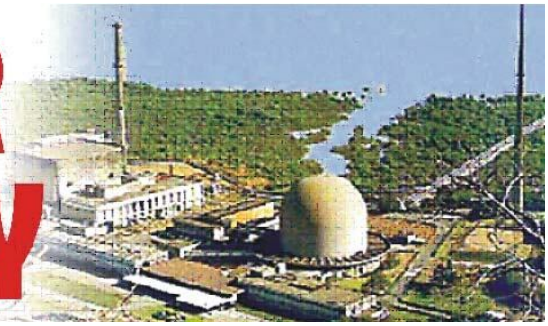
NUCLEAR SECURITY



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

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CONTENTS

OPINION – Jaideep Prabhu

Nuclear Power in the Year of Modi

For a candidate who had spoken at length about solar power during the election campaign, it was surprising to see Modi talk up nuclear energy once in office. In July 2014, Modi visited the BARC and was full of praise for India's nuclear community. Declaring that nuclear power would be an essential part of India's energy security, he assured the DoE of his full support in the implementation of their expansion plans. To be sure, it will take a brave PM to belittle the nuclear programme – India takes much pride in its high-tech endeavours such as space faring and nuclear technology, especially given the prejudicial international environment in which it was developed. Yet such pride has not necessarily translated into support in the past – some projects are decades overdue and there was never a concerted push towards nuclear power in India.

A few important developments in the nuclear arena have taken place during Modi's first year in office, some of them entirely of his making and others not so much. For example, India signed agreements with Australia and Canada for the supply of uranium for its safeguarded reactors. These negotiations had been ongoing since the previous regime and would have been concluded no matter who resided at Race Course Road. Similarly, work on Kudankulam, Kalpakkam, and general nuclear research would have likely continued under bureaucratic inertia.

Modi's leadership has expedited other nuclear developments, principally the civil liability for nuclear suppliers. However clumsy the solution to the train wreck that is India's nuclear civil liability law may be, a suppliers' insurance pool removed a major obstacle before nuclear vendors – foreign and domestic – investing in the Indian nuclear market. Another project that saw some movement in the past year due to Modi's involvement was Jaitapur. The Indian PM raised the issue of

Modi's leadership has expedited other nuclear developments, principally the civil liability for nuclear suppliers. However clumsy the solution to the train wreck that is India's nuclear civil liability law may be, a suppliers' insurance pool removed a major obstacle before nuclear vendors – foreign and domestic – investing in the Indian nuclear market.

Jaitapur with Areva during his visit to Paris in April 2015 and saw the French nuclear concern sign a pre-engineering agreement with L&T. The agreement is significant, perhaps more so than one realises, because it involves the transfer of forging technology to L&T to enable it to manufacture reactor vessels for the French EPR reactor in India. Not only will this obviate the need for European and American nuclear vendors to depend upon Japanese companies to provide crucial reactor components, but it will also allow India to support its indigenous nuclear industry and eventually enter the export market.

As remarkable as these two achievements are, the shortcomings of Modi Sarkar are equally baffling. Despite a close relationship with Shinzo Abe since his days as the chief minister of Gujarat, Modi was not able to nudge an Indo-Japanese civil nuclear cooperation agreement closer to the finish line. This was a disappointing setback as both Tokyo and Delhi try to surreptitiously bolster defence and strategic cooperation. Similarly, India failed to capitalise on the Russian offer made during Vladimir Putin's visit in December 2014 to build 20 reactors in the country. Part of the problem was perhaps that the Indian nuclear establishment was not ready to absorb such an investment and had no sites or plans ready to deploy so many reactors. Furthermore, domestic opposition to nuclear power would make quick movement on new sites difficult.

As always, there have been rumblings about Hitachi and Toshiba setting up nuclear power complexes at Srikakulam and Mithi Virdi but there has been little movement on the ground despite the persistence of such rumours for almost a decade. Similarly, Rosatom's project at Haripur has been stalled for years without any conclusion in sight. The foundation stone to Gorakhpur, an indigenous nuclear project, was laid by then PM Manmohan Singh in January 2014 but the project had been planned since 1984 and there is little news of it since the foundation ceremony either. Such chronic delays need to be addressed if India is to ever pursue nuclear power seriously - in an era where financing is the largest component of the cost of a nuclear power plant, delays can mean the death knell for nuclear energy.

Despite some good progress on the nuclear front during Modi's first year as PM, some fundamental reforms of huge import remain to be accomplished. One is in the arena of transparency. Pace the claims by the nuclear conclave, reliable and consistent information about the nuclear programme is elusive. The introduction of the RTI Act has shifted the onus of uncovering data on activists rather than on the department in question. Furthermore, national security or the public interest is used as an excuse to cloak even the quotidian operations of the DAE. For example, in November 2014, the Minister of State for DAE, Jitendra Singh, informed the Lok Sabha that "it is not in the public interest to disclose the quantity of production of uranium" in response to a question on the average annual production from uranium mines and the quality of the ore!

Another reform that should be considered over the next four years is to transfer the control over nuclear energy to the Ministry of Power. This would allow the minister responsible to take a comprehensive view of the power requirements of the country and the options available before deciding on India's energy mix. Though secrecy may have been important to India's nuclear programme in its dual-use incarnation, the separation of civilian and military nuclear facilities as stipulated by the Indo-US nuclear deal has obviated the need for such levels of confidentiality. Defence reactors would obviously be retained by the PMO or perhaps transferred to the MoD, but those facilities involved in non-military activities can be put under the purview of the minister of power.

What Modi and the Indian nuclear programme sorely needs is a visionary. When Homi Bhabha envisioned a three-stage nuclear programme for India in November 1954, there was not a single commercially operating nuclear reactor in the world; India did not yet have an operational reactor of any type. The world's first commercial power reactor went critical in December 1957 in Shippingport, US, and India's first reactor, Apsara, came online in August 1956 for research purposes; India's first commercial reactor, Tarapur Unit I, went critical only in October 1969....

It is difficult to predict what a visionary might advocate but a few things that might receive consideration are new technologies such as Molten Salt Reactors, Integral Fast Reactors, and thorium reactors such as the AHWR. A second consideration would be a ramp up in the number of reactors by an order of magnitude – if we want clean air, plentiful energy, and growth simultaneously, perhaps it is time someone talked about a thousand reactors over the next half century rather than twenty, fifty, or even a hundred. Modi has shown himself to be an able administrator so far but now he needs a domain expert with chutzpah. As I like to remind people, where there is no vision, the people perish.

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Source: http://www.dnaindia.com, 18 May 2015.

OPINION – Yaroslav Trofimov

Will Nuclear Deal Boost Iran Moderates or Hard-Liners?

Reformers and hard-liners in the Iranian regime have been jockeying for influence for decades. As the Islamic Republic now nears a landmark nuclear agreement with the U.S. and other world powers, the Middle East's future depends on which force emerges as the deal's main beneficiary. Will the accord empower the more pragmatic factions interested in normalizing Iran's relations with the West, even as the regime maintains repression at home? Or, as some of Iran's neighbours fear, will the financial windfall from the lifting of sanctions enable the hard-liners to step up the export of Iran's Islamic revolution throughout the region?

If the U.S. continues the policy of engagement rather than confrontation, you would find Iran much more flexible and much more ready to cooperate on regional issues if the West and the regional powers push for more coercion policies against Iran, this would strengthen radicalism in Iran. The equation is clear.

Relative moderates such as President Hasan Rouhani and Foreign Minister Javad Zarif have invested much political capital to bring Iran to the cusp of a nuclear deal. Their domestic supporters have raised expectations that the accord, which is due to be completed by June 30, will usher in a new era of regional cooperation. "The nuclear issue would be the first step for testing whether the engagement policy is successful. If the U.S. continues the policy of engagement rather than confrontation, you would find Iran much more flexible and much more ready to cooperate on regional issues," said Seyed Hossein Mousavian, who headed the foreign relations committee at Iran's National Security Council until 2005 and is now a visiting scholar at Princeton University. "But if the West and the regional powers push for more coercion policies against Iran, this would strengthen radicalism in Iran. The equation is clear."

As momentum for a nuclear deal gathered in recent years, Iran's involvement in regional conflicts from Syria and Iraq to Yemen also expanded, led by the Revolutionary Guards and other hard-line elements of the regime. Many of Iran's Arab neighbours, along with their European allies such as France, are concerned these elements will be further energized by a completed nuclear deal, which is expected to unfreeze Iran's access to as much as $150 billion in overseas assets.

Hoping the nuclear agreement will curtail Iran's forays abroad is as naive as arguing in 2013 that the deal to remove chemical weapons from Syria would ease the brutality of Bashar al-Assad's

regime, said Jean-Pierre Filiu, a professor of Middle East studies at Sciences Po university in Paris and a former diplomatic adviser to the French prime minister. "What I see is, since the preliminary deal [in April], things have become worse in Syria, worse in Yemen, and worse in Iraq," he said.

