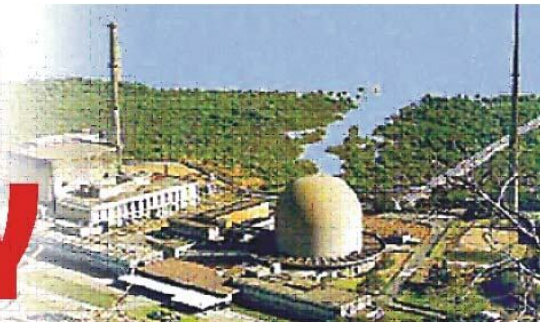
NUCLEAR SECURITY



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

Vol 09, No. 02, 15 Nov. 2014

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OPINION – Steve Kidd

Public Acceptance – Is There Any Progress?

I often feel that anti-nuclear advocates have one of the easiest jobs in the world; it isn't too difficult to produce a lot of arguments, backed by seemingly-credible information, casting the nuclear sector in a poor light. And in contrast to the claim that the industry forces stacked against them are very rich and powerful, their nuclear nemeses have (often inadvertently) helped the antinuclear cause. Certainly the decision apparently made by Greenpeace in its early days to make nuclear the prime target in its campaigns against the failings of the modern world (as opposed to private road transport) was a very astute one. (It is interesting to note, however, that the Greens are now more focused on opposing coal-fired generating stations and developments of unconventional gas fields by "fracking"). So far as nuclear in Europe and North America is concerned, there is clearly a feeling of great confidence among anti-nukes that the game is up for nuclear and it is only a matter of time before the renegades follow Germany into the land of milk and honey…. Given the industry's rotten record on reactor construction outside of Asia, it wouldn't be difficult to argue that even this date will most probably be exceeded.

One year after the Fukushima accident, this seemed a very appropriate exercise. Now, an additional two years on, it seems a good time to review if any progress has been made. Given the constant stream of bad news coming out of Fukushima and projects such as the Olkiluoto debacle, one is tempted immediately to say "no", but it's worthwhile to consider this further…a prime consequence of negative public opinion is its indirect impact on the costs of building and operating plants. The direct effect of politicians and other decision-makers having an anti-nuclear bias is clearly very important, but the influence of protracted regulatory and planning procedures on costs is very important, too.

Anti-nuclear advocates have one of the easiest jobs in the world; it isn't too difficult to produce a lot of arguments, backed by seemingly-credible information, casting the nuclear sector in a poor light. And in contrast to the claim that the industry forces stacked against them are very rich and powerful.

For example, it has apparently taken four years for the

regulator to approve the instrumentation and control system at Olkiluoto. So nothing seems to have improved. The regulator and the planning authorities are certainly put in place to protect the general public, but ways need to be found to make things happen more quickly, as time is money in large capital investment projects. The industry is still at the very early stages of finding ways to simplify things, through initiatives such as the CORDEL group at the World Nuclear Association. But such is the (sometimes assumed) public disquiet about all matters nuclear, the tendency has been to include items such as core-catchers and defence against large aircraft impact in latest reactor designs without any proper evaluation of the costs and benefits. Anything which can conceivably contribute to greater safety has to be there. So the best becomes the enemy of the sufficiently good.

In an effort to provide as much good information as possible in response to the claim that the industry is closed and secretive, there is now arguably much more nuclear information in the public domain than we have about the oil and gas industry.

It is necessary to re-examine our views about the rationality of the public and, in particular, what actually drives public fears about nuclear. This should then lead to some switch in focus and perhaps a more emotion-based approach. Reviewing the record over the past few years shows that more focused communications with particular stakeholder groups can definitely help. In particular, there have been some good efforts targeted at the younger generations who hopefully haven't yet picked up the preconceptions and negative images of nuclear that are common among their parents and grandparents. But these efforts still require an explanation of nuclear by putting over basic facts.

Nevertheless, the approach of the industry remains far too fact-based and doesn't get to the heart of the problem. The WNA's website information library and WNN service are both excellent, but are only providing raw material for communications. And they also, of course, provide excellent potential ammunition for the well-informed anti-nukes. In an effort to provide as much good information as possible in response to the claim that the industry is closed and secretive, there is now arguably much more nuclear information in the public domain than we have about the oil and gas industry. This can profitably be used by both sides. Talk of "rebranding" nuclear power, a commonly-stated objective after the Fukushima malaise, has hardly been touched upon. Somehow we have got to get nuclear power depicted as a normal, everyday business carried out by average men and women, performing an important role to satisfy society's hunger for clean power. In contrast, when nuclear is depicted on television, it's never in the background, as a motor manufacturing plant or a food processing factory might be.

If nuclear is ever introduced in a book, TV series or movie, it is always to heighten dramatic effect. It offers a convenient way to add a degree of trouble, drama, or excess to any situation. We may accuse writers and editors of laziness, but it's perhaps understandable...the nature of the final product, electricity, (invisible and easily produced by alternative technologies) is not so exciting. The industry (if it can be termed an industry at all) has a multitude of processes involving a wide variety of companies, from mineral exploration to decommissioning and waste management.

The nuclear sector also tends to be very parochial, not only between but also within countries. Plants are quite isolated, and staff build up a high degree of loyalty and teamwork to run them. Yet this can bring with it an over-defensive attitude to external criticism. Operations naturally achieve very high degrees of local public and political support, but this doesn't tend to reach very far afield.

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Another important point is that the nuclear sector lacks the huge dedicated mega-companies of many other sectors, for example in oil and gas or aviation. They build up strong corporate brands, which then are used to leverage strong support for their (often environmentally-unsound) business activities. The few major players in nuclear also tend to be diversified businesses. One way of promoting nuclear power would be to highlight the clear deficiencies of other modes of electricity generation. But the players involved in the industry will not support a strong pro-nuclear campaign that could damage their other interests. Hence the big guys tend to shy away from mentioning their nuclear activities. EDF, for example, tends to emphasise its "clean power" credentials and ignore the fact that this is largely a product of its nuclear interests. These factors can explain some of the industry's issues with communications, but they don't really excuse it. The industry has to live with the world as it is and overcome these hurdles...

One way of promoting nuclear power would be to highlight the clear deficiencies of other modes of electricity generation. But the players involved in the industry will not support a strong pro-nuclear campaign that could damage their other interests.

An important element, particularly post-Fukushima, is to get away from talking about safety all the time and emphasize more positive messages about nuclear, focused on the fact that it is clean, reliable and affordable. Statements such as, "new reactors are 60 times as safe as those currently in operation" or "radioactive waste is not very dangerous but we're going to bury it 800 metres underground" and "the industry only emits 7% of its allowed releases each year and carries out tests well beyond regulatory requirements" may be well-intentioned and factually accurate, but create the wrong impression. The aircraft industry talks about safety from time to time, but avoids making it a major message. And it never uses it as a competitive marketing message for different designs. This is an area where the industry has arguably made some progress, at least in some countries. A more positive message has begun to get out and Fukushima is put down as a very unique situation, not readily applicable outside of that country. But there are still big barriers in others, for example the big differences in public opinion towards nuclear in Germany as opposed to the United Kingdom.

...Dreaded risks are those that strike disproportionate fears in people, in which no numbers or technical arguments can influence a person's perception, and which are almost impossible to counter once established in someone's mind. Nuclear power can be associated with fears about nuclear war and the dread of a slow and very painful death by radiation. Cancer itself can be said to be a dreaded risk for many people (even though today a lot more is known about diagnosis and treatment than before). The theory of confirmation bias posits that the majority of people look at the world not to find the truth but merely to find

evidence to support previously-instilled beliefs. They have little interest in learning that they may be wrong; they don't want to change their point of view. According to this idea, offering more evidence could turn out to be counterproductive. The industry is only at the first stage of dealing with these difficulties. One approach is to write off the older generations and concentrate on communicating with the younger groups, who are maybe more flexible in their beliefs. This is, however, a solution that will take time to bear fruit. Nuclear advocates are often seeking quicker fixes, so the mooted full nuclear renaissance of the 2000-2005 period can be restored.

Ultimately, however, the fear that surrounds the word "nuclear" has to be removed. And the source of the fear is undoubtedly deep concerns about the impact of heightened levels of radiation. The big positive of nuclear is producing a huge amount of energy with a small quantity of material. The big negative is fear of radiation. The huge quantities of water at Fukushima containing very low levels of radiation have become a big issue because of this, while 100,000 people are still evacuated from their homes for the same reason. The obvious conclusion is that until there is a proper understanding by the general public of radiation, the nuclear industry has no chance of reaching anywhere near the potential that its advocates hope for. There are lots of other worthy things that can be done in nuclear communications, as mentioned above. But even the world's greatest marketing genius couldn't successfully promote nuclear while there is such a deep climate of fear lying behind it. The industry's many efforts in communications can maybe be criticised as essentially avoiding this key very difficult issue...

The obvious conclusion is that until there is a proper understanding by the general public of radiation, the nuclear industry has no chance of reaching anywhere near the potential that its advocates hope for.

Source: http://www.neimagazine.com, 03 November 2014.

OPINION – Abdulrahman Al-Rashed

What Will Follow the Muscat Talks?

US President Obama seems enthusiastic about bringing about a new era of restoring good relations with Tehran, which was an important ally until the Shah's downfall in 1979. This is why American and European officials met with an Iranian delegation in the Omani capital Muscat, as they struggle in a race against time to reach an accord on the Iranian regime's nuclear aspirations before the deadline later this month. ...Middle East have serious reservations about these negotiations, first among them the veil of secrecy that has shrouded the talks. The Obama administration has deliberately sought to keep the details of its contacts and negotiations with Tehran a secret, even from its own regional allies.

Such an approach contrasts with the usual US approach, such as that seen in negotiations with North Korea. In that case, all concerned regional parties shared intelligence and weighed in on the decision-making process, and countries like South Korea, Japan, China and Russia were involved in the negotiations alongside the American delegation. However, when it came to negotiations with Iran, the US shut out its allies and others directly involved in the talks, such as Turkey, Egypt, Israel, and the Gulf countries.

Moreover, American reassurances that concessions will not be made have proven to be untrue on several occasions. The last of these concessions was the US's acceptance of Iran maintaining 1,500 uranium-enriching centrifuges after previously saying it wouldn't accept more than 500. This came in addition to a series of concessions Washington made in relation to some of Iran's frozen assets. ...Middle East are also concerned about the Iranians' disquieting comments regarding the expansion of their

influence in the region. Although Washington says it will not accept this, doubts persist that Iran will be given a free hand to further sabotage the region. US stances that have favored Iran's interests in Iraq and Syria strengthen these doubts. The most recent example was President Obama's statement regarding Syria and his pledge to fight the ISIS while refusing to punish the Syrian regime, a regime largely responsible for the present crisis and which has killed more than 250,000 of its own citizens and displaced more than 8 million more.

