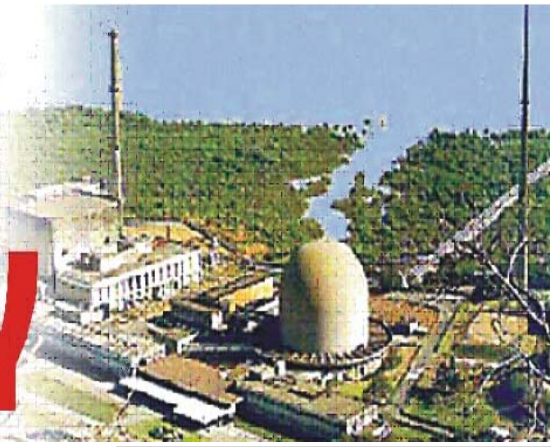
NUCLEAR SECURITY



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

vol. 7, no. 22, 15 September 2013

STATEMENT – Rose Gottemoeller

The Prague Agenda in 2013 - Challenges and Prospects

... There is no doubt that we live in interesting times, but I don't accept the inevitability of uncertainty and danger. We have the power to control and shape our future. We are able to see the challenges facing us and to find ways to overcome those challenges. That is exactly what President Obama had in mind when he came to Prague four years ago to speak about America's intent to seek the peace and security of a world without nuclear weapons.

His vision which we call the Prague Agenda was actually a continuation of the path set forth by previous Presidents.... The responsibility is ours to bear, but we are facing new and different threats. While the likelihood of a large-scale nuclear exchange has fortunately diminished through decades of cooperative, but also challenging disarmament work between Moscow and Washington, nuclear dangers have not disappeared. The threat posed by the spread of nuclear materials and technologies remains. The possibility that terrorists or other non-state actors could acquire a nuclear weapon ensures that the nuclear "Sword of Damocles" still hangs over us. While our nuclear arsenals have little direct relevance in deterring these threats, concerted action by the US and Russia – and indeed, from all nuclear states – to reduce their weapon stockpiles and fissile material will strengthen the nuclear nonproliferation regime. A strong nonproliferation regime makes nuclear theft, unauthorized use and proliferation harder. The ultimate solution is straightforward: take away the tools – fissile materials and nuclear weapons – and you mitigate ultimately the threat.

Of course, that is much easier said than done. President Obama made it clear in the Prague Speech that the road to a world without nuclear weapons would be long and the goal may not be reached in his lifetime. To achieve success, we will need to follow a step by step process in which we maintain nuclear stability at the same time that we pursue responsible reductions in our nuclear capabilities through a number of measures, some of them quiet, and some of them front and center on the world stage.

The New START Treaty, signed here in Prague in April of 2010, was one of those front and center accomplishments, both in its negotiation and its entry into force. Now I am happy to tell you that its quiet, deliberate implementation is going smoothly behind the scenes, providing for mutual predictability and stability on the nuclear front. This is important in any day and age, but especially important in these days when we and the Russians must ensure that we are wisely spending our scarce defense resources.

Another accomplishment on the quiet front is the work that Russia and the US have done to eliminate fissile material from warheads. Over the past twenty years, we have together eliminated the highly enriched uranium from approximately 20,000 warheads. The HEU has been transformed into low-enriched fuel and sold to power plants in the US. Did you

While the likelihood of a large-scale nuclear exchange has fortunately diminished through decades of cooperative, but also challenging disarmament work between Moscow and Washington, nuclear dangers have not disappeared. The threat posed by the spread of nuclear materials and technologies remains. While our nuclear arsenals have little direct relevance in deterring these threats, concerted action by the US and Russia – and indeed, from all nuclear states – to reduce their weapon stockpiles and fissile material will strengthen the nuclear nonproliferation regime.

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know that today 10 percent of the electricity generated in the US is from former Soviet nuclear weapons? That's a lot of warheads turned to peaceful purposes.

But it is not enough: the US and Russian Federation still possess over ninety percent of the nuclear weapons in the world. This June 2013, President Obama spoke in Berlin about the next steps in the Prague Agenda. I will focus today on what he said about nuclear reductions. The President announced in Berlin that "we can ensure the security of America and our allies, and maintain a strong and credible strategic deterrent, while reducing our deployed strategic nuclear weapons by up to one-third."

Another essential element to the step-by-step process is reducing the role that nuclear weapons play in national security strategies. That is why the President's new nuclear employment guidance directs the US Department of Defense to align its planning with the US policy that the use of nuclear weapons will be considered only in extreme circumstances to defend the vital interests of the US and its allies and partners. In addition, the new guidance directs strengthening non-nuclear capabilities and reducing the role of nuclear weapons in deterring non-nuclear attacks.

He also said that we would seek bold steps to reduce non-strategic nuclear weapons in Europe. How we go about these further reductions is not a matter only for Washington and Moscow, but also must involve close consultations with our allies. This work has already begun in Brussels at NATO and in other allied capitals in Europe and Asia.

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No secret: our efforts to move forward on the next steps are proceeding slowly; many issues of strategic stability and beyond are taking up the metaphorical "dialogue space." This does not mean we stop trying to move ahead. Even in the darkest days of the Cold War, the US and Russia found it in our mutual interest to work together on reducing the nuclear threat. Through creativity, patience and persistence, we have had many successes and together have contributed to a safer world.

When New START is fully implemented in 2018, we will be at the lowest levels of deployed strategic nuclear warheads since the 1950s – pre-Cuban Missile Crisis. That is quite a feat, but we have more to do. There is one simple reason to move to the next step – it is in our mutual interest, in political, security and budgetary terms....

Source: Gottemoeller is Acting Under Secretary for Arms Control and International Security, US Department of State. Excerpted from http://www.state.gov/, 06 September 2013.

STATEMENT – Jen Psaki

Pakistan Nuclear Security

We welcome Pakistan's statement 03 September 2013 that it is fully committed to the objectives of disarmament and non-proliferation. The US is confident that the Government of Pakistan is well aware of its responsibilities and has secured its nuclear arsenal accordingly. While there is room for improvement in the security of any country's nuclear programs, Pakistan has a professional and dedicated security force that fully understands the importance of nuclear security.

We recognize that Pakistan is fully engaged with the international community on nuclear safety and security issues, and is working hard to ensure its strategic export controls are in line with international standards. Pakistan is a state party to both Chemical Weapons Convention and Biological Weapons Convention and is a partner in the Global Initiative to Combat Nuclear Terrorism.We have regular discussions with the Government of Pakistan on a range of issues on important shared interests, including nuclear security, counterterrorism and fostering a stable Afghanistan. We will continue to work together to find ways to cooperate to make Pakistan and the region more secure, stable and prosperous.

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Source: Author is Spokesperson, US Department of State. http://www.globalsecurity.org/, 04 September 2013.

OPINION – Gaurav Kampani

The Nuclear Conundrum

Three months ago, India's former foreign secretary and current coordinator of the National Security Council Advisory Board, Shyam Saran, took the unusual step of publicly taking on critics of India's nuclear capabilities. These critics have long cited the inability of successive governments to address the many technical and organisational lacunae in India's operational capabilities as the reason why they believe India's nuclear foray is a prestige-driven enterprise.

Contradicting this, Saran maintained that Delhi's operational nuclear capabilities were robust and rooted firmly in the realist national security canon. The critics have rightly drawn attention to glaring deficiencies but their insistence that such deficiencies flow from India's obsession with the symbolic aspects of nuclear weaponry ignores a decade of developments in technical and organisational capacities. Similarly, Saran's overly positive appraisal of India's nuclear muscle glosses over many operational concerns of the military. These concerns span technical reliability, institutional coordination between civilian and military authorities, and intra-military organisational cooperation. Analysts generally assign the Indian arsenal a low reliability score. Reliability simply means the statistical probability with which a weapon will perform according to its designed specifications.

Underperformance: There is credible evidence to suggest that India's thermonuclear weapon design underperformed in 1998. The evidence also shows that the boosted fission trigger for the thermonuclear device performed below par. The only weapon that performed "like a song" was a simple Hiroshima-type weapon. Nonetheless, India's nuclear establishment insists that everything is well with India's nuclear arsenal; that the arsenal consists of fission warheads along with their more lethal thermonuclear and boosted fission cousins. Alongside warhead reliability problems, the launch failure rate of ballistic missiles in India's Agni series is 20 per cent to 40 per cent, a rough calculation based solely on test-launch data. Flight tests involve many things such as boost-phase spin, stage separation, re-entry, warhead performance and accuracy. Data for each of these categories is unavailable in the public domain.

Yet, all things considered, we should reasonably expect that subsystems must suffer failure too. Over time, repeated flight tests can resolve reliability problems. However, India's scientific agencies insist that computer simulations and tests of components and subsystems on the ground are a cheaper method of solving reliability problems than fullscale launches. The Indian military disagrees but is unable to force the scientific agencies to do its bidding.

Technical reliability apart, the institutional disaggregation between civilian and military agencies remains a major roadblock in the path of smooth operational employment of the nuclear force. During peacetime, two scientific agencies, the BARC and the DRDO, individually control the non-fissile trigger assemblies and fissile cores that make up a nuclear weapon. The armed services have custody of the delivery systems. Procedures exist to fuse all these components into an integrated force during crisis alerting and wartime.

