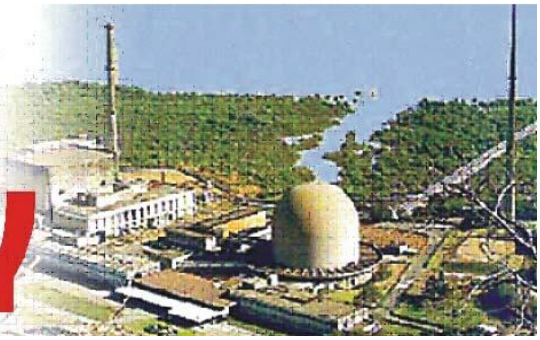
NUCLEAR SECURITY



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

Vol 08, No. 20, 15 August 2014

OPINION – Noam Chomsky

As Hiroshima Day Dawns, Why Are We Still Tempting Nuclear Fate?

If some extraterrestrial species were compiling a history of homo-sapiens, they might well break their calendar into two eras: BNW (before nuclear weapons) and NWE (the nuclear weapons era). The latter era, of course, opened on 6 August 1945, the first day of the countdown to what may be the inglorious end of this strange species, which attained the intelligence to discover the effective means to destroy itself, but – so the evidence suggests – not the moral and intellectual capacity to control its worst instincts.

Day one of the NWE was marked by the "success" of Little Boy, a simple atomic bomb. On day four, Nagasaki experienced the technological triumph of Fat Man, a more sophisticated design. Five days later came what the official Air Force history calls the "grand finale," a 1,000-plane raid – no mean logistical achievement – attacking Japan's cities and killing many thousands of people, with leaflets falling among the bombs reading "Japan has surrendered". Truman announced that surrender before the last B-29 returned to its base. Those were the auspicious opening days of the NWE. As we now enter its 70th year, we should be contemplating with wonder how we have survived. We can only guess how many years remain.

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Some reflections on these grim prospects were offered by General Lee Butler, former head of the US strategic air command which controls nuclear weapons and strategy. Twenty years ago, he wrote that we had so far survived the NWE "by some combination of skill, luck, and divine intervention, and I suspect the latter in greatest proportion."

Reflecting on his long career in developing nuclear weapons strategies and organising the forces to implement them efficiently, he described himself ruefully as having been "among the most avid of these keepers of the faith in nuclear weapons".

But, he continued, he had come to realise that it was now his "burden to declare with all of the conviction I can muster that in my judgment they served us extremely ill". He asked: "By what authority do succeeding generations of leaders in the nuclear-weapon states usurp the power to dictate the odds of continued life on our planet? Most urgently, why does such breathtaking audacity persist at a moment when we should stand trembling in the face of our folly and united in our commitment to abolish its most deadly manifestations?"

He termed the US strategic plan of 1960, which called for an automated all-out strike on the communist world. "the single most absurd and irresponsible document I have ever reviewed in my life". Its Soviet counterpart was probably even more insane. But it is important to bear in mind that there are competitors, not least among them the easy acceptance of extraordinary threats to survival.

***Survival in the Early Cold War Years*:** According to received doctrine in scholarship and general intellectual discourse, the prime goal of state policy is national security. There is ample evidence, however, that the doctrine of national security does not encompass the security of the population. The record reveals that, for instance, the threat of instant destruction by nuclear weapons has not ranked high among the concerns of planners. That much was demonstrated early on, and remains true to the present moment.

There is ample evidence, however, that the doctrine of national security does not encompass the security of the population. The record reveals that, for instance, the threat of instant destruction by nuclear weapons has not ranked high among the concerns of planners. That much was demonstrated early on, and remains true to the present moment.

In the early days of the NWE, the US was overwhelmingly powerful and enjoyed remarkable security: it controlled the hemisphere, the Atlantic and Pacific oceans, and the opposite sides of those oceans as well. Long before the World War II, it had already become by far the richest country in the world, with incomparable advantages. Its economy boomed during the war, while other industrial societies were devastated or severely weakened. By the opening of the new era, the US possessed around half of the world's total wealth and an even greater percentage of its manufacturing capacity.

There was, however, a potential threat: intercontinental ballistic missiles with nuclear warheads. That threat was discussed in the standard scholarly study of nuclear policies, carried out with access to high-level sources – Danger and Survival: Choices About the Bomb in the First Fifty Years by McGeorge Bundy, national security adviser during the Kennedy and Johnson presidencies.

Bundy wrote: "The timely development of ballistic missiles during the Eisenhower administration is one of the best achievements of those eight years. Yet it is well to begin with recognition that both the United States and the Soviet Union might be in much less nuclear danger today if [those] missiles had never been developed." He then added an instructive comment: "I am aware of no serious contemporary proposal, in or out of either government, that ballistic missiles should somehow be banned by agreement." In short, there was apparently no thought of trying to prevent the sole serious threat to the US: the threat of utter destruction in a nuclear war with the Soviet Union.

Could that threat have been taken off the table? We cannot, of course, be sure, but it was hardly inconceivable. The Russians, far behind in industrial development and technological sophistication, were in a far more threatening environment. Hence, they were significantly more vulnerable to such weapons systems than the US. There might have been opportunities to explore these possibilities, but in the extraordinary hysteria of the day they could hardly have even been perceived. And that hysteria was indeed extraordinary. An examination of the rhetoric of central official documents of that moment

like NSC-68 remains quite shocking, even discounting secretary of state Dean Acheson's injunction that it is necessary to be "clearer than truth".

One indication of possible opportunities to blunt the threat was a remarkable proposal by the Soviet ruler Joseph Stalin in 1952, offering to allow Germany to be unified with free elections on the condition that it would not then join a hostile military alliance. That was hardly an extreme condition in light of the history of the previous half-century during which Germany alone had practically destroyed Russia twice, exacting a terrible toll. Stalin's proposal was taken seriously by the respected political commentator James Warburg, but otherwise mostly ignored or ridiculed at the time. Recent scholarship has begun to take a different view. The bitterly anti-communist Soviet scholar Adam Ulam has taken the status of Stalin's proposal to be an "unresolved mystery". Washington "wasted little effort in flatly rejecting Moscow's initiative," he has written, on grounds that "were embarrassingly unconvincing". The political, scholarly, and general intellectual failure left open a "basic question," Ulam added: "Was Stalin genuinely ready to sacrifice the newly created German Democratic Republic on the altar of real democracy," with consequences for world peace and for American security that could have been enormous?

Reviewing recent research in Soviet archives, one of the most respected cold war scholars, Melvyn Leffler, has observed that many scholars were surprised to discover "[Lavrenti] Beria – the sinister, brutal head of the [Russian] secret police – propos[ed] that the Kremlin offer the west a deal on the unification and neutralisation of Germany," agreeing "to sacrifice the East German communist regime to reduce east-west tensions" and improve internal political and economic conditions in Russia – opportunities that were squandered in favor of securing German participation in NATO. Under the circumstances, it is not impossible that agreements might then have been reached to protect the security of the American population from the gravest threat on the horizon. But that possibility apparently was not considered, a striking indication of how slight a role authentic security plays in state policy.

Source: http://www.theguardian.com/, 06 August 2014.

OPINION – Ali Ahmed

What Does India Mean By 'Massive Retaliation'?

India's nuclear doctrine promises 'massive' retaliation. It may not be of the order of 'assured destruction' as visualised in the cold war. It could mean much less, after all even a town less would amount to a 'massive' loss. India certainly wishes 'punitive' retaliation to inflict 'unacceptable damage'. Therefore, when India promises that its nuclear retaliation will be 'massive', it may not be all that bad. After all it would not wish to send Pakistan back to the stone-age since the nuclear fallout will affect India directly. Therefore what India means by 'massive' retaliation is that it would resort to a city busting nuclear strategy in case of nuclear first use by Pakistan against it or its forces anywhere. This means that even if Pakistan was to use nuclear weapons defensively on its own territory and against advancing Indian forces, it would stand to lose a town or two.

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Let us visualise the scenario. A mega-terror incident occurs in India in which Pakistan's establishment is implicated. India resorts to its 'cold start' doctrine and sends its integrated battle groups across to teach Pakistan a lesson and end the perception of impunity of its military. Pakistan in panic, anger and fear, fires off a nuclear tipped missile against an advancing Indian column. It is reckoned that it takes several warheads to stop

an advance of mechanised forces that are fairly well spread out while advancing in a potentially nuclear battlefield. Therefore, it is unlikely that Pakistan would be trying to stop this column with its nuclear attack.

Instead it would likely be sending a warning signal that the conflict could get worse. It could be prompting the international community to intervene and stop the conflict. However, India would be reluctant to allow Pakistan to get away with nuclear murder. It would want to exercise the right of reply. Nuclear pundits in India recommend that India follow through with its nuclear doctrine in such a case and take out a Pakistani town or two at the very least. If the war were to end at this juncture, then it would be the 'best case'. It is not an unreasonable juncture to end the conflict in that Pakistan would have been punished adequately for its temerity to break the nuclear taboo. Pakistan may get the message loud and clear finally. The international community would clamp down in double quick time.