There is also the nuclear program itself. The US seems to have backtracked on its pledge to prevent the Iranian regime from possessing the capability to produce nuclear weapons, and this will lead to a dangerous shift in the regional balance of power. We, as well as the West, are well aware of the fact that Iran does not need nuclear power in order to meet its energy requirements—it holds the world's fourth-largest proven crude oil reserves; larger than those of Iraq, Kuwait, and the UAE. So why would Iran spend huge amounts of funds for nuclear energy when it can, alternatively, produce petroleum at a very low cost? It is because Iran seeks to produce nuclear weapons, and pursuing this with such persistence suggests it has dangerous and hostile intentions

If negotiators in Muscat allow Iran to pursue its nuclear program, we will enter a very dangerous phase. The balance of regional power will be disrupted and this will force regional countries—mainly Saudi Arabia, Turkey and Egypt—to obtain deterrents. This will make the Middle East, already home to Al-Qaeda and ISIS, a much more dangerous place due to the presence of five countries capable of producing nuclear weapons, including Iran and Israel.

If negotiators in Muscat allow Iran to pursue its nuclear program, we will enter a very dangerous phase. The balance of regional power will be disrupted and this will force regional countries—mainly Saudi Arabia, Turkey and Egypt—to obtain deterrents. This will make the Middle East, already home to Al-Qaeda and ISIS, a much more dangerous place due to the presence of five countries capable of producing nuclear weapons, including Iran and Israel. Why is Obama so concerned with sealing a deal with Iran? There's no logical reason. We saw how US sanctions succeeded in exhausting the Iranian regime and led it to a point where Tehran viewed its own nuclear program as a threat to its survival. However, the space which the Obama administration has opened for Tehran has pushed the Americans, and not the Iranians, to present more concessions in exchange for promises from Khamenei's regime. These promises are not based on halting the nuclear program, only on slowing down its implementation.

We don't criticize the negotiations because we do not want Western countries to reach an agreement that ends the decades-old crisis with Iran. Any agreement that tames Iranian hostility and prevents it obtaining nuclear weapons serves the interests of the entire region. However, we do not think that the measures reportedly on offer to curb Iran's nuclear aspirations are enough to convince anyone the Islamic Republic is serious about not spreading chaos in the way it has done since the 1980s. What creates doubts in people's minds is the way the Americans have distanced regional countries from the negotiations with Iran, and the secret messages exchanged with the Iranian leadership, as exposed by the Israelis, who revealed the existence of secret communiqués between Obama and the Iranian supreme leader himself. At the same time, we also see how Washington has adopted stances that are biased toward Iran in Syria and Iraq. The negotiations in Muscat hint that an agreement may be reached before the November 24 deadline for a nuclear deal. It is an agreement that may well alter the region's history.

Source: http://www.aawsat.net, 12 November 2014.

OPINION – Armin Rosen

Israel's Nuclear Arsenal Might be Smaller and More Strategic than Everyone Thinks

For decades, Israel has maintained a strict policy of opacity surrounding its nuclear arsenal. The country possesses some of the most powerful weaponry on earth, along with delivery systems that give it the ability to strike far beyond its borders. But its nuclear secrecy prevents it from even acknowledging those weapons' existence and keeps experts and foreign governments guessing. And some widely held assumptions about Israel's nuclear weapons might be woefully off-base.... Israel is not a signatory to the NPT that entered into force in March of 1970, even though Israel likely developed a nuclear capability before that treaty was signed and received significant assistance in its weapons-building efforts from France, a country permitted to posses nukes under the NPT. It hasn't opened it sites to international inspectors or officially declared an arsenal.

The Israelis likely maintain a strategic plutonium reserve. And while very little is actually known about the design of Israeli nukes, the authors believe that based on available historical evidence, "Israel's nuclear posture has not been determined by war-fighting strategy but by deterrence needs.

"Over the past several decades, news media reports, think tanks, authors, and analysts have sized the Israeli nuclear stockpile widely, from 75 warheads up to more than 400 warheads." But according to Kristensen and Norris, estimates that placed the Israeli arsenal in the hundreds assumed that all of the fissile material produced at the country's Dimona reactor would be put towards building nuclear weapons. The country may have produced enough plutonium for as many as 250 bombs over the years, a number that would be even higher depending on the diversity of Israel's nuclear arsenal – if, for instance, it included lower-yield tactical or battlefield nukes. But the authors believe that total plutonium production is a "misleading indicator" of arsenal size. The Israelis likely maintain a strategic plutonium reserve. And while very little is actually known about the design of Israeli nukes, the authors believe that based on available historical evidence, "Israel's nuclear posture has not been determined by war-fighting strategy but by deterrence needs."

While Israel is currently developing a third-generation Jericho missile, there are no proven additional facilities where they could store them, and no evidence of underground silos. They conclude that Israel has around two-dozen Jerichos.

In other words, the arsenal exists as a guarantor of the country's survival in a worst-case scenario rather than an integrated part of Israeli battlefield doctrine, meaning the country only has use for high-yield bombs that can also be delivered from hundreds or thousands of kilometers away. The authors assume that Israel wants to keep the size of its nuclear arsenal in line with its number of available long-range delivery systems - a number that doesn't even climb into the low hundreds. They believe Israel has 20-25 nuclear-capable ballistic missiles, two nuclear-capable fighter squadrons capable of carrying 20 bombs each, and possibly a small handful of nuclear-capable submarine-based cruise missiles. The total number of deployable delivery systems comes out to around 80. The authors don't think the Israeli stockpile greatly exceeds that.

Israel has hundreds of combat planes, but the authors conclude "only a small fraction" of F-16 squadrons, "perhaps one or two...would actually be nuclear-certified with specially trained crews, unique procedures, and modified aircraft." The authors use satellite analysis of suspected missile facilities at Sdot Micha in the Judean hills to rebut widely repeated estimates that Israel has 100 nuclear-capable Jericho ballistic missiles: "Images show what appear to be two clusters of what might be caves for mobile Jericho II launchers. The northern cluster includes 14 caves and the southern cluster has nine caves, for a total of 23 caves." They note that this matched the number of suspected Israeli missiles given in a 1969 White House memo. While Israel is currently developing a third-generation Jericho

missile, there are no proven additional facilities where they could store them, and no evidence of underground silos. They conclude that Israel has around two-dozen Jerichos. As for submarine-based delivery systems, the authors say it's at least possible Israel has developed nuclear capable Harpoon cruise missiles but don't come down conclusively on either side of the question.

Nuclear weapons can come in all shapes and sizes, although building smaller-yield tactical devices or multi-stage thermonuclear warheads requires a degree of trial and error. Israel has never carried out a confirmed nuclear test and the authors note that without a test history or nuclear testing infrastructure it's unlikely they would have the technical knowledge needed to build a diverse array of nukes. And there's the issue of nuclear weapons doctrine, which has a direct bearing on the type of nukes Israel might develop. Israel's arsenal is set up as a deterrent against an outside attack, or as a means of possessing a "second strike" capability in the event of an attack that could threaten Israel's existence. The authors are convinced that Israel's nukes are not an instrument of warfighting, and may not be factored into Israel's tactical calculus. And they "cannot understand why a country that does not have a strategy for fighting nuclear war would need that many types of warheads or warhead designs to deter its potential adversaries."

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Nuclear secrecy has its benefits. It prevents Israel from being able to carry out provocative nuclear tests, or mobilizing its nuclear infrastructure in other, equally-calculated ways familiar behavior from nuclear-armed Pakistan, India, and North Korea. It forces Israel to act as if it doesn't have nuclear weapons and to deal with its neighbors as if didn't enjoy the greatest of all possible strategic backstops. Most of all, official secrecy preserves the veneer of a nuclear-free region (however unconvincing in reality) and gives Israel's neighbors an excuse not to go nuclear themselves. At the same time, the secrecy policy means that little is really all that conclusively known about the type of warheads Israel possesses, not to mention the country's specific doctrine for their use or their state of deployment or alert at a given time. For instance, it isn't really known whether all or even most of Israel's warheads are actually assembled at a given time. And so for now, a report like this is the clearest sense of the country's arsenal that's available in public.

Source: http://www.businessinsider.in, 11 November 2014.

NUCLEAR STRATEGY

CHINA

China Nuclear Submarine Released After 'Star Wars' Laser Cannons ...

After releasing their "Star Wars" inspired laser cannons, China has another creation hidden under their sleeve. A report by the US Office of Naval Intelligence claim the Asian country's latest submarines are equipped with fully armed missiles. China's nuclear submarines allegedly have the capability to hit Alaska and Hawaii. China is obviously preparing for war. Early in November, China released their laser cannons that can shoot down drones in a 1.2 mile radius. The cannons reportedly resemble the laser cannons featured on "Star Wars," which can easily spot and shoot drones in a matter of five seconds.

China's nuclear submarines carry nuclear missiles, also called boomers. The said missiles have the potential to hit US continents in the mid-Pacific Ocean, Alaska or even Hawaii. China's nuclear submarines are allegedly inspired from the submarines by the US.

Now, after the laser cannons, China's nuclear submarines are the latest invention. "This is a trump card that makes our motherland proud and our adversaries terrified," says China's navy chief, Adm. Shengli...adding, "It is a strategic force symbolizing great-power status and supporting national security." China's nuclear submarines carry nuclear missiles, also called boomers. The

said missiles have the potential to hit US continents in the mid-Pacific Ocean, Alaska or even Hawaii. China's nuclear submarines are allegedly inspired from the submarines by the US. *Source: http://www.travelerstoday.com, 09 November 2014.*

INDIA

Agni-II Ballistic Missile Successfully Test-fired

Nuclear weapons capable, Agni-II ballistic missile was successfully test-fired for its full strike range of 2,000 km from the Wheeler Island off the Odisha Coast on 07 November. The surface-to-surface missile was launched from a mobile launcher by the personnel of SFC around 9.40 am. After a reaching an altitude about 600 km, the missile climbed down and splashed into the waters of Bay of Bengal near its pre-designated impact point. in the Bay of Bengal with a two-digit accuracy, according to sources. A battery of sophisticated radars, electro-optical tracking systems and telemetry stations along the East Coast tracked the trajectory and monitored various parameters of the missile from the launch till terminal phase during the 15-minute flight. Two down range ships also recorded the final event. The two-stage, 20-metre tall missile, which can carry a payload of one tonne, has already been inducted. The entire exercise was carried out by the SFC personnel as part of regular user training under the supervision of missile scientists from DRDO, which designed and developed the weapon system….

