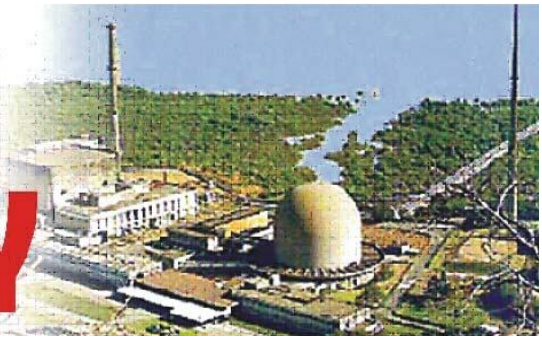
NUCLEAR SECURITY



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

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CONTENTS

OPINION – B.B. Singh

Push for Global No First Use

In its election manifesto, the BJP declared that it would study afresh India's nuclear doctrine, revise and update it to evolve an independent Strategic Nuclear Programme relevant to the challenges of the current times and to maintain a credible minimum deterrent in tune with changing geostatic realities. India's nuclear doctrine has mainly two aspects to ponder over, namely the NFU pledge and the voluntary moratorium on further underground testing of nuclear devices. While NFU is a sociologically and politically important issue, nuclear testing is a technological requirement for credible and effective deterrence. It has enormous political and economical repercussions.

NFU is normally referred to as a pledge or policy of a nuclear weapon state that it shall not use nuclear weapons against any other state unless first attacked with nuclear weapons or such other weapons of mass destruction like chemical and biological weapons. China was the first country to announce it soon after it conducted its first nuclear test in 1964. Chio Kuan-hua, the leader of the Chinese delegation to the UNGA, officially stated the NFU policy in 1972, saying "I once again solemnly declare that at no time and under no circumstances will China be the first to use nuclear weapons." He continued: "If the United States and the Soviet Union really and truly want disarmament, they should commit themselves not to be the first to use nuclear weapons. This is not something difficult to do." However, this pledge was misinterpreted by the then two super powers, the US and the Soviet Union who thought the Chinese had announced the policy because their arsenal could be destroyed by any of them in a single preemptive strike. It was also misunderstood to mean that on such a pledge by China no country would attack it on moral grounds. This was proved wrong when China repeated the pledge in 2005, 2008, 2009 and 2011 while it had conducted over 45 nuclear tests and built a large nuclear arsenal. Whether China's repeated assertion on the issue can be relied upon or not, only time will tell.

India's nuclear doctrine has mainly two aspects to ponder over, namely the NFU pledge and the voluntary moratorium on further underground testing of nuclear devices. While NFU is a sociologically and politically important issue, nuclear testing is a technological requirement for credible and effective deterrence. It has enormous political and economical repercussions.

India also announced its draft policy of NFU on August 17, 1999, soon after the "Shakti"

series of nuclear explosions in May 1998 at Pokhran. By this announcement India neither meant seeking moral shield nor had the fear of preemptive annihilationary strike. With it, India has shown it is a mature and responsible nuclear state and has developed nuclear weapons only as an effective deterrence against rogue states and ill-advised adversaries. But, nuclear weapons will be used in retaliation against a nuclear attack on Indian territory or forces anywhere and nuclear retaliation to a first strike will be massive. Pakistan, which conducted nuclear tests at Chagai just two weeks after the Indian tests, made no such pledge. Instead, in 2001, it announced its nuclear doctrine stating that its nuclear weapons were aimed solely at India and they would be used if India conquers a large part of its territory; destroys a large part either of its land or air forces; proceeds to the economic strangling of Pakistan, pushes it into political destabilisation or creates large-scale internal subversion.

Despite such a confronting posture of Pakistan when India revised its nuclear policy in 2003, it maintained and continues to maintain its NFU pledge. As recently as on April 2 then PM Manmohan Singh said the sole function of nuclear weapons, while they exist, should be to deter a nuclear attack and if all states possessing nuclear weapons recognise that this is so and are prepared to declare it, we can quickly move to establish a global "no-first use norm". Supporting these sentiments the Chinese delegation to the UNGA in 1972 had said: "This is not something difficult to do." It is praiseworthy India and China have such a noble policy on a dreadful weapon of mass destruction while the other nuclear weapons states have made no such commitment. The US has modified its earlier policy and shall not use nuclear weapons against any non-nuclear state that is a party to the NPT and has adhered to its principles. Even with those states that may not be eligible for this privilege, the US shall use nuclear weapons only to defend its vital interests and that of its partners and allies. The UK has announced that it shall use nuclear weapons against rogue countries where British forces may be threatened with weapons of mass destruction. NATO countries have rejected Germany's proposal of NFU at their summit meet in 1999. The Russian Federation also has not adopted NFU.

PM Narendra Modi made an admirable beginning by inviting the heads of neighbouring countries to his swearing-in ceremony and all of them participated enthusiastically. The Pakistan PM's daughter Maryam Nawaz Sharif, herself a powerful politician, has recently commented that India and Pakistan should bury their enmity. She queried, "Why can't India and Pakistan team up to win the wars against diseases, illiteracy and poverty? Why the two nations are living like divided Korea? Why can't they live like United Europe? Economic bloc, perhaps?" And why not? India and Pakistan have a shared history and heritage. There is also a commonality in genealogy of their inhabitants. There are blood and emotional ties on both sides of the border. Both nations are faced with common enemies like illiteracy, poverty and diseases. It is time for India and Pakistan to shed their mutual mistrust based on misguided notions and sit down to talk together on all above issues including their nuclear policy.

India and China have already declared NFU and there is no reason to disbelieve their commitments. Although India's nuclear doctrine stipulates that retaliation to a first strike will be nuclear and massive and designed to inflict unacceptable damage, it contemplates only overkill of defence targets sparing innocent civilian population. It does not intend to repeat Hiroshima and Nagasaki. India and China also have centuries-old cultural ties that were unfortunately sullied during the 1962 conflict and a few skirmishes on the border but that can be mended and turned to be a part of history with the new regime in New Delhi. In view of the background, these two great nations can and should work together to persuade Pakistan to declare a similar pledge of NFU and make the region free from nuclear weapons' fear. This will be in the right direction to fulfill the Chinese dream and also India's dream of "global no-first-use". They can then concentrate on economic development of the region to "win wars against diseases, illiteracy and poverty" as Maryam Sharif has dreamt. It's the right time to talk.

These two great nations can and should work together to persuade Pakistan to declare a similar pledge of NFU and make the region free from nuclear weapons' fear. This will be in the right direction to fulfill the Chinese dream and also India's dream of "global no-first-use.

Author is a practising lawyer and a retired scientist formerly with BARC, Mumbai, and IAEA, Vienna. The source: New Indian Express, 10 July 2014.

OPINION – A. Vinod Kumar

NYT Editorial on India's Nuclear Policy: A Case of Inaccurate Portrayal and Propaganda

That even the most respected sections of the international media can sometimes indulge in skulduggery, especially on complex topics like nuclear policy, is proven by the New York Times editorial of July 5, 2014 titled "India's role in the nuclear race", which is rife with inaccurate depictions and propaganda.

In its assessment of India's prospective membership in the NSG, the NYT editorial castigates India for not proving the "willingness to take a leading role in halting the spread of the world's most lethal weapons." At the core of the editorial seems to be the lingering frustrations among sections in the American strategic community and the nuclear industry, perceivably flowing from the 'unfulfilled' expectations on the Indo-US nuclear deal.

In its assessment of India's prospective membership in the NSG, the NYT editorial castigates India for not proving the "willingness to take a leading role in halting the spread of the world's most lethal weapons." At the core of the editorial seems to be the lingering frustrations among sections in the American strategic community and the nuclear industry, perceivably flowing from the 'unfulfilled' expectations on the Indo-US nuclear deal. First, there is consternation among some non-proliferation lobbyists on the possibility of India becoming the only state that is not a party to the Treaty on the NPT to become a member of the NSG. The second reason could be the despair in the US nuclear industry in failing to benefit from a burgeoning nuclear energy market, as presumably promised by the nuclear deal. Third might the perception in the American security community of an Indian 'ungratefulness' and its inability to draw India into the US strategic matrix despite rewarding it with a nuclear deal to bring it back to the non-proliferation mainstream, and facilitate its rise as a 'major power'. Fourth could be the uncertainties about the policies of the new Indian government led by a leader, who was uninhibitedly hounded by the American media for over a decade.

By talking about nuclear weapons containment in Southern Asia, NYT continues to perpetuate the classical Western prejudice on nuclear weapons in this region by projecting it as a 'nuclear flashpoint' and theatre of a regional arms race, despite the fact that the three nuclear-armed states are evolving towards a stable deterrence equation. The editorial ignores the fact that nuclear weapons emerged and permeated in this region as a result of the flawed bargain that the nuclear powers enshrined through the NPT in the 1960s.

The editorial reasons itself by arguing that India has not proved its willingness to take a leading role in halting the spread of nuclear weapons, but without substantiating this claim or suitably explaining why it feels that India is unwilling to play this role. The editorial writer seems to forget that the nuclear deal had fructified only because the initial conditions stated in the 18th July 2005 Joint Statement were largely fulfilled in order to enable the NSG waiver and a new safeguards agreement with the IAEA. Many of the other enlisted obligations in the joint statement have been effectively pursued in subsequent years, including the recent ratification of the Additional Protocol. Though the fundamental bargain of the joint statement was of India playing a 'leading role in global non-proliferation efforts' in return for its access to global nuclear commerce, the editorial overlooks the fact that this was a political commitment which has not been sufficiently defined in the joint statement, or by either parties. In fact, many critics of the nuclear deal had then warned that the lack of a clear articulation of this role could give space for varied interpretations, including the strange formulations made by this editorial. That this warning had come true was proven by the pressure that India faced to vote against Iran in the months after the deal took shape.