Aiming to whip up a nationalist backlash, hard-liners in Iran have sought to undermine Messrs. Rouhani and Zarif by focusing on the price that Tehran might pay for a nuclear accord, including international inspections of its military facilities, a blow to the country's cherished sovereignty. "The reformers may be blamed for giving too much away," said Vali Nasr, dean of the Paul H. Nitze School of Advanced International Studies at Johns Hopkins University and a former senior State Department adviser. "It is possible the deal would benefit the conservatives—they would get both the benefits of the deal and the political capital. This is clearly the conservatives' game plan. They are not objecting to the principles of the negotiations but to what has been negotiated."

President Barack Obama, who also has staked much political capital on the nuclear talks, told the Saudi-owned Asharq al-Awsat newspaper earlier May that he couldn't predict Iran's internal dynamics. Mr. Obama added, however, that "it is possible that if we can successfully address the nuclear question and Iran begins to receive relief from some nuclear sanctions, it could lead to more investments in the Iranian economy and more opportunity for the Iranian people, which could strengthen the hands of more moderate leaders in Iran." Divisions within Iran, of course, are far more complex than the labels "hard-liners" and "moderates" suggest. While many Iranians desire profound change at home and abroad, a significant segment of those with that ambition remain suppressed since the crackdown on the 2009 "Green Revolution" put many dissidents in jail or forced them into exile. Today, many influential Iranian voices advocate an improvement in relations with the West and an end to Iran's costly foreign entanglements because they see détente as vital for the very survival of the regime, not because they want to replace it. ...

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The system's pillars also include the new merchant class and bourgeoisie that sprang up in recent decades. These sections of Iranian society have suffered under the international sanctions and isolation during the administration of President Mahmoud Ahmadinejad and now have become important constituencies for President Rouhani. Even the Revolutionary Guards, whose Quds Force leader Maj. Gen. Qasem Soleimani has surfaced as the face of Iran's involvement in Syria and Iraq, operate under a complex set of constraints. Their instincts for aggressively promoting Iranian proxies abroad are, in part at least, offset by their desire to protect their stakes in the country's economy, interests that have significantly increased in the past decade.

"They are entrepreneurs themselves. They, too, are interested in having economic growth," said Adnan Tabatabai, chief executive officer of the Carpo think-tank in Germany who has advised the German government on Iranian affairs. "We can say it is not necessarily good to have affiliates of the security apparatus run the economy. At the same time, these people are really rational actors because they think in cost-benefit calculations." Ultimately, Supreme Leader Ayatollah Ali Khamenei will play a critical role in what course the country will take after a nuclear deal.

"It's a pivotal moment for the supreme leader—he can decide the overall trajectory of Iran's foreign policy," said Alex Vatanka, an Iran expert at the Middle East Institute in Washington. So far, the 75-year-old Mr. Khamenei has been careful to give his blessing to the talks despite the complaints of hard-liners, while still warning Iranian negotiators against making too many

concessions. Whether that qualified support will make the regime more cooperative or combative after June 30 is another matter. ...

Source: http://www.wsj.com, 28 May 2015.

OPINION – James McGovern

Nuclear Power Must Have Central Role in Mitigating Effects of Climate Change

The Union of Concerned Scientists is the oldest and most influential anti-nuclear group in the US. Organized in 1969, for years it has been a thorn in the side of the nuclear industry. So, when UCS says on its website that it's prepared to consider nuclear power as part of a workable solution to global warming in the event other zero-carbon energy sources are unable to reduce greenhouse-gas emissions to safe and acceptable levels, it's worth taking notice. The planet faces many environmental challenges, but, according to anthropogenic climate change proponents, none of them come close to global warming. According to this cohort, it is the over-arching environmental challenge of our time – and UCS has come around to the view that nuclear power, if it can be made safer and cheaper, might be needed to help prevent the worst effects of climate change.

No amount of effort to achieve the administration's goal of an 80 % reduction in emissions by 2050 will succeed unless we make greater use of nuclear power. Without support from the environmental community, reaching that goal will be extremely difficult. Currently, the 10 largest environmental groups oppose nuclear power.

Now is the time for the nuclear industry to reach out to UCS and other environmental organizations, such as the Sierra Club, the Environmental Defence Fund and the Natural Resources Defence Council. These groups have been cool to nuclear power, preferring instead a combination of renewable energy sources, demand management and improvements in energy efficiency. But no amount of effort to achieve the administration's goal of an 80 % reduction in emissions by 2050 will succeed unless we make greater use of nuclear power. Without support from the environmental community, reaching that goal will be extremely difficult. Currently, the 10 largest environmental groups oppose nuclear power.

One bright spot in the lustreless battle against global warming has been the greatly improved performance of nuclear power plants in the US. In the 1980s, nuclear plants generated power about 60 % of the time. But in 2014, nuclear power hit its stride as the U.S. fleet of approximately 100 nuclear plants produced electricity, on average, nearly 93 % of the time, according to the EIA. In contrast, wind turbines provided power about 25 % of the time and solar arrays even less. When the weather isn't cooperating, wind and solar energy require back-up power from fossil fuels.

The fact is nuclear power accounts for nearly 20 % of the nation's electricity supply but more than 60 % of zero-carbon energy. Although the cost of solar power has dropped dramatically in recent years, its penetration of the electric market is small compared to other energy sources. Solar represents less than 1 % of the electricity generated in the US. Solar has strong support within environmental groups, but nuclear power will need to play the central role in the fight against climate change in the U.S. and globally. A study by Charles Frank of the Brookings Institution, a think tank in Washington, D.C., found that nuclear plants avoid production of six times as much carbon dioxide per unit of capacity as solar arrays do.

A few prominent environmentalists have become vocal proponents of nuclear power, among them Carol Browner, former administrator of the Environmental Protection Agency and director of the White House Office of Energy and Climate Change Policy; Michael Shellenberger, president of the Breakthrough Institute, and Stewart Brand, author of the Whole Earth Catalog, who has written with regard to nuclear power that "the loom of climate change has altered everybody's perspective on costs and risks." Climate scientist James Hansen, an icon in the environmental

community, says nuclear power is part of the answer. Hansen calculates the positive global benefits of nuclear power as having saved 1.84 million lives by reducing air pollution, and estimates it has prevented the release of 64 billion tons of greenhouse-gas emissions that would have resulted from burning coal and other fossil fuels. And he believes that nuclear power will save many more lives in the years ahead.

The path forward entails developing and demonstrating small modular reactors that could be built in factories for a fraction of the cost of large nuclear plants. Such modular reactors — roughly the size of those built for the nuclear-powered Navy — could be added as the need for electricity generating capacity arises. Modules could be arranged in a cluster and situated underground for added safety. Currently, two prototypes of modular reactors — one using conventional light-water technology, the other an alternative reactor technology — are being built with loan guarantees from the DoE. The goal is to produce one or more standardized designs for certification by the NRC, with modules constructed and producing electricity by 2022.

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To even have a hope of preventing the worst effects of climate change, the effort to increase the use of emission-free nuclear power must begin now. States need to adopt carbon-reduction standards requiring utilities to produce a certain %age of electricity not only from renewable energy sources but also nuclear power. Groups such as the UCS need to step back and say the price of including nuclear power is worth paying.

Source: http://www.nj.com/, *25 May 2015.*

NUCLEAR STRATEGY

CHINA

China has Outfitted Missiles Capable of Reaching the US with Multiple Nuclear Warheads

In a break from decades of cautious nuclear policy, China has started a process of upgrading its ballistic missile capabilities into a more potentially dangerous form. Foregoing a longstanding policy of maintaining a small nuclear force, Beijing has begun to place multiple miniaturized nuclear warheads atop ballistic missiles, *The New York Times* reports citing a report from the Department of Defence. Missiles with multiple warheads are harder to intercept as each warhead could break off from its delivery system and aim for a separate target. China has had the capability of miniaturizing nuclear weapons since at least the 1990s, but has avoided the move so as to prevent a potential arms race. The new direction of Beijing's nuclear weapons stance comes under the direction of President Xi Jinping, who has made a series of bold moves to increase Chinese power both regionally and globally.

According to the Pentagon's report, Beijing has re-engineered the DF-5, a variation of the CSS-4 intercontinental ballistic missile shown below, to be outfitted with multiple warheads. China has approximately 20 DF-5s currently in silos across the country, each of which could target almost the entirety of the US.

According to the Pentagon's report, Beijing has re-engineered the DF-5, a variation of the CSS-4 intercontinental ballistic missile shown below, to be outfitted with multiple warheads. China has approximately 20 DF-5s currently in silos across the country, each of which could target almost the entirety of the US. Altogether, the modified DF-5s could launch upwards of 40 warheads at North America, according to the Times. This modification is intended to produce maximum destruction while

increasing the chances that a Chinese warhead could get past US missile interceptors. "They're doing it," Hans M. Kristensen of the Federation of American Scientists told the Times, "to make sure they could get through the ballistic missile defenses."