Source: http://www.thehindu.com, 09 November 2014.

Nuclear-Capable Dhanush Ballistic Missile Successfully Test-Fired

India tonight successfully test-fired its nuclear-capable Dhanush ballistic missile from a naval ship off the Odisha coast. The surface-to-surface Dhanush, a naval variant of India's indigenously-developed 'Prithvi' missile, was test fired from a ship in the Bay of Bengal at around 7.40 PM by the SFC of the defence force. "The missile launch was part of an exercise by the armed forces and the missile reached the designated target with high precision," Director of the ITR MVKV Prasad said. "The missile launch and its flight performance was monitored from the ITR at Chandipur, Odisha," he said. 'Prithvi-II' surface-to-surface missile, which has a strike range of 350 km, was also test-fired from a test range at Chandipur earlier in the day. The single-stage, liquid-propelled Dhanush has already been inducted into the armed services and is one of the five missiles developed by the Defence Research and DRDO under the IGMDP, defence sources said. "The trial was conducted by the SFC of the Indian defence force in co-operation with DRDO," a defence scientist said. Dhanush missile is capable of carrying conventional as well as nuclear payload of 500 to 1,000 kg and hit both land and sea-based targets.

Source: http://economictimes.indiatimes.com, 14 November 2014.

RUSSIA

Russia Plays Nuclear War-Games in Barents Region

Russia has over the last 72 hours tested its entire nuclear triad consisting of strategic bombers; submarines and this ICBM launched on 30 October. At 09:20 am (Moscow time), this silo-based Topol-M intercontinental ballistic missile was launched from Plesetsk in Arkhangelsk Oblast. A few minutes later, the dummy nuclear warhead hits its target on the Kamchatka Peninsula in Russia's far eastern corner…. The Ministry adds that the Topol-M missile has an "extremely high accuracy of target destruction."

***Strategic Bombers*:** On 29 October, Norwegian F-16s were scrambled from Bodø airbase for the second time as a group of four Tu-95 strategic bombers were approaching from the northeast…. The bombers, flying out over the Barents Sea from Russia's Kola Peninsula, were accompanied by four Il-78 tankers. On 03 November, a similar group of four strategic bombers and four tanker aircrafts were flying southbound along Norway's northern coast. Six of the aircrafts turned around and flew north again over the Norwegian and Barents Seas before heading home to Russia. The two last flew all the way south to outside Portuguese airspace before heading north again. After

scrambling fighter jets from Norway and Great Britian, NATO said in a statement that the Russian bombers pose a risk to civilian air traffic.

"The bomber and tanker aircraft from Russia did not file flight plans or maintain radio contact with civilian air traffic control authorities and they were not using on-board transponders. This poses a potential risk to civil aviation as civilian air traffic control cannot detect these aircraft or ensure there is no interference with civilian air traffic," NATO said. Tu-95 is a turboprop aircraft built during the Cold War to carry nuclear weapons and is because of its long range included in the strategic nuclear forces.

The third arm of Russia's nuclear triad, the SLBM, were tested on 03 November, when "*Yury Dolgoruky*" launhced a Bulava missile from submerged position in the Barents Sea. This was the first operational test launch of Bulava in line with the program of combat training. All previous launches were part of development testing of the new weapon.

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Source: http://barentsobserver.com, 01 November 2014.

Russia has failed to show up at a meeting planning the 2016 Nuclear Security Summit…in a potentially serious blow to efforts by President Obama to cement his legacy as leaving the world safer from nuclear terrorism than when he took office. Only three or four planning meetings are scheduled before the spring of 2016, when the summit is tentatively set to open. With Russia a key global player and one of the world's five formally recognized nuclear powers its input is crucial to setting an agenda.

Russia Boycotts Nuclear Meeting

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The US president initiated a string of summits in 2010 aimed at preventing terrorists from getting their hands on weapons-grade nuclear material. Since then, the number of countries that have enough material to build a nuclear weapon has fallen from 39 to 25. At the last summit this year in The Hague, 35 countries pledged to turn international guidelines on nuclear security into national laws and open up their procedures for protecting nuclear installations to independent scrutiny. The summit also featured new reduction commitments, with Japan, Italy and Belgium

agreeing to cut their stocks of highly enriched uranium and plutonium.

At the same time, there were setbacks. Russia was notably absent from the 35-nation agreement, along with China, India and Pakistan, all nations with nuclear weapons. The officials, who demanded anonymity because their information was confidential, said that with the exception of Russia, all of the 54 countries that participated in this year's March summit attended the preparatory meeting in Washington. ...Moscow's absence from the next summit would clearly encourage other nations skeptical of the US initiative to resist more international oversight of their nuclear facilities.

Source: http://abcnews.go.com, 03 November 2014.

Russia to Increase 'Patrols' over Gulf of Mexico with Nuclear-Capable Bombers

Russian Defense Minister Shoigu's announcement comes along with a spike in Russian flights over the Black, Baltic and North Seas and Atlantic. The move highlights growing tensions between the West and Russia over Ukraine, where NATO says Russian tanks are streaming in 11 November, Obama and Putin sat together in China for Asia-Pacific economic meeting that was pleasant in front of cameras but icy behind them. On the table in addition to Ukraine were the issues of Russia's involvement with warn-torn Syria and its renewed plans to build nuclear reactors in Iran. Russia's long-range bombers will range from the Arctic Ocean to the Caribbean and the Gulf of Mexico on regular patrol missions, the military said 12 November, a show of muscle reflecting tensions with the West over Ukraine.

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A statement from Defense Minister Shoigu's statement comes as NATO has reported a spike in Russian military flights over the Black, Baltic and North seas as well as the Atlantic Ocean. It reflects Moscow's increasingly tough posture amid tensions with the West over Ukraine and its role in the conflict in Syria. Shoigu said Russian long-range bombers will conduct flights along Russian borders and over the Arctic Ocean. He added that 'in the current situation we have to maintain military presence in the western Atlantic and eastern Pacific, as well as the Caribbean and the Gulf of Mexico.'

He said that the increasing pace and duration of flights would require stronger maintenance efforts. Russian nuclear-capable strategic bombers were making regular patrols across the Atlantic and the Pacific Oceans during the Cold War, but the post-Soviet money crunch forced the military to cut back. Col. Warren, a Pentagon spokesman, declined to call this a Russian provocation. He said the Russians have a right, like any other nation, to operate in international airspace and in international waters. The important thing, Warren said, is for such exercises to be carried out safely and in accordance with international standards. Kearns, director of the European Leadership Network, a London-based think tank, said the bomber patrols are part of Kremlin's efforts to make the Russian military 'more visible and more assertive in its actions'.

On 10 November, the European Leadership Network issued a report that found a sharp rise in Russian-NATO military encounters since the Kremlin's annexation of Crimea, including violations of national airspace, narrowly avoided midair collisions, close encounters at sea, harassment of reconnaissance planes, close overflights over warships, and Russian mock bombing raid missions.

The new bomber flights 'aren't necessarily presaging a threat,' Kearns said. "They are just part of a general ramping-up of activities." But, he added, 'The more instances you have of NATO and Russian forces coming close together, the more chance there is of having something bad happening, even if it's not intentional.' The bomber patrol flights have resumed under Putin's rule and have become increasingly frequent in recent years. On 10 November, the European Leadership Network issued a report that found a sharp rise in Russian-NATO military encounters since the Kremlin's annexation of Crimea, including violations of

national airspace, narrowly avoided midair collisions, close encounters at sea, harassment of reconnaissance planes, close overflights over warships, and Russian mock bombing raid missions.

Three of the nearly 40 incidents, the think tank said, carried a 'high probability' of causing casualties or triggering a direct military confrontation: a narrowly avoided collision between a civilian airliner and a Russian surveillance plane, the abduction of an Estonian intelligence officer, and a large-scale Swedish hunt for a suspected Russian submarine that yielded no result.

In September, the report said, Russian strategic bombers in the Labrador Sea off Canada practiced cruise missile strikes on the US Earlier this year, in May, the report said, Russian military aircraft approached within 50 miles (80 kilometers) of the California coast, the closest such Russian military flight reported since the end of the Cold War.

Trouble in China: Just 11 November, the White House said Obama and Putin spoke three times on the sidelines of an Asia-Pacific economic meeting, tackling some of the tough issues that have strained their relationship, including Russia's provocations in Ukraine and support for Syria's embattled government. They also discussed the fast-approaching deadline in nuclear talks with Iran, in which the US and Russia find themselves on the same negotiating team. Unlike at some of their past meetings, Obama and Putin kept their deep-seated policy disagreements behind the scenes. But their public encounters suggested their relationship remains tense.

Picturesque Yanqi Lake, just outside of Beijing, became the venue for an awkward pas de deux between two of the most powerful leaders in the world. Entering an ornate, wood-paneled room for the start of the summit, Obama and Putin looked a bit like sidekicks to Chinese President Jinping. ...Neither the White House nor the Kremlin offered much in the way of detail about the policy conversations Obama and Putin had on the sidelines of the summit. Putin's spokesman said only that the two had spoken a few times, touching on 'bilateral relations, the situation around Ukraine, Syria and Iran.'

The Issue with Iran: ...Russia signed a contract on 11 November to build two more nuclear reactors in Iran to be possibly followed by another six, a move intended to cement closer ties between the two nations. The deal comes less than two weeks ahead of the Nov. 24 deadline for Tehran to sign an agreement on its nuclear program with six world powers. 11 November's contract has no immediate relation to the talks that involve Russia and the US, but it reflects Moscow's intention to deepen its cooperation with Tehran ahead of possible softening of Western sanctions against Iran. Nuclear officials from the two countries signed a contract 11 November for building two reactors at Iran's first Russia-built nuclear plant in Bushehr.

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Usurping Ukraine?: And on 12 November, NATO's top commander says new columns of Russian troops and tanks have rolled into eastern Ukraine, the claim promptly denied by Moscow. US Gen. Breedlove said 12 November that in the last two days 'we have seen columns of Russian equipment, primarily Russian tanks, Russian artillery, Russian air defense systems and Russian combat troops entering into Ukraine.' ...The West and Ukraine have continuously accused Moscow of fueling a pro-Russian insurgency in eastern Ukraine with troops and weapons the claims Russia has rejected. Breedlove said the Russia-Ukraine border 'is completely wide-open.'