India's nuclear doctrine being one of nuclear deterrence is designed to stay Pakistan's nuclear hand. Any reasonable Pakistani decision maker, knowing that Pakistan stands to lose a town or two, or perhaps a city, may not want to chance it. Also, it could end up losing more, if not all, since escalation could take place. However, Pakistan may believe that since it has nuclear weapons in sufficient numbers it can get back at India. If India was to take out one of its cities then it would be at the risk of an Indian city or two falling to a counter strike. In Pakistan's calculus, this may check-mate India into self-deterrence. India may not go for counter-city retaliation since it stands to lose as much as Pakistan. This may embolden Pakistan to go first. This means India's nuclear deterrence can potentially fail since it may appear less than credible to Pakistan.

Therefore, there is a chance of Pakistan going for the nuclear button. India in this case will be faced with a choice of how to respond. In case it goes as per its doctrine and reduces a town to nuclear cinder, it requires ensuring that a like counter strike does not occur. It has three ways to do this. One is to rely on the international community to stop Pakistan. The second is that the strike on the town is deterrence in itself in that Pakistan would receive the message loud and clear that its remaining urban pockets could face like punishment unless it desists. The third is by targeting Pakistan's retaliatory capability by both nuclear and non-nuclear means to ensure that Pakistan cannot counter strike even if it wants to. Relying on the first would be useful since the international community will pull out the stops to halt a regional nuclear war as global climate stands to be affected. However, having failed to stop India's 'massive' retaliation, it cannot be guaranteed as a success.

While the international community may permit India to retaliate it would not want this option. Therefore, if India wants to have its cake and eat it too, it should work to ensure that Pakistan does not counter strike under international pressure. However, as seen, Pakistan, believing that it too can play the in-conflict deterrence game, may not oblige. Therefore, India must be prepared to absorb a counter strike.

The second, in-conflict deterrence, may work, but for the fact that the tendency to vengeance would be strong, particularly if Pakistan perceives India's retaliation as disproportionate. It may wish to get even, believing that with over a 100 weapons it too has in-conflict deterrence capability by holding Indian cities hostage to future strikes in case India keeps up the nuclear exchange. The third is difficult to visualise but not impossible. India's nuclear decision makers may want to protect Indian cities and towns and therefore when advised to go in for retaliation they may pose the question to their nuclear advisers on how can a Pakistani counter be guaranteed against. They may receive the recommendation that while India takes out a city or two in retaliation as per its doctrine, it may be necessary for it to also take out Pakistani retaliatory capability alongside. This may lead to counter-force targeting alongside a city busting attack.

The last is a less likely manner of 'massive' retaliation since this would kick up enough nuclear dust to bring on the nuclear famine environmental scientists visualised in their report on climate affects of regional nuclear war in 2013. While the international community may permit India to retaliate it would not want this option. Therefore,

if India wants to have its cake and eat it too, it should work to ensure that Pakistan does not counter strike under international pressure. However, as seen, Pakistan, believing that it too can play the in-conflict deterrence game, may not oblige. Therefore, India must be prepared to absorb a counter strike. It is at this juncture that both India and Pakistan, satiated after taking out a city or two of the other side and worried by the capability of the other side to take out more such cities, may be prepared to settle for a nuclear draw. Not only must pressure of the international community culminate at this point, but the two states must be willing to forego the satisfaction of 'winning' the exchange.

What is in it for the two states? India would have been hit twice over and got back but once. This may seem a gain for Pakistan. However, Pakistan by going first would be in the nuclear dog house. India by stopping the exchange would be on a higher ground, even though it would have targeted people first. This 'best case' scenario will likely be taken as relatively in favour of Pakistan since Pakistan would have escaped at a low cost. Therefore, the idea of 'massive' that may be projected is that India should make Pakistan pay a higher cost, in one estimate up to five or six cities. The problem with this push would be that with Pakistan's warhead numbers having crossed into three digits, it can hit back to inflict equal pain on India. To deter India from such a volume of retaliation, Pakistan could be thinking on a disproportionate counter strike, knowing that India, being larger, requires more damage to hurt equivalently. Such an exchange amounts to the prohibitive environmental costs that the 2013 report informed about. In other words, genocide would amount to suicide for India.

Therefore, India must clear to itself what it means by 'massive', 'punitive' and 'unacceptable' retaliation. There are two ways round the problem. One is that it moves away from this terminology by changing its doctrine for 'flexible' retaliation to include thinking about proportionate retaliation and graduated response. Alternatively, if it persists with this doctrine, then it must spell out how it wishes to avoid escalation. The best exit point identified is after the first nuclear exchange. It is to exit at the lowest threshold of nuclear use. The international community's good offices would be readily available to ensure this at two exit points: one is after India's retaliation and the second is after Pakistan's counter strike. Clearly, this cannot be done in isolation. There has to be a modicum of doctrinal exchange with Pakistan. After all, Pakistan's counter strike could itself be 'massive' plus, fearing an Indian wargasmic strike back. To halt this, not only must the caveat of stopping any exchange at the lowest level be part of the doctrine, but this must be made known to Pakistan. Even so, it may not be enough.

Pakistan's counter strike could itself be 'massive' plus, fearing an Indian wargasmic strike back. To halt this, not only must the caveat of stopping any exchange at the lowest level be part of the doctrine, but this must be made known to Pakistan.

Two things additional require doing. One is, as mentioned, a doctrinal exchange with Pakistan. For this the mechanism of talks on nuclear matters already exists. The second is to create a nuclear risk reduction center in peace time with the intention of escalation control in which both states will have common interest in war time. This is easier said than done. The former has not happened, other than at a rudimentary level in the six rounds of talks over the past decade. The latter is too much to expect at this stage of talks about resumption of talks. Also, there may be reluctance on this score stemming from conveying the impression to the other side that there are reservations on the health of the deterrence.

Preparing for its breakdown can be taken as discrediting it. Therefore, while the former may happen, the latter is less likely. Therefore, while the NRRC may not be put in place, there are two options. One is to have contingency plans drawn up in the talks for this to be put in place in case the balloon goes up. The second is that this can be put in place by a third country, say, the US, and offered for use to the two belligerents in case terrorist push comes to conventional shove. Clarity in visualising a nuclear conflict such as attempted

here can bring out the direction to go. As India embarks on nuclear doctrinal revision, here is a recommendation worth considering.

Source: http://www.eurasiareview.com/, 08 August 2014.

OPINION – Debalina Ghoshal

Should Iranian Ballistic Missiles be curbed in the Nuclear Deal

As the P5+1 nuclear deal is progressing and signs of progress with the deal is reflected in Iran "neutralising" half of its higher enriched uranium, yet Western apprehensions on Iran's ability to possibly develop nuclear weapons continue. Enrichment of uranium below 20% level makes it difficult for states to develop nuclear weapons. The deal exactly demanded that Iran should keep its uranium enrichment restricted to not more than 5%. This served as a great relief for the West. Nuclear weapons though need 90% of uranium enrichment; Iran's capability of being able to enrich uranium up to 20% could have resulted in its developing nuclear weapons.

Amidst many issues that could arise during the progress of the deal, one important issue that the West has been concerned about is the issue of ballistic missile developments in Tehran. Iran has persistently continued with its ballistic missile development program which it considers vital for its self defence.

All is well that ends well, and according to IAEA reports, Iran is showing positive signs in their nuclear program by keeping to its words of pursuing nuclear program for peaceful purposes. It would be wrong to say that such positive steps have completely taken the West into confidence, however, efforts should also be taken by the West to not to ruin the progress of the deal due to unwanted apprehensions at this juncture. Amidst many issues that could arise during the progress of the deal, one important issue that the West has been concerned about is the issue of ballistic missile developments in Tehran. Iran has persistently continued with its ballistic missile development program which it considers vital for its self defence.

Iran claims that these missiles are to boost its conventional capabilities not only to strengthen its defence against adversaries but also as a deterrence against growing missile capabilities of other states like Israel, Saudi Arabia and Turkey in the region and with a weak air-force, Iran's main bet lies on missiles.

At present, Iran's ballistic missile arsenal includes short range, medium range and intermediate range ballistic missiles. These include Shahab1 with range of 300-750kms, Fateh with 200kms, the 750kms range Fajr the Scud category missiles, and the Chinese M-11s also called the Tondars in the short range category. Amongst medium range ballistic missiles, Iran's arsenal can boast of the Ghadr with range of 1800-2000kms, Ashura with a range of 2000kms and Shahab 3 with range of 1200-1900kms.