In India's case, two different agencies will coordinate warhead assembly from different locations. Delivery systems will deploy from peacetime hides to launch sites simultaneously. The scientific and military teams will then rendezvous to integrate weapons with delivery systems. All this movement will occur over a distance of hundreds, if not thousands of kilometres.

Divided control: To be sure, this divided system of control is a great passive safety innovation. It prevents the unauthorised use of nuclear weapons. But what works best during peace does not work equally well during war.... In India's case, two different agencies will coordinate warhead assembly from different locations. Delivery systems will deploy from peacetime hides to launch sites simultaneously. The scientific and military teams will then rendezvous to integrate weapons with delivery systems. All this movement will occur over a distance of hundreds, if not thousands of kilometres. Different components of the arsenal and their associated teams will travel by rail, road and air networks separately.

During the Kargil war and the 2001-02 military stand-off with Pakistan, it took the Indian military far longer to bring the nuclear force up to operational readiness than stipulated. Today, neither the military nor the scientific agencies have the authority to coordinate action. Only the NSA in the prime minister's office has that authority, in effect making him the institutional bottleneck for all aggregating decisions. The arsenal's disassembled state superimposed on weakly coordinated organisational links and compartmentalised standard operating procedures, therefore, creates a high risk for logistical failure.

Ironically, weak intra-military cooperation has even greater potential for tensions and gridlock. This is because the

army, the air force and the navy each retain independent control over nuclear-capable missiles and aircraft with no central military authority to command them. The three military chiefs of staff sit together in the COSC and the senior most among them serves as the committee's chairman by rotation. But the chairmanship comes with nominal authority. Each service chief is a co-equal on the COSC and none interferes in the affairs of another service. One proposed solution to this problem is the appointment of a chief of defence staff who would preside over the COSC, coordinate military planning, and command India's nuclear forces. However, successive Indian governments have allowed this proposal to languish.

Military cooperation: Military cooperation among the three services is the domain of the IDS, which serves as the secretariat of the COSC. Within the IDS, nuclear planning and coordination are the province of the SFC, the organisation created especially to manage nuclear forces. Although the SFC is organisationally part of the IDS, it is kept functionally insulated within it. The SFC commander reports exclusively to the rotating chairman, COSC, who neither has time to devote sufficient attention to nuclear affairs nor the power to order his fellow chiefs around. This has two negative consequences. First, there is weak coordination between the conventional and nuclear arms of the military. Second, all intra-military conflicts involving nuclear matters are resolved at the level of the NSA. In effect, the NSA has become the de facto commander of India's nuclear forces, bypassing the military's operational chain of command.

The state of India's operational capabilities is a case of glass half-empty or half-full depending on the views of the observer. The critics who believe the glass is half-empty have failed to acknowledge the changes in the way India manages its nuclear business. But Saran's argument is also problematic, offering a brave front on a critical national security issue. Unless India's national security managers acknowledge and address problems of operability in India's arsenal candidly, a continued state of deterrence instability will obtain in Asia.

Source: The Hindu, 10 September 2013.

OPINION – Meena Menon

Pakistan Reiterates its Credible Minimum Deterrence

The NCA meeting chaired by PM Nawaz Sharif reviewed developments at the regional level and reiterated that, as a responsible nuclear weapons state, Pakistan would continue to adhere to the policy of Credible Minimum Deterrence, without entering into an arms race with any other country. However, it will not remain oblivious to the evolving security dynamics in South Asia and would maintain a full spectrum deterrence capability to deter all forms of aggression, according to an official statement.

The meeting underscored Pakistan's commitment to play its due part as a mainstream partner in the global non-proliferation regime, and renewed Pakistan's keen interest in joining the multilateral export control regimes on non-discriminatory basis, the statement pointed out. Pakistan has the requisite credentials for full access to civil nuclear technology for peaceful purposes to meet its growing energy needs for continued economic growth. The meeting noted the importance of Pakistan's positive outreach and enhanced engagement with all the multilateral export control regimes including membership of the NSG.

The NCA emphasised that Pakistan will continue to participate constructively in the Nuclear Security Summit (NSS) process. As a responsible nuclear weapons state with advanced technology and four-decade long experience in safe and secure operation of nuclear power plants, Pakistan is ready to share its expertise with other interested states by providing fuel cycle services under IAEA safeguards and by providing training placements at its Centres of Excellence on nuclear security, the statement said....

The NCA reaffirmed the centrality of Pakistan's nuclear programme for the defence of the country and reposed full confidence in Pakistan's "robust" nuclear Command and Control structure and all the security controls related to strategic assets of the country. The NCA also reviewed the developments at the international level and took note of the discriminatory trends and policies that could have serious implications for Pakistan's national security and

the global non-proliferation regime. The NCA reiterated that while maintaining its principled position on various arms control and non-proliferation issues, Pakistan would continue to oppose any arrangement that is detrimental to its security and strategic interests. As for the proposed FMCT, Pakistan's position will be determined by its national security interests and the objectives of strategic stability in South Asia, the statement added.

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Earlier, Ministry of Foreign Affairs spokesperson Aizaz Ahmad Chaudhry had countered a Washington Post article which said that a on US intelligence community's 'black budget' by reiterating Pakistan's commitment to disarmament and non proliferation. "A 178-page summary of the US intelligence community's "black budget" shows that the US has ramped up its surveillance of Pakistan's nuclear arms, cites previously undisclosed concerns about biological and chemical sites there, and details efforts to assess the loyalties of counter-terrorism sources recruited by the CIA"....

Source: The Hindu, 09 September 2013.

OPINION – Christine M. Leah and Bradley A. Thayer

The End of Strategic Stability in the Asia-Pacific?

The strategy of Extended Nuclear Deterrence (END) is not what it should be. This is, perhaps, not very surprising, given that the degree of threat is the most important driver of such capabilities. As Soviet power waned, there was less need to devote the time and energy to extended nuclear deterrent capabilities.

Accordingly, the US was able was reduce its forces and take a "holiday" from the demands of END against a peer competitor. With the expansion of Chinese power, and with nuclear strategy and deterrence again becoming relevant to the Asian great-power game, a wider range of options to deal with any potential conflict is necessary. As such, Washington may have to seriously consider re-nuclearising its military and re-introduce medium-range and tactical nuclear weapons into its Pacific force.

The growth of Chinese military power will require a credible US END posture to reassure its friends and allies, to prevent destabilising nuclear proliferation, and ameliorate the intense security competition in Asia. Chinese military thought suggests that Beijing does not see nuclear weapons as solely a small, minimal deterrent but as useable forces to be employed at the right time against the US China is expanding its nuclear and missile forces, and these are increasingly capable of threatening Japan – including Okinawa – and Guam.

Advancing US strategic interests: America's superpower status depends on possessing a robust extended deterrent capability in order to advance its strategic interests, including providing for the security of its allies. Whilst the US has sufficient strategic nuclear forces on-hand, these need to be supplemented by smaller nuclear forces that broaden the ladder of conflict escalation. Such smaller US nuclear forces no longer exist in Asia, after President H.W. Bush withdrew US tactical nuclear weapons from the region in the early 1990s. Today, the Asia-Pacific military balance is shifting, and a posture that does not allow for flexibility of response undermines the credibility of US END.

Extended nuclear deterrence, a seemingly simple task, is still difficult to achieve. It involves convincing a challenger that the consumer of END represents a vital interest to the defender; there should be no doubt that the "assuror" is resolute in protecting its potentially threatened friends and allies. The strength of END, however, rests first and foremost on its credibility – basic deterrence, second strike capabilities, assured destruction, first use (even if officially denied), targeting flexibility, etc. – and especially on its war-fighting abilities as they relate to the spectrum of strategic warfare, escalation control, and escalation dominance.

The ability and willingness to "fight" a nuclear war, or at least control both conventional and nuclear escalation, falls into that logic. As such, a certain level of conventional capabilities and, in particular, the regional deployment of tactical nuclear capabilities are needed to prevent an automatic escalation to the strategic nuclear level.

Need for credible US END posture

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forces to be employed at the right time against the US China is expanding its nuclear and missile forces, and these are increasingly capable of threatening Japan – including Okinawa – and Guam. Recent reports also suggest China is on the verge of having a credible sea-based nuclear capability, with five submarines capable of launching JL-2 nuclear-armed missiles with a range of several thousand kilometres.

Whilst the numbers for 2013 are omitted from this year's report, the assessment of the DIA is that China's nuclear arsenal consists of roughly 50-75 ICBMs, including the silo-based DF-5, the road-mobile DF-31 and DF31-A, and the DF-3. As of 2012, China is said to have 75-100 MRBMs, 5-20 IRBMs, and 1000-2000 GLCMs.

Asia's future resembling Europe's past?: Consequently, if US END is to be credible, Asia's future may yet need to resemble Europe's past. As the front line of conflict gets closer to the consumers of extended deterrence, the supplier (i.e., the US) will also need to become more intimate. American deterrence looks a lot better if the US has physical valuables on one's territory: troops, weapons, bases, facilities. Europe, Japan, South Korea, Taiwan, the Philippines, and Thailand all understood this during the Cold War, and both the American and Australian governments acknowledge that deployed forces make an unambiguous statement about US commitment and priorities, and complicate the planning of any prospective belligerent in the region.

Beijing has, of course, one important advantage over Washington, and that is the fact that China is not a party to the INF Treaty. Under the provisions of this treaty, the US cannot deploy ground-launched ballistic missiles with a range of 500 to 5000km. Given Russia's own concerns about the possible military implications of rising powers in Asia, Washington and Moscow might be able to strike a deal to revise the provisions of the treaty so that it better reflects and helps deal with the emerging nuclear reality in the Asia-Pacific.