Source: http://www.dailymail.co.uk, 13 November 2014.

Russian Submarine Test Fires Intercontinental Ballistic Missile

A Russian Navy nuclear submarine has successfully test fired an ICBM from the Barents Sea on 04 November, according to the Defence Ministry. The Sineva long-range missile was test launched by the submerged Tula nuclear submarine from the Barents Sea towards the country's far eastern Kura Range on the Kamchatka Peninsula. "Within the frameworks of testing the reliability of marine strategic nuclear forces, the Tula (nuclear submarine) launched a Sineva ICBM from the Barents Sea to the Kura Range (n Kamchatka)"…. The Sineva has a range of about 12,000 km. It entered service with the Russian Navy in 2007. 04 November test comes close on the heels of the successful test firing of a Bulava ICBM from the Borey-class nuclear submarine Yuri Dolgoruky on October 29. The missile too was launched from the Barents Sea and hit a target located on the Kura Range.

Source: http://brahmand.com, 06 November 2014.

UK

Secretive Nuclear Deal Needs Public Scrutiny

British governments usually choose to describe the Trident nuclear weapons system as "an independent nuclear deterrent." This fanciful description has a lot wrong with it - particularly the notion that Trident is independent. What's more, just at the point when a majority of the population wants to see our nuclear weapons scrapped, our government is taking steps to ensure that we have even greater nuclear collaboration with the US. The opportunity, seized on by the government, is the 10-year renewal of the US-UK Mutual Defence Agreement the world's most extensive nuclear-sharing agreement originally signed by the two countries in 1958.

Known in full as the "Agreement between the UK and the USA for Co-operation in the Uses of Atomic Energy for Mutual Defence Purposes," the MDA established an agreement between both countries to exchange classified information to develop their respective nuclear weapons systems. It is this treaty which ensures that Trident is both technically and politically dependent on the US. The British warhead is a copy of the US one, with some components directly bought from the US. With Britain's nuclear warheads expected to be non-operational by the late 2030s, a decision on their replacement will be intrinsically linked to the work taking place as part of the MDA. Britain leases from the US the Trident II D5 missiles it uses and British submarines must regularly visit the US base in Kings Bay, Georgia, for the maintenance and replacement of these missiles.

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The British government recently paid the US £250 million to participate in a missile-life extension programme and participates in numerous exchange visits with staff from the US nuclear weapons laboratories. Britain also participates with the US in "sub-critical" nuclear tests which fall just short of releasing a nuclear explosion. Originally, the MDA prohibited the transfer of nuclear weapons but an amendment in 1959 allowed for the transfer of nuclear materials and equipment between both countries up to a certain deadline. This amendment is extended through a renewal of the treaty every 10 years, most recently in 2004 when the government managed to avoid scrutiny by basically pulling a fast one. The treaty was laid before Parliament just before the summer recess with an announcement that it had been signed a week earlier. This was in spite of the fact that MPs had been asking questions for months about the government's intention to

renew the MDA. This was an obvious - and successful - attempt to avoid any democratic scrutiny.

Britain will become more dependent on US expertise for its own nuclear weapons programme and existing collaboration on warhead design will be extended to the nuclear reactors which would power a Trident replacement submarine. A crucial factor which successive governments have chosen to overlook is strong legal opinion that the MDA violates the nuclear NPT, to which Britain is a signatory. The relationship and activities which are enshrined by the MDA confirm an indefinite commitment by the US and Britain to collaborate on nuclear weapons technology and violates both countries' obligations as signatories to the NPT. The NPT states that countries should undertake "to pursue negotiations in good faith on effective measures relating to ... nuclear disarmament."

Britain will become more dependent on US expertise for its own nuclear weapons programme and existing collaboration on warhead design will be extended to the nuclear reactors which would power a Trident replacement submarine. A crucial factor which successive governments have chosen to overlook is strong legal opinion that the MDA violates the nuclear NPT, to which Britain is a signatory.

Rather than working together to get rid of their nuclear weapons, Britain and the US are collaborating on further advancing their respective arsenals. NPT signatories are also committed not to transfer any nuclear weapons or explosive devices to any recipient, an action which is core to the functioning of the MDA and is the specific provision that requires the treaty to be renewed every 10 years. British governments have systematically ignored these legal arguments. This year it has been harder for the government to avoid scrutiny, thanks to the work of Jeremy Corbyn and other concerned MPs.

As a result of repeated questioning and an early day motion, the treaty is currently on the table in parliament for 21 days and a Westminster Hall debate is taking place on November 6. MPs have no right to overturn the government's ratification of the treaty's renewal, but the very fact of open discussion is important in itself. Far from being just a routine paper exercise, as some would portray it, this new version of the treaty is poised to underpin the enormously unpopular and as yet undecided replacement of Britain's Trident nuclear weapons system. As public concerns about transparency and accountability in government increase exponentially, it is vital that this treaty – and the behind-the-scenes processes that are taking us towards a new generation of nuclear weapons – are fully understood and exposed. Challenging the so-called "special relationship" between the US and Britain is fundamental to ensure that Britain can be a country which chooses peace and meeting the needs of its citizens over war and nuclear weapons. It is also fundamental to the democracy and transparency of our politics and society.

Source: http://www.morningstaronline.co.uk, 03 November 2014.

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USA

Pentagon to Overhaul Nuclear Weapons Programs Following Reviews

Defense Secretary Chuck Hagel will announce a comprehensive overhaul of the Pentagon's nuclear weapons programs, after scandals in the Air Force and Navy this year prompted scrutiny, a defense official said. The problems prompted Hagel to call for two reviews of the nuclear weapons programs early this year, and they outline a variety of deficiencies. ...

After the announcement, Hagel is expected to travel to Minot Air Force Base in North Dakota, where Air Force officials oversee an arsenal of nuclear bombs that can be dropped from aircraft and nuclear missiles that are kept in underground silos that were built during the Cold War, and have seen few upgrades since. The defense official did not say why Hagel selected Minot as the site of his visit. News of the overhaul had been anticipated for months. The AP reported that the reports call for billions in upgrades to invested in support systems to keep the weapons reliable, and for the Air Force to put a four-star general in charge of its nuclear force, known as Global Strike Command. It's currently a three-star position.

Hagel called for the two reviews in late January, after an embarrassing scandal in the Air Force in which dozens of officers overseeing nuclear missiles at Malmstrom Air Force Base in Montana had been caught either cheating on a monthly launch proficiency test, or knew about others who did and did nothing to stop it.

Shortly afterward, Navy officials disclosed a similar problem, saying they were investigating about 30 senior enlisted sailors for allegedly cheating on tests required to operate nuclear reactors that power both ships and submarines. They were tipped off by a sailor who served at nuclear-training program in Charleston, S.C. Thirty-four sailors ultimately were expelled. The Air Force has been active since their scandal broke, launching an internal investigation of where their two legs of the so-called nuclear "triad" — submarines, long-range missiles and bombers — needed work. In an unprecedented move, nine commanders in the missile force were removed from their jobs and a 10th resigned in March.

More recently, two additional commanders in the missile force were fired, the Associated Press reported. One of them served at F.E. Warren Air Force Base in Wyoming; the other was at Minot. At the same time, Air Force Secretary Deborah James and Lt. Gen. Stephen Wilson, chief of Global Strike Command, have said they will do whatever they can to change the culture in the nuclear force. Beginning Oct. 1, missile launch officers became eligible to receive up to $300 incentive pay per month — an attempt by senior officials to underscore the importance they see the mission having. The Air Force also issued new uniforms, cold-weather gear and personal protective equipment to security force troops guarding the missile silos this year after they raised concerns about them during the review.

Source: Excerpted from article by Dan Lamothe. http://www.washingtonpost.com, 13 November 2014.

BALLISTIC MISSILE DEFENCE

USA

US Successfully Tests Aegis Ballistic Missile Defense System amid Ongoing Tensions with Russia

The United States successfully tested the Aegis Ballistic Missile Defense, or BMD, system over the Pacific Ocean, simultaneously destroying one ballistic missile target and two cruise missile targets, the US Missile Defense Agency, or MDA, announced in a statement.

According to the agency, the test confirmed a new upgrade of the Aegis missile defense system developed by Lockheed Martin, and two other missiles built by Raytheon Missile Systems, a major American defense contractor, Reuters reported, adding that the new BMD system will be installed on US Navy Aegis destroyers in Romania next year as part of the "Aegis Ashore" system. "One short-range ballistic missile target was intercepted by a Standard Missile-3 (SM-3) Block IB guided missile, while two low-flying cruise missile targets were engaged by Standard Missile-2 (SM-2) Block IIIA guided missiles near-simultaneously," MDA said, in a statement.

The test, which took place in the Pacific Missile Range Facility on Kauai, Hawaii, also included the Navy destroyer USS John Paul Jones, the US Pacific Command and sensors inside two MQ-9 Reaper unmanned planes. MDA said that it was the first live-fire test in which the Aegis system engaged a ballistic missile target and multiple cruise missile targets. "This test showcases the US's ability to defend against numerous ballistic and cruise

missile threats in 'raid' scenarios," Dr. Taylor W. Lawrence, president of Raytheon, said in a statement.

According to Raytheon, its SM-3 "kill vehicle" can destroy incoming ballistic missile threats by colliding with them in space, creating an impact equivalent to a 10-ton truck traveling at 600 mph. The test comes at a time when tensions between the US and Russia over the latter's seizure of the Crimean peninsula, and its role in eastern Ukraine, have intensified in the past few months. While Moscow has repeatedly expressed concerns over NATO's increased military presence on its borders following Russia's annexation of Crimea in March, a US army general said in October that the US and Russia need to cooperate on air and missile defense.

The test comes at a time when tensions between the US and Russia over the latter's seizure of the Crimean peninsula, and its role in eastern Ukraine, have intensified in the past few months. While Moscow has repeatedly expressed concerns over NATO's increased military presence on its borders following Russia's annexation of Crimea in March, a US army general said in October that the US and Russia need to cooperate on air and missile defense.

... The latest test follows a series of Russian exercises in which the navy's Yuri Dolgoruky nuclear submarine test-fired a Bulava missile from an underwater position in the Barents Sea, while a submerged Northern Fleet nuclear submarine test-fired an intercontinental Sineva missile. In December last year, Russia reportedly stationed several Iskander ballistic missiles in the Kaliningrad region, located in the Russian exclave between Poland and Lithuania on the Baltic Sea, in response to the development of a US missile defense system in Europe.