The US has placed missile defenses in California and Alaska with the intention of defending against a possible North Korean strike. The US also operates joint Aegis and Patriot missile systems in South Korea, and is aiming at deploying the highly advanced THAAD missile interceptor to the peninsula as well. Although these missile shields are aimed against North Korea, they could also block a Chinese strike. The sudden modifications come at a time of increased tension throughout Asia. Japan and the US have strengthened and reaffirmed military ties, and the US is increasingly playing a large role in the South China Sea in the support of the Philippines. Both countries are involved in disputes with China over the South China Sea.

The aircraft carrier USS Nimitz , the guided-missile cruiser USS Chosin, the guided-missile destroyers USS Sampson and USS Pinkney, and the guided-missile frigate USS Rentz operate in formation in the South China Sea. The timing of the DF-5 upgrades is likely a signal to the US that China is a quickly rising power in the region with only a limited tolerance for meddling in its backyard. "This is obviously part of an effort to prepare for long-term competition with the US," Ashley J. Tellis, a senior associate at the Carnegie Endowment for International Peace, told the Times. "The Chinese are always fearful of American nuclear advantage."

Source: http://learningenglish.voanews.com, 18 May 2015.

NORTH KOREA

North Korea Exaggerated Sub Ballistic Missile Test Success, US Official Says

A top U.S. military official says North Korea has exaggerated the success of its recent ballistic missile test, but voiced support for deploying a politically sensitive missile defense system to South Korea. The comments from Adm. James Winnefeld, vice chairman of the Joint Chiefs of Staff, came 26th May in Washington, just hours before Pyongyang claimed it had developed a miniaturized nuclear weapon. If true, that would raise the stakes over its even more worrisome nuclear program. "Just a few weeks ago, we saw Pyongyang raving about a test of its submarine launched ballistic missile capability. Fortunately, they've not gotten as far as their clever video editors and spinmeisters would have us believe," Winnefeld said. "They are years away from developing this capability."

North Korea said earlier in May that it had test-fired a ballistic missile underwater, raising concerns about the sophistication of its weapons systems. While the North's claim that it conducted a test is generally accepted — the South's Ministry of National Defence has called it "very serious and worrying" — questions remain about how it was conducted and how developed the North's SLBM capability really is.

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However, Reuters previously reported that a South Korean defence official said North Korean

photographs purporting to show a missile launched from the sea appeared to be real. That official estimated the North could develop a submarine armed with ballistic missiles within two to three years. Winnefeld, speaking on missile defence at the CSIS, said the North poses "the most immediate concern" of catastrophic missile attack to the U.S. because of its capabilities, followed by Iran. And if North Korea eventually develops SLBM capabilities, "it will present a hard-to-detect danger for Japan and South Korea as well as our service members stationed in the region."

He said the U.S. remains interested in deploying the THAAD system to South Korea, a possibility that has spawned concern in Seoul because China and Russia view THAAD as a threat. Winnefeld said the U.S. has not engaged in formal discussions with the South Korean government about THAAD. "As always, we're respectful of our host nation's concerns, and it goes without saying that the ROK will have to want this system in place," he said. Winnefeld's comments came just a day after U.S. Secretary of State John Kerry made headlines here with a brief mention of THAAD during his visit to Seoul.

Speaking to reporters following a meeting with South Korean Foreign Minister Yun Byung-se, Kerry said North Korean leader Kim Jong Un was engaging in "extraordinary, provocative activities, building nuclear weapons against all of the UN conventions and everything that we've tried to prevent together with the six-party powers — Russia, China, Japan, et cetera — it's dangerous." "And nobody quite knows what a reckless person like this fellow will do, so you have to be prepared for every eventuality, which is why we redeployed some ships and forces and why we're talking about THAAD and other things 20 May," he said.

Source: http://www.stripes.com, 20 May 2015.

BALLISTIC MISSILE DEFENCE

INDIA

DRDO's Ballistic Missile Interception Test Facility Coming Up in Andhra State

A test facility to launch ballistic missile interceptors is being set up on a river island of the Krishna creek in Andhra Pradesh by the Indian DRDO. This is part of the DRDO's BMD project to shoot incoming enemy missiles out of the sky. According to a DRDO source, they had been facing problems in terms of range for the target missile that needs to be intercepted at the lower end of the parabolic arc as it enters the atmosphere. The range DRDO needed is of 1500-2000 kms so that the target missile could have the full flight range and the interceptor can be tested to its full capacity.

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There are two varieties of missile interceptors that the DRDO has been developing. The first is for an endo-atmospheric interceptor called the AAD, which intercepts a long range after it enters the earth's atmosphere at the terminal stage of the flight phase. The other is the exo-atmospheric PAD system that seeks to kill the target missile at the farthest distance possible from its target. The DRDO has undertaken 7 tests, all of them inconclusive in proving them efficacy of the home grown BMD system. Ballistic missile interception is test-intensive and the DRDO has had to develop all the technology virtually from scratch.

Source: https://www.ibcworldnews.com, 23 May 2015.

UKRAINE

Ukraine Mulling Acquirement of US Anti-Missile Defence System

Kiev may be looking to hold consultations about adopting an anti-missile defence system from the US, Alexander Turchinov, secretary of Ukraine's National Security and Defence Council, told

Ukrinform news agency in an interview released on 20 May. Turchinov denounced Russia for deploying more weapons of attack in Crimea, as Russia is actively working on the deployment of nuclear weapons and carriers on the peninsula that acceded to Moscow.

He noted that such actions by Russia raise concerns in Ukraine, as nuclear weapons in Crimea would mainly target European countries. The defence secretary stressed that Russia's threats to peace require measured reaction and active steps by the international community. Turchinov said he believed that further sanctions should be placed against Russia for blocking the passage of warships through the Bosphorus, in addition to disconnecting Russia from the Society for the Worldwide Interbank Financial Telecommunication.

The US DoD on 22 May announced plans to deploy long-range radar in central Alaska that would help the US missile defence system better discern potential enemy missiles launched by Iran or North Korea and increase the capacity of interceptors in the ground in Alaska and California.

Source: http://www.business-standard.com, 20 May 2015.

USA

Pentagon Plans Long-Range Missile Defence Radar in Alaska

The US DoD on 22 May announced plans to deploy long-range radar in central Alaska that would help the US missile defence system better discern potential enemy missiles launched by Iran or North Korea and increase the capacity of interceptors in the ground in Alaska and California. Raytheon Co, Northrop Grumman Corp and Lockheed Martin Corp are competing to build the new radar, which is expected to cost just under $1 billion. The new radar would begin defensive operations in 2020, pending completion of required environmental and safety studies, the department said in a statement.

It said the new LRDR will help the multi-layered US ballistic missile defence system better address potential countermeasures that could be launched by potential foe to confuse US defensive systems. Missile Defense Agency Director James Syring and other senior Pentagon officials told Congress in March that the new radar was critically important to help defend against the increasing capabilities by North Korea and Iran to launch missiles at the US.

Admiral James Winnefeld, vice chairman of the Joint Chiefs of Staff told the CSIS think-tank that Washington took both the Iranian and North Korean threats seriously, even though neither country had a mature capability to launch intercontinental ballistic missiles. The Pentagon said the new radar would likely be placed at Clear Air Force Station, an Air Force Space Command radar station in central Alaska, but the final decision would be made after completion of the environmental studies.

Riki Ellison, founder of the non profit Missile Defense Advocacy Alliance, said placing the new radar in central Alaska rather than in the Alaskan Aleutian islands would allow the system to keep an eye on threats from both North Korea and Iran. He said it would also considerably cost less to build the new radar in Alaska, which could free up funding for additional radar in Hawaii. The MDA is moving ahead with the design and development of the long-planned new radar. It launched the competition in January and is expected to award a contract by September 30, the end of the current fiscal 2015 year.

Source: http://www.ndtv.com, 23 May 2015.

NUCLEAR ENERGY

CHINA

China's Nuclear Energy Expansion

China's State Council last month approved the |construction of two nuclear reactors, signalling that the post-Fukushima lull in China's nuclear industry expansion is over. China's goal is to more than double its nuclear capacity by 2020, greatly reducing its dependence on coal, which currently supplies 70 % of its energy needs but with obvious environmental costs. The re-start will mean

|billions of dollars in potential new business for Chinese and foreign companies over the next decade.

Chinese companies are also involved in building nuclear plants overseas as well as developing reactors for export, putting a whole new twist to the "Made in China" tag. China's top leaders are encouraging state-owned nuclear companies to pursue overseas business, while private Chinese companies have been busily developing home grown reactors for potential exports. Premier Li Keqiang was quoted in January as saying the government aims to turn China into a "powerful nuclear industry player", while at the same time stressing that it would be careful to monitor the safety of the expanding domestic industry. The government plans to increase the number of power plants from 15 to 71 and boost its nuclear capacity from 21 GW to more than 50 GW by 2020. By 2030, the capacity is slated to reach 150 GW, surpassing the US's current figure of 100 GW.

Chinese companies are already involved in building nuclear power plants in Europe that are based on US and German technologies. They include a role in building Romania's first-ever nuclear power plant, discussions with Turkey about building a plant there, and the signing of an agreement with the British government last October allowing Chinese companies to own and operate nuclear power stations in the UK.