The NYT editorial suggests that India will prove this 'leading role' by "opening negotiations with Pakistan and China to end the dangerous regional nuclear arms race" – an interpretation which was not even scantly referred anywhere in the joint statement or at any point during the nuclear deal debate between 2005 and 2008. The editorial also suggests that India needs to sign the CTBT and stop producing fissile materials, while failing to underline the fact that the CTBT is stymied by US inaction and that Pakistan is the spoiler in the efforts to stop fissile materials production through the FMCT. By talking about nuclear weapons containment in Southern Asia, NYT continues to perpetuate the classical Western prejudice on nuclear weapons in this region by projecting it as a

'nuclear flashpoint' and theatre of a regional arms race, despite the fact that the three nuclear-armed states are evolving towards a stable deterrence equation. The editorial ignores the fact that nuclear weapons emerged and permeated in this region as a result of the flawed bargain that the nuclear powers enshrined through the NPT in the 1960s.

Interestingly, the editorial, in its third paragraph, unwittingly justifies the discriminatory character of the NPT in allowing only the five 'recognised' nuclear weapon states to maintain their arsenals, and understating how this imbalance has sustained a world of nuclear 'haves and have-nots' caused by the continual possession of nuclear weapons by a 'privileged few'. This widely-respected newspaper could have, in fact, served a great moralistic cause had it questioned the policies of its own President, who deceived the world with radical promises of disarmament in his 'historic' Prague speech of 2009, and then went on to derail the significant disarmament momentum that emerged at the 2010 NPT RevCon. NYT could do a certain yeoman service by examining the actions of the US delegation in the Main Committee of this RevCon, where it forced a revision of the many recommendations to initiate a disarmament pathway by 2014. An introspection of the US role will be helpful in assessing not just the non-proliferation policies under President Obama, especially the hype about nuclear security, but also in exploring the promises he will have for the upcoming 2015 RevCon.

The editorial also intrinsically marks the return of the 'pro-Pakistan' lobby in the US non-proliferation community, and the American media, which was culpable in encouraging the many indulgences of the Pakistani military and nuclear establishment for many decades and facilitating favourable non-proliferation policies for Pakistan to effectively pursue a clandestine nuclear programme with technological aid from Western companies.

The editorial does a moralistic disservice to its readers by failing to see virtue in the historic India's nuclear liability law as a remarkable contribution towards creating best practices in the nuclear energy industry. Instead, NYT behaved like a corporate propagandist by treating the Indian law as a hindrance to the nuclear deal and flagging the frustrations of the American industry in failing to 'benefit from nuclear technology contracts' owing to the supplier liabilities enshrined in this law. The editorial fails to note that many nuclear supplier nations including Japan, Russia and France have begun to accept the spirit of 'public interest' enshrined in India's liability law, which in fact promises to restore the credibility of the global nuclear industry, badly hit by the Fukushima incident.

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The empathy for Pakistan is clear from the editorial's emphasis on Pakistan's anxiety over India's uranium enrichment plant while also unwittingly highlighting how Pakistan has more nuclear weapons in its kitty that India. The editorial, thus, not just smacks of double standards and propaganda, but inherently seems to indicate the initiation of a new campaign to derail India's entry into the NSG and also probably promote the cause of a prospective nuclear deal for Pakistan, and its eventual entry into the NSG.

Source: IDSA Comment, 07 July 2014.

OPINION – John Engle

It's Time to Ratify the Nuclear Test-Ban Treaty

The CTBT outlaws the testing of nuclear weapons. So far, 183 countries signed the treaty, but it cannot become a binding international law until it has been ratified by all states capable of developing nuclear weapons, of which there are 44 specified in the treaty. Of these states, three (India, Pakistan, and North Korea) have not signed the treaty, and a further six (China, Egypt, Israel, Iran, and the United States) are yet to ratify it.

The United States signed the treaty in 1996, as soon as the language was agreed upon, but the Senate rejected it by a tiny margin. While the idea of the CTBT is quite simple, implementation is immensely complex. One of the greatest concerns of the treaty, and of the international community, is with monitoring countries so as to verify their compliance with the ban. To this end the treaty sets up the IMS, a network of hundreds of scientific facilities spread across the globe that monitor seismic activity, radioactive fallout, atmospheric noise and oceanic waves to pick up evidence of a nuclear explosion. If the IMS detects a suspected nuclear test then an on-site inspection can follow.

The treaty does not detail the action that would be taken against a state that has broken the treaty, but the Charter of the United Nations does empower the Security Council to take "appropriate steps". Although the treaty has not yet come into force, most of the IMS is now in place and working. President Obama has consistently stated that he is in favor of reducing nuclear proliferation. He even received the Nobel Peace Prize for his speeches on the matter. Yet he has done little to materially change America's position on nuclear weapons. In a dangerous world, nuclear weapons are a necessary component of the American defense. However, it is also in America's interest that the world's supply of nuclear weapons be kept within controllable bounds. It is time for Obama to pursue the CTBT. It is time for the Senate to ratify the treaty.

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Fighting Proliferation: Nuclear weapons are the most destructive weapons ever created and it is right that they should be limited; something that the test ban treaty will be a step towards. An internationally ratified treaty comprehensively banning the testing of nuclear weapons would serve to hamper attempts by countries currently not in possession of nuclear weapons from acquiring them. This is particularly important in the cases of Iran and North Korea. Iran is getting closer and closer to having a working weapon and North Korea already have simple nuclear weapons. These countries' possession of such weapons can only serve to diminish security in the world and the security of the United States.

Of course, a country could just develop a nuclear weapon without testing, but little faith can be put in a weapon that is entirely untested; all countries that currently possess nuclear weapons conducted tests. A comprehensive and internationally ratified treaty against testing would serve as an important signaling device to countries considering developing nuclear weapons. Just as a taboo has formed around the use of nuclear weapons due to international accords denouncing their use, so too would a ban on testing generate a norm against it.

Countries rely on their reputations in international relations; states will fear loss of credibility should they be seen flouting the ban, either by testing weapons themselves or by supplying materials to countries seeking to perform tests. Some politicians and commentators say that rogue nations do not care at all about how they are perceived. But all countries rely to some extent on reputation to engage in international affairs. Most states do not like being pariahs, especially when that status carries with it heavy political and economic sanctions. The United States could leverage international law in such a way as to further deter nuclear testing in potentially hostile countries.

Trust, but Verify: Scanning and detection technology has become so advanced in recent years that it is virtually impossible for a country to detonate a nuclear device without it being detected. Compliance with the treaty can be monitored through the means of seismology, hydro acoustics, infrasound, and radionuclide monitoring. The technologies are used to monitor the underground, the waters and the atmosphere for any sign of a nuclear explosion. The monitoring network consists of 337 facilities located across the world. The system is so sensitive that it was able to detect the disintegration of the space shuttle Columbia. Furthermore, the treaty's system of inspection will reveal any suspicious activity regarding testing.

Clearly, efficacy in terms of determining who might be testing weapons is not an issue. When countries are found to be violating the CTBT, heavy political and economic sanctions can be imposed that will serve to force countries back into compliance with the treaty. A ratified CTBT gives a greater power to

the world's democratic powers, the United States in particular, to take action against those states that would develop nuclear weapons. Ratification would give a much greater moral justification to a decision to take economic or political action against.

Securing America's Interests: Some countries have been reticent to sign the CTBT for fear it would limit their ability to either expand or to begin their nuclear arsenals. The United States stands as one of the only such non-ratifiers, in the company of such countries as Iran, China, and North Korea. The United States fears the limiting of the ability for it to defend itself with nuclear armament. However, in reality the United States will benefit politically and militarily by ratifying, and the world will be benefited by a greater chance for peace without nuclear proliferation.

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American accession would benefit the United States politically by increasing its credibility as a responsible international player with a respect for international law. Often America is viewed by the rest of the world as a cowboy pursuing its own aims and only paying lip service to the international community's opinion. If the United States were to show a degree of respect to international law, particularly through signing CTBT, it will be more able to gain support from other countries for its goals.

If the Senate ratifies the treaty, it will encourage other states to sign, such as China, which has said that its signature is contingent upon that of America. American involvement in the CTBT, and the Chinese involvement expected to follow from it, will give the treaty far greater weight, and will generate greater obedience to it, as countries recognize that it is binding on all states, not just the weak.

Nothing to Lose: From a military standpoint, the United States has nothing to lose from signing as it may still retain its present nuclear stockpiles, as well as to develop new delivery and guidance systems, provided they are not tested with live nuclear warheads. Also, it has much to gain, as the ratification of the treaty will prevent other states from developing nuclear weapons, keeping the club of nuclear powers small and influential. Clearly, it is in the interest of the United States to sign the treaty, in order to benefit not only itself, but also the international community. As Barack Obama's presidency approaches its final decline, he should be considering what he can call his legacy. Fulfilling the mission for which he was prematurely given the Nobel Prize might go some way to restoring him in the eyes of history. And maybe that gold medal could be placed on his mantelpiece without shame.

Source: http://blog.heartland.org/2014/07/its-time-to-ratify-the-nuclear-test-ban-treaty/, 05 July 2014.

OPINION – Seyed Hossein Mousavian

The Next Steps after an Iranian Nuclear Deal

After a decade of failed nuclear negotiations, Iran and the P5+1 (the five permanent members of the UNSC plus Germany) signed an interim nuclear deal, the Joint Plan of Action, in Geneva on November 24, 2013. This hopeful effort put in motion talks to reach a mutually agreed, long-term, comprehensive solution that ensures Iran's nuclear program will be exclusively peaceful. In a broader sense, a successful outcome of the nuclear negotiations with Iran will have a profound impact on nuclear non-proliferation. It could be a significant step towards a NWFZ and a WMD-Free Zone in the Middle East.