According to reports, Ashura is able to reach targets in Middle East, Turkey and southern Europe. Amongst intermediate range ballistic missile systems, Iran possesses the 2500-4000kms range Musudan ballistic missiles which are reported to be able to carry nuclear warheads. With Shahab 5 and Shahab 6 once developed and if nuclear capable, Iran could not only possess the capability of becoming a regional nuclear power but also allow it to have a global reach.

The issue of ballistic missiles cannot be ignored completely, since not only can these missiles carry nuclear warheads, but they could also lead to proliferation challenges in the future. UNSC Resolutions have been passed time and again to curb Iran's ballistic missiles development. There have been five UNSC Resolutions passed till date which include 1737 in 2006, 1747 in 2007, 1803 and later 1835 in 2008, 1929 in 2010. Despite these UNSC Resolutions, Iran has defied these resolutions and has continued with its ballistic missile development program.

Thus, there was also a suggestion to raise the issue of Iran's ballistic missile development in the nuclear deal itself. At such a juncture, where the

deal lies at a critical stage, such a step of including ballistic missiles as a part of the nuclear deal could seriously aggravate the progress of the nuclear deal.

It could prevent Iran from further cooperating with the P5+1 countries regarding the deal. Iran is a party to the NPT which does not deal with the issue of ballistic missiles. Hence, any pressure to curb Iran's missile development program could also result in Iran withdrawing from the NPT. The issue of ballistic missiles must be kept separate from that of the nuclear deal given the seriousness of the nuclear issue in Iran. Any effort to coerce Iran to curb its missile capabilities could be taken misconstrued by Iran as an attempt to curb its military capabilities too. Therefore, there should be a separate framework which could a find a solution to the ballistic missile issue which preferably should be a regional framework.

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Source: http://www.spacedaily.com/, 08 August 2014.

OPINION – Steven Pifer

What should Obama Do about Russia and the INF Treaty?

The US government concluded in July, 2014 that Russia violated the 1987 INF Treaty by testing a prohibited cruise missile. The question now is what to do. Withdrawal from the treaty would be a mistake. The INF Treaty required the elimination of all US and Soviet land-based ballistic and cruise missiles with ranges between 500 and 5,500 kilometers. As a result, the two countries destroyed 2,692 missiles.

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In deciding how to respond, the Obama administration should consider the example set by President Reagan in 1983, when US officials revealed that the Soviets had begun building a large radar installation at Krasnoyarsk, in central Siberia. The ABM Treaty set limits on such radars, including a specification that they be located on a country's periphery and oriented outward. The Krasnoyarsk radar should have faced south. It instead faced east, overlooking a long stretch of the Soviet Far East, in clear violation of the treaty's terms. The Reagan administration could have chosen to withdraw from the ABM Treaty. It did not. Instead it raised the violation in the Standing Consultative Commission, the treaty's compliance body. Senior US officials, including the president, pressed the issue with their Soviet counterparts.

Not only did the Reagan administration continue to abide by the ABM Treaty, it negotiated new arms control agreements with the Soviets despite the blatant violation. In 1987, Reagan and General Secretary Mikhail Gorbachev signed the INF Treaty, and they made major progress on the START. But it wasn't until 1990 that the Soviets corrected the violation and agreed to tear down the Krasnoyarsk radar. The next year, the START treaty was signed.

The approach taken by the Reagan administration, and the George H.W. Bush administration that followed it, paid off. By not overreacting, Washington was able to conclude new agreements that significantly reduced the nuclear threat to the United States and its allies. Several factors argue for continued US observance of the INF Treaty, at least for the foreseeable future.

First, evidence of the Russian violation is probably highly classified, which would make it difficult for

the US government to share information publicly. If Washington cannot present compelling evidence of the Russian violation, the United States could be seen by the world as the party that killed the INF Treaty. The Russians certainly would do everything in their power to pin blame on the United States.

Second, the US military currently has no plans for new intermediate-range missiles of its own. Any such missiles would take years to design and build, and would take funds from other pressing defense priorities. US withdrawal from the treaty would leave Russia free to deploy new intermediate-range cruise missiles and ballistic missiles as well, with little prospect of a US missile to deploy in response.

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Third, even if the Pentagon were to build intermediate-range missiles, they would have to be based either in Europe or in Japan or South Korea to reach significant targets in Russia. But few if any allies would be eager to accept such missiles. Not pulling out of the INF Treaty does not, however, mean that President Obama shouldn't respond to the Russian violation. His administration should press Russian officials, through the Special Verification Commission established by the INF Treaty and through other channels, to come back into full compliance and to take steps to demonstrate that. It should also emphasize to NATO and Asian allies the US readiness to take the high road and stay within the treaty while pressing Moscow on its violation.

And finally, it should engage America's allies, as well as China and other Asian and European states, on the issue of Russia's missile test, and encourage them to raise this issue with Moscow. After all, if the Russians were to proceed to build a new intermediate-range cruise missile, those states would be within its range while most, if not all, of the US would not.

Source: http://www.latimes.com/, 30 July 2014.

OPINION – Geoff Brumfiel

Should America Keep its Aging Nuclear Missiles?

...For decades, the United States has kept hundreds of nuclear-armed missiles on alert. And just like the dated command consoles and the plumbing, the missiles are aging. In coming years, the entire system must be replaced. That is leading some to ask what purpose these powerful weapons serve in the modern era.

For decades, the United States has kept hundreds of nuclear-armed missiles on alert. And just like the dated command consoles and the plumbing, the missiles are aging. In coming years, the entire system must be replaced.

"The mission of the Cold War is gone," says Bruce Blair, the co-founder of Global Zero.... Back then, these missiles were kept pointed at the Soviet Union, which had its own weapons pointed back at us. These days, we're more concerned about countries like China, Iran and North Korea. And Blair says these missiles don't threaten those countries for one simple reason: "In order for those land-based forces in the plains of the United States to be used against a country like North Korea, China or Iran, they would have to overfly Russia." According to Blair, "We're very leery of lobbing anything over the territory of Russia that may look like a missile attack against Russia." "It could trigger Russia to fire by mistake and destroy our country." The Pentagon says it is aware of the problem. But these land-based weapons aren't America's only nukes.

They're part of a triad, a three-pronged nuclear defense that also includes bombers and submarines.

The Defense Department won't comment on its war plans, but if America were ever to launch a strike on a country other than Russia, it is likely bombers or subs would be used instead of the land-based missiles. Blair says those silos have another weakness: They're at fixed locations, making them vulnerable to a nuclear strike. To overcome that problem, missiles are designed to launch very quickly, within minutes....

Sources: http://www.npr.org/, 30 July 2014.

OPINION – Nasurullah Brohi

Global Anarchy and Role of Nuclear Weapons in Foreign Policy Decision Making

The golden phrase of international relations always will be glorified "In the international arena there are neither permanent friends nor permanent foes but only interests are permanent". The international political system is very complex phenomenon where there is no morality in the international political system and state-to-state relations depend upon maximizing the chances of self-interest even through deceiving others.

However, states' make mutual defense pacts and alliances with each other, but no state will ever commit suicide on the expanse of any friendly state, therefore; where self-interest is given such a high regard then all the nations of world compete in a race of gaining more and more national interest objectives. The most important thing which needs to be mentioned here, the greatest national interest of any state is always its survival. In this Realist world, only the fittest can survive otherwise the recent as well as older history is full of such examples where nations were vanished ruthlessly therefore, the seeking of power is eventually a question of the very existence for any state.

There is no morality and none cares about the rights of any weaker state. Likewise, the notion of national interest is also definite because the power also compels to create a rational order leading the spectator and infuses the coherent array into the affairs of global power politics making the conjectural thinking of politics possible. It gives an opportunity to the actor a rationally controlling behavior in its dealings and creates that outstanding permanence in the foreign policy decision making.

Therefore; the modern realism believes that, the seeking of power is the ultimate right of every state, which gives the assurance of your survival in international anarchy. There is no morality and none cares about the rights of any weaker state. Likewise, the notion of national interest is also definite because the power also compels to create a rational order leading the spectator and infuses the coherent array into the affairs of global power politics making the conjectural thinking of politics possible. It gives an opportunity to the actor a rationally controlling behavior in its dealings and creates that outstanding permanence in the foreign policy decision making.

Such examples can be traced in the foreign policies of great powers like the United States, Britain, France, China and Russia despite of the diverse objectives and interests. In the contemporary world, many independent states pass through a critically complex situation where they are even not able to freely conduct their most important national and foreign policy affairs. These states are compelled by great powers through the different means of their power mostly, like economic tools, diplomacy and sometimes also by the use of force. The independent foreign policy formulation of a nation is a great manifestation of its sovereignty. Apart from enjoying all power of a nation, except the right to carry out their foreign relations, it cannot be regarded as an independent state in real sense.