Source: Excerpted from article by Kukil Bora. International Business Times, 06 November 2014.

In addressing these myriad threats, especially those posed by rogue nations and their unpredictable leaders, Congress and the Obama administration must remain committed to a robust missile defense apparatus capable of protecting American assets at home and abroad. Missile defense continues to be the greatest deterrent and most effective countermeasure against the threat of ballistic missiles.

Lame-Duck Congress Must Renew its Commitment to Missile Defense

As Republicans enjoyed remarkable gains on Election Day, capturing control of the Senate and tightening their grip on the House, a palpable shift in the prevailing power structure overcame Washington. Although the Republican Party won't actually take control of the Senate until January, a number of important issues will demand more immediate consideration. Among the issues that continue to persist is the ongoing threat posed by the Islamic State and its acolytes. The threat from a lone-wolf attack has only increased as the Islamic State continues to urge its cyber-adherents to take on domestic law enforcement and military personnel. And although the Obama administration has been quick to promote the movement toward a negotiated nuclear agreement with Iran, the threats posed by its government endure.

On Nov. 4, thousands marched in Tehran, chanting "Death to America" and condemning the US-led sanctions against Iran. The rallies against the United States were in part a celebration of the 35th anniversary of the Iranian takeover of the American embassy in Tehran in 1979. Moreover, Iranian Foreign Minister Javad Zarif stated, "Iran is ready to ink a comprehensive nuclear accord with the six major world powers if the Islamic Republic's nuclear rights are recognized." Additionally, the bellicose and inscrutable leader of North Korea, Kim Jong Un, reminds us of the unpredictability of his isolated and nuclear-armed regime. Recent reports suggest North Korea has begun operation of a new uranium-enrichment facility within the existing Yongbyon nuclear power plant. If true, the new facility would allow North Korea to produce significantly more weapons-grade uranium, enough in fact to produce four or five nuclear bombs. ...

In addressing these myriad threats, especially those posed by rogue nations and their unpredictable leaders, Congress and the Obama administration must remain committed to a

robust missile defense apparatus capable of protecting American assets at home and abroad. Missile defense continues to be the greatest deterrent and most effective countermeasure against the threat of ballistic missiles.

Assets such as the Ground-based Midcourse Defense system, which uses advanced radars and ground-based interceptors outfitted with an exoatmospheric kill vehicle, provide the capability to intercept long-range ballistic missiles in space. GMD, along with the sea-based Aegis Ballistic Missile Defense System, remain at the vanguard of America's anti-ballistic missile arsenal. With the current continuing resolution set to expire on Dec.11, the now-lame-duck, Democratic-controlled Senate soon will have to address the nation's budget.

Given the precarious state of global affairs, now is not the time to equivocate on fully supporting missile defense. Ensuring the American homeland and all allies and assets abroad remain secure requires a commitment to fully funding the necessary components that, when integrated, comprise the most efficient bulwark against a variety of threats. Power may be shifting in Congress, but it is the responsibility of all members, irrespective of party affiliation, to address the ongoing security needs of the nation.

Source: Scott Erickson, http://dailysignal.com, 12 November 2014.

NUCLEAR ENERGY

USA

Westinghouse CEO Expects Nuclear Power to Grow in Energy-hungry US

When Westinghouse Electric Co. hired Danny Roderick as its CEO two years ago, some wondered whether anyone would ever break ground on another nuclear reactor in the United States. The Cranberry-based company increasingly looked to the UK, China, and former Soviet bloc countries as more realistic customers for its AP1000 reactors as regulators reacted to the Fukushima disaster in Japan and some domestic projects halted plans. International markets account for 60 percent of Westinghouse's business, but Roderick sees potential for increased nuclear power in the United States, especially in the West and the Southeast, where construction began on four AP1000 reactors at two sites in Georgia and South Carolina.

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Westinghouse this year became the exclusive negotiator in a plan to build reactors at a Utah power plant proposed by developer Blue Castle Holdings, and it announced what it calls its "seismic option," an AP1000 reactor modified to address concerns about earthquakes in Utah and other Western states. Roderick spoke with the *Tribune-Review* about the challenges nuclear development has faces and its potential for increased greater development. Some excerpts from that conversation:

Tribune: What kind of promise does the domestic market hold?

Roderick: For the non-regulated markets, the influx of government subsidies of renewables has created a little bit of a perversion in what should have been a free market. That market design was about everybody competes with everybody else on a level playing field. Unfortunately, what you have is, if these intermittent sources take away those times when the wind is blowing or the sun is shining, then you can't just sit and throw power plants up and down all the time and stay efficient. The valuation of having a knowledge that power comes on 24 hours a day is something that we as Americans take for granted. The world doesn't. The world knows this is a real problem.

You may be able to get cheap energy 12 hours a day. And then you may not be able to get any energy. This is the strategic part of an energy policy that's lacking in the non-regulated markets.

Tribune: And in the regulated markets?

Roderick: We still see new plants are going to be built in Florida; we see new plants that are going to come up in the Carolinas. Those are all progressing right now. In the last year, we've seen an announcement that Georgia intends on building more than the Vogtle project that we're already building there. Florida Power and NextEra Energy has announced they're going to start work on the Turkey Point project in South Florida. And Duke has continued discussion about building another unit in the Carolinas. So what you're seeing is, the regulated market, which actually does give a valuation to 24/7 power, and recognizes the need for long-term investments of infrastructure like a nuclear power plant.

You're seeing that we started eight projects at once, four first units at a time. Instead of building one and getting all the learning done, we have four first-of-a-kinds going in. In all the second-of-a-kinds at those sites, we're seeing a 30 percent reduction in cost.

The other thing in the US is we've now started seeing more interest on the West Coast, which is why we initiated the new seismic design. Power plants on the West Coast are built a little different than on the East Coast. They are much more oriented into purchase-power agreements, where a developer comes in, builds the plant and then gets a contract for the off-take of the plant for the next 60 years or whatever the case may be.

Tribune: That's how Blue Castle is doing it, right?

Roderick: Yes. That model is a little foreign to the Northeast and really foreign to the Southeast United States. Yet, it seems to be a model on the West Coast that we're going to have to try figure out how to do that.

Tribune: Do you see the West Coast developing beyond what we see on the drawing board?

Roderick: Yes, I believe that Arizona is going to have a significant need for power in the next 15 years. That's going to take a state that has not that many natural resources from an energy standpoint and that's why one of the largest nuclear power complexes in the world is just outside Phoenix, at Palo Verde, which is a great customer of ours. We know that at some point in time, those units are going to have to retire. With the fluctuations of power needs in California, what you're seeing is a lot of people wanting to build nuclear power plants just across the border (from) California.

And then, when you get a development request, you have to try to find two things on the West Coast. One is water. That's the biggest challenge of anything on the West Coast. The second is transmission corridors to be able to get into California. So, when you look around at where is water and where are the transmission corridors, these are key siting locations for us. There's plenty of water in the Northwest ... and then a little further south into the Utah area and some points of Arizona.

Tribune: Is there any room for reducing the large capital cost of a plant?

Roderick: We build most (reactors) in two units, and what we're seeing — in China, we see this, and we see this in the US, too — the second unit is coming up 30 percent less cost than the first unit. You're seeing that we started eight projects at once, four first units at a time. Instead of building one and getting all the learning done, we have four first-of-a-kinds going in. In all the second-of-a-kinds at those sites, we're seeing a 30 percent reduction in cost.

Now that the designs are done, and the regulatory changes seems to have slowed down, I think our ability to get that capital cost down is going to become much more important. We will come out of this with a licensed plant that has regulatory certainty, that's fully designed, that our supply chain has matured in now, and so we will just be able to continue to drive that cost down.

Source: http://eaglefordtexas.com, 05 November 2014.

'Irresponsible' for US to Stop Nuclear Power, Says Former EPA Chief

Earlier, the Hill and Nuclear Matters hosted an event at Washington. At the event, Carol Browner, former Environmental Protection Agency (EPA) chief, said that it would be irresponsible for the government of United States to take nuclear power beyond consideration if it really wants to tackle climate change.

If the United States loses its baseload of nuclear energy, which at present provides about 60% of the country's carbon-free power, then it would be difficult for the country to meet the targets that EPA has set for carbon pollution. Administration of EPA said that new rules for carbon pollution should help boost nuclear.

While speaking at the event, Browner said that she is a lifelong environmentalist, and now she is supporting nuclear energy. Browner was Environmental Protection Agency chief under 42nd President of the United States Bill Clinton. She has also worked on climate and energy policy for current President of the United States Barack Obama. Browner has announced about her shift on nuclear policy.

Browner said that climate change is the most pressing problem of today's world, and it is necessary for humans to rethink their position. She praised Germany to make to bow out of nuclear. She said that US should learn from Germany. According to Browner, if the United States loses its baseload of nuclear energy, which at present provides about 60% of the country's carbon-free power, then it would be difficult for the country to meet the targets that EPA has set for carbon pollution. Administration of EPA said that new rules for carbon pollution should help boost nuclear. The industry will remain skeptical as the proposal doesn't include the plants that are not constructed yet.

Under this agreement, the two organizations will review and extend for a further five years a scientific collaboration initiated in 2008. IRSN and SCK-CEN said the collaboration is the basis for continued operation in the field of nuclear safety, radiation protection and nuclear waste management. This may include collaboration in joint studies and projects, the exchange of staff, training and information exchange.

Source: http://newstonight.co.za, 25 October 2014.

NUCLEAR COOPERATION

BOLIVIA–ARGENTINA

Bolivia, Argentina to Expand Nuclear Energy Cooperation

Bolivia and Argentina 06 November agreed to strengthen their cooperation on nuclear energy technology…. The agreement was reached when Bolivian President Morales met Argentine Planning Minister Vido in the east Bolivian city of Santa Cruz…. According to the agreement, the two countries will set up five working committees to explore bilateral cooperation on "nuclear energy and nuclear medicine programs," space, digital TV, meteorological radars and an integrated airspace control system, the ABI cited Caro as saying. On Oct. 2, Morales announced that Bolivia was working to develop a nuclear energy program, saying that nuclear technologies should be used to strengthen the health sector and promote scientific research. Morales, recently reelected with a landslide victory to a third term, said Bolivia's future development depends on upgraded industrializationand technologies.