It would not, therefore, be unrealistic for the US and its Asian allies to seriously reconsider the possibility of forward deploying short-range nuclear forces in the region. The Armed Services Committee of the US House of Representatives actually raised this possibility last year. At the very least, Washington could redeploy tactical nuclear weapons systems aboard some of its attack submarines and aircraft carriers, without necessarily specifying which ones....

Source: Leah is currently a Visiting Research Fellow with the Military Transformations Programme at the S. Rajaratnam School of International Studies, Nanyang Technological University; Thayer is Professor and Head of the Department of Political Science at Utah State University. http://www.thejakartapost.com/, 01 September 2013.

OPINION – S. Nagesh Kumar

In Nuclear Slowdown, Smaller is Better

The future of energy is nuclear so goes a pithy one-liner meant to promote this multibillion dollar industry in the US, considered a world leader in the field from the standpoint of its safety record and export of high technology equipment. That promo by the Nuclear Energy Institute ... would sound logical considering that energy shortages are affecting millions of people, both in the developing and developed world. This lobby would have us believe that a new wave of construction nuclear plants will begin after 2020, depending upon the success of the handful being built now.

Nobody in the US is talking of building large new nuclear reactors costing $8 billion a piece. Rather, the way forward could be small and marginal reactors costing half that amount. In fact, the Westinghouse-led consortium is manufacturing 23 reactors in China, in an apparent attempt to rein in costs.

Reality is different: The reality is different. The graph of nuclear power generation is headed downward. According to David M. Farr, Director of WANO, though it would be wrong to sound the death knell for the industry, the fact remains that between two and five nuclear energy units may close down within five years. Two units of the San Onofre plant in California and one unit (550MW capacity) of the Wisconsin plants are presently being shut down as the cost of replacing the outdated or damaged equipment simply does not make commercial sense.

At present, only five nuclear power units are under construction two each in Vogtle and South Carolina and one in Tennessee. Nobody in the US is talking of building large new nuclear reactors costing $8 billion a piece. Rather, the way forward could be small and marginal reactors costing half that amount. In fact, the Westinghouse-led consortium is manufacturing 23 reactors in China, in an apparent attempt to rein in costs.

A variety of reasons which India is watching closely are responsible for the US nuclear slowdown, a significant one being the absence of subsidy as in Russia and India

where the industry is totally in the public sector. The turning point for the nuclear power industry was the Three Mile Island accident in March 1979 which triggered a plethora of controls, rigorous licensing systems and a complete rethink about the way the US looks at nuclear energy. For instance, the combined construction permit and operating license (COL) for a plant can take up to 10 years now. With safety and security reaching the point of obsession, most of the 100 plants in the country today are those that were licensed in the 1960s and 1970s.

Other energy sources: No less is the challenge being posed by the discovery of huge reserves of natural gas estimated at 24.4 TCM. Its price has fallen from $8-12 to $2-3 per mmbtu, a cost that makes nuclear power uncompetitive, though shale gas production is encountering issues of safety and environmental protection. "We are a dirty America," said Mr. Warr, adding on a more serious note that the US did not want to place all its eggs in one basket either nuclear, natural gas or coal. Its best bet in the unfolding energy scenario was to spread its resources.

Storage: An already complex situation in the US has been compounded by the lack of consensus on how to store 68,000 tonnes of spent fuel lying in concrete casks on the premises of nuclear plants. Worse still, this quantity is increasing by 2,000-3,000 tonnes every year. Although a sum of $28 billion is available in a trust fund created to tackle this problem, a move to store the fuel in a repository in the Yucca mountains in Nevada State failed. The failure is blamed on politics. While US President Barack Obama has since constituted the Blue Ribbon Commission to recommend ways to store/dispose of nuclear waste, it may take decades to translate the proposals into action.

These issues naturally make Americans look beyond their shores to market nuclear power equipment, especially the AP1000 unit being built by Westinghouse in China. It has a unique design for safety mechanisms to kick in even if auxiliary power fails as it happened at the Fukushima Daiichi plant in Japan. India is obviously seen as a huge market for these reactors.

Liability Act: During US Secretary of State John Kerry's India visit...the American side barely hid its disappointment over the slow pace of progress in reaping the benefits of the India-US civil nuclear energy deal. On top of this, there is the Nuclear Liability Act though criticized for being subsequently diluted under US pressure which holds the equipment and fuel supplier liable to pay damages in the event of an accident.

Yet, as international diplomacy has to factor into India's domestic compulsions, the joint declaration just said that over the past year, negotiations leading to the construction of nuclear power plants in Gujarat (Mithivirdi) and Andhra Pradesh (Kovvada) have continued with notable progress being made in land acquisition. The US Nuclear Regulatory Commission would assist India's AERB to certify and licence the operations in India of US-origin nuclear power plants.

What does all this mean to India where power shortage for 2013-14 is estimated at 6.7 per cent but where there is stiff public resistance to new power plants? Is the US fazed or frustrated by these developments in the attempts of its companies to push reactor business, more so after the two countries signed the 123 nuclear agreement some years ago?

Hardly, says Dick Stratford, Director, Office of Nuclear Energy, Safety & Security at the US Department of State. "Issues need to be resolved. I wouldn't say we are frustrated but the US Government and suppliers want progress.... Other officials are more blunt in their opposition to the Act for several reasons. It will push up the cost of power; the suppliers, including Indian, will be made liable to pay millions of rupees for a long period for faulty equipment that cost just a few hundreds of rupees, and lastly, the liability fixed is well above the guidelines laid down in the Vienna convention. It is the plant operator and not the supplier who should be made liable, they say....

Against this web of nuclear energy-related issues, the leak of radiation-contaminated water at a damaged plant at Fukushima Daiichi recently raises new safety questions because the US nuclear establishment has been fully engaged with Japan in containing the fallout of the tsunami-triggered disaster since 2011.

Source: The Hindu, 07 September 2013.

NUCLEAR STRATEGY

UK

NATO: UK Nuclear Might 'Crucial'

Britain must not take advantage of the winding down of operations in Afghanistan to trim spending on defence, the head of Nato has warned. Anders Fogh Rasmussen said European powers risked being marginalised unless they invested in more military capacity. The secretary general also indicated that the UK's nuclear deterrent - which the Liberal Democrats would like to see downgraded - remains "crucial" to the alliance. Spending levels on defence have been a long-standing source of tension between Nato members. While Britain has maintained budgets above the recommended 'benchmark' of 2% of GDP, other nations such as Germany and France have not.

The shortfall has left the US shouldering the majority of the burden in the alliance's operations.

Rasmussen said the action in Libya had demonstrated that Nato's European members needed more drones, heavy transport vehicles, and air-to-air refuelling capability. He also suggested that more money should be put in to protecting against cyber attacks. "The resources that will be freed up in Afghanistan should be used to invest in modern military cababilities," he said. "I am very concerned about the declining defence budgets...."

Asked about suggestions that Britain could downgrade its nuclear deterrent, Mr Rasmussen stressed its continuing importance. "It is crucial. We have clearly stated in our strategic concept that we continue to pursue defence policies based on an appropriate mix of nuclear and conventional forces.

"But this is also about the strategic role of Europe on the world stage. If the current trend continues Europe will not be able to participate in international crisis management in the future - and the vaccum will be filled by the emerging powers that are investing more and more in defence and security. So a lot is at stake, particularly for the European allies and I urge them to increase defence investment as our economies recover."

... Asked about suggestions that Britain could downgrade its nuclear deterrent, Mr Rasmussen stressed its continuing importance. "It is crucial. We have clearly stated in our strategic concept that we continue to pursue defence policies based on an appropriate mix of nuclear and conventional forces," he said. "I am not going to interfere with national decisions. I am sure that the British government will live up to all obligations within Nato." Despite the civilian death toll in Afghanistan rising by a quarter in the first half of this year, the secretary general expressed faith that the country would remain stable after Nato troops pulled out. ...

Source:http://www.express.co.uk/news/world/428246/Nato-UK-nuclear-might-crucial, 10 September 2013.

USA

Since Hiroshima, We've Built 125,000 More Nuclear Bombs

In August 1945, the US military dropped the most devastating weapon ever built on Hiroshima, Japan. Then it dropped another one on Nagasaki. Nearly 60 years later, the impact of those two bombs is still seared into our collective consciousness; they stirred up a persistent nuclear nightmare we have yet to awaken from. But we haven't stopped building the bombs.

A new report from the *Bulletin of the Atomic Scientists*, "Global nuclear weapons inventories, 1945–2013," says that since that fiery event at the tail end of World War II, human beings have built 125,000 more nuclear warheads. And 97 percent of them were built by the US and Russia.... There are nine nations with confirmed nuclear stockpiles, and those with smaller arsenals—or those, like Israel, that haven't really fessed up to having any at all—are harder to count.

The US alone built 65,500 warheads since 1945, 59,000 of which have been disassembled. France, the third-biggest nuclear weapons holder, has built approximately 1,260 warheads since the '60s, but now has only 300 active ones. Britain has, over the course of its nuclear program, produced around 1,250 nuclear weapons, but now holds less than 400. China has built about 650 since its program began in 1964, and Israel is estimated to have built 80. Both India and Pakistan have produced around 100 warheads. Russia produced the rest of the 125,000 total.