Keeping in view such a dilemmatic situation, states seek the opportunities that become power multiplier like those of WMD and the nuclear weapons, which also become opportunity of international prestige and a guarantee for independent foreign policy making. But since the dismantling of the Soviet Union, the most important foreign policy interests of global powers

has become to put a very strict control over the proliferation of nuclear weapons technology.

The great powers that have nuclear weapons capability or if they are allies of any nuclear weapon state, they try to put strict obstacles before the non-nuclear weapon states who try to acquire the nuclear technology. This is also very interesting to know that none of any state has a global monopoly in terms of nuclear weapons.

The nuclear weapon states strive to maintain their power and they thrash about the prevention of further spread of nuclear weapons mainly to preserve their power over other states and increase their foreign policy advantages. That is the reason how nuclear weapon states have extra power, vis-à-vis non-nuclear weapon states. States without nuclear weapons, on the other hand, often struggle to acquire the nuclear weapons technology not only because of protecting their country from external military attacks, but in reality, they try to get leverage in their foreign policy decision making.

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Realism also believes that, for the prevention of war one should be ready for the war. In such a case, only, the deterrence prevents more from attacking any nuclear weapon states than any non nuclear weapon state. In the wake of any conflict between the great powers, an alternative option to nuclear weapons must overcome the extraordinary decision of choosing the option of war.

For any unstable balance of power, described by Sir Winston Churchill as the balance of terror, there can be neither victor nor vanquished. In the global anachronism, the theory of MAD only maintains the balance of terror and deters any aggressor from carrying out any nuclear attack that ultimately will cause itself a greater degree of loss in case of retaliation.

However, if we want this world a worth place for living then for a good reason the nuclear weapons and other weapons of mass destruction should not be an option of assurance of survival and prevention of external military aggressions. There should be created a middle way, a world order must be set in a way where every nation should live with equal rights, mutual respect and the true sovereignty.

No nation should monopolize the global political system and compel other's actions to acquire its national interests. Otherwise, a world containing two options will be much safer either complete disarmament specially in terms of WMD or otherwise a complete rational realism based upon the notion of struggle for power to acquire each and every means to safeguard the sovereignty, national integrity and true independence to conduct national and foreign policy decision making process.

Source: http://www.eurasiareview.com/, 29 July 2014.

NUCLEAR STRATEGY

CHINA

China 'Confirms New Generation Long Range Missiles'

China has acknowledged the existence of a new ICBM said to be capable of carrying multiple nuclear warheads as far as the United States.... A government environmental monitoring centre in Shaanxi said on its website a military facility in the province was developing DF-41 missiles. The DF-41 is designed to have a range of 12,000 kms, according to a report by *Jane's Strategic Weapon*

Systems, putting it among the world's longest-range missiles. It is "possibly capable of carrying multiple independently targetable re-entry vehicles", the US Defence Department said in a report in June, referring to a payload of several nuclear warheads....

It also quoted a Chinese military analyst as saying: "As the US continues to strengthen its missile defence system, developing third generation nuclear weapons capable of carrying multiple warheads is the trend."...Beijing has boosted its military spending by double digit amounts for several years as it seeks to modernise its armed forces, and now has the world's second biggest military outlays after the US.

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Source: http://www.telegraph.co.uk/, 01 August 2014.

INDIA

Navy Gets New Facility to Communicate with Nuclear Submarines Prowling Underwater

With India planning a larger fleet of nuclear-powered submarines, which can prowl underwater for several months at a time and let loose their nuclear-tipped missiles as and when required, the Navy has acquired a new advanced facility to communicate with the silent predators. The state-of-the-art very low frequency (VLF) transmitting station was commissioned at INS Kattabomman in Tirunelveli (Tamil Nadu) by Navy chief Admiral RK Dhowan on 31 July. ...

Only a handful of nations have such a VLF capability, which is critical to pass coded orders to nuclear submarines on long-range deterrent patrols. Diesel-electric submarines have to surface every few days to get oxygen to recharge their batteries and have limited endurance due to fuel requirements. Nuclear-powered submarines, armed with nuclear-tipped missiles, in turn, are considered the most effective and difficult-to-detect nuke platform since they can operate underwater at long ranges for months at end.

India's first three SSBNs (nuclear-powered submarines with nuclear ballistic missiles) are already being built at the secretive Ship-Building Centre at Vizag to complete the country's nuclear weapons triad - the capability to fire nukes from land, air and underwater.

India is down to just 13 old diesel-electric submarines, barely half of which are operational at any given time, and a single nuclear-propelled submarine INS Chakra on lease from Russia without any long-range missiles. But India's first three SSBNs (nuclear-powered submarines with nuclear ballistic missiles) are already being built at the secretive Ship-Building Centre at Vizag to complete the country's nuclear weapons triad - the capability to fire nukes from land, air and underwater.

The first, the 6,000-tonne INS Arihant, is slated to go for extensive sea trials soon after its miniature 83MW pressurized light-water reactor, which went "critical" in August last year, attains "full power" in the next couple of months. Moreover, there is an ongoing proposal to build six SSNs (nuclear-powered attack submarines, usually without ballistic missiles) ....

Source: Rajat Pandit, The Times of India, 31 July 2014.

NORTH KOREA

North Korea Threatens Nuclear Retaliation over Military Exercises in South

North Korea said it has asked for an emergency UNSC meeting to protest upcoming US-South Korean military exercises, warning the drills increase the danger of war on the Korean peninsula. North Korea's deputy ambassador Ri Tong Il criticised the council for its failure to respond to the country's July 21, 2014 letter requesting a meeting. He said the joint exercises are a threat to international peace and security that must be addressed.

If there is any "spark" during the exercises, Ri warned, "it would easily and immediately turn into

war" and the US and the Security Council will be responsible for the deaths. He said Washington and Seoul are hinting they will push ahead with the mid-August exercises involving between 400,000 and 500,000 US and South Korean forces, despite Pyongyang's opposition.

Ri accused the US of engaging in "nuclear blackmail" by bringing nuclear-armed ships, submarines and bombers to South Korea for military exercises. He warned that North Korea will respond to any nuclear or missile attack with nuclear weapons or missiles. North Korea has already "made clear" that its long-range ballistic missiles "are targeted at the US since the US is targeting Pyongyang," Ri said. Kurtis Cooper, spokesman for the US Mission to the UN, said the annual joint military exercises "are transparent, defense-oriented" and have been carried out openly for about 40 years....

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Source: http://tvnz.co.nz/, 02 August 2014.

RUSSIA

Russian Army to Equip Ground Forces with 'Iskander' Missiles by 2018

The missile brigades of Russia's Ground Forces will be equipped with advanced weaponry and hardware, including the 9K720 Iskander (SS-26 Stone) theater ballistic missile systems, as part of the 2020 state rearmament program, Russian Defense Minister Sergei Shoigu said. "In order to bring Iskander missiles into use, the army needs adequate infrastructure" the minister added. In 2008, Russia launched the most extensive reorganization of its armed forces in its history.... Still, the main outcome of the reform is the unprecedented army re-equipment program. The percentage of advanced weapons in the army has already hit 16 percent and is expected to reach 70 percent before 2020.

Russian Strategic Missile Forces regiments are to be equipped with RS-24 Yars (SS-27 Mod 2) mobile ballistic systems. Additionally, the ministry plans to rearm the Kozelsk missile unit with RS-24 Yars fixed missile systems.

...The Defense Ministry is planning to increase the share of advanced weaponry in the army to 30 percent in 2014. Russian Strategic Missile Forces regiments are to be equipped with RS-24 Yars (SS-27 Mod 2) mobile ballistic systems. Additionally, the ministry plans to rearm the Kozelsk missile unit with RS-24 Yars fixed missile systems.

Source: http://en.ria.ru/, 05 August 2014.

Russian Nuclear Bombers Keep Roaming Closer to US Airspace

Russian nuclear bombers were spotted flying near Alaska. The bombers were escorted by fighter jets, floating just outside of US and Canadian airspace. This is the second such sighting since June, sparking the attention of American military jets. Major Beth Smith, of the US Northern Command and the North American Aerospace Defense Command (NORAD), has said "Over the past week, NORAD has visually identified Russian aircraft operating in and around the US air defense identification zones." There have been about 16 Russian forays in the Alaskan and north Canadian area in the last 10 days.

It is not entirely uncommon to see Russian planes in this airspace, however, the increased number of such planes seems to be triggering some concern amongst the aviation military community, particularly given the increased tension in Ukraine. Smith referred to this number of forays as "a spike in activity."

Smith noted that these were training missions, though a spy plane and anti-submarine plane were spotted among the bombers. However, another defense official told the *Washington Free Beacon* they believe this is more than just a training flight. The official stated "[Russian strategic nuclear forces appear to be] trying to test our air defense reactions, or our command

and control systems. These are not just training missions." The Russian military has admitted they have flown in that area.