Source: http://www.shanghaidaily.com, 06 November 2014.

FRANCE–BELGIUM

IRSN Extends its Cooperation

France's Institute for Radiological Protection and Nuclear Safety (IRSN) has agreed to extend its collaboration with Belgium's Nuclear Research Centre (SCK-CEN) while entering a cooperation agreement with Spanish engineering firm Tecnatom. The IRSN announced on 5 November that it has signed a new framework agreement with the SCK-CEN. Under this agreement, the two organizations will review and

extend for a further five years a scientific collaboration initiated in 2008. IRSN and SCK-CEN said the collaboration is the basis for continued operation in the field of nuclear safety, radiation protection and nuclear waste management. This may include collaboration in joint studies and projects, the exchange of staff, training and information exchange.

SCK-CEN director general Walle said, "This framework agreement will be the basis for scientific collaboration agreements between SCK-CEN and IRSN. It confirms the result of years of collaboration between our two institutions and renews the will to move forward on a number of scientific/technical areas that concern us both." At the same time as signing the framework agreement, IRSN and SCK-CEN signed the first bilateral cooperation agreement under that framework agreement. This bilateral agreement outlines the collaboration between the two organizations on the characterization of irradiated nuclear fuel rods. This work will be carried out under SCK-CEN's REGAL (Rod Extremity and Gadolinia Analysis) Program.

IRSN and Tecnatom will share their knowledge on such topics as inspections, qualification, human factors, instrumentation and control, simulators, emergency response, severe accident analysis, training, periodic safety reviews, life extensions and radiological protection.

***Tecnatom Collaboration*:** IRSN has also signed an MoU with Spain's Tecnatom for cooperation and promotion of technical and commercial services related to nuclear development worldwide, particularly in China, Turkey, Saudi Arabia, South America and Vietnam. Following the signing of the MoU, IRSN and Tecnatom will share their knowledge on such topics as inspections, qualification, human factors, instrumentation and control, simulators, emergency response, severe accident analysis, training, periodic safety reviews, life extensions and radiological protection. Tecnatom is an engineering company whose main activity centres on the rendering of inspection and component structural integrity services, the training of operations personnel by means of full-scope simulators and engineering in support of plant operation.

Source: http://www.world-nuclear-news.org, 06 November 2014.

KOREA–EGYPT

KEPCO to Build Korean Nuclear Plant in Egypt

Korea Hydro & Nuclear Power, KEPCO Engineering & Construction Company, Doosan Heavy Industries & Construction, Hyundai Engineering & Construction, Daewoo Engineering & Construction, and Daelim Building participated in the event to promote the export of Korean nuclear plants to Egypt. The participants discussed ways for mutual cooperation with the topics of the excellence of Korean nuclear plants, workforce training, and localization. KEPCO said that South Korea signed an MOU with Arab Contractors, the number one builder in Egypt's construction industry, gaining a competitive advantage over other nations in the Egyptian nuclear plant market.

The Egyptian government is planning to give public notice of an international bid for building the second new nuclear plant at El-Dabaa early next year. Lee Hee-yong, chief of the KEPCO nuclear plant export division, said, "Based on the excellent capacity of the Korean nuclear plant business, we will satisfy major Egyptian needs such as training the Egyptian workforce and localization to successfully adopt the first nuclear plant," adding, "We are planning to establish a firm foundation for the Egyptian nuclear plant businesses by strengthening cooperation between the two countries."

Source: http://www.businesskorea.co.kr, 07 November 2014.

RUSSIA–IRAN

Russia to Build Iran Nuclear Reactors

Russia has signed a contract to build two more nuclear reactors in Iran likely to be followed with another six, a move intended to cement closer ties between the two nations. The deal comes less than two weeks ahead of the November 24 deadline for Tehran to sign an agreement on its nuclear programme with six world powers. 11 November contract has no immediate relation to the talks that involve Russia and the US, but it reflects Moscow's intention to deepen its co-operation with Tehran ahead of possible softening of Western sanctions against Iran. The nuclear officials from the two countries signed the contract for building two reactors at Iran's first Russia-built nuclear plant in Bushehr.

Russia has signed a contract to build two more nuclear reactors in Iran likely to be followed with another six, a move intended to cement closer ties between the two nations. The deal comes less than two weeks ahead of the November 24 deadline for Tehran to sign an agreement on its nuclear programme with six world powers.

Kiriyenko, the head of Russia's Rosatom state corporation, and Iran's nuclear chief Salehi also signed a protocol envisaging possible construction of two more reactors in Bushehr and another four in an undetermined location. "It's a turning point in the development of relations between our countries," Salehi said after the signing.... Rosatom said in a statement that the construction of the new reactors will be monitored by the IAEA. As in the case of Bushehr's first reactor that became operational in 2013, Russia will supply uranium fuel and then take it back for reprocessing – a provision intended to prevent a possibility of Iran using the spent fuel to build atomic weapons. A potential agreement between Iran and the six powers would ease Western sanctions against Iran's economy if Tehran agrees to limit its uranium enrichment to a level that would make it unable to build nuclear weapons. Iran has dismissed Western suspicions that it was working covertly to develop nuclear weapons, insisting that its nuclear activities are aimed at peaceful energy demands and medical needs.

Source: http://www.aljazeera.com, 12 November 2014.

NUCLEAR NON-PROLIFERATION

INDIA

India Votes Against UN Draft Resolutions on Nuclear Non-Proliferation Treaty

India has voted against the provisions of draft resolutions that would have required it to accede to the NPT, saying there is "no question" of it joining the treaty as a non- nuclear weapon state. Deeply concerned about the growing dangers of nuclear and other mass destruction weapons caused by proliferation networks, the First Committee of the 193-member UN General Assembly that deals with disarmament and international security issues approved a draft resolution 0n 30 October urging all member states that had not yet done so to sign and ratify the CTBT. Prior to approval of that draft as a whole, votes were polled on provisions, including on operative paragraph, by which the Assembly would call on all those countries that have not joined the NPT to accede to it as non-nuclear weapon states.

In its explanation of vote, India said it cannot accept the call to accede to NPT as a non-nuclear-weapon state. "India's position on the NPT is well-known. There is no question of India joining the NPT as a non-nuclear weapon state. Nuclear weapons are an integral part of India's national security and will remain so.

The provision was retained by a recorded vote of 164 in favour, with Democratic People's Republic of Korea, India and Israel voting against it. In its explanation of vote, India said it cannot accept the call to accede to NPT as a non-nuclear-weapon state. "India's

position on the NPT is well-known. There is no question of India joining the NPT as a non-nuclear weapon state. Nuclear weapons are an integral part of India's national security and will remain so, pending non- discriminatory and global nuclear disarmament," it said. The Committee then took four recorded votes on a resolution 'Towards a nuclear weapon-free world: accelerating the implementation of nuclear disarmament commitments'. The text was approved as a whole by a vote of 166 in favour to seven against, with Korea, France, India, Israel, Russian Federation, the UK and the US opposing it.

The Assembly would stress the fundamental role of NPT in achieving nuclear disarmament and non-proliferation and urge India, Israel and Pakistan to promptly accede to the Treaty as non-nuclear- weapon states and place all their nuclear facilities under IAEA safeguards.

By another provision in the resolution, the Assembly would stress the fundamental role of NPT in achieving nuclear disarmament and non-proliferation and urge India, Israel and Pakistan to promptly accede to the Treaty as non-nuclear- weapon states and place all their nuclear facilities under IAEA safeguards. The provision was retained by a recorded vote of 163 in favour with India, Israel, the US and Pakistan voting against. In its explanation of vote, India said it remains committed to the goal of complete elimination of nuclear arms. "We are concerned about the threat to humanity posed by the continued existence of nuclear weapons and their possible use or threat of use. India also shares the view that nuclear disarmament and nuclear non-proliferation are mutually reinforcing. We continue to support a time-bound programme for global, verifiable and non-discriminatory nuclear disarmament," it said.

Source: http://articles.economictimes.indiatimes.com, 31 October 2014.

The West wants to close all avenues to Tehran developing an atomic bomb, by cutting back its nuclear enrichment programme, shutting down suspect facilities and imposing tough international inspections. Iran denies it wants nuclear weapons but insists on having "industrial-level enrichment" for its civilian energy programme. It wants all sanctions lifted and no restrictions on its existing nuclear technology.

NUCLEAR PROLIFERATION

IRAN

Iran Nuclear Deal Failure 'Danger to World'

A failure by Iran and world powers to reach a comprehensive agreement over Tehran's nuclear programme would be dangerous "for the entire world"... Iran and six world powers are seeking a landmark deal by November 24 that would see Iran scale back its nuclear activities in order to ease long-held fears it might develop atomic weapons, in return for a lifting of international sanctions. "A nuclear deal is in the interest of both parties and the region," deputy FM Araghchi said in an interview with Iranian television the day before talks between Tehran and the so-called P5+1 group of nations resume in Oman ahead of a final deadline this month. "No one wants to return to the situation there was before the Geneva accord, as that would be a dangerous scenario for the entire world," he said, referring to an interim agreement Iran signed in 2013 that traded curbs on its nuclear programme for limited sanctions relief.

The West wants to close all avenues to Tehran developing an atomic bomb, by cutting back its nuclear enrichment programme, shutting down suspect facilities and imposing tough international inspections. Iran denies it wants nuclear weapons but insists on having "industrial-level enrichment" for its civilian energy programme. It wants all sanctions lifted and no restrictions on its existing nuclear technology. US Secretary of State Kerry will meet with Iran's Foreign Minister Javad Zarif in Oman

along with EU former head of diplomacy Catherine Ashton in an attempt to bring the two sides closer together. "Negotiations have almost stopped on one or two issues and we hope that talks in Oman will allow us to make progress" on a final deal, Araghchi said.

He added that "the level, capacity and the size of enrichment and the time needed to be able to have industrial enrichment are subjects of negotiations". According to a diplomatic source in Tehran, new proposals from the P5+1 group (Britain, China, France, Russia, the US plus Germany) could allow Iran to "quickly" seal a deal that would see sanctions lifted in exchange for reassurances that Tehran was not seeking a nuclear bomb. "The Islamic republic would never look to make an atomic weapon," Araghchi said. "But we understand that the other side will need assurances."

Source: http://news.yahoo.com, 08 November 2014.