A final comprehensive agreement is meant to be concluded within a year of the interim deal. In theory, Iran will accept limitations on its uranium enrichment program and submit to intrusive inspections. In return, world powers will remove sanctions, respect the country's right to the peaceful use of nuclear technology – including enrichment – and normalize Iran's nuclear file.

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and normalize Iran's nuclear file. The components of an agreement would include a specified and mutually agreed timeframe for interim confidence-building measures, which that reflect the rights and obligations of parties under the NPT and Safeguards Agreement. They would also include the comprehensive lifting of UN, multilateral, and national nuclear-related sanctions, including restrictions on Iran's access to trade, technology, finance, and energy, on a schedule to be agreed upon.

If diplomacy fails and the interim deal does not produce a permanent solution, it will ultimately lead to heightened tensions, possibly even all-out war, and force Iran to withdraw from the NPT. Now that, against all odds, the US and the EU appear to be closer to making a deal with Iran, skeptics and opponents have started mobilizing again – in both Tehran as well as in many other capitals, including Washington. The road to a comprehensive solution is strewn with obstacles. Challenges to a final agreement include differences over Iran's Heavy Water Reactor at Arak, its uranium enrichment facility at Fordow, the overall capacity of Iran's enrichment program, and levels of transparency regarding the program as a whole.

With 14 countries now operating or building enrichment plants, boosting interest in nuclear energy among Middle East countries, a successful resolution of the Iranian nuclear crisis could provide a model for dealing with other countries with nuclear breakout capability, and contribute positively to non-proliferation.

All these obstacles will be overcome only if the six world powers agree, in return for Iran's offer of interim limitations and extra transparency, to respect Iran's legitimate right to peaceful nuclear technology (including uranium enrichment), lift all sanctions related to Iran's nuclear program, withdraw Iran's nuclear file from the UN Security Council, and normalize its relationship with the IAEA. Finalizing a deal will require compromise by all parties. One of the key challenges will be the likely American US insistence that Tehran make concessions far beyond the requirements of the NPT. As an NPT member state, Iran will not accept what it perceives as discrimination against it in the application of this treaty. To resolve the IAEA's concerns about a possible military dimension to Iran's nuclear program, Iran could agree to a specific timeframe to give the IAEA managed access to some facilities.

As stated, a comprehensive agreement with Iran will give impetus to the creation of a Weapons of Mass Destruction-Free-Zone in the Middle East. The seeds for this were already planted on December 9, 1974, when the UNGA adopted Resolution 3263, sponsored by Iran and Egypt, calling for a NWFZ in the region. The zone would remain in force indefinitely and commit regional countries not to manufacture, acquire, test or possess nuclear weapons. With 14 countries now operating or building enrichment plants, boosting interest in nuclear energy among Middle East countries, a successful resolution of the Iranian nuclear crisis could provide a model for dealing with other countries with nuclear breakout capability, and contribute positively to non-proliferation. It is clear that a final deal with Iran could ensure the maximum level of transparency and all necessary confidence-building measures to assure observers that the Iranian nuclear program will remain peaceful forever. This could be the model for all other Middle East countries to follow as the first big step towards realization of a Middle East free of weapons of mass destruction.

As the only country in the region with a civilian enrichment program, Iran could play a pioneering role by embracing ideas like such as a regional or international consortium for nuclear technology, multinational partnerships for uranium enrichment, and multilateral fuel arrangements in the Middle East. A comprehensive nuclear deal with Iran could be a model for future talks with regional countries and others who are on the verge of entering the nuclear arena. The international community has the moral responsibility to settle the differences with Tehran in an amicable and sustainable manner. It must then force Israel to join the NPT and dismantle its nuclear arsenal. The future of non-proliferation in the region and beyond is at stake.

Source: Asharq Al-Awsat, 10 July 2014.

NUCLEAR STRATEGY

CHINA

Three Nuclear Subs Spotted Near PLA Navy's Hainan Base

The People's Liberation Army Navy has deployed three nuclear-powered ballistic missile submarines to its South Sea Fleet base on the southern island

province of Hainan, according to the Manila-based InterAksyon news website in a report published July 8.

The Chinese navy displayed a photo on the internet which suggested that three Type 094 Jin-class ballistic missile submarines are currently stationed at the Yulin naval base in Hainan, according to the report. The paper surmised that the three submarines are there to enhance the power projection of the Chinese navy in any potential conflict against Vietnam or the Philippines in the South China Sea.

This may indicate the launch of regular sea patrols by Chinese missile submarines in the South China Sea from Hainan, according to the Washington Free Beacon. Samuel Locklear, US Pacific Command chief, told the website China's submarine force is large and very capable. Locklear told the US House Armed Services Committee this March that the PLA Navy will likely have a credible sea-based nuclear deterrent by the end of 2014.

China also has two Type 056 Jiangdao-class guided missile corvettes stationed in Hainan. The vessels, equipped with surface-to-air and surface-to-surface missiles, as well as a 76mm main gun and two 30mm cannon will begin to patrol the disputed waters as well, posing a threat to the operations of the Vietnamese and Philippine navies in waters near the disputed Spratly Islands.

Source: http://www.wantchinatimes.com/news-subclass-cnt.aspx?cid=1101&MainCatID=11&id=20140710000149, 10 July 2014

INDIA

Nuclear Triad Weapons Ready for Deployment: DRDO

The weapons systems for the country's nuclear triad, including submarine-launched ballistic missiles, are "fully ready" for deployment, DRDO chief Avinash Chander said. Addressing a gathering at an IDSA event, he said the nuclear reactor on board the indigenously-developed INS Arihant nuclear submarine is also critical and is running on its "full power" before it is launched for sea trials. The weapons for the nuclear triad are "either fully developed or are ready to be deployed," Chander said. The nuclear triad is the capability to launch a nuclear weapon from sea, air and land. India will complete it once the Arihant is operational giving it the option to retaliate to nuclear strike through submarine-launched BO-5 missiles.

The Arihant is expected to be launched for sea trials in next few months. The Agni series missiles can be used to carry out attacks from land while some of the IAF airrcraft are also capable of launching nuclear attacks. The DRDO completed the development of the over 700km-range BO-5 missiles recently and they would be fired from the Arihant during its sea trials. The organisation is also preparing to develop the longer-range K-4 underwater missile in near future and some of its trials have been completed successfully.

Source: http://articles.economictimes.indiatimes.com, 07 July 2014.

UK

UK Totally Out of Step on Trident

In one of its few relevant passages, the Trident commission correctly concluded that the UK needs to do more to show it is serious about disarmament, and needs to prepare a "glide path" for reducing its reliance on nuclear weapons.

The Trident commission's conclusions that the UK does not need nuclear weapons to maintain international status or as an "insurance policy" against a global crisis are to be welcomed. Unfortunately the report's headline finding that Trident should be replaced is mistaken. Modernising and proliferating nuclear weapons, even with reduced numbers, is out of step with international law and Britain's security needs. Public opinion continues to move away from wanting nuclear weapons, with senior military, trade unions and public figures arguing that the billions of pounds should be redirected towards our real security needs.

When the UK failed to participate in multilateral discussions on nuclear disarmament at talks mandated by the UN general assembly in Geneva 2013, as well as boycotting the Oslo conference on the humanitarian impacts of nuclear weapons, the government was widely condemned. The vast majority of UN members, who feel no need to develop nuclear arsenals and see the nuclear-armed states as a threat to global security, are frustrated with growing proliferation and the irresponsibility of the nine nuclear-armed states. The UK is increasingly ridiculed for clinging on to these expensive cold-war white elephants.

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for reducing its reliance on nuclear weapons. With the Vienna conference on the humanitarian consequences of nuclear weapons scheduled for 8-9 December, the commissioners need to work with their respective institutions to ensure that Britain takes part in good faith in multilateral steps aimed at abolishing nuclear weapons, rather than sticking the UK's head in the sand and pretending that the world has not changed in 30 years.

Source: The Guardian, 03 July, 2014.

British Quakers Reject Report Advising UK to Retain 'Cold War Relic' Nuclear Deterrent

Quakers in Britain strongly disagree with the conclusion of a report published July 1 that says the UK should retain its nuclear deterrent. A group of former ministers, diplomats and generals in the parliamentary-approved Trident Commission say holding on to nuclear weapons could help deter threats to the UK's security in future. The three-year study into the value of renewing Britain's Trident nuclear missile program in 2016 said the weapons could prove their worth in preventing national blackmail or another security threat....

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"The Quakers said they were disappointed the report did not address the legal and moral obligations of the UK under the NPT to negotiate in good faith for the elimination of nuclear weapons. A final decision on whether to renew Trident nuclear missile system will be taken in 2016. "If there is more than a negligible chance that the possession of nuclear weapons might play a decisive future role in the defence of the United Kingdom and its allies in preventing nuclear blackmail, or in affecting the wider security context within which the UK sits, then they should be retained," the report says.

"The impact of the UK's falling victim to ongoing strategic blackmail or nuclear attack is so significant that, even if the chances appear slim today, there is sufficient uncertainty surrounding the prospect that it would be imprudent to abandon systems that have a high capacity to counter such threats." The current plans to construct and deploy four submarines with missiles and warheads over the period 2016 to 2062 will account for 9.4 per cent of Britain's defense budget, the report said. Quakers are known formally as the Religious Society of Friends. The group is known for its commitment to equality, justice, peace, simplicity and truth.