Chinese companies are already involved in building nuclear power plants in Europe that are based on US and German technologies. They include a role in building Romania's first-ever nuclear power plant, discussions with Turkey about building a plant there, and the signing of an agreement with the British government last October allowing Chinese companies to own and operate nuclear power stations in the UK. China's home grown third-generation reactor, the Hualong-1, which was approved for use by China's State Council on April 15, may also be included in a joint project with Pakistan in Karachi and a project in Argentina.

Commentators say China's re-start of its nuclear industry will do more than just re-balance energy production from dirty coal to clean nuclear. They say it also demonstrates to the Chinese public the country's leadership confidence in a major industry, at home and abroad, and at a time when many are questioning the sustainability of China's growth model.

Source: http://www.nationmultimedia.com, 25 May 2015.

Beijing Pushing its Nuclear Exports

... Following the implementation of China's New Silk Road Economic Belt and 21st Century Maritime Silk Road initiatives, the country's nuclear giants have begun receiving more orders from overseas. China National Nuclear Corporation (CNNC), one of China's three nuclear giants, said on May 6 that it has been pushing for cooperation on nuclear power projects with nearly 20 countries in Europe, Latin America, Africa and South Asia, including the United Kingdom, Argentina and Egypt.

China and Argentina signed an agreement in February to export China's nuclear power technology to Argentina. Argentina has decided to complete its fourth nuclear power plant by 2020. Although Argentina has signed similar agreements with Russia and South Korea, China seems likely to win the bid for the project.

Brazil urgently needs new nuclear power stations to cope with its power shortages. State Nuclear Power Technology Corporation (SNPTC) said in April that Brazil and Turkey will be its key target markets for nuclear power projects. CNNC also signed an agreement with Algeria on April 29 on cooperation on nuclear power projects. Algeria, the largest country in Africa by size, plans to complete its first nuclear power plant in 2025 in a bid to meet its rising demand for electricity.

South Africa, the second largest economy in Africa, urgently needs more nuclear power plants to cope with its growing demand for electricity. South Africa plans to invest in about 570 billion yuan (US$91.9 billion) to build more nuclear plants, making nuclear technology the nation's single-

biggest procurement item. China's nuclear power giants also aim to enter the advanced European market, with the United Kingdom and Romania being its major target markets. China General Nuclear Power Group (CGN) said it has secured a management project and taken a partial stake in another project in the UK. CGN has been chosen as the investor for Romania's first nuclear power project, though the two sides are still negotiating over the details.

Source: http://www.wantchinatimes.com/, 01 June 2015.

INDIA

Jaitapur Nuclear Plant: Next Stop, Safety Assessment

For the proposed Jaitapur nuclear power project, touted as the largest nuclear power generating station in the world by net electrical power rating, a crucial Pre-Engineering Agreement signed between state-owned NPCIL and French reactor vendor Areva last month will set the ball rolling on the detailed safety assessment for the proposed 9,900 MWe project. It would also set the stage for commencing the licensing process for the French EPR reactor-based project with India's nuclear regulator — the AERB.

The Pre-Engineering agreement or PEA signed between NPCIL and Areva on April 10 will help bring clarity on the technical aspects of the plant, help make a detailed safety assessment and take up the licensing process with Atomic Energy Regulatory Board.

This comes in the backdrop of Areva facing regulatory fire over weak spots in the steel of its EPR reactor it is building for French state-owned utility EDF at the Flamanville site in France, according to findings released by French nuclear regulator ASN earlier last month. ASN had said Areva had informed it that tests at 2014-end had shown that in certain zones of the reactor vessel and the cover of the EPR, there was a significant concentration of carbon, which weakened the mechanical resilience of the steel and its ability to resist the spreading of cracks.

While Areva's EPR is a new-generation PWR, built to resist the impact of a commercial airline crash, at 1,650 MWe a reactor unit, it has come under fire for being too big and too expensive. Areva has been forced to book billions of euros in provisions due to *cost* overruns at the three sites globally where it is setting up EPR-based projects. For the proposed project at Jaitapur project, after the signing of General Framework Agreement and Early Works Agreements in 2010, detailed discussions were held with Areva on various technical, safety and commercial aspects of the projects to arrive at a viable project proposal. In parallel, pre project activities like land acquisition, rehabilitation and resettlement (R&R), *technology* independent site investigations, infrastructure development at site, and public awareness activities are being carried out at the site.

"The Pre-Engineering agreement or PEA signed between NPCIL and Areva on April 10 will help bring clarity on the technical aspects of the plant, help make a detailed safety assessment and take up the licensing process with Atomic Energy Regulatory Board, an official involved in the exercise said. An MoU was also signed between L&T and Areva aimed at maximising the localisation of critical components for the proposed 10,000-MW nuclear power plant at Jaitapur, which marks a desperate attempt to prune the *cost* of each of the six 1,650 MWe reactors to be deployed at the site in Maharashtra to about $4 billion. This is expected to translate into a generation cost equivalent of about Rs 7 per unit.

The meeting of this price cap imposed by the government during the ongoing technical negotiations, officials said, holds the key to the viability of the Jaitapur project, especially in light of Areva's chequered track record at implementing EPR reactor-based projects elsewhere in the world. Areva's EPRs are being deployed at two sites in Europe — in Olkiluoto, Finland, apart from the site Flamanville in France and two reactor units in Taishan,China. The construction of the Finnish

reactor being built at Olkiluoto since 2005 has repeatedly suffered from serious delays and cost overruns. The reactor was planned for commissioning by 2009 and five years on, it's still far from ready. Its cost has doubled and there are doubts on whether it will be ready even by the revised deadline of 2018.

The targeted cost of $4 billion per reactor is roughly the same as the Areva offer to the Chinese for the two EPR reactors under construction at Taishan in China, which is believed to incorporate an engineering joint venture, unlike the Indian project proposal. The Flamanville EPR reactor in France is also having problems. Construction was started in 2007 and was supposed to generate power by 2012. That, too, is delayed and is now scheduled to start in 2016. The L&T deal signed earlier last month is expected to get orders for making heavy and critical components such as pressure vessels and steam generators and these orders will be executed by L&T Special Steel and Heavy Forgings, a joint venture between L&T and the NPCIL. This venture has a manufacturing facility in Hazira, Surat.

Localisation is the only way to bring down cost, especially as the NPCIL has been driving a hard bargain on tariffs being capped at Rs 7 per unit.

"Localisation is the only way to bring down cost, especially as the NPCIL has been driving a hard bargain on tariffs being capped at Rs 7 per unit," a company official said. In India, the cost benchmark for new imported light water reactors such as the EPR are derived broadly from the two Russian designed VVER-1000 reactors which are to be deployed at the Kudankulam site. The two new VVER reactor units to be set up in Tamil Nadu, which would come up at the Kudankulam site where two identical units are nearing commissioning, entail a sanctioned project cost of Rs 39,849 crore for the two new reactors.

Source: http://indianexpress.com, 20 May 2015.

Centre has to Move Carefully on Nuclear Projects: Union Minister Jitendra Singh

Union Minister Jitendra Singh said on 26 May the Centre had to move cautiously while dealing with projects related to nuclear and atomic energy looking carefully into their sensitivity aspect, security angle and also the budget implications. "The Centre is always cautious while moving ahead with projects related to nuclear energy and atomic energy as they carry a lot of sensitivity element with them, security angle and also huge budget implication," the minister of State for Atomic Energy said here. He was here to highlight the achievements of the one-year- old NDA government led by PM Narendra Modi. His statement also came as a reaction to the stiff opposition voiced from several quarters on the proposed mining of Uranium in Meghalaya, also a uranium reserve state.

"This issue (opposition) has come up, but the DAE is still studying it because this requires a lot of planning and work before taking up such projects," he said. He said the DAE had in mind new areas which could be explored, as earlier the concentration was mostly on conventional areas such as south India. "Among the new areas, we are exploring not only Meghalaya but even Uttarakhand and some other areas as well," he said. According to the MoS, the DAE is also trying to brush aside apprehensions expressed by some of the states that there will be hazards if projects of this kind come up.

They (states) have some apprehension that if a project is launched, there will be cancer all around, which usually doesn't happen. We have conducted studies even in the BARC on the persons or scientists working over there. There was no adverse health effect found. We need to do public awareness for this, he said. The kind of mechanism which is in place now there is no obvious health hazard reported so far. No scientist himself has suffered, the Union Minister of State said. While stating that the Northeast is a prime concern for the Centre, Singh, also in charge of DoNER Ministry, said that a number of new initiatives had been taken up in the last five-six months including a programme called the 'DoNER at your doorstep'.

Source: http://zeenews.india.com, 26 May 2015.

JAPAN

Japan Approves Third Nuclear Plant for Restart

Japan's nuclear regulator signed off on the basic safety of a reactor at a third nuclear plant on 20 May, as the country inches toward rebooting its atomic industry more than four years after the 2011 Fukushima disaster. The decision will be a boost for operator Shikoku Electric Power Co, which relied on its sole Ikata nuclear power station in southwestern Japan for about 40 % of its electricity output before the meltdowns at Fukushima led to the shutdown of all the country's reactors. For the government of PM Shinzo Abe, resuming nuclear power, which provided about a third of Japan's electricity supply before Fukushima, is key to lifting the economy out of two decades of anaemic growth.