Source: Polly Mosendz, http://news.yahoo.com, 08 August 2014.

BALLISTIC MISSILE DEFENCE

CHINA

China Developing Capability to Kill Satellites, Experts Say

US defense experts and the US State Department are describing China's successful July 23, 2014 so-called "anti-missile test" as another ASAT. It is the third such kinetic strike ASAT launch by China and raises fears the US will be unable to protect its spy, navigation and communications satellites.

US defense experts and the US State Department are describing China's successful July 23, 2014 so-called "anti-missile test" as another ASAT. It is the third such kinetic strike ASAT launch by China and raises fears the US will be unable to protect its spy, navigation and communications satellites....China's first two anti-satellite tests, 2007 and 2010, involved the SC-19 (DF-21 ballistic missile variant) armed with a KKV. Though the first two involved the SC-19, only the 2007 ASAT actually destroyed a space-based platform. The 2010 and July 23, 2014 test successfully struck a ballistic missile.

With the destruction of the weather satellite came international complaints that China was unnecessarily creating a debris field that would endanger other nations' space platforms. This could explain the reason China chose to shoot down ballistic missiles rather than hitting orbiting platforms.

It is still too early to declare whether the third test used an SC-19 or a different missile system. Stokes said it was a "speculative guess," but it could have been a test of a new solid motor being developed for a space intercept system, possibly designated as the Hongqi-26 (HQ-26).... Hans Kristensen, however, does not believe that a Chinese missile defense system would be able to counter the advanced and large US and Russian nuclear missile forces. It would be a somewhat different matter with India.

... China has plenty of money to spend and appears to have permission to work on a variety of high-tech and risky projects. According to Kristensen, "the interesting question is whether China is working on ABM technology to deploy its own defenses or to better understand and overcome the missile defenses of its potential adversaries." Aside from how all this undermines the credibility of any Chinese strategic nuclear related statements, Washington now has to face the reality that in the 2020s it will be facing a much larger and more capable Chinese nuclear missile force that will have an active missile defense component.

Source: http://www.defensenews.com/, 04 August 2014.

CHINA / ISRAEL

Chinese Hackers Steal Israel's Iron Dome Missile Data

A Chinese hacking group has been accused of stealing data from Israel's billion-dollar Iron Dome missile system. The state-sponsored Comment Crew hacking group, thought to operate out of China, was responsible for attacks from 2011 onwards on three Israeli defence technology companies Elisra Group, Israel Aerospace Industries and Rafael Advanced Defense Systems all involved with the Iron Dome project.

A Chinese hacking group has been accused of stealing data from Israel's billion-dollar Iron Dome missile system. The state-sponsored Comment Crew hacking group, thought to operate out of China, was responsible for attacks from 2011 onwards on three Israeli defence technology companies Elisra Group, Israel Aerospace Industries and Rafael Advanced Defense Systems all involved with the Iron Dome project.

...The revelation comes as cyber attacks against Israel have intensified during its current conflict with Palestine, including recent attacks defacing Israel Railways and hospital websites and denial of service attacks which slow Israeli's internet connections, according to Dina Beer,

managing director of the Israeli Internet Association, talking to Bloomberg.

The hacks occurred between 10 October 2011 and 13 August 2012, according to security firm Cyber Engineering Services, talking to independent security researcher Brian Krebs, which tapped into the secret communications of the hackers and discovered that they had stolen over 700 files from IAI. CES said that the majority of the data was intellectual property and that the 700 files likely represented only a small proportion of the data stolen from the three defence companies.

Among the documents stolen from IAI were detailed schematics and specifications for the US-designed Arrow 3 missile, which is restricted under the International Traffic in Arms Regulations and a key component of Iron Dome, as well as drones and other rockets. ... The hackers had access to the corporate networks to some of the Israeli defence companies for over a year, and stole confidential emails from top executives at the companies. An IAI spokeswoman brushed off the hacking allegations as "old news"....Meanwhile Rafael Advanced Defense Systems denied knowledge of the attacks....The CES report on the attacks has not yet been publicly released, but the Comment Crew is thought to be associated with the Chinese PLA, which was accused of stealing large amounts of data from US defence companies.

Security firm Mandiant identified the Comment Crew as PLA unit 61398 in February 2013, while the United States Department of Justice charged five members of the hacking group with various cyber crime and espionage offences in May, 2014. ... IAI further denied the hack and theft of data. "The information reported regarding the leakage of sensitive information is incorrect," said a Eliana Fishler, senior vice president for communications at IAI in a statement sent to the Guardian. ...

Source: http://www.theguardian.com/, 29 July 2014.

NUCLEAR ENERGY

INDIA

Indian Nuclear Must Grow 15 Times for Clean Future

At a mere 673 kWh per year on average, per capita electricity consumption in India is less than one quarter of the global average, said the IEA, highlighting its analysis of India's electricity system published in its *Energy Technology Perspectives 2014*. A "first priority" for India is to raise this level of power consumption, while bringing electricity to some 300 million unconnected people.

According to load factors published by *Nuclear Engineering International* magazine, the average load factor of India's reactors reached a low of around 40% in 2008 when uranium supply was very tight. It has since risen to a record high of about 72% in 2013.

To do this will require investment across the country's entire power sector, with renewables and nuclear power at the fore if a low-carbon mix is to be achieved. Under the IEA's '2DS' scenario, where carbon dioxide emissions are curtailed enough to limit average global temperature increases to 2°C, a range of renewables would provide 40% of electricity with nuclear supplying 15% by 2050. The use of carbon-intensive coal for power generation would fall from today's 80% to less than 20%. The 2DS scenario also sees total power generation in India quadruple by 2050. But nuclear power would grow faster than the power sector as a whole, from a total capacity of 5.3 GWe today to 80 GWe in 2050 - some fifteen times more.

India's nuclear industry is characterised by its largely indigenous nature and reliance on the small pressurized heavy water units which make up 18 of its 21 units. The country rejected the NPT and was subsequently excluded from international trade due to a lack of safeguards brought in under the treaty by other countries. This anomaly has now been corrected outside the treaty and India is now able to source uranium and nuclear fuel and services on the open market. The IEA noted this has resulted in higher performance from existing nuclear power plants. According to load factors published by *Nuclear Engineering International* magazine, the average load factor

of India's reactors reached a low of around 40% in 2008 when uranium supply was very tight. It has since risen to a record high of about 72% in 2013.

The success of this depends on resolution of another anomaly regarding India - recent legislation that could make suppliers liable for damages resulting from a nuclear accident even many years after successful delivery of the plant. India's official stated goals for nuclear power are more ambitious than the IEA's scenario, aiming for 25% of electricity supply by 2050.

Source: http://www.world-nuclear-news.org/, 04 August 2014.

URANIUM PRODUCTION

AUSTRALIA

Queensland Prepared for Uranium Mining

The government of the Australian state of Queensland says it is now ready to accept applications for uranium mining projects following its announcement of a new regulatory framework. The state lifted its long-standing ban on uranium mining in 2012. Mine minister Andrew Cripps on August 1, 2014 released "a modern and robust" framework to ensure that uranium mining in Queensland is carried out according to the world's best environmental protection and safety standards.

The government said the framework "provides regulatory efficiency and investment certainty" for uranium mining in Queensland. It "adopts the same obligations that apply to existing mineral tenure holders, including compliance with land access and native title laws."...Any uranium mined in Queensland will only be exported to countries that have a bilateral safeguard arrangement with Australia. Uranium will be exported through existing licensed ports in Darwin and South Australia as there are currently no ports in Queensland licensed for the export of uranium.

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The Queensland government has established the Uranium Mining Oversight Committee to facilitate open discussions between state government departments and to oversee the development of the uranium industry in Queensland. It said a stakeholder committee will also be established "when there is more certainty about the development of a uranium mine."...Cripps said, "It is now up to industry to decide when to lodge applications for uranium mining and those decisions will be influenced by a number of factors including global commodity prices, market supply and demand and mining costs."

Source: http://www.world-nuclear-news.org/, 01 August 2014.

NUCLEAR COOPERATION

CHINA–PAKISTAN

China Gifts Pak Mega Nuclear Power Plants

China is about to operationalise a 1 GW nuclear power reactor at Karachi in Pakistan.... Two more are in the pipeline in Karachi and three more in other parts of the country. This represents a quantum leap from the much smaller reactors hitherto supplied by Beijing to Islamabad, and is also the first time that such advanced technology has been demonstrated globally.

The scientists warn that the accounting process for nuclear waste materials is very lax on the Pakistan side, and hence there exists a significant risk that nuclear waste from the plant will not be wholly accounted for. A senior scientist pointed out that the protocols for determining nuclear waste in standard (and much smaller) reactors would not be applicable to the 1 GW reactor, and hence it would be easy for the Pakistan side to siphon off large quantities of

nuclear waste for re-processing. "Each giant power reactor can generate enough waste for up to 40 bombs each year," a scientist warned, adding that the Karachi reactor soon to be commissioned was only the first of three such reactors planned there by the Chinese side. Together with three more mega reactors at Chashma, there would be enough spent fuel to load onto to 200 nuclear bombs.