The number of active nuclear arms is certainly down since the end of the Cold War, when the total stockpile reached 70,000; a stunning figure that is supported by multiple sources. But it's still remarkably high, given that the Cold War ended decades ago. Tens of thousands that were built have since been dismantled, but the total worldwide inventory, counting those en route to retirement, is still about 17,200. Each of which, of course, is capable of leveling a major city. And while each of the nations with Cold War-era nuclear programs have reduced their arms since 'peak nuke', there remain a massive amount of ready-to-launch nuclear weapons across the globe."The nine nations with nuclear weapons now possess more than 10,000 nuclear warheads in their military stockpiles, the authors estimate, with several thousand additional US and Russian retired warheads in storage, awaiting dismantlement," the report states.

Tens of thousands that were built have since been dismantled, but the total worldwide inventory, counting those en route to retirement, is still about 17,200. Each of which, of course, is capable of leveling a major city. And while each of the nations with Cold War-era nuclear programs have reduced their arms since 'peak nuke', there remain a massive amount of ready-to-launch nuclear weapons across the globe.

Of those, "Approximately 4,400 warheads—nearly half of all stockpiled warheads—are deployed on missiles or at bases with operational launchers," BAS says, "we estimate that roughly 1,800 US and Russian warheads are on high

alert atop long-range ballistic missiles that are ready to launch 5 to 15 minutes after receiving an order." To reiterate: there are nearly 2,000 warheads pointed at critical targets at this very moment, and with the yanking of a lever or two, they could be launched in about the time it takes to listen to a pop song. Some 2,000 more are ready to roll with a bit more prep work.

That's still a lot of warheads. Despite the high-profile New START agreement between the US and Russia—and most recently, the follow-up agreement to keep agreeing to that agreement—little movement has been made towards nuclear nonproliferation. As the BAS report notes, little progress has been made to acknowledge or deal with the "retired" nuclear arms—arms that aren't in launch position, but that are still very much deadly, explodable, usable weapons.

With the world on the brink of entering into yet another war, it's more important than ever that we address the scope of our nuclear arsenals; there's still a long way to go before we can hope to shake the ashen specter of Hiroshima.

In addition to the "nuclear umbrella" the US provides, the strategy encompasses a missile defense and even precision strikes on North Korean nuclear facilities if the North is about to launch a nuclear-tipped missile.

Source: http://motherboard.vice.com/, 06 September 2013.

USA–SOUTH KOREA

S. Korea, US in Plan to Deter N. Korea's Nuclear Threat: Report

South Korea and the US are about to complete a plan aimed at deterring the nuclear threat from North Korea, a Seoul daily reported citing a South Korean government source. The two countries have conducted joint research on a "tailored deterrence strategy" over the last 10 months and already practiced it during the joint military simulation exercise in August, according to the Chosun Ilbo.

They will sign off on the plan at the bilateral Security Consultative Meeting in Seoul on 02 October 2013, it said. In addition to the "nuclear umbrella" the US provides, the strategy encompasses a missile defense and even precision strikes on North Korean nuclear facilities if the North is about to launch a nuclear-tipped missile. ...Seoul and Washington have for the first time jointly worked out a nuclear deterrence strategy which functions as an operational plan," a military source was quoted as saying. The precision strikes would use South Korean ballistic missiles with a range of 300-800 kilometers and cruise missiles with a range of more than 500-1500 km, and US Tomahawk cruise missiles and B-2 Stealth bombers, the report said. The two countries originally decided to complete the tailored strategy by 2014 but brought it forward after the North's third nuclear test in May this year.

Source: http://www.globalpost.com/, 09 September 2013.

BALLISTIC MISSILE DEFENCE

RUSSIA

Trials of Russian Nuclear Subs Suspended After Missile Launch Fails

Trials of two new Russian nuclear submarines have been suspended after a submarine-launched ballistic missile malfunctioned, a defense official.... A spokesman for the Defense Ministry said a Bulava missile fired from the Alexander Nevsky submarine toward a test site in eastern Russia failed in the second minute of the test, RIA Novosti reported. The failure caused Defense Minister Sergei Shoigu to halt further trials of the Alexander Nevsky and the Vladimir Monomakh. Five other launches of the missiles also were put on hold, the spokesman said.

The cause of the failure will be investigated by a commission led by Adm. Viktor Chirkov, commander of the Russian navy. The Alexander Nevsky was scheduled to be put into operation Nov. 15, contingent on a successful launch of its ballistic missiles. Officially, eight of the 19 or 20 test launches of the Bulava missiles have been declared unsuccessful.

Source: http://www.upi.com/, 07 September 2013.

NUCLEAR ENERGY

INDIA

Kudankulam Nuclear Power Plant to Begin Generation in 15 Days

Power production at the Kudankulam Nuclear Power Plant in Tamil Nadu is expected to start within next 15-20 days as trials runs have been completed.... The second unit will start by March or April 2014 as around 95% of the work is over," he said on the sidelines of a summit organised by India Energy Forum. Narayanasamy said that foreign agencies funded NGOs and groups that were involved in the agitation against the plant.

The home ministry had suspended the companies involved in it. "I do not know if they spent the money or not but I openly said that I got the bank accounts and where the money came. Even now, certain groups and people who retired from the department of nuclear energy and some

outside people with the aid and support of foreign agency have been trying to scuttle our nuclear energy programme," the minister said.

"The Home Ministry has suspended the banking operations of about six companies and an enquiry has been started against them. But those people were getting foreign money for the purpose of charitable work and were actively involved in anti-nuclear power activities," he said. Narayanasamy also said that despite best efforts through personal dialogues, government has not been able to convince the local community. State-run Nuclear Power Corp of India is setting up two reactors of 1000-mw each with Russian technology. The project faced severe resistance from locals on safety grounds.

Source: http://articles.economictimes.indiatimes.com, 06 September 2013.

NPCIL to Add 60k MW Nuclear Energy by 2032

The NPCIL has announced enhancing its nuclear energy capacity tenfold in the next two decades. A public sector enterprise under the administrative control of the DAE, NPCIL is confident of achieving the target as several of its projects are in different stages of implementation.

"NPCIL plans to add 60,000 MW nuclear energy to the existing capacity by 2032," said S K Malhotra, the head of DAE's public awareness division. He added that NPCIL's 20 reactors, currently in operation across the country, generate 4780 MW of nuclear power. Malhotra, who along with Padma Shri SP Kale, head of the technology transfer division of BARC...said seven other reactors are under construction. "Of the seven reactors, one unit of the Kudankulam in Tamil Nadu (2x1000MW) reactor has attained criticality in July 2013 ... the second unit of a similar capacity reactor in Kudankulam was expected to become operational by June 2014. Four PHWR, two units each of 2x700 MW projects, are under construction at Rawatbhat in Rajasthan and Kakrapar in Gujarat, he added.

Of the seven reactors, one unit of the Kudankulam in Tamil Nadu (2x1000MW) reactor has attained criticality in July 2013 ... the second unit of a similar capacity reactor in Kudankulam was expected to become operational by June 2014. Four PHWR, two units each of 2x700 MW projects, are under construction at Rawatbhat in Rajasthan and Kakrapar in Gujarat.

"Both the units at Kakrapar are scheduled to begin commercial operations by December 2015 while the Rawatbhat project is expected to be commissioned by December 2016," said Malhotra. Quizzed about whether India has adequate uranium to meet the requirement for the targeted nuclear power generation, the senior NPCIL official said: "We are meeting around 60% of the requirement while the rest is being imported." He however, added that the situation would improve after UCIL's Tummalapalle (Andhra Pradesh) mines start operating on its full capacity. He added that the objective is to enhance the nuclear power generation capacity to achieve a per capita 5000 units nuclear power by 2050.

Source: http://articles.timesofindia.indiatimes.com/, 07 September 2013.

VIETNAM

Park Makes 'Sales Diplomacy' Pitch In Vietnam

President Park Geun-hye called on 08 September 2013 for South Korea's participation in Vietnam's planned construction of nuclear power plants, saying the project will "open up a new horizon" in economic cooperation between the two countries. Park ... stressed that economic cooperation between the two sides should be shifted from focusing on small-scale industries to high-tech, high value-added sectors. "If cooperation for nuclear power plant construction materializes, it will not only contribute greatly to the stable growth of Vietnam's economy, but also open up a new horizon in economic cooperation between the two countries,"...

...Park described Vietnam as a member of the fast-growing "VIP" economies that also include Indonesia and the Philippines. She said her first trip to Vietnam among Southeast Asian nations shows her firm belief that the two countries can build a bright future together. ..."An important point of this visit is 'sales diplomacy,'" said senior presidential foreign affairs secretary Ju Chul-ki. "President Park is putting forward 'sales diplomacy' as the most important task in the second half of this year. That is why we chose Vietnam" as Park's third overseas trip after visits to the US and China. ... Park plans to stress the technological edge of South Korean-built nuclear reactors as well as their improved safety features, while asking for Vietnam's support for Korean firms trying to participate in the atomic power plant construction project....

Source: Excerpted from http://www.globalpost.com/, 08 September 2013.

URANIUM PRODUCTION

AUSTRALIA – RUSSIA

South Australian Uranium Mine Set for Russian Buyout

The owner of the Honeymoon Well uranium mine in South Australia is set to be purchased by its major Russian shareholder. The buyout will be completed in the

September 2013 quarter as shareholders of Canadian company Uranium One accepted an offer from the Russian State Corporation for Nuclear Energy, Rosatom.