The country has switched to fossil fuels to compensate for the closure of reactors, pushing imports of liquefied natural gas to a record-high 7.78 trillion yen in the financial year ended March 31. The safety approval is still only one of three needed before the NRA gives its final sign off. The consent of local authorities, which is seen as a formality, is also required, along with operational checks. At a regular meeting on 20 May, the NRA's commissioners signed off on a provisional assessment that the Ikata reactor meets new design standards introduced after Fukushima. The decision will be open to public comment for about a month before being formalized.

South Africa has signed nuclear power deals with various countries, including France, China, South Korea and the US after surprising energy watchers in September when it announced a deal with Russia to build plants worth $10 billion.

Located about 700 kms west-southwest of Tokyo on Shikoku island, the Ikata No. 3 reactor started operations in 1994 and has a capacity of 890 megawatts. The future of the Ikata plant's two other reactors, each with capacity of 566 MW, is unclear. One is almost 40 years old, which is the lifetime limit for reactors in Japan without a special extension that will be costly to achieve. Shikoku Electric hasn't applied for restarts of that reactor or the No. 2 unit, which began operations in 1982. Two other nuclear plants operated by Kansai Electric Power and Kyushu Electric Power have passed through the first stage of regulatory checks.

Operators also have to overcome legal hurdles. Anti-nuclear activists have stepped up petitioning the judiciary to block restarts, with a majority of the public opposed to atomic power. Residents near the Ikata plant in December 2011 filed a lawsuit to mothball the station, but a decision will take time.

Source: http://www.reuters.com, 20 May 2015.

SOUTH AFRICA

SA Wants Six New Nuclear Power Plants

South Africa will start the process to procure a nuclear fleet to generate 9 600 MW of power in 2015, the energy minister said on 19th May, as Africa's most advanced economy battles an energy crunch. To meet its targeted nuclear generation capacity, South Africa plans to build six new nuclear power plants by 2030 at a cost estimated between R400 billion and R1 trillion. "We expect to present the outcome of this procurement process to cabinet by year-end," Energy Minister Tina Joemat-Pettersson told Parliament, adding that the exercise would be carried out in a "fair and transparent" manner.

South Africa has signed nuclear power deals with various countries, including France, China, South Korea and the US after surprising energy watchers in September when it announced a deal with Russia to build plants worth $10 billion. Government officials were compelled then to clarify it was in fact just the early stages of a long procurement process, after opposition parties suggested official procurement rules were being flouted. Joemat-Pettersson also said South Africa, which runs the continent's only nuclear power station near Cape Town, would also re-establish its nuclear fuel cycle industry. This would include developing domestic uranium enrichment and

conversion plants as well as nuclear fuel production sites in a country with vast uranium reserves.

Source: http://www.iol.co.za,19 May 2015.

URANIUM PRODUCTION

NAMIBIA

Namibia Remains No. 5 Despite Uranium Mines' Losses

Namibia sustained a competitive fifth place in the global uranium supply market during 2014, even though the country's two uranium-mining companies recorded production declines and losses in revenue due to tough conditions in the uranium market. Namibia's two uranium mines, Rossing Uranium and Langer Heinrich Mine, supplied 5.8 % of the world's uranium oxide mining output, of which Rossing Uranium confirmed producing 2.3 % of the output because of massive decreases, at about 36 %, in its production for the year. As a result, Rossing Uranium - owned by Rio Tinto Uranium and the Namibian government - announced a net loss after tax of N$91 million, from a net profit of N$32 million in 2013, when it posted its annual financial statements on 18 May.

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Langer Heinrich Mine, owned by Australia's Paladin Energy, posted that its March 2015 quarterly production of 1 234 325 pounds of uranium oxide was 10 % lower than the preceding quarter, mainly due to repair and maintenance work. Its production for the year at March 2015 was at 3 701 pounds of uranium oxide.

Source:http://allafrica.com/stories/201505210665.html, 20 May 2015.

RUSSIA

Russian Parliament Outlines State Support for Uranium Mining

The agrarian committee of Russia's Federation Council has approved measures aimed at providing state incentives to the country's uranium mining industry, Atomredmetzoloto, the uranium mining arm of state nuclear corporation Rosatom, said on 21 May. The Federation Council is the upper chamber of the Federal Assembly, the upper house of the Russian parliament. The approval on 19 May followed a Federation Council meeting on 23 April that discussed ways to improve legislation on the mining and processing of natural uranium, ARMZ said.

"The strategic importance of uranium production for the development of Russia's energy sector and the strengthening of national security, as well as the presence of rich mineral resources and modern industrial facilities capable of meeting Russian uranium demand now and for decades to come, were all noted," ARMZ said. But the Fukushima Daiichi nuclear power plant accident in Japan in 2011 created a "protracted unfavourable situation" in the world uranium market and had a negative impact on the development of the industry, it added.

The agrarian committee of Russia's Federation Council has approved measures aimed at providing state incentives to the country's uranium mining industry, Atomredmetzoloto, the uranium mining arm of state nuclear corporation Rosatom.

Early 2015, the need for state regulation of strategic sectors was raised at the *12th Krasnoyarsk Economic Forum,* where the socio-economic development of the Far East and Trans-Baikal regions was discussed at an expanded meeting that included local authorities. In particular, they talked about the future development of the city of Krasnokamensk and its "backbone company" JSC Priargunsky Industrial Mining and Chemical Union and its affiliates that have been affected by the negative changes to the market.

The meeting recommended that the construction of Mine No.6 be included in the policy Economic Development of the Far East and Trans-Baikal up to 2018 as a very important pre-requisite for Pimcu's future operations. The project includes the development of "high-quality deposits that will enable the company to maintain stable and competitive production [of uranium] for decades", ARMZ said. This initiative was supported by the Coordination Council under the plenipotentiary of the Russian President in the Siberian Federal District, Nikolai Rogozhkin. The council's board recommended that the Trans-Baikal Territory, or Zabaikalsky Krai, be established as a Priority Socio-Economic Development Area, or TOSER by its Russian acronym. This move "opens up broad prospects for the development of the region as an attractive area for investment with its centre in the city of Krasnokamensk, and it helps create new jobs," ARMZ said.

Taking into account the evolving situation and the critical importance of maintaining the level of production of this strategic raw material, parliamentarians supported the initiatives and approved a list of state support measures for the uranium mining industry, ARMZ said. Key measures include the introduction of a zero rate for mining tax and property tax; simplification of the system of granting subsoil use rights; inclusion of the Economic Development of the Far East and Trans-Baikal up to 2018 policy in the Federal Target Program; and the development of infrastructure in Krasnokamensk.

The Russian government on 16 April took the decision to assign Krasnokamensk the status of a Category I Single Industry Municipality, which enables the creation of a TOSER there according to law. Work to register Krasnokamensk as a TOSER is expected be completed before the end of 2015, ARMZ said. The committee has submitted its recommendations to the Security Council, federal and regional authorities and Rosatom. The Federation Council plans to review progress made with these recommendations during its spring session in 2016.

Set up in 1968, PJSC Pimcu is currently the largest uranium mining company in Russia, according to ARMZ.

Pimcu has six underground mines, most of them operating: Mine No.1, Mine No.2, Glubokiy Mine, Shakhta 6R, Mine No.8 with extraction from Maly Tulukui deposit, and Mine No.6 developing the Argunskoye and Zherlovoye deposits. Ore is processed at a hydrometallurgy plant and at a heap leaching unit. The company's end product is uranium oxide. ARMZ's 2008 plan called for Priargunsky's production to be expanded from 3000 to 5000 tonnes U per year by 2020. Mine No.6 development began in 2009 for stage 1 production from 2015 to reach full capacity in 2019, at a cost of RUR30 billion, but this was put on hold in 2013. In March 2015, ARMZ said it hoped to find co-investors in the project, and federal funds may be forthcoming. Stage 2 was to commence in 2024.

Source: http://www.world-nuclear-news.org, 22 May 2015.

NUCLEAR COOPERATION

JAPAN–ARMENIA

Toshiba Proposes Cooperation with Armenia in Nuclear Power, Seismology

The director of Toshiba Medical Systems, a subsidiary of the Tokyo-based Toshiba Corporation, explained 26 May, in a meeting with Armenian President Serzh Sarkisian, that his company is ready to develop cooperation with Armenia in nuclear energy and seismology. CEO Satoshi Tsunakawa said he was satisfied with the growing activities of his company in Armenia, adding that Toshiba Medical Systems continues its assistance in healthcare development in Armenia. The company is keen also on cooperation and exchange of experience in a number of other fields, including atomic energy and seismology in particular, the CEO said. Sarkisian, in his turn, stressed the importance of diplomatic missions between Japan and Armenia for the development of cooperation in a range of such fields. The president talked about a "favorable investment climate and business environment emerging in Armenia."