Defence sources say that the Pakistan army has been working on a doctrine of massive first strike that would incapacitate India before this country has a chance to strike back. Such a devastating first strike would degrade, if not destroy, Delhi's ability to launch a retaliatory second strike. The capacity for such retaliation is what is believed to be responsible for the very few occasions during which the Pakistan army has threatened the use of nuclear weapons against India.

... Although Beijing claims that the nuclear reactors and assistance supplied to Pakistan are fully safeguarded under IAEA guidelines, the reality is that there have been multiple occasions when that agency has discovered loopholes in the way in which nuclear materials are being handled in Pakistan. Thanks to the protection given by China, a permanent member of the UNSC, inspectors have not been allowed into key Pakistan nuclear facilities, while inspections have been less than rigorous, in large part because the Pakistan side decides what facilities to show, and when.

Officials from multiple countries tracking such developments point out that China is in the process of supplying 1 GW mega nuclear power reactors to not just Pakistan but Bangladesh as well, which is negotiating for two, as is Myanmar.

China is in the process of supplying 1 GW mega nuclear power reactors to not just Pakistan but Bangladesh as well, which is negotiating for two, as is Myanmar. Even Sri Lanka is in the process of working out an agreement with Beijing for the supply of a mega nuclear power reactor. However, none of these countries carry the proliferation risk that Pakistan does, and Islamabad is to get more mega nuclear plants than Dhaka, Colombo and Nyaypidaw put together.

Even Sri Lanka is in the process of working out an agreement with Beijing for the supply of a mega nuclear power reactor. However, none of these countries carry the proliferation risk that Pakistan does, and Islamabad is to get more mega nuclear plants (with attendant nuclear waste capability for re-processing into weapons-grade material) than Dhaka, Colombo and Nyaypidaw put together.

Interestingly, the Karachi I reactor (to be followed by Karachi II and Karachi III) represents a significant upgrade of the existing capacity of the plant. "When combined with the rapid expansion of the Pakistan army's nuclear arsenal and the ongoing upgrade of their missile systems, the delivery of such advanced nuclear facilities to Pakistan presents a grave risk to India's security", a senior official warned. ...

The 1 GW mega nuclear reactor is a light water reactor whose design has yet to be tested through operating the power plant. "Hopefully the reactor design will be safe, as otherwise a nuclear accident in such a large plant can be much more deadly than Chernobyl," a scientist warned, adding that "the radioactivity would spread to Iran, India and the GCC countries."

Although there have been suggestions in the past that re-processing of spent fuel be done outside Pakistan, this demand has always been rejected by Islamabad, with the consequence that "a huge capability that is in effect un-safeguarded has been built up in Pakistan to re-process nuclear materials", a senior official warned, adding that "evidence exists that North Korean designs and processes are still finding their way into Pakistan through a third country."

Oddly, despite the fact that proliferation of nuclear technology from Pakistan has been documented multiple times, China is intensifying its assistance

to Islamabad under the excuse of carrying out existing contracts. "The supply of 1 GW reactors cannot in any way be called a continuation of existing agreements, as it represents a new technology," a senior official pointed out, adding that "despite open Chinese assistance to Pakistan as well as to other countries such as North Korea and Iran, both France and Russia collaborate with Beijing to improve existing technologies."

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Interestingly, both Rosatom (Moscow) and Areva (Paris) have huge partnership programmes in China, the effect of which has been to upgrade Chinese technology sharply. "Very soon the Chinese will be able to compete and win against the same French and Russian nuclear plant manufacturers who are helping them," an engineer pointed out. An expert on nuclear reactor technology pointed out that "China has mastered the 1 GW reactor technology and therefore moved far ahead of India." At the same time, he warned, "they are working on 1.5 and 2 GW reactors and expect to make them operational in five years." Once, as expected, the reconditioned Karachi I mega nuclear plant comes on stream, experts warn that it will only be a matter of time before Pakistan develops not only an incapacitating first-strike capacity against India, but a possible second-strike option as well."

Following this new strategy, Russian state monopoly Gazprom signed a US$400 billion deal with China in May after 10 years of negotiation. Rosatom plans to launch the world's first floating NPP in 2018. This mobile, small capacity nuclear thermal power plant, best suited to remote regions, will be based in Chukhotka in Russia's far-east.

At that point in time, expect the level of adventurism across the border to be as high as it was in the late 1980s and the early 1990s (when the Punjab and Kashmir insurgencies were boiling over), a security expert warned, adding that "expansion of India's own defence capacity is the only deterrence against this." The supply of 1 GW reactors to Pakistan from China, followed by the delivery of similar systems to other neighbours of India, is changing the security dynamics in South Asia.

Source: http://www.sunday-guardian.com/, 02 August 2014.

CHINA–RUSSIA

China and Russia may Team up to Develop Floating Nuclear Power Plants

Russia and the world's top energy user China may jointly develop six floating nuclear power plants, Russia's nuclear export body said on July 29, 2014, a further joint energy project since the signing of a US$400 billion gas supply deal. Rusatom Overseas, the export branch of state nuclear reactor monopoly Rosatom, said it signed a memorandum of understanding with China on the development of floating NPPs from 2019. "Floating NPPs can provide a reliable power supply not only to remote settlements but also to large industrial facilities such as oil platforms," Rusatom Overseas Chief Executive Dzhomart Aliev said in a statement.

Hit by European and US sanctions in response to the crisis in Ukraine, Russia is eager to diversify its economy away from the West. Following this new strategy, Russian state monopoly Gazprom signed a US$400 billion deal with China in May after 10 years of negotiation. Rosatom plans to launch the world's first floating NPP in 2018. This mobile, small capacity nuclear thermal power plant, best suited to remote regions, will be based in Chukhotka in Russia's far-east.

Source: http://business.financialpost.com/, 30 July 2014.

CHINA–SAUDI ARABIA

KSA, China Sign Nuclear Energy Cooperation Deal

The King Abdullah City for Atomic and Renewable Energy signed a memorandum of understanding with the Chinese National Nuclear Energy Company in Shanghai on August 7, 2014 on cooperation mechanisms for the peaceful use of nuclear energy.

Waleed Husain Abu Al-Faraj, vice president of K.A.CARE, and Hwan Min Gang, chief financial officer of the CNNC, signed the MoU. K.A. Care President, Yamani met with Wen Jiabao, minister of the National Energy Commission, and several officials in Shanghai to discuss areas of mutual cooperation in the atomic and renewable energy fields between the two countries.

K.A.CARE was established through a royal decree issued by Custodian of the Two Holy Mosques King Abdullah on April 17, 2010, with the fundamental aim of building a sustainable future by developing substantial alternative energy thanks to an ever-increasing pressure on the country's nonrenewable hydrocarbon resources. As a result, alternative, sustainable and reliable sources of energy for generating power and producing desalinated water were introduced in a bid to reduce consumption of the nation's fossil fuel reserves.

A balanced energy mix of alternative and conventional energy is strategically important for Saudi Arabia's long-term prosperity, energy security and its leading position in the global energy market, experts said. Atomic and renewable energy will account for a significant portion of Saudi Arabia's future energy mix. The two sectors will provide substantial capacity, advanced technology, efficient use of resources and will be fully compliant with international standards, conventions and treaties, enabling the Kingdom to plan for increased demand for power and desalinated water, while ensuring the rate of national development continues apace. ...

Source:http://www.arabnews.com/, 09 August 2014.

INDIA–AUSTRALIA

India-Australia Nuclear Deal Likely Next Month

India and Australia have completed negotiations for the much awaited civil nuclear agreement, which is likely to be signed during the visit of Australian PM Tony Abbott early in September. It will pave the way for uranium imports from Australia, making it one of India's top strategic partners.

Abbott is scheduled to visit India a day after PM Narendra Modi returns from his first visit to Japan on September 3, 2014. Modi is scheduled to visit Australia for the G-20 summit in November. ... Australia is heading to becoming one of India's top energy sources. India is among Australia's largest coal export partners. India and Australia are currently in the process of working out the administrative arrangements that will govern the actual implementation of the deal. ... Non-proliferation concerns also governed negotiations between India and Australia, but both countries agreed to the non-proliferation commitments India has already made, which includes India quarantining its civilian nuclear power sector from its weapons programme.

Source: http://timesofindia.indiatimes.com/, 07August 2014.