Source: Ecumenical News, 07 July 2014

BALLISTIC MISSILE DEFENCE

CHINA

Threat to China: Pressure on South Korea to Join US Anti-Ballistic Missile Defense System

In recent months, the Obama Administration has been intensifying pressure on South Korea to join its anti-ballistic missile defense system. As the United States expands BMD system across the Asia-Pacific as one component of its military buildup under the rubric of the Asia Pivot, Seoul is seen as having a key role to play. The United States has posted anti-ballistic missile defense units in Eastern Europe and Turkey, and NATO membership has been extended to former Warsaw Pact countries, in an effort to tighten the military noose around Russia. The aim of the Asia Pivot is to adopt the same aggressive posture towards China and North Korea.

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South Korea is building its own separate anti-missile system, structured for the defense of its own territory. That system is comprised of Patriot PAC-2 batteries, which are slated for replacement by the PAC-3. South Korea also plans to develop its own higher altitude anti-ballistic missiles. The US has wider ambitions when it comes to ballistic missile defense in South Korea. The goal is to integrate South Korea into the steadily expanding US missile defense system in the Asia Pacific.

The United States is giving serious consideration to deploying a THAAD battery in South Korea, a system that is capable of targeting short to intermediate-range ballistic missiles. In any conflict with North Korea, the main risk to US forces stationed on the peninsula would come from long-range artillery and cruise missiles. US bases in Korea are scheduled to be relocated farther south by 2016, out of range of North Korean artillery. South Korea's Patriot batteries are reasonably effective at countering short-range ballistic missiles. The deployment of a THAAD battery would provide an extra layer of defense, as incoming high altitude missiles could be targeted at an earlier point in their descent, with Patriot batteries acting as a backup for any missed targets.

A THAD battery is armed with 24 missiles, so unless the U.S launches a first strike on North Korea, a sizeable enough attack would soon exhaust its arsenal. None of this matters much, as the primary motivation for installing a THAAD battery in South Korea would be to take advantage of its accompanying AN/TPY-2 X-band radar. Although deployed as part of a THAAD battery, the radar can also operate independently. The most effective approach in countering long-range ballistic missiles is to detect their launch as close to the source as possible. The AN/TPY-2 radar can be integrated into a wider missile defense system, passing tracking information to US and Japanese ships armed with Aegis anti-ballistic missiles and to ground-based anti-ballistic missile systems stationed on US territory.

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No radar can see over the earth's curvature, so to be effective the wider the area in which radar stations are dispersed, the more chance of success in shooting down a ballistic missile. The US has ground-based interceptors stationed in Alaska and a THAAD battery in Guam. An X-band radar has been placed in northern Japan, and second radar is scheduled for southern Japan by the end of the year. Another site under consideration is the Philippines. Placement of an AN/TPY-2 radar in South Korea would provide detection capability extending across much of eastern China. The AN/TPY-2 radar can operate in two modes. In terminal mode, it feeds the THAAD battery, allowing it to target an incoming ballistic missile as it descends towards its target. In forward-based mode, it tracks missiles during their boost phase and feeds tracking information to the wider missile defense system. Those feeds can be linked to anti-missile systems thousands of miles away.

Any anti-missile system can be quickly overwhelmed by a full-scale launch by an enemy. The primary purpose of the system is to provide first-strike capability, in which enemy ballistic missiles could be taken out, and the anti-missile system would counter the response by the relatively few ballistic missiles that managed to survive the attack. It takes only eight hours to switch from one mode of the AN/TPY-2 radar to the other, and radar stationed in South Korea would grant the United States more strategic flexibility. If the US wanted to confront North Korea, the radar would be set to terminal mode. In seeking confrontation with China, it would be set to forward-based mode.

The US military regards it a high priority to bring a THAAD battery to South Korea, and accordingly, it has already conducted a site survey to identify potential locations. Last October, South Korea and the United States signed an agreement that called for South Korea to "further the interoperability" of its anti-missile system with that of the US The time has come, US officials say, for South Korea to move beyond interoperability to integration.

Given the proximity of North Korea, a THAAD battery would make little sense from the South Korean perspective. As one Korean official explained on condition of anonymity, "In an environment like the Korean Peninsula where firing ranges are so short, the most effective missile defense system is low-altitude defense. We're not participating in any system for high-altitude defense." Nor would a high-altitude ballistic missile be North Korea's first weapon of choice, when low or medium-altitude missiles would be airborne for a far shorter period, thus making them more difficult to shoot down. A THAAD battery in South Korea, however, would make an inviting target for Chinese missiles in any conflict between the United States and China.

US officials are urging South Korea to purchase a THAAD system, at the cost of nearly one billion dollars. Some American officials have indicated that if South Korea continues to balk, the US could unilaterally move a system there, and once in place, pressure South Korea to purchase it. The Asia Pivot's cost for militarizing the region is likely to be enormous, and the US is seeking to offload as much of the expense as possible onto the shoulders of nations that have little or nothing to gain from it. In line with that policy, the US has already persuaded South Korea to pay an additional $880 million per year for American bases, an increase of six percent over the amount Seoul had been providing to the US.

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US officials pressed their case to their South Korean counterparts at the Shangri-La Dialogue in Singapore on May 30–June 1. Among the main conference sponsors were Lockheed Martin, Boeing, Northrop Grumman, BAE Systems, and Airbus Group. The conference is as much about arms sales as it is in pushing US geopolitical goals. Military contractors accompanied the US government delegation, with an eye to netting new customers. Representatives from Lockheed Martin, contractor for the THAAD, joined US officials in meetings with South Korean representatives.

At the conference, Washington succeeded in winning agreement from South Korea and Japan to share intelligence on North Korean missiles, and American officials regarded this as only the first step toward the integration of the two nations into the US missile defense system. A Pentagon official commented, "That makes sense, you know, for where they sit right now, but the key is to get it interoperable and integrated into one system that is effective as possible."

Ultimately, it may matter little what South Koreans want. The United States is committed to drawing South Korea into its missile defense system. Pentagon officials claim that the South Korean military is analyzing which high altitude anti-ballistic missile system to adopt. "They've made no national decision to this point," said Peppino DeBiaso, director of missile defense policy at the Pentagon, so the US is "trying to help" the South Koreans "reach a decision about the capabilities they would have." It is probable that this "help" is correctly perceived as pressure by those on the receiving end.

General Curtis Scaparrotti, commander of United States Forces Korea, remarked, "There was consideration being taken in order to consider THAAD being deployed here in Korea. It is a US initiative, and in fact, I recommended it as the commander." Speaking on condition of anonymity, a Pentagon official admitted that a THAAD battery is not necessary for South Korea. "But it would obviously help the defense of the United States. An alliance requires reciprocity." The Obama Administration attaches such importance to the issue that it nominated Mark Lippert to be its next ambassador to South Korea. Lippert is currently special assistant to Secretary of Defense Chuck Hagel, and one of his main areas of focus has been the US anti-missile system.

China has plans to build 29 new nuclear power plants to add to its current 19 aims to have installed nuclear output capacity of 400 million kilowatts by 2050, more than the total amount of electricity currently produced by all the nuclear power plants in the rest of the world.

China is South Korea's top trading partner, so there is a solid basis for Seoul's disinclination to antagonize the Chinese by binding itself to the US anti-missile system. The United States, though, wields enormous power and has varied means of persuading recalcitrant partners to serve its needs. The US military is not accustomed to being told 'no', and pressure on the South Koreans is not likely to relent unless they acquiesce.

Source: Global Research, 01 July 2014.

NUCLEAR ENERGY

CHINA

China Poised to Become World Leader in Nuclear Energy

The technology that Japan uses in its nuclear power plants might be better than China, but the former's management and operations are not strict enough, writes Wedge, a Japanese magazine. China has plans to build 29 new nuclear power plants to add to its current 19 aims to have installed nuclear output

capacity of 400 million kilowatts by 2050, more than the total amount of electricity currently produced by all the nuclear power plants in the rest of the world. Jobs related to nuclear power are becoming increasingly popular in the country because the benefits given by the government are comparatively good, said the report. The base salary for an employee at a power plant is high and abundant benefits are also offered for children.

Former PM Junichiro Koizumi again blasted the Abe administration's pro-nuclear energy strategy, saying the plan to restart reactors across the nation is "too optimistic" and goes against public opinion.

In the past, few Chinese universities provided specialized courses for the nuclear industry, but there are now approximately 50 universities offering specialized training, the most popular being the prestigious Tsinghua University. The past decade has seen Japan's electronic engineering and semiconductor industries fall behind South Korea and China, and the nuclear power industry is also slipping. Guo Siji, a Teikyo University professor, told Wedge that China will become a country that exports nuclear power know-how in the future, and will be the world No. 1 in nuclear power. China reportedly builds nuclear power plants that cost 30% less than in Japan.

Source: http://www.wantchinatimes.com/news-subclass-cnt.aspx?cid=1201&MainCatID=12&id=20140710000036, 10 July 2014

JAPAN

Koizumi: Government's Nuclear-Energy Logic A Complete Failure

Former PM Junichiro Koizumi again blasted the Abe administration's pro-nuclear energy strategy, saying the plan to restart reactors across the nation is "too optimistic" and goes against public opinion. "The logic of those who have promoted nuclear power generation has completely failed," Koizumi said during a speech on July 7 in Tokyo. After the 2011 Great East Japan Earthquake and tsunami caused the nuclear crisis at the Fukushima No. 1 nuclear power plant, the Nuclear Regulation Authority was established to upgrade safety in the industry. It is now screening utilities' applications for restarting their reactors, all of which currently remain offline. PM Shinzo Abe's government said the NRA has "the world's strictest safety standards," but Koizumi said he doubts the claim.

"Are there any (nuclear facilities) around where evacuation routes have been properly secured?" Koizumi asked. "Anti-terrorism measures are also the poorest. (The NRA) has not developed the world's strictest standards. It is impossible to resume reactor operations." The former PM said the Abe administration has not fulfilled its responsibility to the people of Japan. "If compared with restrictions in Britain, the United States and France, how are things going with (the new Japanese standards)?" Koizumi said. "(The government) has the responsibility to clearly explain why the Japanese criteria can be described as the world's most stringent, even when they are compared with global standards."