Source: http://asbarez.com/blog/archives/136363,27 May 2015.

RUSSIA–IRAN

Russia Ready to Cooperate With Iran in Nuclear Technology

Deputy Head of Russia's Rosatom State AEC Nicolai Spassky voiced his country's willingness to cooperate with Iran in peaceful nuclear energy, IRNA reported. He made the remarks in a meeting with Iranian Ambassador to Moscow Mehdi Sanayee in the Russian capital on 27 May. Spassky, meantime, said Rosatom is willingness to begin building two new nuclear power plants in Southern Iran. 'Rosatom is interested in beginning work for building Bushehr II and III nuclear power plants in Southern Iran,' Spassky said.

Rosatom is ready to sign an agreement with the Atomic Energy Organization of Iran (AEOI) on building the new nuclear power plants. The Iranian ambassador, for his part, voiced satisfaction in the trend of cooperation between the AEOI and the Rosatom corporation.

The senior Russian nuclear official underlined that Rosatom is ready to sign an agreement with the Atomic Energy Organization of Iran (AEOI) on building the new nuclear power plants. The Iranian ambassador, for his part, voiced satisfaction in the trend of cooperation between the AEOI and the Rosatom corporation. Sanayee, meantime, expressed the hope that the two countries would boost their cooperation in nuclear fuel production as well as technical and engineering services.

The Iranian atomic official said in early March that practical measures are underway for the start of the construction of two nuclear power plants for Iran according to a recent deal signed by the two countries' top nuclear officials. Kamalvandi had said that construction of the nuclear power plants would start in the current Iranian year.

In late April, AEOI Deputy Head and Spokesman Behrouz Kamalvandi and Spassky in a meeting in Tehran conferred on cooperation between the two countries in building two new power plants.During the meeting, Kamalvandi and Spassky discussed building Bushehr II and III nuclear power plants due to be constructed near Iran's first nuclear power plant in the Southern city of Bushehr. They also discussed the method for delivering full control of the Bushehr nuclear power plant to Iranian experts.

The two officials also conferred on Russia's positions in the nuclear talks held between Tehran and the Group 5+, with the Iranian side appreciating Moscow's constructive stances.

Early last month, Kamalvandi travelled to Moscow to follow up on the trend of nuclear cooperation between the two states. 'I will follow up the recent contract signed by Iran and Russia on construction of two nuclear power plants in Bushehr during my visit to Moscow,' he said.

The Iranian atomic official said in early March that practical measures are underway for the start of the construction of two nuclear power plants for Iran according to a recent deal signed by the two countries' top nuclear officials. Kamalvandi had said that construction of the nuclear power plants would start in the current Iranian year. Meantime, AEOI Chief Ali Akbar Salehi had also stated that Iran and Russia would launch cooperation in supplying nuclear fuel for the Bushehr nuclear power plant.

'We inked an agreement with the Russians in 1995 in which they have announced their preparedness that if Iran produces four fuel batches by itself or with the help of others every year, they will do the needed tests and evaluations over them for maximum 26 fuel batches in 10 years, and if they don't see any technical problem, they will load them into the heart of the reactor,' Salehi said. Noting that Iran would display the first fuel batch produced inside the country on April 9, he said a MoU had also been signed by Iran and Russia to provide fuel for the nuclear power plant.

Salehi also referred to an agreement between the two countries for building two 1,000-MW nuclear

power plants in Bushehr, and said construction of the two power plants will take 10 years. Construction of the first one will take 8 years, he said, and explained that building the second plant will start 2 years after the construction of the first power plant starts.

In relevant remarks in November, Salehi stressed that the recent agreement between Tehran and Moscow on the construction of two new nuclear power plants for Iran would further strengthen the country's stance in the nuclear talks with the six world powers.

Reacting to certain reports by Western media about transfer of Iran's produced fuel to Russia , he said rumors that Iran agreed to transfer its fuel to Russia or other countries, or is negotiating on the issue, are not correct. 'There is no reason to send our fuel to Russia.

Salehi said in a televised interview that the recent agreement between Iran and Russia for construction of two power plants and the protocol to produce nuclear fuel in Iran 'will make our stances stronger in talks with G5+1'. Reacting to certain reports by Western media about transfer of Iran's produced fuel to Russia , he said rumors that Iran agreed to transfer its fuel to Russia or other countries, or is negotiating on the issue, are not correct. 'There is no reason to send our fuel to Russia,' Salehi added.

The top nuclear officials of Iran and Russia in a meeting in Moscow in November signed an agreement on the construction of two new nuclear power plants for Iran.

'The agreement was signed by Salehi and Head of Russia's Rosatom State AEC Sergey Kiriyenko in the Russian capital. Upon arrival in the Russian capital, Salehi told reporters that he is also due to 'discuss mechanisms for nuclear fuel swaps' with the Russian side.

Source: http://en.trend.az/iran/nuclearp/2399912.html, 28 May 2015.

NUCLEAR PROLIFERATION

RUSSIA

Obama Terminates Emergency with Respect to Nuclear Proliferation in Russia

President Barack Obama has terminated the national emergency related to the disposition of weapons-usable fissile material in Russia, the White House announced. "I have determined that the situation that gave rise to this national emergency has been significantly altered by the successful implementation of the Agreement Between the Government of the USA and the Government of the Russian Federation Concerning the Disposition of HEU Extracted from Nuclear Weapons," Obama stated in an Executive Order. Russia transferred the LEU to the US for use as fuel in commercial nuclear reactors. The Megatons to Megawatts agreement, also known as the HEU-LEU agreement, aimed to convert 500 metric tons of HEU from dismantled Russian nuclear weapons into low-enriched uranium LEU. The sum is the equivalent of approximately 20,000 nuclear warheads.

Russia transferred the LEU to the US for use as fuel in commercial nuclear reactors. The Megatons to Megawatts agreement, also known as the HEU-LEU agreement, aimed to convert 500 metric tons of HEU from dismantled Russian nuclear weapons into low-enriched uranium LEU. The sum is the equivalent of approximately 20,000 nuclear warheads.

Source: http://sputniknews.com/politics/20150526/1022583324.html, 26 May 2015.

NUCLEAR NON-PROLIFERATION

IRAN

No Iran Nuclear Deal if Military Site Inspections are Blocked

The French foreign minister, Laurent Fabius, whose country has taken a tough stance in the ongoing nuclear negotiations with Iran, has said that France will not sign off on a deal if Tehran rules

out inspections of its military sites as part of the final agreement. "France will not accept a deal if it is not clear that inspections can be done at all Iranian installations, including military sites," Fabius told the national assembly in Paris on 27 May, urging other negotiating partners to adopt a similar position.

His comments came a week after Iran's supreme leader, ayatollah Ali Khamenei, made clear that he would not allow the Iranian negotiating team to accept inspections of military sites or questioning of the country's nuclear scientists. The dispute over the inspection of military sites shows how much distance remains between the two sides before they can reach a comprehensive agreement, but whether it will jeopardise an overall deal depends on how much diplomats are prepared to compromise at the last minute.

... Iran and world's six major powers, which also include the US, China, Russia, Britain and Germany, reached a tentative agreement on the framework of a comprehensive deal in April. Under its terms, restrictions will be placed on Iran's enrichment of uranium so that it is unable to use the material in nuclear weapons. In return, the US and EU will terminate all nuclear-related economic sanctions on Iran once the UN nuclear agency confirms that Iran has complied.

It is not clear from the ayatollah's comments whether Tehran would accept conditional inspection of its military sites. Araqchi was quoted as saying that his country was prepared to grant "managed access" to military sites, but denied that statement later.

Talks resumed in the Austrian capital, Vienna, on 27 May for resolving the remaining issues concerning the final agreement, which was initially expected to be reached by the end of June, but diplomats have since said that the self-imposed deadline could be extended. "We are not bound by time, but we are committed to this issue that a good agreement with details that are favourable to us is hammered out, even if it may take a long time," said Abbas Araqchi, a senior Iranian negotiator, according to the Iranian state-run Press TV. In Vienna, he was due to meet with the EU deputy secretary-general, Helga Schmid.

The French ambassador to the US, Gérard Araud, tweeted: "Our goal is to get an agreement by the deadline. Likely that Iran will wait for the last days for compromising, like in March." According to Yukiya Amano, the head of the IAEA, the additional protocol of the nuclear non-proliferation treaty that Iran has agreed to implement would give the agency the right to request inspections of all nuclear facilities, including military sites. It is not clear from the ayatollah's comments whether Tehran would accept conditional inspection of its military sites. Araqchi was quoted as saying that his country was prepared to grant "managed access" to military sites, but denied that statement later.

Source: http://www.theguardian.com, 27 May 2015.

Iran Nuclear Talks Accelerate Ahead of June Deadline

A month out from a nuclear deal deadline, the top U.S. and Iranian diplomats gathered in Geneva on 30 May in an effort to bridge differences over how quickly to ease economic sanctions on Tehran and how significantly the Iranians must open up military facilities to international inspections.

