capability structure.

Source: <http://www.dnaindia.com/>, 24 June 2015.

NUCLEAR WASTE MANAGEMENT

USA

Draft House Bill would Direct Millions to Fund Interim Storage Facilities

The Republican chairman of the House Agriculture Committee is crafting legislation that could attract hundreds of millions of dollars to a controversial nuclear waste storage company in his central Texas district, according to a draft obtained by *E&E Daily*. Rep. Michael Conaway is preparing language that would authorize the Energy secretary to move forward with temporary sites to store nuclear waste with interest generated from the Nuclear Waste Fund, according to the draft. The NWF is a pot of money exceeding \$30 billion that consists of fees from nuclear customers and was intended to be used to build the controversial and now-stalled Yucca Mountain nuclear waste repository in Nevada....

The "Interim Consolidated Storage Act of 2015" would amend the Nuclear Waste Policy Act of 1982 to authorize the secretary to enter into contracts for the storage of certain high-level radioactive waste and spent nuclear fuel, take title to the material and use interest from the Nuclear Waste Fund to move forward with interim storage sites. Conaway's legislation, McDonald said, would protect money meant for Yucca Mountain by only using interest from the fund. WCS is slated to ask the Nuclear Regulatory Commission next year for a license to build an interim storage site in Andrews County, about 350 miles west of Dallas. The site is located within Texas' 11th District, which Conaway represents.

WCS is at the forefront of a small group of project

developers hoping to temporarily store nuclear waste for the Energy Department, thereby securing the federal government as a top

customer. DOE has expressed interest in moving forward with interim storage as a way to stave off costly lawsuits the agency faces for failing to uphold 1980s agreements to take possession of waste piling up at reactors across the country. Damages could

be more than \$20 billion by 2020 and up to \$500 million annually after 2020, according to the Nuclear Energy Institute.

But WCS isn't the only contender. Austin energy company AFCI Texas LLC has also proposed to build a facility in Culberson County in western Texas, and Holtec International Inc. in recent months said it intends to move forward with an underground storage facility in southeastern New

Mexico, where the government could store casks of used fuel (*E&E Daily*, April 30). Still, WCS appears to be in the lead, as New Mexico's Democratic senators have voiced opposition to the project in the Land of Enchantment, and residents living near the site of AFCI Texas' proposed project have voiced concerns about the project.

The push to secure funding for interim storage sites also appears to be a top priority of a host of companies with shuttered nuclear plants. Governmental Strategies Inc., a D.C.-based lobbying firm, has represented both WCS and the Decommissioning Plant Coalition, a group established in 2001 to represent the needs of shuttering reactors in Connecticut, Wisconsin, Maine, California and Massachusetts, according to the Center for Responsive Politics. McDonald said WCS became acquainted with the

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decommissioning group, also dubbed the "Dead Plant's Society," early on when seeking a waste solution. He also said he expects other co-sponsors to emerge when and if Conaway unveils the legislation. "Members of the 'Dead Plant Society' have a lot at stake here, as well," he said.

While Conaway's bill would align with a push in the upper chamber to move ahead with interim storage to relieve the government of costly lawsuits, it's unclear how the language would mesh with a House discussion draft that would require the federal government to decide the fate of Yucca Mountain before proceeding with new interim storage sites. Rep. John Shimkus (R-Ill.),

the leading House advocate for opening Yucca, said during an interview on Capitol Hill that he is crafting a nuclear waste bill but wasn't behind the discussion draft.

When asked about Conaway's effort, Shimkus and House Energy and Commerce Chairman Fred Upton (R-Mich.) in a joint statement said they are continuing to consider all solutions for advancing Yucca Mountain and improving the nation's waste policies but aren't working under a deadline. "Getting Yucca Mountain operating and improving the overall nuclear waste management system is a top priority," Upton and Shimkus said. ...

Source: <http://www.whatech.com/>, 19 June 2015.



Centre for Air Power Studies

The Centre for Air Power Studies (CAPS) is an independent, non-profit think tank that undertakes and promotes policy-related research, study and discussion on defence and military issues, trends and developments in air power and space for civil and military purposes, as also related issues of national security. The Centre is headed by Air Marshal Vinod Patney, SYSM PVSM AVSM VrC (Retd).

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