NORTH KOREA

North Korea Operating New Uranium Plant, could Double Nuclear Capacity: Report

North Korea has started operating a new nuclear facility that could boost its production of uranium-enriched fuel for nuclear weapons, *Joongang Ilbo* newspaper reported, citing a South Korean official. The new plant is reportedly located within the Yongbyon nuclear power plant, which houses the country's sole plutonium-producing nuclear reactor. The South Korean news report stated that infrared cameras with heat sensors used by South Korean and US intelligence agencies had detected the operation of centrifuges inside the plant. The report revealed that the new plant was built next to a uranium facility — with about 2,000 gas centrifuges — which was shown to a team of US nuclear experts in 2010.

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"We have to monitor a little longer to see if the new plant actually started producing weapons-grade materials, but it is our assessment that it is in operation," a South Korean official in charge of North Korean intelligence said, according to *Joongang Ilbo*. The official added that the new plant is of the same size as the old one and could have the same number of gas centrifuges. "If the North operates all 4,000 centrifuges year-round, it can produce about 80 kilograms (176 pounds) of highly enriched uranium annually," a nuclear engineer from a state-run institute told Joongang Ilbo. "That is enough to build four to five nuclear bombs." However, a defense ministry official declined to comment on "any matters of intelligence," according to Agence France-Presse.

Source: Suman Varandani, International Business Times, 05 November 2014.

USA–IRAN

Obama Warns Iran Nuclear Deal May not be Reached

The US and Iran will hold a second day of high-level talks in Oman on 15 November after a warning from President Obama that there may be no nuclear accord as a deadline looms. US Secretary of State Kerry met Iran's FM Zarif in the Gulf sultanate on 7 November, seeking to resolve key disputes that have left the West's negotiations with the Islamic republic close to deadlock. An interim accord expires on November 24, but Iran and world powers have for months been unable to hammer out what a comprehensive, long-term accord would look like... . "Are we going to be able to close this final gap so that (Iran) can re-enter the international community, sanctions can be slowly reduced and we have verifiable, lock-tight assurances that they can't develop a nuclear weapon?" Obama asked. "There's still a big gap. We may not be able to get there," he said.

At issue is the number of uranium-enriching centrifuges Iran should be allowed to keep spinning in exchange for sanctions relief and rigorous inspections at its nuclear sites.

The duration of a final settlement between Iran and the P5+1 group Britain, China, France, Russia and the US plus Germany also remains contested. The West is unconvinced by Tehran's denials that it has never sought a nuclear weapon and wants curbs that would put an atomic bomb forever beyond reach. Iran, however, insists its nuclear programme is for peaceful, civilian energy production only and wants to vastly enhance its uranium enrichment capabilities for this purpose. The country has vowed to do nothing that would roll back its nuclear activities. Kerry and Zarif had two meetings lasting more than five hours in Muscat with former EU foreign policy chief Catherine Ashton, the lead negotiator in the talks, also present....

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The meeting in Muscat follows the revelation that Obama reportedly wrote to Iran's supreme leader Ayatollah Ali Khamenei to push for a deal, arguing that the Islamic republic and the West have shared regional interests. This apparent reference to the fight against Islamic State group militants in Syria and Iraq was played down by Kerry, however, with the US diplomat saying in Beijing on 08 November, "there is no linkage whatsoever" with the nuclear talks. Domestic politics are hanging heavily over the process, given the loss in midterm elections of the Senate by Obama's Democrats to the Republican party, members of whom have consistently bridled at the White House's negotiations with Iran. If talks go sour in the coming weeks it is thought the US Congress may respond with fresh sanctions on Iran. Obama has the power to veto them, but the prospect of new penalties could disrupt an already protracted process and push the negotiations toward being untenable for the Iranian government.

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Zarif and President Rouhani are already under pressure from lawmakers sceptical of the interim deal who have also said that a final agreement must be ratified by parliament. As if to drive that message home on 09 November, 200 Iranian MPs signed a statement demanding that Zarif's negotiating team "vigorously defend" the country's nuclear rights and ensure a "total lifting of sanctions". Although officially supportive, hardliners in Tehran have often been ambivalent about the negotiations, which officially resumed last autumn after earlier secret talks in Oman with US officials set the wheels in motion. The surprise election last year of Rouhani, who had pledged to revive Iran's sanctions-battered economy, was a turning point on the nuclear issue. But progress has been elusive since the interim deal came into effect in January. After Kerry and Zarif meet again on 20 November, the political directors of the P5+1 powers will hold talks the following day, also in Muscat. The main negotiations then move back to Vienna on November 18 for a final push towards the deadline six days later.

Source: http://news.yahoo.com, 10 November 2014.

NUCLEAR TERRORISM

INDIA

At UN, India Warns of Nuclear Terrorism Threats; Pakistan says it's Increasing Security

Warning that nuclear terrorism threats is a pressing challenge to the global community, India has called for stronger national

and international action to prevent terrorists getting hold for nuclear material. "The threat of nuclear terrorism is one of the pressing challenges facing the international community," Abhishek Singh, a first secretary in India's UN Mission, told... "Responsible national action and effective international cooperation are therefore required for strengthening nuclear security to prevent vulnerable nuclear material falling into hands of non-state actors." A vital amendment to an international convention on protecting nuclear materials coming into force would strengthen global efforts for nuclear safety, Singh said. The amendment introduced in 2005 to the Convention on the CPPNM would make it legally binding on nations to protect nuclear facilities and material while being used, stored or transported. It would also expand international cooperation to recover stolen or smuggled nuclear material.

Responsible national action and effective international cooperation are therefore required for strengthening nuclear security to prevent vulnerable nuclear material falling into hands of non-state actors.

The amendment, which requires the acceptance of two-thirds of the 151 nations that are parties to the convention, has been has been languishing with approvals by only 81 countries. Singh asked the IAEA "to continue its efforts to promote early entry into force of the amendment." Participating in the NGA discussion on the IAEA, Pakistan, which has not yet accepted the amendment, sought to give assurances about safeguarding its nuclear facilities and materials. Khalil Hashmi, a minister in Pakistan's UN Mission, said, it has "deployed radiation detection mechanisms at several exit and entry points to prevent illicit trafficking of radioactive and nuclear materials." "Pakistan attaches highest importance to nuclear security because it is directly linked to our national security," he asserted listing what he said were the "five pillars" of Islamabad's nuclear security: "A strong command and control system led by the National Command Authority; an integrated intelligence system; a rigorous regulatory regime; comprehensive export control regime and active international cooperation."

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These appeared to be aimed at assuaging the main international fears about Pakistan's nuclear program and arsenal. Abdul Qadeer Khan, it's top atomic scientist, ran a network that provided nuclear technology to Iran and North Korea. And, on the security front, at least three cases of terrorists attacking nuclear weapons-related facilities in Pakistan have been documented. Harvard University's Belford Center said in a 2010 report, Pakistan "faces a greater threat from Islamic extremists seeking nuclear weapons than any other nuclear stockpile on earth".

Source: http://www.business-standard.com, 04 November 2014.

NUCLEAR SAFETY

FRANCE

France Investigating Mysterious Drone Flights over Nuclear Plants

France has started a judicial investigation into the unidentified drones that were seen overflying the country's nuclear power facilities in October. The latest incident occurred on 31 October, when authorities say drones were spotted over two power plants. Electricite de France (EDF), the state-owned utility for France's nuclear power plants, reported on 31 October that drones were seen flying over the nuclear power stations in Golfech in the Tarn-et-Garonne, and the Penly, in Seine-Maritime on 30 October night.... A spokesman for the French security forces said: "Drone-type machines overflew two nuclear plants

during the night. They were detected by police in charge of protecting the plants and staff." Police were also able to get pictures of the machines.

The latest drone sightings come in the wake of previous drone activity over France's nuclear power plants, the first occurring on October 5. On that night, drones flew over the Superphénix nuclear power plant in Southeast France. Between Oct. 13 and Oct. 20, additional drone activity was spotted over other nuclear power plants across the country. The EDF each time notified the police, but has maintained that the flyovers are, "without consequence for the safety or operation of these installations." The French Nuclear Safety Authority (ASN), tasked with ensuring that the country's nuclear power plants can withstand terror attacks and accidental plane crashes... In France it is illegal to fly over a nuclear power plant within three miles of the facility, and lower than 3,300 feet in altitude without authorization from the French Air Force. Doing so is punishable by a year in jail and a hefty fine, France is the most nuclear energy dependent country in the world, with 59 reactors on 19 sites.

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The French minister of the interior, Cazeneuve spoke on French radio, France info 30 October night. He indicated he wanted the drones destroyed. "There are some provisions taken in this regard. There are investigations. There are circumvention devices that exist. These devices, I will not dwell on their terms because I do not have to do "said Cazeneuve. The drone activity has always been taken place at night and on into the early morning hours.

Source: http://www.digitaljournal.com, 03 November 2014.

KUWAIT

AAEA Organizes Workshop on Assessing Risks of Civilian Nuclear Reactors

The Arab Atomic Energy Agency organized here on 02 November workshop on the basics of assessing the potential risk of civilian nuclear reactors in collaboration with the Ministry of Electricity and Water Authority and the US Nuclear Regulatory Commission. In his opening speech, Head of the AAEA Scientific Affairs Department, Mesbah said that Arab countries still need the basic knowledge about assessment of potential risks of operating nuclear reactors. He stressed Arab countries seek to ensure abidance by the highest standards in operating nuclear reactors to guarantee the safety of environment and public health. The AAEA, as a part of the Arab strategy for the peaceful use of nuclear power until 2020, aims to strengthen the infrastructure of nuclear programs and enhance nuclear safety. Mesbah noted that the workshop focuses on providing operators of civilian nuclear reactors with the required knowledge and experience, especially with regard to the assessment of potential risks.

The AAE is an Arab scientific organization. It is one of the Arab League Organizations, but it has its own law and regulations with a considerable Identity. It concerns with the peaceful uses of Atomic Energy and the development of Nuclear Sciences and their Technological Applications. It, also, concerns with the International Development of the peaceful uses of Atomic Energy, and the methods and means to transfer that into the Arab Countries.

The four-day workshop comprises lectures, presentations, discussions and practical exercises in cooperation with the US NRC experts. It tackles a plethora of key issues relevant to nuclear power reactors operation and nuclear safety. The AAE is an Arab scientific organization. It is one of the Arab League Organizations, but it has its own law and regulations with a

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Source: http://www.kuna.net.kw, 02 November 2014.