The talks between U.S. Secretary of State John Kerry and Iranian Foreign Minister Mohammad Javad Zarif were likely to extend, a negotiating round that officials described as the most substantive since world powers and Iran clinched a framework pact in April. That agreement, however, left big questions unanswered, which weeks of subsequent technical discussions have done little to resolve. Asked about completing the full accord by June 30, Zarif said, "We will try."

World powers believe they have secured Iran's acquiescence to a combination of nuclear restrictions that would fulfill their biggest goal: keeping Iran at least a year away from bomb-making capability for at least a decade. But they are less clear about how they'll ensure Iran fully

adheres to any agreement. Various Iranian officials, including Ayatollah Ali Khamenei, the supreme leader, have publicly vowed to limit access to or even block monitors from sensitive military sites and nuclear scientists suspected of previous involvement in covert nuclear weapons efforts.

The U.S. says such access must be guaranteed or there will be no final deal. A report by the U.N. nuclear agency declared work essentially stalled on its multiyear probe of Iran's past activities. The Iranians aren't fully satisfied, either. The unresolved issues include the pace at which the United States and other countries will provide Iran relief from international sanctions - Tehran's biggest demand - and how to "snap back" punitive measures into place if the Iranians are caught cheating.

President Barack Obama has used the "snapback" mechanism as a main defense of the proposed pact from sharp criticism from Congress and some American allies. And exactly how rapidly the sanctions on Iran's financial, oil and commercial sectors would come off in the first place lingers as a sore point between Washington and Tehran.

Speaking ahead of Kerry's talks with Zarif, senior State Department officials described Iranian transparency and access, and questions about sanctions, as the toughest matters remaining. They cited "difficult weeks" since the April 2 framework reached in Lausanne, Switzerland, but said diplomats and technical experts are getting back on a "smooth path." None of the officials were authorized to be quoted by name and they demanded anonymity. ... Joining Kerry and Zarif in Switzerland was U.S. Energy Secretary Ernest Moniz. American nuclear negotiator Wendy Sherman and her Iranian counterpart Abbas Araghchi attended, too. European Union negotiator Helga Schmid sat in as well.

Source: http://www.huffingtonpost.com/, 30 May 2015.

Iran will Allow UN Nuclear Inspectors to Visit Military Sites, Negotiator Says

Iran has agreed to grant UN inspectors "managed access" to military sites as part of a future deal over its contested nuclear programme, a negotiator said on 24 May, apparently contradicting earlier comments by the nation's supreme leader. The comments by the Iranian deputy foreign minister, Abbas Araghchi, carried by state television, came after he and the foreign minister, Mohammad Javad Zarif, attended a reportedly stormy closed session of parliament. "Iran has agreed to grant managed access to military sites," state TV quoted Araghchi as saying on 24 May. Lawmaker Ahmad Shoohani, a member of parliament's national security and foreign policy committee who attended the closed-door session, said restricted inspections of military sites will be carried out under strict control and specific circumstances.

Iran and six world powers – the US, Russia, China, Britain, France and Germany – hope to work out terms of a final nuclear deal before a 30 June deadline. Inspection of military sites suspected to be taking part in the nuclear programme is a top priority of the US.

"Managed access will be in a shape where UN inspectors will have the possibility of taking environmental samples from the vicinity of military sites," Shoohani said. Iran's supreme leader, Ayatollah Ali Khamenei, vowed on 20 May not to allow international inspection of Iran's military sites or access to Iranian scientists under any nuclear agreement. Iran's military leaders have also angrily refused such demands. The state TV report did not elaborate on Araghchi's comments apparently contradicting those two powerful forces in the Iranian government.

Iran and six world powers – the US, Russia, China, Britain, France and Germany – hope to work out terms of a final nuclear deal before a 30 June deadline. Inspection of military sites suspected to be taking part in the nuclear programme is a top priority of the US. The west fears Iran's programme could allow it to build a nuclear weapon. Iran says its programme is for peaceful purposes. The broadcast also quoted Araghchi as saying Iranian negotiators rejected demands that

its scientists be interviewed. "Americans are after interviewing our nuclear scientists. We didn't accept it," state TV quoted him as saying. Iran's nuclear scientists have been the targets of attacks before both inside the Islamic Republic and elsewhere. The country also views the interviews as tantamount to a criminal interrogation.

Source: http://www.theguardian.com, 24 May 2015.

NUCLEAR DISARMAMENT

CANADA

Canada Cites Defence for Israel in Blocking UN Plan to Curb Nuclear Weapons

Israel has expressed its gratitude to Canada for helping to block a major international plan towards diminishing the world's stockpiles of nuclear weapons. Elsewhere, however, there was widespread international disappointment that Canada and Britain supported the US in opposing the document at the United Nations review conference of the NNPT. The document called on the UN to hold a disarmament conference on the Middle East by 2016. Such a conference could have forced Israel to publicly acknowledge that it is a nuclear power, something the Jewish state has never done.

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Adopting the document would have required a consensus, but since none was reached, that means nuclear disarmament efforts have been blocked until 2020. In a weekend phone call, Israeli PM Benjamin Netanyahu thanked Stephen Harper for what he called Canada's principled stand, Harper's office in Ottawa said in a statement. "PM Harper reaffirmed Canada's commitment to disarmament and non-proliferation, including within the framework of the NPT," the statement said. "He also stressed Canada's belief that a weapons-of-mass-destruction-free zone can only be truly effective if all countries in the Middle East participate freely and constructively in its establishment."

Foreign Affairs Minister Rob Nicholson said Canada's decision "sends a strong message about Canada's resolve not to compromise the integrity of a treaty to which we remain fully and deeply committed." But there was widespread opposition and disappointment expressed by several countries that addressed the conference, which wrapped 22 May after four weeks of meetings. Austria, which spoke on behalf of 49 countries, said the result spoke to the wide divide over what nuclear disarmament should mean. "There is a reality gap, a credibility gap, a confidence gap and a moral gap."

The delegate to South Africa added: "There is a sense in which the NPT has degenerated into minority rule similar to what we had in South Africa under apartheid — the will of the few will prevail regardless of whether it makes moral sense." It's disappointing that Canada helped scuttle the four weeks of negotiations that led up to 22 May result, said Beatrice Fihn, spokeswoman for the International Campaign to Abolish Nuclear Weapons, a coalition of 400 non-governmental organizations in 95 countries.

The US accused Egypt and other countries of trying to "cynically manipulate" the review process. Axworthy said the NPT conference missed a chance to deal with serious nuclear proliferation issues, including Iran's alleged pursuit of a nuclear weapon. "The way in which the ongoing Middle East-Israeli-Palestinian issue was introduced into the package was clearly designed to be disruptive." But New Democrat foreign affairs critic Paul Dewar accused the government of playing the role of international spoiler.

Source: http://www.cbc.ca/, 25 May 2015.

USA

US Rejects Nuclear Disarmament Document Over Israel Concerns

The US on 22 May blocked a global document aimed at ridding the world of nuclear weapons, saying Egypt and other states tried to "cynically manipulate" the process by setting a deadline for

Israel and its neighbors to meet within months on a Middle East zone free of such weapons. The now-failed final document of a landmark treaty review conference had called on the U.N. secretary-general to convene the Middle East conference no later than March 2016, regardless of whether Israel and its neighbors agree on an agenda.

Since adopting a final document requires consensus, the rejection by the US, backed by Britain and Canada, means the entire blueprint for global nuclear disarmament and non-proliferation for the next five years has been blocked after four weeks of negotiations. The next treaty review conference is in 2020. That has alarmed countries without nuclear weapons, who are increasingly frustrated by what they see as the slow pace of nuclear-armed countries to disarm. The US and Russia hold more than 90 % of the estimated 16,000 nuclear weapons in the world 22 May.

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Amid a growing movement that stresses the humanitarian impact of nuclear weapons, Austria announced that 107 states have now signed a pledge calling for legal measures to ban and eliminate them. The U.S. comments 22 May came after a top State Department official was dispatched to Israel for intense talks, as Israel protested the idea of being forced into a conference with its Arab neighbours without prior agreement on an agenda. Israel had been furious when the U.S. at the treaty review conference five years ago signed off on a document that called for talks on a Middle East nuclear-free zone by 2012. Those talks never took place.

She named Egypt as being one of the countries "not willing to let go of these unrealistic and unworkable conditions." Egypt later said it was extremely disappointed and warned, "This will have consequences in front of the Arab world and public opinion." Iran, speaking for a group of more than 100 mostly developing countries, said it was surprised to see the U.S., Britain and Canada willing to block the entire document in defence of a country that it said has endangered the region by not agreeing to safeguards for its nuclear program.

Israel has been a fierce critic of the current efforts of world powers to negotiate an agreement with Iran over its nuclear program, which Iran says is for peaceful purposes only. Gottemoeller also pointed out that the 2010 mandate to hold a conference on a Middle East nuclear-free zone has now effectively expired. The head of the Russian delegation, Mikhail Ulyanov, noted the setback, saying it was "a shame that an opportunity for dialogue has to be missed, perhaps for a long time to come."