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INDIA–ITER

INOX India to Supply Equipment for Thermo Nuclear Fusion Reactor

Vadodara-based INOX India Ltd, has bagged a contract to supply and install multi-process pipe transfer lines with vacuum jacket, at the world's largest experimental Thermo-nuclear Fusion Reactor (ITER), coming up in Cadarche, France. One of the largest makers of cryogenic liquid storage and transport tanks, INOXCVA, a subsidiary of INOX India Ltd, will execute this order, the supply of which is scheduled for 2017 and installation in 2019. What's more, it has created a cryoscientific division focusing on specialized assignments such as the one from the ITER project.

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... According to Parag Kulkarni, director and CEO of INOXCVA, the company was one of the only two global suppliers that were selected to present a prototype for the project. "We successfully demonstrated our cryo-scientific technology and qualified for a global competitive bidding which we won," said Kulkarni. ... The supply of the equipment to France will require around 100 containers to be shipped for the project that will see pipeline length of around 2 kms. ITER India, which is a part of the Institute for Plasma Research located at Gandhinagar, Gujarat, is the nodal agency responsible for the Indian portion of the project.

Source: Business Standard, 06 August 2014.

INDIA–JAPAN

Ahead of Modi's Visit, India Pushes Japan for Nuclear Deal

Taking up the issue of delay in signing a civil nuclear agreement with Japan, foreign minister Sushma Swaraj told her Japanese counterpart Fumio Kishida that it was time the deal was concluded. In a bilateral meeting on the side lines of the Asean Regional Forum (ARF) meet in Myanmar's capital Naypyitaw, Swaraj also told Kishida that India wanted PM Narendra Modi's upcoming visit to Tokyo to be "substantive". Even if the agreement can't be signed during Modi's visit, India is looking for an early conclusion of negotiations.

Despite Japan being a top priority country for Modi and the warmth of his personal ties with Shinzo Abe, his Japanese counterpart, he had postponed his visit to Tokyo in the first week of July because of the then upcoming budget session of Parliament, and apparently also because the two countries were not ready for any big-ticket announcement. In her meeting with Kishida, Swaraj emphasized on "the need to bring talks on civil nuclear agreement to their logical conclusion".

According to sources, the two countries will review the negotiations for the civil nuclear agreement ahead of Modi's visit which is expected in the first week of September. Kishida told Swaraj that Japan is keen on ensuring a "substantive and successful" visit by Modi. Official sources mentioned Swaraj's meeting with South Korea's foreign minister Yun Byung-se – shortly after her meeting with Kishida – in which the two countries discussed civil nuclear cooperation. South Korea competes with Japan in the field of civil nuclear technology and had expeditiously signed an agreement for cooperation with India for cooperation in the same even as India's talks with Japan have dragged for four years. The Koreans are now keenly awaiting allotment of a site by the government for building a nuclear reactor. ...

Source: Sachin Parashar, The Times of India, 11 August 2014.

JAPAN–INDONESIA

Japan, Indonesia Team Up on HTGR Development

The Japan Atomic Energy Agency announced that it has agreed to extend a cooperation agreement

it signed with Indonesia's National Atomic Energy Agency in May 2007 to include research and development of high-temperature gas-cooled reactor (HTGRs). Batan is promoting the introduction of nuclear power plants in Indonesia to help meet the county's demand for power. It envisages the start-up of conventional large LWRs on the populous islands of Java, Madura, Bali and Sumatra from 2027 onwards. In addition, it is planning for small HTGRs (up to 100 MWe) for deployment on Kalimantan, Sulawesi and other islands to supply power and heat for industrial use.

Prior to the introduction of commercial reactors in Indonesia, Batan is considering building a test and demonstration HTGR. Construction of this unit - with an electrical output of 3-10 MWe and a thermal output of 10-30 MWt - is expected to take four years with the start of operation scheduled for 2020, but design details have not yet been made public.

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***Japanese Experience*:** JAEA will now share with Batan knowledge that it has acquired in developing its existing small prototype gas-cooled reactor, the HTTR. This is a 30 MWt graphite-moderated helium gas-cooled reactor which achieved first criticality in November 1998. JAEA said that the knowledge and experience that it built up in designing, constructing and operating the HTTR, as well as from its research into fuels and materials for the reactor, would be useful to Indonesia in producing the conceptual design of its own HTGR. Japan and Indonesia may also cooperate in research into the use of HTGRs in producing hydrogen, according to JAEA. It plans to construct a hydrogen production system linked to the HTTR.

Earlier in 2014 the Japanese government included high-temperature reactor research in its draft basic energy plan, and in May 2014, the Ministry of Education, Science & Technology's Nuclear Science and Technology Committee established a working group to evaluate the current R&D situation and discuss their future direction, based on domestic and foreign needs. Japan has previously signed research and development cooperation agreements related to HTGRs with the USA, Kazakhstan, South Korea and China.

Source: http://www.world-nuclear-news.org/, 05 August 2014.

NUCLEAR PROLIFERATION

NORTH KOREA

North Korea Scales Up Yongbyon Nuclear Site's Activities

North Korea is expanding the operations of the Yongbyon nuclear site, renovating its 5 MWe reactor to make plutonium for nuclear weapons and expanding the centrifuge plant.... "The June 30th satellite imagery, combined with procurement data obtained by ISIS, suggests that North Korea is emphasizing the production of weapon-grade plutonium as well as enriched uranium for its nuclear weapons program."...

"Additionally, movement of material, a new piece of roofing, and several other renovations have been detected at the fuel fabrication and uranium centrifuge complex located in the southern part of the Yongbyon nuclear site." Pyongyang is also constructing and possibly installing equipment at the experimental LWR which would allow to produce "several times more plutonium than the 5 MWe reactor." ...

Source: http://www.spacewar.com/, 08 August 2014.

NUCLEAR NON-PROLIFERATION

IRAN

Iran, US Official Hold Nuclear Talks in Geneva to Narrow Gaps

Iranian and US officials met in Geneva on August 7, 2014 for the first time since the Islamic state and six world powers agreed to extend talks to

resolve a decade-long dispute over Iran's nuclear ambitions. When they last met on July 19, 2014 Iran, the United States, Britain, France, Germany,

Russia and China agreed to extend the deadline to reach a comprehensive agreement under which Iran would curb its nuclear activities in exchange for the easing of economic sanctions to Nov 24, 2013 from July 20, 2014.

Announcing the talks in Washington on August 6, 2014, the State Department said Deputy Secretary of State Bill Burns would lead the US delegation, which also includes Under Secretary of State Wendy Sherman and Jake Sullivan, the national security adviser to Vice President Joe Biden. "The talks between Iran and America in Geneva will help overcoming differences over the remaining disputes," an unnamed Iranian nuclear negotiator told IRNA. Among the disputed issues are the permissible scope of Iran's nuclear fuel production capacity and how to address the country's suspected past atomic bomb research. ...More talks are likely to be held on the sidelines of the annual UNGA in September, 2014 according to Iranian and European diplomats.

http://news.yahoo.com/, 07 August 2014.

RUSSIA / USA

US Says Russia Violated 1987 Nuclear Missile Treaty, Calls Breach 'A Very Serious Matter'

In an escalation of tensions, the Obama administration accused Russia on July 28, 2014 of conducting tests in violation of a 1987 nuclear missile treaty, calling the breach "a very serious matter" and going public with allegations that have simmered for some time. The treaty confrontation comes at a highly strained time between President Barack Obama and Russian President Vladimir Putin over Russia's intervention in Ukraine and Putin's grant of asylum to National Security Agency leaker Edward Snowden....

The US says Russia tested a new ground-launched cruise missile, breaking the INF Treaty that President Ronald Reagan signed with Soviet leader Mikhail Gorbachev. Russian officials say they have looked into the allegations and consider the matter closed.

The Obama administration has expressed its concern over possible violations before, but this is the first time that the administration has formally accused Russia of violating the treaty. It comes in the wake of the downed Malaysian airliner in Ukraine and as the US and the EU seek to ramp up sanctions against Russia, offering the administration a convenient time to release the report which had been due to come out in April 2014.

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Two officials said the US is prepared to hold high-level discussions on the issue immediately and want assurances that Russia will comply with the treaty requirements going forward....In raising the issue now, the US appears to be placing increased pressure on Russia and trying to further isolate it from the international community. The EU and the United States plan to announce new sanctions against Russia in the face of US evidence that Russia has continued to assist separatist forces in Ukraine. The formal finding comes in the wake of congressional pressure on the White House to confront Russia over the allegations of cheating on the treaty. The treaty banned all US and Russian land-based ballistic and cruise missiles with ranges between 300 miles and 3,400 miles.

The officials said the Obama administration has informed Congress and US allies of its decision to seek Russian compliance. Indeed Obama, who has made nuclear disarmament a key foreign

policy aim, has little interest in having Russia pull out of the treaty altogether.