Although the Abe administration is currently trying to find final disposal sites for nuclear waste generated from plants around Japan, Koizumi said the government should first declare the abolition of nuclear power before building those facilities. "The administration will not be able to win the cooperation of the citizens unless it decides to abolish all nuclear plants," Koizumi said. "It is impossible to gain support (from the people) after additional nuclear waste is generated as a result of reactor restarts. (The government plan is) too optimistic."

In the Tokyo gubernatorial election in February, Koizumi supported another former PM, Morihiro Hosokawa, who campaigned on a platform of abandoning nuclear energy. Hosokawa placed a distant third in that election. The two retired politicians later established the Japan Assembly for Nuclear Free Renewable Energy to continue their anti-nuclear power activities. During the July 7 speech, Koizumi also mentioned his future plans. "I will lead a national campaign to reduce the number of reactors to zero," he said. "Those who hope to abolish atomic power account for the majority of the Japanese people. Politicians have to make the right decision. The day will surely come when we can make the shift (to no nuclear-power generation)."

Source: http://ajw.asahi.com, 08 July 2014.

PAKISTAN

Third Pakistani Nuclear Reactor Operational

Pakistan's third plutonium-producing reactor is in service at its Khushab nuclear site, according to the IPFM, and is likely to have already produced fuel. The IPFM ... has highlighted the latest developments in Pakistan's plutonium program in a June 30 IPFM blog entry. Using commercial satellite imagery from March 2013 and December 2013, it says the Khushab III reactor now appears operational due to water

vapor rising from its cooling towers, but the Khushab IV reactor is still under construction. It goes on to say, "If Khushab-III began operating in early 2013, the first batch of its spent fuel could have been taken out already, cooled and become available to be reprocessed in 2014 or possibly 2015."

It bases its assessments on the three operating reactors having a power of 40-50 megawatts, in which case, operating at 50 % capacity, they could each produce 5.7 to 7.1 kilograms of weapon grade plutonium per year. At 80 percent capacity they could each produce 9 to 11.5 kilograms of plutonium. Based on these calculations, IPFM estimates Pakistan has accumulated about 170 kilograms of plutonium from the Khushab I and Khushab II reactors. It claims this would suffice for approximately 35-40 warheads of 4 to 5 kilograms of plutonium per warhead.

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"… Pakistan's total existing and expected annual fissile material production capacity from four Khushab plutonium production reactors is not more than 46 kgs of weapon-grade plutonium and 100-125 kgs of weapon-grade HEU, only sufficient for 17 warheads annually." Still, analyst and former air commodore Kaiser Tufail believes Pakistan is reasonably secure. "Pakistan's nuclear triad exploits certain peculiar advantages of each delivery system," he said. "Ground-based mobile missile systems allow dispersion, reducing the success probability of an enemy's first strike. Submarine-launched missile systems allow a high degree of survivability and can be credibly used for a second strike." He also said that the aircraft delivery method has flexibility beyond that of other systems. "Air-launched bombs/missiles allow a last ditch ultimatum, as the aircraft can be recalled if the adversary backs down," he said.

The UAE has joined an international treaty on nuclear liability, which encompasses several global conventions. In doing so, the country has completed a signatory list of international treaties regarding nuclear energy, safety, security and non-proliferation.

Ultimately, the issue becomes a balance of delivery systems rather than warhead type. "The delivery systems are potent enough whether uranium or plutonium based. What is more important is the correct proportion of the three delivery systems so that a comprehensive and credible nuclear triad exists."

Source: Defence News, 03 July 2014.

UAE

UAE Signs Important Nuclear Liability Treaty

The UAE has joined an international treaty on nuclear liability, which encompasses several global conventions. In doing so, the country has completed a signatory list of international treaties regarding nuclear energy, safety, security and non-proliferation. On 07 July, Hamad Alkaabi, the UAE ambassador to the IAEA, signed the CSC. "The UAE is taking the lead again in setting a good example by joining the [convention]," Mr Alkaabi said after submitting the ratification document to the IAEA's director general, Yukiya Amano, in Vienna. "International nuclear liability conventions, such as the CSC, provide a framework which is consistent with the UAE's responsible approach in developing a safe and secure nuclear energy programme."

Prior to becoming a CSC signatory, the UAE had signed a set of international conventions designed to provide compensation for damages arising from nuclear accidents. These conventions, which form an international nuclear liability regime, include the 1963 Vienna Convention on Civil Liability for Nuclear Damage (as amended by the 1997 Protocol) and the Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention. Under the international nuclear liability framework, the operator of a nuclear facility is solely and exclusively liable for damages arising from a nuclear incident.

Source: The National UAE, 08 July 2014.

VIETNAM

Vietnam Nuclear Power Market Eyed by Three Major Countries

Foreign newswires report that US President Obama has submitted to the US Congress the text of the nuclear cooperation agreement, under which the US would transfer nuclear reactors and technologies to Vietnam. Meanwhile, Vietnam Plus of the Vietnam News Agency reported that the US Congress began considering a cooperation proposal on May 9. It has 90 days to consider the issue before

making a final decision. Prior to that, the Vietnamese and US representatives signed a Vietnam-US nuclear cooperation agreement in Hanoi on May 6 (Agreement 123). Vietnamese officials and scientists have expressed their satisfaction about the agreement.

The US firms can expect to earn $10-20 billion from the deals with Vietnam. Vietnam plans to produce 10,000 MW of nuclear electricity by 2030. It is believed to be the second largest nuclear power market in East Asia following to China, while market value is expected to reach $50 billion in the next two decades.

Minister of Science and Technology Nguyen Quan said at the signing ceremony that the agreement can be seen as an open door for both the US and Vietnam to accelerate projects on nuclear energy development. "The agreement has a very important significance for Vietnam. This is really good news that the US and Vietnam can sign it," Dr. Tran Huu Phat, former Head of the Atomic Energy Academy, said in Dat Viet newspaper. "The signing allows Vietnam to approach sourced technologies in a proper way," Phat said, explaining that most of the licenses (patents, industrial design, technology…) in the nuclear energy sector have been transferred by the US to France and Japan.

Dr. Tran Dai Phuc, the advisor to the Ninh Thuan nuclear power plant project, said the cooperation agreement would provide great opportunities to Vietnam to learn more experience from a country with advanced nuclear technology. Vietnam would also be able to learn about legal issues from DOE and USNRC. However, Vietnamese are not the only people who feel elated with the agreement. Dr. Nguyen Nhi Dien, Head of the Da Lat Nuclear Research Institute, commented that if the US Congress ratifies the cooperation agreement, this would benefit both involved parties. As for Vietnam, this would bring opportunity to Vietnam to access source technology and nuclear fuel later.

The US NEI and the US nuclear energy firms have unanimously urged the US Congress to ratify the agreement soon, emphasizing that the strengthened cooperation with Vietnam in the sector would help boost exports and create more jobs. The US firms can expect to earn $10-20 billion from the deals with Vietnam. Vietnam plans to produce 10,000 MW of nuclear electricity by 2030. It is believed to be the second largest nuclear power market in East Asia following to China, while market value is expected to reach $50 billion in the next two decades. According to the WNA, rapid modernization in Vietnam has led to a sharp increase in the demand for electricity, estimated to increase by 10-15 percent per annum. David Durham from GE Hitachi Nuclear Energy has warned that if the US Congress does not ratify the agreement, US firms will lose the lucrative market of Vietnam.

Source: Vietnam Net Bridge, 09 July 2014.

URANIUM PRODUCTION

GENERAL

Energy Fuels Steps Back from Uranium Mill

Energy Fuels Inc. which had planned to build the first new uranium mill to be licensed in the US in more than 30 years – has decided not to go through with the project and instead sell the mill license and related assets. The decision to step away from the Piñon Ridge mill, according to a company release, came after the company acquired the White Mesa Mill in 2012, which will be sufficient to meet its planned production quotas. In addition to the Piñon Ridge mill license and related assets, the sale will include certain other mining assets located along the Colorado-Utah border.

The mining assets include uranium and vanadium resources, including approximately 4.8 million pounds of uranium contained in 1.15 million tons of measured and indicated resources with an average grade of 0.21 percent U3O8. They also include additional inferred and historic uranium and vanadium resources.

The mining assets include uranium and vanadium resources, including approximately 4.8 million pounds of uranium contained in 1.15 million tons of measured and indicated resources with an average grade of 0.21 percent U3O8. They also include additional inferred and historic uranium and vanadium resources. Upon closing of these transactions, each of which is expected to occur on or before October 15, 2014, the company will receive in total approximately $2.05 million. Through these transactions, Energy Fuels Inc. expects to realize reductions in holding, permitting, litigation and compliance costs over the next several years.

…Energy Fuels is currently America's largest conventional (mined as opposed to in-situ recovery) uranium producer, supplying approximately 25 percent of the uranium produced in the United States 2013. The White Mesa Mill is the only conventional uranium mill currently operating in the US

Russia's Natural Resources and Environment Ministry has proposed considering introducing a mechanism of production sharing agreements for large insufficiently profitable projects of uranium deposit development to support the industry.

Source: Wyoming Business Report, 8 July 2014.

RUSSIA

Russian Ministry Proposes Mechanism of PSA for Uranium Production

Russia's Natural Resources and Environment Ministry has proposed considering introducing a mechanism of production sharing agreements for large insufficiently profitable projects of uranium deposit development to support the industry, *Kommersant* business daily reported on 08 July. The ministry also plans to liberalize an access of companies, not included into nuclear power corporation Rosatom, to uranium development. PSA will allow improving the project's economics due to an efficient tax regime, Rosatom's representatives said at the ministry's meeting. Lawyers said that under PSA investors in projects are exempted from paying regional and local taxes and customs duties.