A subsidiary of Rosatom currently owns around 49 per cent of Uranium One, with the new deal signalling 100 per cent ownership rights, ABC reported. Argonaut Securities analyst Matthew Keane says the Uranium One acquisition is representative of the growing appetite for Australia's uranium reserves by foreign investors. "There's a number of really good deposits here that are within the range of being developed in the next decade," Keane said. "Uranium is a longer term play. Assets (deposits) take a longer time to go from the pre-development phase into production."

Keane said the last three years has seen both Russia and China purchasing uranium projects around the world to secure supply for their nuclear reactors. "For example, the Husab deposit in Namibia was bought by the Guangdong Nuclear Power Company from Australian miner Extract Resources," Keane explained. "A subsidiary of the state-owned Rosaton purchased the Mkuju River project in Tanzania from another Australian company, Mantra." As Australian Mining recently reported, demand for uranium is set to outstrip supply by more than 11,000 tonnes this year, creating more opportunities for investment in the Australian sector... .

Although Australia contains an estimated 31% of all known world reserves of uranium, it has no active nuclear energy generation industry, and regulatory barriers make starting a mine very long and difficult, as evidenced by the fact that there are only four operational mines at present for the whole country.

Source: http://www.miningaustralia.com.au/, 09 September 2013.

Australia's Fifth Uranium Mine Gets the Go-Ahead

Australia's fifth potential operational mine has gotten past regulatory approvals and will start production by 2014 has made for an interesting intersection of uranium. First, the 25%/75% respective joint venture between Alliance Craton Explorer, a 100% owned subsidiary of Alliance Resources (ASX: AGS), and Quasar Resources to develop the Four Mile uranium project has moved to the next stage of becoming a real producing mine by getting the last of government and regulatory approvals completed. The SA Minister of Mineral Resources and Energy stated, "The $110 million Four Mile project, the most significant uranium discovery anywhere in the world in the past quarter century, is ready to go."

The mine will become the fifth approved operational mine in all of Australia, and the fourth of the five to be located in South Australia. The others are Olympic Dam, owned by BHP Billiton (ASX: BHP); Beverley, owned by Heathgate Resources; Honeymoon, owned by Uranium One (TO: UUU); and Ranger, owned by Energy Resources of Australia (ASX: ERA), which is part owned itself by Rio Tinto (ASX: RIO)

Although Australia contains an estimated 31% of all known world reserves of uranium, it has no active nuclear energy generation industry, and regulatory barriers make starting a mine very long and difficult, as evidenced by the fact that there are only four operational mines at present for the whole country. South Australia sees itself as the centre and capital of uranium mining, and suggested that in the future more potential mines may get the government go-ahead... the Russian nuclear corporation Rosatom, which is buying out Canada's Uranium One, will soon be the sole owner of the Honeymoon mine mentioned above.

Uranium One announced in August 2013 that it projects uranium commodity prices to almost double in a couple of years due to constrained supply of the ore. After the deadly Fukushima nuclear power plant disaster in Japan in 2011, uranium prices from about $70/pound to the current $34/pound, squeezing out high-cost producers from being profitable. Between 2003-2007, uranium prices rose to as much as $135/pound. Foolish takeaway ...world uranium demand has slumped temporarily, but countries like China are ramping up their nuclear power generation, and they will need lots of the yellowcake to fuel their needs. Sometimes it's just simply down to supply and demand.

Source: http://finance.ninemsn.com.au/, 06 September 2013

NUCLEAR COOPERATION

RUSSIA

Russia Steps Up Efforts to Enter UK Nuclear Power Market

Russia is stepping up its efforts to build nuclear reactors in Britain, a development that could raise concerns already stirred by the prospect of Chinese investment in the country's nuclear new build programme.

Rosatom, the Russian state nuclear group, is joining forces with Rolls-Royce and Finnish nuclear utility Fortum to assess whether Russian nuclear reactor technology could be introduced into the UK market. The partnership presages a move by Rosatom to submit its Russian reactor design

for approval by UK regulators – a process that could take as long as four years. But to succeed in the UK, the company will have to overcome lingering negative sentiment towards the Russia's nuclear industry, a legacy of the 1986 Chernobyl disaster. As well as its deals with Rolls-Royce and Fortum, Rosatom also signed a memorandum of understanding with the UK government to create a partnership that would pursue commercial opportunities in the nuclear sector in other countries....

Under the terms of the deal, the government will organise seminars for Rosatom to help it understand Britain's nuclear regulatory and planning regimes and the approval process for its reactor design. All but one of Britain's 16 nuclear reactors will be retired by 2023, and the government has been pursuing plans to replace them with a new generation of atomic power stations, largely through a shake-up of the UK's electricity market designed to make it more attractive to investors in low-carbon energy.

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The government is keen to attract as many foreign companies as possible into the sector. Among those with plans to build in the UK are EDF of France and Japan's Hitachi. Ministers have also courted Chinese companies such as China General Nuclear Power Group (CGN), which is in talks to share the cost of EDF's planned power station at Hinkley Point in Somerset.

For Rosatom to enter the UK nuclear market, it must first have its VVER-type nuclear plant approved under a process known as generic design assessment (GDA). The contracts signed on 05 September 2013 would see Rolls-Royce undertake engineering and safety assessment work for Rosatom ahead of GDA. Mr Fallon stressed that any Russian reactor technology must meet "the stringent and independent regulatory standards required in the UK and EU"....

Source: http://www.ft.com/, 05 September 2013.

NUCLEAR PROLIFERATION

IRAN

UN Nuclear Chief Says 'Urgent' for Iran to Address Concerns

The UN nuclear chief told Iran on 09 September 2013 it was "essential and urgent" for it to address concerns about suspected atomic bomb research, signaling his hope that the new government in Tehran will stop stonewalling his inspectors. Yukiya Amano was addressing a session of the UN's agency's 35-nation board, the first since relative moderate Hassan Rouhani took office as Iranian president in early August 2013, raising cautious optimism of progress in the nuclear dispute....

...His carefully chosen words underlined international hopes that Rouhani's administration will be less confrontational in its dealings with the outside world than his hardline predecessor, Mahmoud Ahmadinejad. Rouhani, keen to secure a relaxation of harsh international sanctions on Iran, has signaled readiness to be more open about Iranian nuclear activities in return for the acceptance of Tehran's right to enrich uranium for peaceful purposes. But Western diplomats stress that it remains to be seen whether Iran is prepared to curb its nuclear program, which they believe may be geared towards developing a nuclear weapons capability. Iran says it is entirely peaceful. In his speech, Amano made clear that Iran had yet to show the level of cooperation that he wants from Tehran....

IAEA Has "Credible Information" On Iran an important test of whether Iran may be willing to soften its nuclear defiance, Vienna-based diplomats say, will be an IAEA-Iran meeting on 27 September 2013 to discuss what the agency calls "possible military dimensions" to Tehran's atomic activities.... The talks have failed to yield results but Iran in August announced it would replace the envoy who has led the country's team in the discussions, in a possible sign of its desire for a new start after Rouhani's election.

...So far there is no clear indication of Iran slowing its nuclear campaign. An IAEA report of August showed Iran preparing to test 1,000 advanced uranium enrichment centrifuges, enabling it to produce more quickly nuclear material that can have both military and civilian applications. Iran says its nuclear energy program is for electricity generation and medical uses only, rejecting Western accusations it is covertly trying to develop the capability to make bombs. The Iran-IAEA talks are separate, but still closely linked, to negotiations between six major

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powers - the US, Russia, China, Britain, France and Germany - and Iran aimed at finding a broader diplomatic solution to the nuclear dispute.

Source: http://www.reuters.com/, 09 September 2013

Iran Urges Western Countries to Adopt New Approach in Nuclear Talks

Iran Foreign Minister Mohammad- Javad Zarif said that the Western countries should adopt new approach in the next round of nuclear talks with Iran. "Their past policy was wrong and achieved nothing. It is necessary that they change such a policy. Otherwise, the Islamic Republic of Iran will continue resistance like the past 10 years," ...Western countries should review the events of the past 10 years and change their "lose-lose game" strategy, said the Iranian foreign minister. The Islamic republic insists the West should recognize Iran's "civilian" nuclear rights, including its enrichment program, and reduce pressures, however, the US and its allies suspect that Iran's nuclear activities might aim at weaponry dimensions.

Western countries have imposed sanctions on the energy and financial sectors of the Islamic republic, which have had dire impacts on the economy of the country. Zarif said that the "illegal and unfair" sanctions would have no impact on the determination of the Iranian government and nation to pursue peaceful nuclear activities.... "These sanctions show that there is no political will for constructive interaction with the Islamic Republic of Iran," he said....

Source: http://news.xinhuanet.com/, 09 September 2013.

Iran Shifts Responsibility for Nuclear Talks

Iranian President Rouhani signaled a possible shift in the nation's nuclear policy on 05 September 2013, by announcing that the Foreign Ministry would take charge of nuclear negotiations with the West. Iran's Foreign Minister Mohammad Javad Zarif, a career diplomat who served as ambassador to the UN and is known in the West for being moderate and pragmatic, will become the new chief nuclear negotiator. Iran's nuclear policies and negotiations until now have been formulated and controlled by the country's conservative Supreme National Security Council. The council's secretary, Saaed Jalili, also served as the Islamic Republic's chief nuclear negotiator, a position President Rouhani previously held....