Obama won Senate ratification of a New START treaty, which took effect in February 2011 and requires the US and Russia to reduce the number of their strategic nuclear weapons to no more than 1,550 by February 2018. Obama in 2013, announced that he wants to cut the number of US nuclear arms by another third and that he would "seek negotiated cuts" with Russia, a goal now complicated by the accusation of a missile treaty violation.

Source: http://www.usnews.com/, 28 July 2014.

NUCLEAR DISARMAMENT

GENERAL

UN Chief Calls for Progress in Eliminating Nuclear Weapons

Countries with nuclear weapons have been urged to make immediate and concrete progress in the elimination of these weapons of mass destruction. The call was made by UN Secretary-General, Ban Ki-moon on August 6, 2014 in his message to mark the anniversary of the atomic bombing of the Japanese City of Hiroshima. The Secretary-General paid his deepest respect to the memories of those who perished there 69 years ago. He also thanked the survivors of the nuclear attack, known the hibakusha, for their tireless efforts to remind the world of the inhumanity of what he described as "horrible weapons of mass destruction."

"The Secretary-General said that one of the great ironies of modern science is that humans are searching for life on other planets while retaining and modernizing weapons of mass destruction that, if used, can destroy all life on planet Earth. He said that we must address this failing and counter the militarism that breeds the pursuit of such weaponry. He called for immediate and concrete progress so that the hibakusha – the survivors of the bombing – and the world can witness the final destruction of the last nuclear weapon as we end the historical nightmare known as the age of nuclear weapons – and welcome the dawning of a new era of hope, peace, and prosperity for all."

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Source: http://www.unmultimedia.org/, 06 August 2014.

JAPAN

Japan Marks Hiroshima Anniversary, Invites Leaders

Japan marked the 69th anniversary of the bombing of Hiroshima on August 6, 2014, with the city's mayor inviting world leaders to see atomic bomb-scarred cities firsthand to be convinced that nuclear weapons should not exist. Speaking before a crowd of survivors, their descendants and dignitaries including US Ambassador Caroline Kennedy, the mayor urged US President Barack Obama and others to visit, referring to a proposal made at a ministerial meeting in April, 2014 of the Non-Proliferation and Disarmament Initiative in Hiroshima

"President Obama and all leaders of nuclear-armed nations, please respond to that call by visiting the A-bombed cities as soon as possible to see what happened with your own eyes," Mayor Kazumi Matsui said. "If you do, you will be convinced that nuclear weapons are an absolute evil that must no longer be allowed to exist."

About 45,000 people stood for a minute of silence at the ceremony in Hiroshima's peace park near the epicenter of the 1945 bombing that killed up to 140,000 people. The bombing of Nagasaki three

days later killed another 70,000, prompting Japan's surrender in World War II. The number of surviving victims, known as "hibakusha," was just more than 190,000 this year. Their average age is 79, and many of the attendants at the ceremony were their younger relatives and descendants. Hiroshima officials said 5,507 survivors died over the past year.

The anniversary comes as Japan is divided over PM Shinzo Abe's recent Cabinet decision to allow the country's military to defend foreign countries and play greater roles overseas. To achieve the goal, Abe's Cabinet revised its interpretation of Japan's post-WWII pacifist constitution. Abe said at the event that as the sole country to suffer nuclear attacks, Japan has the duty to seek to eliminate nuclear weapons. But he did not mention his push for a more assertive defense posture. Public polls show more than half of the Japanese are opposed to the decision, mainly because of sensitivity over Japan's wartime past. Matsui did not directly refer to Abe's recent change. But he said the pacifist constitution is what has kept Japan out of war for 69 years.

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Source: http://bigstory.ap.org/article/, 06 August 2014.

NUCLEAR SAFETY

UAE

Nuclear Regulator Seeks Public Comment on Radiation Safety Standards

The Federal Authority for Nuclear Regulation on August 3, 2014 released a draft nuclear safety regulation and invited the public to review the draft and comment. "Basic Safety Standards for Facilities and Activities involving Ionising Radiation other than in Nuclear Facilities" sets the requirements for producing, possessing, using or disposing of radioactive materials in the UAE at all sites except nuclear facilities, such as those where large quantities of nuclear material are used. Affected facilities include hospitals, universities, research centres, oil and gas sites, and a variety of other industrial locations. Different regulations apply to the UAE's nuclear power plant now under construction at Barakah in the Western Region of Abu Dhabi emirate

The draft regulation revises the existing FANR-REG-24 to align it more closely with Basic Safety Standards established by the IAEA. An IAEA Integrated Regulatory Review Service mission report madesomerelated suggestionsand recommendations in 2011. FANR's Safety, Security and Safeguards Glossary can help interested readers understand the specific terminology used in this regulation. FANR will consider all comments before preparing the final regulation.

As with previous regulations and regulatory guides, this draft regulation has already been made available for 30 days to local and federal government entities for their comments. FANR recognises the importance of the public's comments and maintains the highest standards of transparency in accordance with Article 9 of the Federal Law by Decree No 6 of 2009, concerning the peaceful uses of nuclear energy. Since FANR's establishment on September 24, 2009, the nuclear regulator has asked its stakeholders to review and comment on various

FANR recognises the importance of the public's comments and maintains the highest standards of transparency in accordance with Article 9 of the Federal Law by Decree No 6 of 2009, concerning the peaceful uses of nuclear energy.

regulations and regulatory guides through either web-based or face-to-face communication.

Source: http://gulfnews.com, 04 August 2014.

USA

ANS Urges EPA to Move Forward with Rewrite of Environmental Radiation Standards

The American Nuclear Society has submitted comments to the Environmental Protection Agency urging a comprehensive rewriting of its environmental radiation protection standards for nuclear power plants. "The current EPA radiation standards date back to 1977, nearly four decades ago," said Michaele Brady Raap, President of ANS. "Since then, the global scientific community made substantial advances in understanding the health effects of ionizing radiation and has collected a large body of epidemiological data related to low level radiation exposure."

There is nearly global consensus that the continuation and expansion of nuclear energy is a necessary component to any meaningful strategy to reduce CO2 emissions as a means of mitigating those potential risks.

In addition, the larger environmental and health context in which EPA's radiation standards are used has changed. There is now a fairly robust scientific consensus that climate change could pose significant potential risks to the general public. There is nearly global consensus that the continuation and expansion of nuclear energy is a necessary component to any meaningful strategy to reduce CO2 emissions as a means of mitigating those potential risks. ANS has offered comments on six issue areas, including the dose limit calculations intended to protect individuals.

In a statement to the EPA, the ANS urged the EPA to refrain from over-estimating the likelihood of dose contributions from multiple radiation sources, or from applying protective factors that have already been accounted for in the dose constraint. Both of these practices, ANS believes, result in dose limits that are overly restrictive without appreciable improvement in safety. Other issues focused on by the Society include updated dose methodology (dosimetry), radionuclide release limits, water resource protection, spent nuclear fuel and high-level radioactive waste storage, and new nuclear technologies.

Source: http://www.ans.org/pi/news/article-401 04 August 2014.

NUCLEAR WASTE MANAGEMENT

USA

New Waste Facility for Idaho Laboratory

The US Department of Energy's INL supports its research into nuclear energy and naval nuclear reactors. Some of the LLW generated at INL is classified as remote-handled waste because its potential radiation dose is high enough to require additional protection of workers. Such wastes are those with radiation levels exceeding 2 millisieverts per hour at the surface of a container. They include debris, used gloves and tools, as well as ion-exchange resins and filters.

Remote-handled LLW generated at INL has historically been disposed of onsite. However, the existing disposal facility within the INL Radioactive Waste Management Complex is set to close in 2017 as part of ongoing cleanup of the INL site. Battelle Energy Alliance, which manages and operates INL on behalf of the DoE, has now awarded a contract worth $34 million to Areva to provide the engineering, construction and commissioning of a new facility.

The facility will be based on INL's existing operating remote-handled LLW disposal facility. It will include a support office and maintenance building, new paved roads, security fencing and systems, and utilities. The underground disposal facility itself will consist of pre-cast concrete cylinders of varying diameters and lengths

stacked on-end in various arrays depending on the origins of the radioactive waste.Each stacked cylinder will be placed on a concrete base and will have a separate removable concrete plug placed on the top of the cylinder to serve as a radiation shield and a water barrier. The facility will initially consist of 225 concrete disposal vaults, almost 8m underground, with options to increase this to 400.

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Construction of the new facility is scheduled to be completed by the end of September 2016 and the DoE readiness review process is required to be completed a year later. The facility is scheduled to begin operating in October 2017 and should then be in operation for up to 50 years. The DoE expects to generate an estimated average volume of 150 cubic metres of remote-handled LLW annually at INL. The department will continue to dispose of contact-handled LLW, with lower levels of radiation, at acceptable off-site disposal facilities.

Source: http://www.world-nuclear-news.org/, 04 August 2014.

Centre for Air Power Studies

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

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