Uranium prices fell to $28.3 per one pound of natural uranium currently from $72 in February 2011 shortly before an accident at Japan's Fukushima-1 nuclear power plant. That makes uranium production unprofitable at the moment, Andrei Cherkasenko, CEO of Atompromresursy nuclear group, told the daily.

Source: Russia and India Report, 08 July 2014.

Bushehr 1, a VVER-1000 unit, entered commercial operation September 2013, while a government-level protocol on building two further reactors at that site was signed in April. A construction contract for them is expected to be signed later 2014, along with an intergovernmental agreement for eight reactors – six at other sites.

NUCLEAR COOPERATION

INDIA–UK

India and UK to Launch Civil Nuclear Cooperation

India and United Kingdom on 8 July 2014 decided to launch negotiations for civil nuclear cooperation. The decision was taken during the visit of UK foreign secretary of state William Hague to India. … The Union External Affairs Minister, Sushma Swaraj and UK foreign secretary of state William Hague had discussions on variety of issues related to bilateral, regional and global issues of mutual interest. The discussions were wide-ranging and extensive and covered variety of issues like civil nuclear cooperation, extradition, counter-terrorism and cyber issues as well as security situation in Iraq and Afghanistan. …

Source: http://www.jagranjosh.com, 09 July 2014.

IRAN – RUSSIA

Iran Extends Cooperation with Russian Nuclear Regulator

Russian regulator Rostechnadzor has agreed to continue and expand its provision of consulting services to its Iranian counterpart for the operation of the Bushehr nuclear power plant. The INRA signed a protocol with FSUE VO "Safety" – part of Rostechnadzor – that defines the direction of further inter-agency cooperation, Rostechnadzor said on 4 July. The document was signed following a meeting between Rosatechnadzor chairman Alexey Aleshin and INRA director general Naser Rastkhah. At their meeting, the two men "shared information on the state of nuclear and radiation safety in both countries, summarised the provisional results of interagency cooperation, and discussed its future prospects," Rostechnadzor said.

Bushehr 1, a VVER-1000 unit, entered commercial operation September 2013, while a government-level protocol on building two further reactors at that site was signed in April. A construction contract for them is expected to be signed later 2014, along with an intergovernmental agreement for eight reactors – six at other sites. In April, the Russian government gave Rostechnadzor the authority to provide consultancy support and train personnel at fledgling regulatory bodies in countries that are customers of Russia-designed nuclear power plants. Rostechnadzor said last June it had agreed

to draft a new interagency agreement with the National Nuclear Safety Administration of China.

Source: World Nuclear News, 08 July 2014.

RUSSIA – ARGENTINA

Putin Signs Nuclear Energy Deal with Argentina

Russian President Vladimir Putin signed a nuclear energy cooperation deal with Argentina on Saturday on the second stop of a tour to bolster trade ties and strengthen Russia's influence in Latin America. Putin's energy minister, Alexander Novak, told reporters in the Argentine capital that the Russian state atomic energy corporation, Rosatom, had made an offer to tender for the construction of two new nuclear power units in Argentina.

Novak said Rosatom could offer "comfortable" financial terms to South America's No. 3 economy, which has struggled to advance its nuclear energy program and lure foreign investors deterred by a raft of punishing capital and import controls. "Rosatom is actively working here... and has already handed over its technical and commercial offer to our (Argentine) colleagues," Novak told reporters after talks between Putin and his Argentine counterpart, President Cristina Fernandez. "There will be a tender this fall. Rosatom... is also ready to provide comfortable financial conditions (to Argentina)." Fernandez said she hoped to strengthen relations between Buenos Aires and Moscow. Putin was in Cuba on Friday and will travel to Brazil for bilateral talks. While in Brazil he also will participate in a summit of the so-called BRICS nations of Brazil, Russia, India, China and South Africa on Tuesday and Wednesday.

Source: Reuters, 12 July 2014.

NUCLEAR NON-PROLIFERATION

GENERAL

Molten Reactor Prevents Nuclear Proliferation

Scientists from Massachussetts-based Transatomic Power believe the improvements they've made to molten salt reactors have the potential to render the technology commercially viable by permitting the usage of uranium fuels with reduced enrichment levels. Molten salt reactors have been around for over half a century, and were first developed by the Oak Ridge National Laboratory in the decades following the Second World War. The technology involves the usage of a liquid salt reactor as opposed to a conventional light water reactor to generate energy via the processing of radioactive materials. Despite the benefits presented by the reactors in the form of heightened safety, increased efficiency and the ability to burn spent nuclear fuel, the technology has never been commercialised on a significant scale.

The reactors are finally poised to achieve commercial breakthrough in the second decade of the 21st century, however, as large developing economies scramble to find economical and environmentally friendly forms of power generation that don't sully the atmosphere with greenhouse gases, or generate particulate matter which is harmful to human health. China is working hard on a liquid fluoride thorium reactor of its own as part of efforts to wean its economy off the coal-fired power which has enshrouded its major cities in smog, while Bill Gates' nuclear company TerraPower is also exploring the potential of the technology.

China is working hard on a liquid fluoride thorium reactor of its own as part of efforts to wean its economy off the coal-fired power which has enshrouded its major cities in smog, while Bill Gates' nuclear company TerraPower is also exploring the potential of the technology.

Leslie Dewan and Mark Massie, the co-founders of Transatomic and both holders of PhDs in nuclear engineering from the MIT, believe a set of improvements they've made to conventional molten salt reactors could seriously abet the widespread deployment of the technology by enabling the usage of uranium with lower enrichment levels, thereby forestalling the possibility of nuclear proliferation. Their chief innovation is to introduce a zirconium hydride moderator and an LiF-based fuel salt to standard molten salt reactors. This makes the reactor capable of running on a fresh uranium fuel with an enrichment level as a low as 1.8 per cent U-235, or the entire actinide component of spent nuclear fuel.

The alteration effectively deals with the besetting drawback of molten salt reactors in the past – their reliance on HEU with 33 per cent U-235, a level high enough to trigger concerns over proliferation of nuclear materials when deployed on a commercial scale. The improved technology is also far more efficient and economical than conventional reactors, capable of taping the energy

contained by nuclear fuel for decades as opposed to just the four or five years of power that can be extracted by means of standard technologies. A gigawatt of electricity generated by Transatomic's reactor is expected to cost a mere half as much one produced using traditional technology. According to Dewan, the reactor they've developed would also be "walk-away safe," and in an extreme contingency the salt would simply freeze into a solid mass within several hours of operation coming to a stand-still.

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Source: Industry News and Analysis, 04 July 2014.

IRAN

"Iran's Supreme Leaders Fatwa against Nuclear Weapons is Based on Quran, Jurisprudence"

Senior member of Qum Seminary's Board of Instructors Ayatollah Hassan Mamdouhi on 07 July said the Supreme Leader of Islamic Revolution Ayatollah Seyed Ali Khameneis religious decree banning production, proliferation and use of nuclear arms is based on Holy Quran, dynamic jurisprudence and Islamic traditions. Ayatollah Mamdouhi said given the firm religious basis of the Fatwa, the international community should use the decree for disarmament and banning proliferation of nuclear weapons worldwide. Member of the Experts Assembly said the Supreme Leaders religious decree sets forth a proof of the majesty and nobility of Islam. In our religious belief, using nuclear arms does not merely means a country's war on another country, rather a full-fledged war and a big treason against humanity.

Senior member of Qum Seminary's Board of Instructors Ayatollah Hassan Mamdouhi on 07 July said the Supreme Leader of Islamic Revolution Ayatollah Seyed Ali Khameneis religious decree banning production, proliferation and use of nuclear arms is based on Holy Quran, dynamic jurisprudence and Islamic traditions.

Ayatollah Mamdouhi went on to say that if nuclear weapons are used, willingly or unwillingly many innocent people and other living creatures as well as environment will be seriously damages or destroyed which is against Islam's genuine goal and injunctions.

The Ayatollah said the Supreme Leaders religious decree banning production, proliferation and use of nuclear weapons is based on rich jurisprudential sources. Nuclear arms are devastating and the damage caused by them is not restricted to enemies but to all people. Naturally, Islamic jurisprudence does not allow use of such tools. He underlined that based on jurisprudential principles, the Supreme Leader issued a fatwa prohibiting the use of such weapons under any conditions.

He advised western states and international organizations to use the Supreme Leaders fatwa and appreciate its positive outcome for mankind. The Supreme Leaders fatwa was issued at a time when the country was at the climax of glory by acquiring nuclear know-how. While showing Irans good intention, the fatwa introduces right jurisprudential stance, g based on traditions and Quranic verses, to world people.

Source: http://www.abna.ir/english/service/iran/archive/2014/07/07/622202/story.html, 07 July 2014.

NUCLEAR PROLIFERATION

NORTH KOREA

'North Korea's Nuclear Stockpile Could Rise Sharply'

North Korea can significantly increase its nuclear stockpile if a light water reactor under construction at its Yongbyon nuclear complex goes into operation, a US nuclear scientist warned, urging Washington to restart negotiations with Pyongyang.

North Korea can significantly increase its nuclear stockpile if a light water reactor under construction at its Yongbyon nuclear complex goes into operation, a US nuclear scientist warned, urging Washington to restart negotiations with Pyongyang. North Korea has so far used a 5-mw reactor at Yongbyon to make plutonium for nuclear weapons, roughly at a

speed of one bomb worth of plutonium a year. But since a few years ago, the North has been building a larger-scale light water nuclear reactor that experts say could give Pyongyang enough plutonium to make about five or six weapons a year. "From the bigger light water reactor they're making, what I'm arguing is that in principle, if that can operate effectively and at high power over every year, they could probably make 30-40 kilograms just from that reactor," Charles Ferguson, president of the Federation of American Scientists, said in an interview with Yonhap News Agency. About 6-7 kgs of plutonium is necessary to make one nuclear bomb, according to experts. Ferguson said the North could use its uranium enrichment facility to make LEU as fuel for the light water reactor, rather than directly producing weapons-grade HEU, because it can make plutonium out of spent fuel from the light water reactor. "It depends on how frequently they refuel the reactor. They can take spent, radiated fuel out of the reactor quickly within a couple of months, then the plutonium coming out is more weapons grade. That's one option for them. They can use this kind of smaller light water reactor," he said.