Iran's Foreign Minister Mohammad Javad Zarif, a career diplomat who served as ambassador to the UN and is known in the West for being moderate and pragmatic, will become the new chief nuclear negotiator.

...Many US and European officials know Mr. Zarif, both from his time at the UN and in his role as deputy foreign minister under the reformist President Mohammad Khatami. Mr. Zarif played a central role in coordinating with the US following the overthrow of Afghanistan's Taliban government in 2001. Mr. Zarif and officials from the George W. Bush administration directly cooperated in putting in place President Hamid Karzai and helping Kabul create a new constitution, according to current and former US officials.

...The last round of talks between Iran and the group took place in early April in Almaty, Kazakhstan. Talks were suspended ahead of Iran's presidential election in Juneand pending Mr. Rouhani's inauguration. Iran is also scheduled to hold talks with the IAEA in Vienna at the end of September 2013, marking the first nuclear negotiations since Mr. Rouhani was elected.

...Mr. Rouhani made resolving Iran's nuclear standoff with the West the cornerstone of his presidential campaign and pledged to work on removing tough international sanctions by improving Iran's relations with the world. His decision to move the responsibility of the nuclear negotiations away from conservatives and into the hands of diplomats is viewed by experts and diplomats as a shift in Iran's outlook to the talks. "This means Rouhani is giving the power to the real experts," said an Iranian diplomat familiar with the negotiations. "Iran is ready for a big deal" with the West. The diplomat said any compromise by Iran would have to be within the frameworks of its rights under the NPT, to which Iran is a signatory.

Iran demands that the West acknowledge its right to enrich uranium for peaceful nuclear energy. The West is suspicious that Iran is seeking to build nuclear weapons, a charge Tehran denies. ...Mr. Rouhani couldn't have made the decision to make a change in nuclear negotiations without the consent of Mr. Khamenei. The two are close friends, Iranian officials have said, and Mr. Khamenei trusts the new president giving Mr. Rouhani possible leeway to influence his decisions. "Under the current circumstances everyone must cooperate with the new government and I too will support it," said Mr. Khamenei, according to a transcript of his speech posted on Iranian media.

Source: Wall Street Journal, 05 September 2013.

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NORTH KOREA

China Reaffirms 'Clear-Cut' Goal of Denuclearizing N. Korea

A senior Chinese military official renewed his country's "clear-cut" goal of ending North Korea's nuclear program through dialogue during a meeting with South Korean defense officials, China's defense ministry said on 03 September 2013.

Sun Jianguo, the deputy chief of general staff of the Chinese PLA, made the remark when he met a delegation of the Korea Institute for Defense Analyses, which is affiliated with South Korea's defense ministry, in Beijing. "China's stand on the issue of peninsula security is consistent and clear-cut," Sun said, according to a statement posted on the ministry's website. "China sticks to the goal of denuclearization of the peninsula, adheres to safeguarding peace and stability of the peninsula, and persists in tackling issues of the peninsula through dialogue, negotiations and consultations," the statement said. Amid indications Beijing is accelerating its efforts to revive the six-party talks, the chief nuclear envoys from North Korea and China held talks in Pyongyang.

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Confirming the talks in Pyongyang, China's foreign ministry spokesman Hong Lei said that the two sides "exchanged views on the resumption of the six-party talks." The six-party talks, which involve the two Koreas, China, the US, Japan and Russia, have been stalled since late 2008. Despite signs of easing tensions, a US research institute said, citing recent satellite images, that North Korea has started a major construction project at the facility where it launched a long-range rocket last December.

During a regular press briefing, Hong sidestepped a question by a reporter about the reported works at the North's missile launch site. Instead, Hong told reporters, "We hope that all relevant parties can take positive actions to ease the tensions and to promote dialogue, and to make positive contributions to peace and stability on the Korean Peninsula." Meanwhile, the Chinese foreign ministry briefed senior diplomats of South Korea, the US, Japan and Russia about the outcome of Wu's visit to North Korea, a diplomatic source in Beijing said.

At the closed-door briefing session, China delivered the North's latest stance on its nuclear programs to diplomats from the four nations and reasserted the need to resume the six-party talks, the source said on the condition of anonymity. The source did not elaborate on whether North Korea may accept a set of pre-conditions set by Seoul, Washington and Tokyo to pave the way for the resumption of the talks. They include a moratorium of its nuclear and missile tests and a return of international nuclear inspectors to the country.

Source: http://www.koreaherald.com/, 03 September 2013.

S. Korea, US in Plan to Deter N. Korea's Nuclear Threat: Report

South Korea and the US are about to complete a plan aimed at deterring the nuclear threat from North Korea, a Seoul daily reported, citing a South Korean government source. The two countries have conducted joint research on a "tailored deterrence strategy" over the last 10 months and already practiced it during the joint military simulation exercise in August, according to the Chosun Ilbo.

They will sign off on the plan at the bilateral Security Consultative Meeting in Seoul on 02 October 2013.... In addition to the "nuclear umbrella" the US provides, the strategy encompasses a missile defense and even precision strikes on North Korean nuclear facilities if the North is about to launch a nuclear-tipped missile. "The nuclear umbrella was abstract so far and we didn't know anything about a concrete action plan. But now Seoul and Washington have for the first time jointly worked out a nuclear deterrence strategy which functions as an operational plan," a military source was quoted as saying.

The precision strikes would use South Korean ballistic missiles with a range of 300-800 kilometers and cruise missiles with a range of more than 500-1500 km, and US Tomahawk cruise missiles and B-2 Stealth bombers, the report said. The two countries originally decided to complete the tailored strategy by 2014 but brought it forward after the North's third nuclear test in May 2013.

Source: http://www.globalpost.com/, 09 September 2013.

NUCLEAR NON-PROLIFERATION

UN–CTBTO

Banning Nuclear Tests Essential for Global Peace, Says Head of UN-Backed Treaty Organization

The new head of preparatory commission for a UN backed treaty stressed on 04 September 2013 that banning

nuclear tests is essential for international peace and security. In a briefing to reporters in New York, the Executive Secretary of the Preparatory Commission for the CTBTO Lassina Zerbo, underlined that countries who have not ratified the treaty should realize the treaty is in their national security interests as well being a vital part of achieving international peace.

"We are indeed working hard day in and day out to try to secure their ratification by building the framework that will give the trust necessary for these countries to understand that the ratification of this treaty is part of their own national security as well as the international peace and security," Mr. Zerbo said....

...Out of a total listed number of 195 States, 183 have so far signed the CTBT and 159 have ratified it. For the treaty to enter into force, ratification is required from the so-called "Annex 2 States". Of these, China, the Democratic People's Republic of Korea, Egypt, India, Iran, Israel, Pakistan and the US, have yet to ratify it.... Mr. Zerbo said the CTBTO is working with officials at various levels in the countries that have yet to ratify the treaty to ensure they find the treaty verifiable, and find the technical and political means for ratification....

Source: http://www.un.org/, 04 September 2013.

NUCLEAR DISARMAMENT

INDIA

Rakesh Sood Appointed PM's Special Envoy on Disarmament and Non-Proliferation

PM Singh has appointed Rakesh Sood, India's former Ambassador to Nepal, Afghanistan and France and the country's first Ambassador in charge of Disarmament in Geneva, as his new Special Envoy for Disarmament and Non-Proliferation....

Ambassador Sood served in New Delhi for nine years as Joint Secretary DISA (Disarmament and International Security Affairs), a division that he set up and headed from 1992 to 2000. In that post he oversaw the negotiations concerning the CTBT and the CWC and the deliberations on the FMCT. He also participated in bilateral dialogues on nuclear and other non-proliferation questions with the world's major powers. ...

Source The Hindu, 01 September 2013.

USA–RUSSIA

Disarmament Deal Takes Two Steps Back

A Kremlin compromise on nuclear disarmament looks as far away as ever as Russian president Vladimir Putin and his US counterpart Barack Obama use their countries' strained relations to bolster their own domestic political agendas, experts say.

Obama's call, during a speech in Berlin in June 2013, for a dramatic reduction in the world's nuclear weapons had led to hopes that there would be cuts in world nuclear arsenals on the agenda of a potential nuclear summit in 2016, and gave extra impetus to what will be the first-ever high level meeting of the UNGA on nuclear disarmament this September 2013.

But following Russia's granting of asylum to US whistleblower Edward Snowden and Washington's subsequent cancelling of a summit meeting between Obama and Putin, some critics say the US may use the political rift between the two states as a pretext to fail to make progress on disarmament. Nikolai Sokov, a fellow at the Vienna Centre for Disarmament and Non-Proliferation, told IPS: "What drives nuclear disarmament in both countries is domestic, not foreign policy. Confrontation serves the Russian domestic political agenda, just as it does for US politicians with the US domestic political agenda. The current impasse satisfies both sides. "Russia has no need to change its position on nuclear weapons and President Putin is under no pressure whatsoever at home to change the stance. Even with the political administration there is no one in the Russian administration who is against the current stance, not even in private."

...The recent call by Obama would see both Washington and Moscow reduce their arsenals by a third. But even under the best circumstances the Kremlin has historically been reluctant to agree to drastic cuts due to the differences in weapons delivery capabilities between the two countries, fearing that it would be left at a military disadvantage by dramatic blanket cuts.