UK

UK Under Pressure on Nuclear Weapons

The UK Government is coming under growing pressure to attend the International Conference on Humanitarian Consequences of Nuclear Weapons in Vienna on 8-9 December 2014. Foreign Office Ministers have been non-committal on UK participation, however in recent days the US has confirmed its participation together with over 100 other countries, the UN and Red Cross. The Westminster Leader of the Scottish National Party (SNP) Angus Robertson MP has written to Foreign Secretary Hammond saying it is 'high time for the UK to stop procrastinating and join the rest of the world in taking the humanitarian consequences of nuclear weapons seriously'. Scotland is home to the UK's entire nuclear weapons submarine fleet, which is based at Faslane, close to Scotland's largest city Glasgow.

..."The Conference program could not be clearer in outlining key sessions on: 'Impact of Nuclear Weapons Explosions, 'Risk Drivers for deliberate or inadvertent Nuclear Weapons Use', 'Scenarios, Challenges and Capabilities regarding Nuclear Weapons Use and other events', and; 'A "bird's-eye view" on International Norms and the Humanitarian Impact of Nuclear Weapons'. The conference is also being addressed by a range of foremost international experts. "UK Governments have preferred Scotland to be home to the entire UK nuclear fleet despite large scale opposition in Scotland, including our churches, Trade Unions, voluntary sector and majority of parliamentarians. Given the proximity of these weapons of mass destruction to our largest city Glasgow, the least that the Westminster Government could do is take the humanitarian consequences of these weapons seriously. You should attend the conference".

Bill Kidd MSP, who is attending the Vienna conference as part of the delegation from Parliamentarians for NNPD said: "The UK Government cannot simply boycott this conference as it has in previous years. When even other nuclear-armed countries like the US are participating together with over 100 other nations it is simply unacceptable for the UK to shirk its responsibilities. "It is total folly to spend £100bn on a new generation of Trident nuclear weapons, but if one is going to possess them, one has to take the humanitarian consequences of their use seriously."

From 8–9 December 2014 the Government of Austria will host the 'Vienna Conference on the Humanitarian Impact of Nuclear Weapons.' It is the latest step in a growing global initiative to bring focus to the consequences of their use. The Vienna Conference will build on an initiative launched in 2013 that draws to focus attention on the humanitarian consequences of and risks associated with nuclear weapons. ... The Vienna Conference will focus on the short and long term consequences of nuclear weapons explosions, on public health, the environment, climate disruption, food security, migration, development related issues, infrastructure, and other consequences.

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explosions such as human error, negligence, miscalculation, technical errors and vulnerabilities of nuclear weapons and their infrastructure. Moreover, the Conference will give an overview on existing international law and the possible consequences of nuclear weapon explosions.

Source: http://www.snp.org, 12 November 2014.

RUSSIA

Russia to Curtail Nuclear Security Efforts with US

Russia has informed the United States that it is planning to reduce its participation next year in a joint effort to secure nuclear materials on Russian territory, a move that could seriously undermine more than two decades of cooperation aimed at ensuring that nuclear bomb components do not fall into the hands of terrorists or a rogue state. Sergey V. Kirienko, the head of Russia's state nuclear company, has told senior Obama administration officials that no new projects in Russia are "envisioned" in 2015, according to American officials.

The officials still hope to persuade the Russians to continue work next year on some current projects, though Russian officials have yet to agree. Under the arrangement, Russian scientists would have been allowed into, among other places, the heart of the American nuclear complex at Los Alamos National Laboratory in New Mexico.US-Russia Nuclear Deal Stalls as Tensions Over Ukraine Rise Aug. 2, 2014. ...

The reduced cooperation is a byproduct of the general downturn in relations between Russia and the United States, which has been compounded by President Vladimir V. Putin's decision to intervene militarily in Ukraine. But it also stems from longstanding concerns among Kremlin hard-liners about a program that brings American nuclear experts to Russia's nuclear sites and that, they fear, may create the impression that Russia is in need of outside help.

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Russia also announced that it was planning to boycott an international security summit meeting that is to be hosted by President Obama in 2016. But the message delivered by Mr. Kirienko is the first time that the rising tensions between the Kremlin and the Obama administration have threatened to disrupt some of the practical efforts that the two sides initiated at the end of the Cold War to help Russia safeguard its nuclear materials.

A senior Obama administration official said the United States still planned to work with the Russians on nuclear security efforts in third countries and hoped to persuade the Russian government to continue cooperation in Russia. ... As tensions have grown, however, the prospects for future cooperation have come under a cloud. In September, Rose Gottemoeller, the State Department's senior arms control official, led an American delegation to Moscow that sought unsuccessfully to resolve an American allegation that Russia had violated a 1987 Soviet-American treaty banning intermediate-range missiles based on land. During this visit, Ms. Gottemoeller also met with Mr. Kirienko, the Rosatom chief, and stressed the importance of continued cooperation on nuclear security, despite the tensions in American-Russian relations.

Typically, the Energy Department signs contracts with Russian labs or other institutions on projects to provide security upgrades or training. And Ms. Gottemoeller noted that the Obama administration was concerned about the prospects for joint security efforts if new projects were not agreed on before the current contracts expired at the end of this year, according to accounts by American officials. Mr. Kirienko said the Russian government did not "envision" that new contracts would be concluded for 2015, though he expressed a willingness to work on nuclear security issues in other countries. Mr. Kirienko conveyed a similar message that new contracts were not envisioned "under current circumstances" in a meeting with Energy Secretary Ernest J. Moniz that was held later in Vienna, officials said.

The administration also plans to encourage efforts to work jointly on nuclear security in countries like Belarus, Kazakhstan, Poland and Uzbekistan by repatriating to Russia highly enriched uranium that Moscow supplied to these nations for nuclear research purposes. There is no indication, however, that the administration plans to reverse its earlier decision to suspend an American-Russian scientific cooperation agreement, which could have included projects on nuclear energy and planetary defense against asteroids, because of Russia's annexation of Crimea in March. ...

Mr. Kirienko said the Russian government did not "envision" that new contracts would be concluded for 2015, though he expressed a willingness to work on nuclear security issues in other countries.

Source: Excerpted from article by Michael R. Gordon. http://www.nytimes.com, 13 November 2014.

NUCLEAR WASTE MANAGEMENT

Japanese Grant for Tritium Removal Technology

Japan's Ministry of Economy, Trade and Industry (METI) has awarded US-based waste management specialist Kurion a JPY 1 billion ($10 million) grant to demonstrate technology to remove tritium from contaminated water for possible deployment at Fukushima. Kurion's technology is one of three selected by METI in August to go forward to the demonstration phase, alongside offerings from GE Hitachi Nuclear Energy Canada and Russia's FSUE Radioactive Waste Management Enterprise (RosRAO). Kurion president Raymont said the demonstration project would begin immediately at the company's detritiation facility which is located in Houston, Texas. Tritiated water is a significant issue at the Fukushima site, where more than 400,000 tons of contaminated water is stored in tanks and a further 400 tons accumulate on a daily basis. Two systems are already in place to remove contaminants from the stored water - a multi-nuclide removal system known as ALPS, and a Kurion's own mobile processing system known as KMPS. These systems remove contaminants that are suspended or dissolved in the water, but do not remove tritium.

Japan's Ministry of Economy, Trade and Industry (METI) has awarded US-based waste management specialist Kurion a JPY 1 billion ($10 million) grant to demonstrate technology to remove tritium from contaminated water for possible deployment at Fukushima.

Tritium is an isotope of hydrogen and presents a different problem to other contaminants as it forms tritiated water. A molecule of normal water contains two atoms of hydrogen and one of oxygen, but in a molecule of tritiated water, one of those hydrogens has been replaced with tritium. Industrial processes exist to remove tritium from heavy water. Such processes are used to remove tritium from the heavy water coolant and moderator used in Candu reactors, but are too expensive to be viable for use in removing tritium from the Fukushima waste water or from operating light-water reactors. The demonstration projects announced by METI earlier in the year must both verify the tritium separation technology and also to assess the construction and operating costs for full-scale implementation of the technology at the Fukushima Daiichi plant. The technology must be capable of removing tritium from water with concentrations of 0.6 and 4.2 million bequerels per litre and to be expandable to process more than 400 cubic metres per day.

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

TAIWAN

Taiwan to Check Waste Shipments from Japan for Radiation

Taiwan will conduct radiation checks on some types of container cargo arriving from Japan, the island's legislature said on 05 November. The body's Finance Committee ruled that waste materials such as plastic, scrap metal and paper must be checked with radiation meters upon arrival at the island's four seaports: Keelung, Taipei, Taichung and Kaohsiung.... On 03 November, the committee passed a more onerous resolution requiring all container cargo from the ports of Tokyo and Yokohama to undergo radiation testing at the Port of Kaohsiung starting 17 November. It then backtracked on the decision. The resolution was sponsored by Legislator

Shiow-yen of the ruling Nationalist Party, who argued that all cargo containers coming from or routed through Japan should be required to pass through Kaohsiung for radiation checks.

Kaohsiung Customs is the only division equipped with radiation detection monitors. Lu's proposal drew strong opposition from the Ministry of Finance and Customs Administration. An official told reporters on 03 November that the measure was unfeasible because it would lead to extra transportation expenses and cause major problems for exporters and importers. The official also revealed that authorities would propose a revision to the resolution when the committee met again on 04 November. Lu's office said she filed the motion because she saw a report in the *Liberty Times* newspaper in August saying that since the Fukushima nuclear crisis in 2011, Kaohsiung Customs had detected 226 cargo containers originating from or routed through Japan with radiation levels exceeding the legal limit.

The body's Finance Committee ruled that waste materials such as plastic, scrap metal and paper must be checked with radiation meters upon arrival at the island's four seaports: Keelung, Taipei, Taichung and Kaohsiung

After the 2011 Fukushima nuclear disaster, Taiwan banned food imports from five of Japan's 47 prefectures Fukushima, Ibaraki, Gunma, Tochigi and Chibaand has been conducting random radiation checks on 11 categories of imported foods. Taiwan's Food and Drug Administration announced late in October that it is planning to introduce regulations requiring foods imported from Japan to carry prefecture-specific labels of origin, with some items needing to undergo radiation checks by Japanese authorities. Those regulations are expected to take effect as early as next year if no objections are filed within a 60-day window starting Oct. 29.

After the 2011 Fukushima nuclear disaster, Taiwan banned food imports from five of Japan's 47 prefectures Fukushima, Ibaraki, Gunma, Tochigi and Chibaand has been conducting random radiation checks on 11 categories of imported foods.

Source: http://www.japantimes.co.jp, 05 November 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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