The North could double its plutonium stockpile within just one year of operating the reactor, he said. "Within a few years, they could have, they could start getting to the level of a state like Pakistan or India in terms of their plutonium production," he said. "That's why it is so important not to neglect North Korea but to re-engage on the political problem or to see if we can head off this production of more and more plutonium." Six-nation negotiations to end the North's nuclear program have been stalled since the last round of talks in late 2008. Since then, the North conducted two more nuclear tests, one in 2009 and the other in 2013, and restarted the 5-MW reactor that had been shut down in 2007.

South Korean officials have warned the North could carry out its fourth nuclear test at any time. North Korea has called for the unconditional resumption of nuclear negotiations. But South Korea and the US have demanded the North first demonstrate through action it stands by its own commitment to abandon its nuclear program before any negotiations reopen.

On civilian nuclear energy cooperation talks between the US and South Korea, Ferguson said there are a few options the US government can take with regard to Seoul's demand to use the so-called "pyroprocessing" technology, a reprocessing technology considered posing less proliferation risks because it leaves separated plutonium mixed with other elements.

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Seoul wants Washington to allow it to use the technology because it can reduce the headache of disposing of nuclear waste in a nation with a small territory. But Washington has been reluctant to allow South Korea to do that due to proliferation concerns. The 1974 nuclear cooperation pact, known as the 123 agreement, had been scheduled to expire in March. But the two countries extended it by two years to March 2016 as they failed to find a compromise. Negotiations to revise the pact have been under way, with the last round taking place in Washington last June. ...

"If it works – we don't know if it works, we're testing – if it works, it might allow the reduction of the volume of the waste to be stored and it can reduce the time required to store the waste," Ferguson said of how effective the technology can be. Ferguson said the US could give Seoul temporary permission to use the technology pending on the results of the study or give permission to do certain types of activities based on what the sides have learned so far from the joint study. "Another option could be we'll give you advanced consent to do these activities," Ferguson said. "You can do it for a period of time, 10 years, 20 years, 30 years. That's what the Korean negotiators want. That's their preferred option ... and it's very similar to the agreement Japan, the US agreed to in 1988."

Source: The Korea Herald, 07 July 2014.

NUCLEAR TERRORISM

IRAQ

Seized Nuclear Material in Iraq "Low Grade" – UN Agency

The UN atomic agency said on 10 July it believed nuclear material which Iraq said had fallen into the hands of insurgents was "low grade" and did not pose a significant security risk. Iraq told the UN that the material was used for scientific research at a university in the northern town of Mosul and

appealed for help to "stave off the threat of their use by terrorists in Iraq or abroad". Iraq's UN envoy also said that the government had lost control of a former chemical weapons facility to "armed terrorist groups" and was unable to fulfil its international obligations to destroy toxins kept there. An al Qaeda offshoot, Islamic State in Iraq and the Levant, took over swathes of Syria and Iraq before renaming itself Islamic State in June and declaring its leader caliph....

The IAEA "is aware of the notification from Iraq and is in contact to seek further details", IAEA spokeswoman Gill Tudor said. "On the basis of the initial information we believe the material involved is low grade and would not present a significant safety, security or nuclear proliferation risk," she said. "Nevertheless, any loss of regulatory control over nuclear and other radioactive materials is a cause for concern." Iraqi UN Ambassador Mohamed Ali Alhakim told UN Secretary-General Ban Ki-moon in a July 8 letter that nearly 40 kg (88 pounds) of uranium compounds were kept at the university. "Terrorist groups have seized control of nuclear material at the sites that came out of the control of the state," he said. However, a US government source said it was not believed to be enriched uranium and therefore would be difficult to use to manufacture into a nuclear weapon.

Russian Foreign Ministry spokesman Alexander Lukashevich said the reported seizure likely posed no direct threat. But, he said: "The sheer fact that the terrorists ... show unmistakeable interest in nuclear and chemical materials is, of course, very alarming". ... "This material is also not 'good' enough for a dirty bomb. ... Citing UN investigations dating back ten years or more, Heinonen said there should be no enriched uranium in Mosul. The Vienna-based IAEA helped dismantle Iraq's clandestine nuclear programme in the 1990s – during Heinonen's three decades there. "Iraq should not have any nuclear installation left which uses nuclear material in these quantities," he said. ... Iraq's Foreign Ministry said atomic material samples were used at Mosul university laboratories in "very limited quantities" for scientific study and research only. Iraqi authorities had started to prepare a plan to get rid of them but the security situation had prevented the work, it added.

Source: Excerpted from article by Fredrik Dahl. Reuters, 10 July 2014.

NUCLEAR SAFETY

EU

The EU Takes the Lead on Nuclear Safety with the Amendment to the Nuclear Safety Directive

The EU's new Nuclear Safety Directive was adopted on 8 July by the Council. It provides more power and independence for national regulatory authorities, a high-level EU-wide safety objective, and a European system of peer reviews. It will also introduce periodic national safety assessments and on-site emergency preparedness and response arrangements. In addition, it increases transparency and improve education and training. The 2014 directive amends the one in force since 2009. It provides a stronger framework for EU nuclear safety, as called for by the EU Heads of State or Government following the 2011 nuclear accident in Fukushima.

The European Commission welcomes the adoption by the Council of the amendment to the existing Nuclear Safety Directive. Vice-President Günther Oettinger said: "This Directive is a major contribution to enhancing the safety of nuclear installations and promoting a strong safety culture in Europe. In a region where over a quarter of electricity and over half of the low-carbon electricity produced comes from nuclear energy, it is crucial to ensure safe operation of nuclear power plants. With the revised directive, the EU shows its leadership in nuclear safety".

What's New?: The amended Nuclear Safety Directive reinforces the provisions of the 2009 directive, by:

- Strengthening the powers and independence of national regulatory authorities that supervise the activities of nuclear operators;
- Introducing a high-level EU-wide safety objective to prevent accidents and avoid radioactive releases outside a nuclear installation;
- Setting up a European system of peer reviews on specific safety issues to be carried out every six years by the Member States through their competent regulatory authorities using the European Nuclear Safety Regulators Group (ENSREG) and building on the technical expertise of the Western European Nuclear Regulators Association (WENRA). The first topical peer review will take place in 2017;
- Increasing transparency on nuclear safety matters by ensuring that information is made available to the public both in normal operating conditions of nuclear installations and in case of incidents or accidents;
- Providing for an initial safety assessment before a nuclear installation is built as well as for periodic national safety assessments, at least every ten years, to re- evaluate the safety of

the installations and identify further safety improvements;

· Enhancing the consistency of national on-site emergency preparedness and response arrangements; and

· Highlighting the importance of the human factor by promoting an effective nuclear safety culture through management systems, education and training and arrangements by the operator.

The amended directive takes account of the lessons learned from the EU nuclear stress tests and is based on various sources, such as ENSREG, WENRA or the International IAEA. It also integrates the contributions of the European Parliament and the European Economic and Social Committee as well as input by industry and civil society. Member States will have to transpose the provisions of the directive in national law within three years.

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Source: http://europa.eu/rapid/press-release_IP-14-777_en.htm, 08 July 2014.

JAPAN

Nuclear Safety Expenditures Top ¥2 Trillion

The cost of taking nuclear safety measures at the nation's 10 major power companies has reached ¥2.2 trillion, the latest tally said 05 July, up 1.5-fold from a year ago. Most of the costs involve complying with the new safety standards introduced in July 2013 as a result of the Fukushima disaster triggered at Tokyo Electric Power Co.'s old Fukushima No. 1 plant by the March 2011 mega-quake and tsunami. With some companies planning additional safety measures, the costs are expected to grow further, industry sources said. The utilities comprise all of the regional power providers and Japan Atomic Power Co., but exclude Okinawa Electric Power Co., which has no reactors.

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The data cover the costs that the utilities have incurred since the Fukushima disaster, but only partially include Tepco's costs, which date back to the powerful earthquake that struck central Japan in 2007. Before restarting, all reactors must comply with the new safety regime set up by the Nuclear Regulation Authority. This includes installing equipment and building facilities to help the power plants withstand major quakes and tsunami. The costs have ballooned from the utilities' initial estimates because some of them are being asked to do more by the NRA, the sources said.

Tepco applied for NRA safety screenings of the No. 6 and 7 reactors at the giant Kashiwazaki-Kariwa power plant in Niigata last September. The beleaguered utility saw safety costs grow to ¥470 billion from ¥320 billion estimated in July 2013 as it added plans to install filtered vents, as required by the new standards, and enhanced measures for fires. Filtered vents will reduce the danger of releasing radioactive steam from reactor containment vessels during severe nuclear accidents. Chubu Electric Power Co., which applied for an NRA safety screening for the No. 4 reactor at its Hamaoka nuclear plant in Shizuoka Prefecture, now expects to spend ¥300 billion on safety measures, compared with ¥150 billion as of July 2013.