It has also been wary of US missile defence plans and without assurances that they would not be used against Russia, the Kremlin is reluctant to agree to concessions on nuclear weapons. Speaking on Russian television foreign minister Sergei Lavrov said that nuclear weapons reductions should only be considered if they involved all countries – a view repeated by Putin.

But the recent strains in the countries' relationship mean that the Kremlin has a chance to further entrench its position and win political points with the electorate. "The Russian public is not against the current anti-American stance. The image of the US at the moment is not good in Russia. People see the situation with Syria and think to themselves 'we can't deal with the Americans, all they want to do is drop bombs'. "The Russian public likes the tough tone being taken with the US," Sokov told IPS. ...Some political commentators in Russia argue that the Kremlin's stance on disarmament is not even anti-

American but simply a normal protection of the country's interests.

In a long editorial the *Nezavisimaya Gazeta* daily newspaper urged both the White House and the Kremlin to work together on the issue of global security, including nuclear disarmament, and lead the way in helping to form a new, safer, international community...It said: "The issues of nuclear disarmament, non-proliferation and the prevention of nuclear terrorism fall mainly on the shoulders of our two nations.... Common sense dictates that sooner or later Russia and the US will become partners in the construction of a new system of international politics of the 21st century. It is hoped that this will happen sooner rather than later - the price of delay may be too high." But experts remain pessimistic of any progress on disarmament between the two nations in the near future.

Source : http://www.iede.co.uk/, 02 September 2013.

NUCLEAR SAFETY

BELARUS–RUSSIA

Belarus, Russia to Sign Agreement on Cooperation in Nuclear Safety

The Belarusian Emergencies Ministry and the Federal Service for Ecological, Technological, and Nuclear Control of Russia are preparing an agreement on cooperation in regulating nuclear and radiation safety in peaceful uses of atomic energy. Representatives of the Nuclear and Radiation Safety Department of the Belarusian Emergencies Ministry told BelTA the agreement had been initiated by the Belarusian side....

The agreement provides for various avenues of cooperation, including the creation of a nuclear safety infrastructure, safety regulation systems, the development and improvement of the relevant legal base taking into account requirements of the International Atomic Energy Agency. The agreement also envisages the establishment of a system of crisis centers in Belarus and nuclear safety personnel training.

In February 2013 Belarus and Russia signed an intergovernmental agreement on cooperation in nuclear safety. The document was signed by Director General of the state corporation Rosatom Sergei Kiriyenko and Belarusian Energy Minister Alexander Ozerets. The agreement provides for various avenues of cooperation, including the creation of a nuclear safety infrastructure, safety regulation systems, the development and improvement of the relevant legal base taking into account requirements of the International Atomic Energy Agency. The agreement also envisages the establishment of a system of crisis centers in Belarus and nuclear safety personnel training.

Belarus intends to build a nuclear power plant that will have two power-generating units with the total capacity of up to 2,400MW (1,200MW each) at the Ostrovets site in Grodno Oblast. The Russian design AES-2006 has been chosen. It is 100% compliant with international norms and IAEA recommendations. The timeline for building the Belarusian nuclear power plant is specified by the general contract. The first power-generating unit is scheduled for commissioning in November 2018, with the second one expected to go online in July 2020.

Source: http://news.belta.by/, 06 September 2013.

JAPAN

Japan to Build $470m Ice Wall to Prevent Nuclear Leaks

The Japanese government announced 03 September 2013 that it will spend $470 million on a subterranean ice wall and other steps in a desperate bid to stop leaks of radioactive water from the crippled Fukushima nuclear plant after repeated failures by the plant's operator. The decision is widely seen as an attempt to show that the nuclear accident won't be a safety concern just days before the International Olympic Committee chooses among Tokyo, Istanbul and Madrid as the host of the 2020 Olympics.

The Fukushima Daiichi plant has been leaking hundreds of tons of contaminated underground water into the sea since shortly after a massive 2011 earthquake and tsunami damaged the complex. Several leaks from tanks storing radioactive water in recent weeks have heightened the sense of crisis that the plant's owner, Tepco, isn't able to contain the problem. "Instead of leaving this up to TEPCO, the government will step forward and take charge," PM Abe said after adopting the outline. "The world is watching if we can properly handle the contaminated water but also the entire decommissioning of the plant."

...The government, however, is not paying for urgently needed water tanks and other equipment that TEPCO is using to contain leaks. Shinkawa said the funding is limited to "technologically challenging projects" but the government is open to additional help when needed.... The project, which TEPCO and the government proposed in May, is being tested for feasibility by Japanese construction giant Kajima Corp. and is set for completion by March 2015. Similar methods have been used to block water from parts of tunnels and subways, but building a 0.9-mile wall that surrounds four reactor buildings and their related facilities is unprecedented.

An underground ice wall has been used to isolate radioactive waste at the US Department of Energy's former site of the Oak Ridge National Laboratory in Tennessee that produced plutonium, but only for six years, according to the *MIT Technology Review* magazine. Some experts are still skeptical about the technology and say the running costs would be a huge burden. Atsunao Marui, an underground water expert at the National Institute of Advanced Industrial Science and Technology, said a frozen wall could be water-tight but is normally intended for use for a few years and is not proven for long-term use as planned in the outline. The decommissioning process is expected to take about 40 years....

TEPCO has been pumping water into the wrecked reactors to cool nuclear fuel that melted when the March 2011 earthquake and tsunami knocked out the plant's power and cooling systems. The utility has built more than 1,000 tanks holding 335,000 tons of contaminated water at the plant, and the amount grows by 400 tons daily. Some tanks have sprung leaks, spilling contaminated water onto the ground.

After spending on the ice wall, the remainder of the public funding – 15 billion yen until March 2015 – will go to the development and production of a water treatment unit that can treat larger amounts of contaminated water more thoroughly than an existing machine, which is under repair after corrosion was found during a test run.

Nuclear Regulation Authority Chairman Shunichi Tanaka has repeatedly said that the contaminated water cannot be stored in tanks forever and eventually must be released into the sea after being fully processed and diluted, but only with local consent. Other measures include replacing rubber-seamed storage tanks with more durable welded tanks as quickly as possible, and pumping out untainted underground water further inland for release into the sea to reduce the total amount of water flowing into the plant site. About 1,000 tons of underground water runs into the complex every day.

TEPCO is also constructing an offshore wall of steel panels to keep contaminants from spreading further into the sea. The utility says radioactive elements have mostly remained near the embankment inside the bay, but experts have reported offshore "hot spots" of sediments contaminated with high levels of cesium. The leaks came as Tokyo headed into the final days of the contest to host the 2020 Summer Olympics. With anti-government demonstrations plaguing Istanbul's bid and a recession and high Spanish unemployment hanging over Madrid's candidacy, Tokyo is pushing its bid as the safe choice in uncertain times...

Source: http://www.cbsnews.com/, 03 September 2013.

Fukushima Radiation Leaks Reach Deadly New High

The crippled Fukushima Daiichi nuclear power plant has radiation leaks strong enough to deliver a fatal dose within hours, Japanese authorities have revealed, as the government prepares to step in to help contain leaks of highly toxic water at the site.

On 04 September 2013, the country's nuclear regulation authority said radiation readings near water storage tanks at the Fukushima Daiichi nuclear power plant have increased to a new high, with emissions above the ground near one group of tanks were as high as 2,200 millisieverts [mSv] per hour – a rise of 20% from the previous high. The plant's operator, Tepco, said workers had measured radiation at 1,800 mSv an hour near a storage tank.

That was the previous highest reading since Tepco began installing tanks to store huge quantities of contaminated water that have built up at the plant. An unprotected person standing close to the contaminated areas would, within hours, receive a deadly radiation dose. The nuclear regulation authority said the radiation comprised mostly beta rays that could be blocked by aluminium foil, unlike more penetrative gamma rays. ...Currently about 400 tonnes of groundwater are streaming into the reactor basements from the hills behind the plant each day. The water is pumped out and held in about 1,000 storage tanks. The tanks contain 330,000 tonnes of water with varying levels of toxicity.

Officials are conducting a feasibility study into the frozen wall, with completion expected by March 2015. Although the technology isn't new, the scale of the Fukushima Daiichi project is unprecedented for an atomic facility. The government also wants to speed up the development of a new water treatment system that can remove most radioactive substances from the water. Tepco has already constructed once such facility but it has not been used since equipment was found to have corroded during a trial run....

Source: http://www.theguardian.com/, 04 September 2013.

PAKISTAN

Pakistan Says Nuclear Controls are Firmly in Place

Pakistan on 03 Sep 2013 described its nuclear policy as one of "restraint and responsibility" and declared that it has a well-established regimen of controls to "ensure the safety and security" of its nuclear facilities. The Foreign Ministry in Islamabad issued the statement after a report in *Washington Post* documented growing US concerns about Pakistan's nuclear safeguards and security agencies.

The government said it is "fully committed" to the goals of nuclear disarmament and nonproliferation, follows standards set by the IAEA and is "fully implementing" controls mandated by international conventions on chemical and biological weapons. Pakistan's statement did not comment specifically on the pattern of mistrust between Washington and Islamabad that was described in the *Post* report, which was based on secret budget documents provided to the newspaper by former intelligence contractor Edward Snowden.

But several Pakistani experts said the problem of mutual mistrust between the two governments was well known and documented, despite a lengthy history of bilateral cooperation and a decade-long counterterrorism partnership. The rift deepened, from Pakistan's point of view, after key incidents, including the secret US raid inside Pakistan that killed Osama bin Laden in 2011. "The trust deficit is not a secret, and it has been widening over the years," said Rifaat Hussain, a Pakistani defense expert. "They call each other strategic partners, but they withhold strategic information from each other."

Hussain said Pakistani officials are highly suspicious that the United States has designs on their country's nuclear arsenal. He said many Pakistanis are convinced that after US forces withdraw from Afghanistan next year, Washington will seek to "cap Pakistan's nuclear capability." Pervez Hoodbhoy, a Pakistani physicist and leading critic of nuclear arms, said he found nothing surprising in the Post report. "Of course the US has put Pakistan under a microscope. Everyone knows that," he said. Hoodbhoy noted that the US military regularly carries out "war gaming exercises aimed at dealing with possible nuclear contingencies," including the theft of nuclear warheads and the emergence of a militant Islamist government in Pakistan. ...

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Source: Excerpted from article Pamela Constable. http://www.washingtonpost.com, 03 September 2013.

NUCLEAR WASTE MANAGEMENT

KAZAKHSTAN

From Russia, With Radiation

An hour's drive down a rutted dirt track in eastern Kazakhstan is an expanse of steppe as big as Belgium, 50 miles from the nearest town. It's called the Polygon. The land here is treeless and quiet, tawny grass from horizon to horizon, dotted with purple thistles and yellow wildflowers. At its center, a shallow depression is filled with thicker, greener grass. Above it, swallows flit in a breeze that smells of sage. This is what a nuclear wasteland looks like. It looks like Wyoming.

Yuriy Strilchuk, head of training for the National Nuclear Centre of Kazakhstan, is clutching a beeping Geiger counter. He won't let a group of American journalists off the bus without two shower caps over our shoes and masks on our faces. Strilchuk, a sturdy man with a long goatee and ponytail, first came to this place in 1990 as a Soviet soldier. Now he comes as a tour guide to a nuclear apocalypse. He steps off the bus with plastic on his loafers but no mask on his face, and takes his position before the dimple in the earth.

This is ground zero for the Soviet nuclear program. On 29 August 1949, the Soviet Union detonated its first atomic bomb in this spot, a 22.4 kiloton explosion codenamed "First Lightning," that launched the nuclear arms race. Four years later, the same earth shook with the Moscow's first thermonuclear bomb—a 400 kiloton explosion 26 times more powerful than the bomb the US dropped on Hiroshima.

Looking out from the epicenter of these blasts, you can still see remnants of structures the Soviets built to test the power of these explosions. To the right are the crumpled remains of a bridge. To the left are fortified bunkers and barracks that had been filled with dogs, pigs, and goats to approximate the effects a blast would have on soldiers. In a line in both directions, 10 four-story concrete buildings rise from the Earth like the moai of Easter Island. These structures were filled with sensors to measure the explosions. Strilchuk calls them "geese," because from a distance that's what they look like: giant goose necks craning up from the grass, facing the place where man played God.

...He bends to pick three obsidian-like pebbles from the ground, soil chunks that lifted into the air in a mushroom cloud and metamorphosed into glass by the ferocious power of splitting atoms. "Drops of melted earth," Strilchuk says. He shouldn't be touching them. In addition to our shoe protection and face masks, he told us not to touch the ground. We are supposed to keep our skin covered and breathe through our noses. But he shrugs off the danger for himself. "I'll wash my hands afterwards," he says. "Don't worry about me."...

After the fall of the Soviet Union, the newly independent Kazakhstan inherited the fourth-largest nuclear arsenal in the world. It also acquired the radioactive legacy of four decades of nuclear testing. President Nursultan Nazarbayev, in power from the beginning, decided to dismantle the warheads to make nonproliferation a defining characteristic of his new country's identity. The radioactive contamination, however, has been harder to undo.

A 2001 report indicates that within a 60-kilometer zone around the test site, the suicide rate is more than four times the national average. Himan Stameltova grew up 30 kilometers away from the test site.

...According to Kazakhstan's Research Institute for Radiation Medicine and Ecology, about 1.5 million people lived in the test site area during the nuclear tests. Hundreds of thousands experienced direct radiation. Marat Sandybayev, director of the Semey Oncology Center, says the cancer rate in eastern Kazakhstan is two to three times the national average, and the tumors are aggressive. "The mortality rate here is much higher than average," he says. The Oncology Center now treats the children and grandchildren of the original testing victims.

Cancer wasn't the only side effect of the nuclear testing. The residents around the testing site have experienced birth defects, mental disabilities, and infertility. Even more troubling is the region's suicide rate. A 2001 report indicates that within a 60-kilometer zone around the test site, the suicide rate is more than four times the national average. Himan Stameltova grew up 30 kilometers away from the test site....

Twenty-three years after the Semipalatinsk test site was closed, there is no fence surrounding it, nor are their signs marking the ground as contaminated. Anyone can drive onto it. Local scavengers have stripped the site of its scrap metal, even using backhoes to dig up buried copper cables. They sold the radioactive metal to recycling plants. "This was a no man's land," Strilchuk explains. "It belonged to Kazakhstan, but the state had no resources to control it. The government was busy taking care of other problems." The scavenging alarmed US and Russian nuclear watchdogs who knew that unsecured weapons-grade uranium and plutonium remained in tunnels on the site. A covert collaboration between the US, Kazakhstan, and Russia called Operation Groundhog just finished filling these tunnels with concrete last year.

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Today, hundreds of Kazakh shepherds still graze their animals on the site. Their presence is technically illegal, but no one is there to turn them away. Scientists on an experimental farm on the site are testing the transference of radioactivity from grass to sheep. The government has opened a portion of the site to beryllium, coal, and gold mining, estimating that 80 percent of the test site has safe levels of contamination and could eventually be used for mining or agriculture.

The government's optimism for the Semipalatinsk test site reflects Kazakhstan's emergence from a Soviet nuclear wasteland into a prosperous capitalist economy. Kazakhstan has come to terms with its history quicker than most former Soviet republics. A wealthy, resource-rich country, Kazakhstan is broadening its profile as a leader of the nonproliferation movement by hosting negotiations on Iran's nuclear program. They've volunteered to establish an international nuclear fuel bank, a measure of nuclear security that the IAEA is seriously considering. The government even talks of building a nuclear energy reactor of its own, a peaceful application of the fierce atomic power that the Soviet Union once wrought upon the Kazakh steppe....

Source: http://www.slate.com/, 02 September 2013.

USA

The Three-Decade Delay of a Nuclear Waste Repository

There was a time when the US was a can-do nation that built canals, bridges, railroads, and highways. Now we are a nation whose civil engineers annually report the dangers of decaying infrastructure. A perfect example of how incompetent our government has become is the Yucca Mountain nuclear waste repository.

In 1982 the US Congress established a national policy to solve the problem of nuclear waste disposal. As far back as 1957, the National Academy of Sciences had recommended that the best way to address the problem was to dispose of it in deep underground rock. In 1987, Yucca Mountain in Nevada was designated as the site. It was immediately opposed by both environmentalists and others. Congress approved the site in 2002.

An Associated Press article on 13August 2013 reported on a recent decision by the US Court of Appeals for the District of Columbia ruling that the NRC had to complete the licensing progress and approve or

reject the Energy Department's application for the site. "The court's decision was hailed by supporters of the Yucca site, which has been the focus of a dispute that stretches back more than three decades," reported the AP. "The government has spent an estimated $15 billion on the site but never completed it. No waste is stored there."

The failure to open the Yucca Mountain repository is an obscenity. Instead of storing nuclear waste in the most studied piece of US geography in the history of the nation, it is stored at more than seventy (70) sites around the nation. The Yucca Mountain site was supposed to begin accepting spent fuel by 31 January, 1998, fifteen years ago.

The Appeals Court delivered a serious rebuke to the NRC which has essentially been treated as a political instrument of the Obama administration. The Court said the NRC was "simply flouting the law" when it allowed the Obama administration to continue plans to close site. This is especially egregious insofar as federal law designates the site as the nation's nuclear waste repository.

"The President may not decline to follow a statutory mandate or prohibition simply because of policy objections," said Judge Brett M. Kavanaugh who wrote the majority (2 to 1) opinion. "It is no overstatement to say that our constitutional system of separation of powers would be significantly altered if we w ere to allow executive and independent agencies to disregard federal law in the manner asserted in this case by the NRC."

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It is not just the President and the NRC that will not uphold the law that Congress passed. It is has been the Senate Majority Leader, Harry Reid, Democrat from Nevada. Kim Strassel noted in a 15 August 2013 commentary that "Mr. Reid has for years single-handedly thwarted Congress's will to create a deep storage facility.... Such has been one senator's ability to render the 1982 Nuclear Waste Policy Act, 30 years of work, and $15 billion of federal funds moot."...

The present claim is that there is no money to move forward with the completion of Yucca Mountain and it is true that opponents in Congress, led by Sen. Reid, have cut nearly all funding in the last three years, but the court said that the NRC has about $11 million remaining for the purpose of funding a review of its safety. Congressional staffers who have seen a redacted draft of the review to date say that is safe.

Nuclear waste, the by-product of electric power generation at commercial nuclear plants and of high-level radioactive waste from reprocessed spent fuel, must be stored somewhere. Congress addressed that in 1982, more than three decades go. We are still waiting for a rational, practical solution because of politics, not science, nor common sense.

Source: http://www.albanytribune.com/, 02 September 2013.

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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