The measures include building a 22-meter breakwater and reinforcing pipes to prepare for a potential earthquake in the Nankai Trough off the Pacific coast. Kansai Electric Power Co.'s expenses are now estimated at ¥297.5 billion, up slightly from ¥285 billion the year before. Kepco has applied for NRA screenings for reactors 3 and 4 at its Oi nuclear plant and units 3 and 4 at its Takahama plant, both in Fukui Prefecture. But Kansai Electric may face a surge in safety costs because it plans to make stronger earthquake projections than currently available. Tohoku Electric Power Co., which kept its safety costs unchanged, said they will eventually rise. Utilities are likely to face pressure to engage in more cost-cutting because the nuclear safety expenditures are likely to force them to hike prices.

Source: The Japan Times, 05 July 2014.

Japan Signs Protocol on Heightened Nuclear-Material Security Standards

An international pact on heightened security standards for nuclear materials got one step closer to being implemented when Japan signed on late last June. The island nation's signing of the Amendment to the Convention on the Physical Protection of Nuclear Material means that another 22 countries are required to do the same before the pact can enter into force, according to a 04 July IAEA press release. To date, 77 nations have signed the amendment, which was drafted in 2005 and requires signatories to take certain steps to safeguard civilian atomic facilities and stockpiles of nuclear material. The measures apply to material in active use, in storage and in transit. The amendment also provides a framework for nations to cooperate in rapidly responding to incidents where atomic materials go missing or are stolen.

The United States has yet to ratify the amendment, as implementing legislation remains stuck in Congress. IAEA Director General Yukiya Amano in a 07 July speech in Vienna said achieving the entry into force of the amendment was "a major piece of unfinished business in international efforts to ensure that nuclear material is properly secured." Miles Pomper, a senior research associate with the James Martin Center for Nonproliferation Studies, in a 07 July phone interview said the immediate impact of Japan signing the amendment would be minimal until the accord goes into effect. "These things are only as good as your domestic regulations are," he said. "But it's one more sign that the Japanese are taking nuclear security more seriously."

Japan possesses one of the world's largest stockpiles of civilian plutonium, which has become a source of concern for non-proliferation advocates and neighbors such as China. In an attempt to prove its non-proliferation bona fides, Tokyo earlier 2014 pledged to repatriate to the United States hundreds of kgs of weapons-sensitive atomic substances. Henry Sokolski, executive director of the Non-proliferation Policy Education Center, argued the real non-proliferation concern in Japan lies outside the scope of the materials-security convention altogether – namely, that Tokyo might one day decide to develop nuclear arms. "While it certainly would be churlish to dismiss any upgrades to nuclear security, it also would be a mistake to think that this is a major leap forward in the prevention of the possibility of nuclear use," he told *Global Security Newswire*. "It's a step forward, and not a leap." Pomper said Japan's signing of the amendment could help build critical momentum toward getting the remaining holdouts, such as Washington, to ratify the 2005 provision.

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Source: NTI, 07 July 2014.

UK

Safety Alert Shuts Down Torness Nuclear Reactor

A nuclear reactor at Torness Power Plant has been shut down after a safety alert was triggered. The incident at the plant, which is one of Scotland's main power stations, happened just weeks after £30 million was spent on the same reactor to get it back online. The shutdown means the power station is now only pumping out around a quarter of the energy it usually produces as the second reactor is currently working at a reduced capacity ahead of scheduled maintenance work. It is not yet clear how long the reactor will be offline with operators, EDF, being unable to give a timescale.

However, they did insist there was no danger to the public. A spokeswoman for the firm said the unit had been shutdown "due to an issue with the electrical system within our conventional plant" and that the operations team took "prompt action, putting safety first". "The reactor will be returned to power as soon as testing is satisfactorily completed," she added. The plant, which is now 25 years old, was shut down in 2013 when an upsurge in seaweed sparked fears it could clog the cooling water intake system. In 2011, both reactors were also shut down after high volumes of jellyfish were found on seawater filter screens.

Source: Edinburg News, 02 July 2014.

NUCLEAR WASTE MANAGEMENT

GERMANY

Resistance Grows Against German Nuclear Waste Transport to US

Elected officials and anti-nuclear activists on both sides of the Atlantic are raising alarm against a US-German proposal to ship nearly 1 ton of German nuclear waste to the southern US state of South Carolina. Critics accuse Washington and Berlin of practicing secrecy and deception to sell the deal by claiming the waste was from research reactors, not commercial plants. They allege that Germany's nuclear waste could even produce weapons-grade material for the US. "I can no longer accept the blanket of secrecy that (Germany's) Federal Ministry of Research has thrown over this affair," Silvia Kotting-Uhl, spokeswoman for nuclear affairs in the GrSeens parliamentary faction, told dpa 08 July.

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At issue is whether the Savannah River Site, an 800-square-kilometre facility operated by the US Energy Department, can accept what US officials say would be 900,000 tennis ball-sized, graphite pebbles of spent nuclear fuel from Germany's interim waste storage facilities at Juelich, near Aachen, and Ahaus, near the Dutch border. Nuclear oversight authorities in the German state of North Rhein-Westphalia, home to both sites, ruled that Juelich may no longer store its 288,000 pebbles of radioactive material because the facility is not earthquake-proof. The remaining some 600,000 pebbles are stored at Ahaus, US activists said. In April, US and German officials signed a notice of intent that proposes that the US will both process and dispose of Germany's used fuel.

Since December 2012, the German government has paid 10 million dollars to the Savannah River National Laboratory to develop technology to separate weapons-grade, HEU from the graphite, according to Julie Petersen, a public affairs staffer at the Savannah River Site. Another German payment of 450 million dollars to cover processing and disposal of the fuel is expected later, German news magazine Spiegel reported. "We do not want foreign nuclear waste dumped in South Carolina, when the best way forward is for Germany to follow its own law that requires domestic disposal," Tom Clements, an environmental scientist who leads the Savannah River Site Watch group, told dpa. "Germany's confused if it thinks we're a nuclear disposition site."

Both reactors were experimental, high-temperature pebble bed reactors, a type no longer used in the industry. The US environmental assessment will likely be finished by year's end, and if it comes up negative, US officials say they would conduct a full environmental impact study. German officials say the deal would be justified under the non-proliferation efforts of the US

The South Carolina site – just 32 kilometres from historic Augusta, Georgia, home of the Masters Golf Tournament – already stores 140 million litres of highly radioactive and toxic waste in aging tanks. A permanent, deep underground storage site for nuclear waste in the desert state of Nevada has been bogged down in politics for decades. Built during the 1950s to produce nuclear weapons material – tons of still usable weapons material is stored onsite – the Savannah River Site now also works on projects such as converting weapons-grade material back into fuel for nuclear power reactors and getting the most use out of nuclear waste. The environmental organization Greenpeace warned that export plans would violate Germany's nuclear laws and present high risks during transport.

"The order (by North Rhein-Westphalia) to vacate the interim site is an illegal attempt to evade responsibility for nuclear waste produced in Germany," Greenpeace nuclear expert Heinz Smital said. Germany forbids the export and the US forbids the import of waste from commercial reactors. Greenpeace, along with US activists, note that even the IAEA calls the Juelich facility "a commercial reactor and not a research reactor." Under the US Atoms for Peace programme of the 1950s, the US sent nuclear material abroad for research and agreed to take it back. From 1963 to 1989, more than 12,000 spent fuel elements were returned from abroad, according to an IAEA report.

US and German officials insist the two reactors where the waste was produced – Arbeitsgemeinschaft Versuchsreaktor (AVR) in Juelich and the THTR-300 in Ahaus – were research reactors. Clements says there is evidence they were commercial reactors that sold electricity into the grid. Both reactors were

experimental, high-temperature pebble bed reactors, a type no longer used in the industry. The US environmental assessment will likely be finished by year's end, and if it comes up negative, US officials say they would conduct a full environmental impact study. German officials say the deal would be justified under the non-proliferation efforts of the US, which in 2010 launched the Nuclear Security Summits to secure dangerous weapons-grade material from terrorists.

Clements noted that the HEU would be safer imbedded in its graphite balls than once released. The Savannah River facility is not under the control of the Nuclear Regulatory Commission, nor monitored by the IAEA, and only the US Energy Department has oversight. "No one will monitor if the material (freed from graphite balls) is diverted to nuclear weapons," Clements said. In South Carolina, state Senator Vincent Sheehen, a Democratic candidate for governor, summed up the fears of some South Carolinians. "We'll all be dead," he quipped, "and those radioactive German spheres will still be here."

Source: London South East, 09 July 2014.

USA

Lab Confirms Nuclear-Waste Packing Errors, but Jury Out on Cat Litter

A New Mexico laboratory said it improperly packed nuclear waste that later leaked, but withheld judgment on using organic cat litter, the AP reports. Los Alamos National Laboratory also did not indicate whether any of its packing errors contributed to a Feb. 14 container breach at the Waste Isolation Pilot Plant near Carlsbad, AP reported on 04 July. The incident spread contaminants to 22 workers and forced normal operations at the site to cease. Laboratory personnel overlooked rules when they started packing waste containers with organic cat litter, in place of an inorganic version of the absorbent, Los Alamos officials said in a 03 July communication to state environment officials.

The organic material's link to the leak remained uncertain, because hundreds of studies have failed to replicate a thermal reaction that the substance is theorized to have caused in the ruptured container. Still, the procedural lapses were "unacceptable," according to written comments by Terry Wallace, the laboratory's principal associate director for global security. Investigators "identified certain conditions that might potentially cause an exothermic reaction inside a drum. Among them are neutralized liquids, a low pH and the presence of metals," Wallace wrote.

"The low PH findings should have prompted a pause in work to ensure appropriate technical and regulatory reviews of next steps," he said. The laboratory's packaging contractor, though, said it saw no link between the leak and the materials it used to prepare containers, the *Albuquerque Journal* reported on 03 July. "We don't believe the combination we put into the drums, we don't think it has the ability to start burning on its own," said Miles Smith, vice president of southwest operations for the firm Energy Solutions.

Source: NTI, 7 July 2014.

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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