Source: http://globalnews.ca, 22 May 2015.

NUCLEAR TERRORISM

USA–RUSSIA

Breakdown in US-Russia Relations Raises Risk of Nuclear-Armed Jihadists

In the last several years, a number of troubling events have revealed weaknesses in Russian nuclear security. A Russian general in command of nuclear weapon storage sites was fired due to massive corruption. A colonel in the Russian Ministry of Interior in charge of nuclear security inspections was arrested for soliciting bribes to overlook security violations. One American researcher visiting a nuclear facility was told it would take merely $100 to bribe his way in. Graft in Russia is rife, and corruption plus available uranium is a troubling combination. This vulnerability is heightened by the fact that at many nuclear

A Russian general in command of nuclear weapon storage sites was fired due to massive corruption. A colonel in the Russian Ministry of Interior in charge of nuclear security inspections was arrested for soliciting bribes to overlook security violations.

sites the accounting systems to track uranium and plutonium could not sufficiently identify thefts of newly manufactured or older stored fissile materials. More broadly, Russia does not possess a master baseline inventory of all nuclear materials produced in the former Soviet Union — and where all of it is 26 May.

At a 2010 summit of world leaders, President Barack Obama described nuclear terrorism as "the single biggest threat to U.S. security." He's right — but as the crisis in Ukraine festers, recent U.S. actions have unravelled decades of successful cooperation with Russia to reduce the risk. While some argue that the US needs to "punish" Russia due to Moscow's contribution to the crisis in Ukraine, this is akin to cutting off our nose to spite our face. Given the threat from "loose nukes" to our national security, the US should take steps to jump-start U.S.-Russian nuclear security cooperation.

The bad news is that while physical security at nuclear sites is greatly improved, real problems still remain. Russia continues to have the world's largest nuclear stockpile and there are more than 200 buildings and bunkers where highly enriched uranium or separated plutonium is stored. Sophisticated criminals could still exploit the remaining weaknesses in Russian nuclear security.

When the Soviet Union collapsed in 1991, American policymakers suddenly faced a frightening new threat: Poverty and chaos caused a complete breakdown in security throughout the former Soviet nuclear complex. Insiders at top-secret Russian nuclear weapons plants tried to steal and sell nuclear materials on the black market. Unpaid guards at nuclear sites left their posts to search for food. A senior White House science adviser even discovered more than 150 pounds of highly enriched uranium — enough for several nuclear bombs — sitting unguarded in lockers in the middle of Moscow.

In response to this threat, the US spent billions of dollars under the Cooperative Threat Reduction program to help Russia secure its nuclear materials and facilities. From the deactivation of almost 8,000 Russian nuclear warheads to the building of a massive storage facility for 27 tons of fissile materials, CTR was arguably the most successful American foreign aid program in history. Following the conclusion of the CTR program in 2013, the U.S. DOE and Russia's state-owned nuclear company Rosatom signed a comprehensive nuclear cooperation agreement. This agreement, which was designed to build trust between the two countries, called for projects ranging from the development of advanced nuclear security and safety technologies, to visits by each side's scientists to the other's most sensitive nuclear labs and facilities.

Less than seven months after the agreement was signed, however, the DOE dealt a devastating blow to Russian-American nuclear security cooperation, banning Russian nuclear scientists from visiting the US while also banning DOE nuclear scientists from visiting Russia. The current defence budget, passed seven months after the DOE's action, also bars all funding for nuclear non-proliferation activities and assistance in Russia. Its pride wounded, Russia retaliated, first announcing it would boycott the 2016 nuclear security summit in Chicago and then informing U.S. officials it would no longer accept American aid to help secure Russia's weapons-grade uranium and plutonium — a significant blow to U.S. national security.

Nuclear security in Russia is undoubtedly better than it was in the 1990s. Guards at nuclear sites are paid on time. Perimeter fences surrounding these sites no longer have holes. Fissile materials are no longer stored in lockers. That's the good news. The bad news is that while physical security at nuclear sites is greatly improved, real problems still remain. Russia continues to have the world's largest nuclear stockpile and there are more than 200 buildings and bunkers where highly enriched uranium or separated plutonium is stored. Sophisticated criminals could still exploit the remaining weaknesses in Russian nuclear security.

We know that Osama bin Laden considered a nuclear attack targeting American civilians to be a legitimate action, and in 2014 Islamic State stole 88 pounds of non-enriched uranium compounds from a university in Mosul. With nearly 2,000 Russian citizens fighting with Middle East extremist groups, if fissile material does end up in the hands of militants, it is quite possible it will have originated from Russia.

The DOE should work with Rosatom to restart the September 2013 agreement and implement the reciprocal nuclear site visits, scientist-to-scientist cooperation and joint-research the agreement envisions. The personal relationships developed over decades of cooperation between Russian and American scientists are too important to jeopardize — we are only shooting ourselves in the foot by cutting these off. The US should also understand that the narrative from the 1990s whereby the US is a donor and Russia is an aid recipient is no longer acceptable in Moscow.

The Obama administration is proposing to spend $348 billion upgrading the U.S. nuclear arsenal over the next ten years. It's worth spending a tiny fraction of that money to prevent loose nukes. All of these steps require that the US end the linkage between nuclear security cooperation with Russia and the crisis in Ukraine. While the current political environment makes this difficult, not doing so is foolhardy.

Going forward, nuclear cooperation must be reframed as a partnership of equals, with both sides contributing to the conversation about how and why to strengthen security. Republicans and Democrats should put aside partisan differences and fully fund U.S.-Russian nuclear security cooperation — whatever that ultimately involves. The Obama administration is proposing to spend $348 billion upgrading the U.S. nuclear arsenal over the next ten years. It's worth spending a tiny fraction of that money to prevent loose nukes. All of these steps require that the US end the linkage between nuclear security cooperation with Russia and the crisis in Ukraine. While the current political environment makes this difficult, not doing so is foolhardy.

Source: http://blogs.reuters.com, 26 May 2015.

NUCLEAR SAFETY

JAPAN

IAEA Report Slams Japan for Not Acting on Tsunami Danger Knowledge

Japan did not do enough to protect the Fukushima Dai-ichi nuclear power plant, which was severely damaged by a giant wall of water in March 2011, despite authorities being aware of threats to the facility from earthquakes and tsunamis, the IAEA stated in a report. The U.N. nuclear watchdog also criticized TEPCO, the plant's operator, for not acting on the warnings. The IAEA said, in its final report on the March 2011 disaster, which was the result of a massive earthquake and subsequent tsunami, that a new method applied between 2007 and 2009 had predicted a magnitude-8.3 quake off the coast of Fukushima that could lead to a tsunami hitting the facility. On March 11, 2011, a magnitude-9 earthquake struck off Japan's northeastern coast, triggering a massive tsunami that ultimately cost the Japanese government about $300 billion in damages.

"The Fukushima Daiichi NPP had some weaknesses which were not fully evaluated by a probabilistic safety assessment, as recommended by the IAEA safety standards," the report obtained by Kyodo News, a Japanese news agency, stated. TEPCO did not take the necessary precautions despite the analysis, the IAEA report, which is expected to act as a reference for nuclear safety measures worldwide, reportedly stated. The incident was the world's worst nuclear disaster since the 1986 Chernobyl nuclear disaster in Ukraine.

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"TEPCO did not take interim compensatory measures in response to these increased

estimates of tsunami height, nor did NISA require TEPCO to act promptly on these results," the report said, according to the Japan Times. "Prior to the accident, there was not sufficient consideration of low probability, high consequence external events which remained undetected. This was in part because of the basic assumption in Japan, reinforced over many decades, that the robustness of the technical design of the nuclear plants would provide sufficient protection against postulated risks." TEPCO also failed to implement sufficient safety assessment measures as recommended by the IAEA and lacked protection against tsunami-caused flooding, Kyodo News reportedly said, citing the IAEA report.

Security and safety concerns around the UK's nuclear deterrent are being investigated after a series of claims from a Royal Navy submariner. Able Seaman William McNeilly criticised measures in place around the Trident submarine programme, describing it as a "disaster waiting to happen.

"The operators were not fully prepared for the multiunit loss of power and the loss of cooling caused by the tsunami. Although TEPCO had developed severe accident management guidelines, they did not cover such an unlikely combination of events," the report stated.

Source: http://www.ibtimes.com, 25 May 2015.

NORWAY–FINLAND–SWEDEN–BELARUS

Norway, Finland, Sweden, Belarus to Outline Areas of Cooperation in Nuclear Safety

The heads of the radiation and nuclear safety authorities of the countries members of the Nordic Council are in Belarus on a visit from 27 to 29 May for meetings with experts in the relevant fields, BelTA learned from the Communications and Public Information Office of the Nuclear and Radiation Safety Department of the Belarusian Emergencies Ministry.

"The focus of the visit is on the emergency preparedness and response to nuclear and radiation situations. It is expected that during the visit the radiation and nuclear safety authorities of the Nordic countries and Belarus will identify possible areas of cooperation," Gosatomnadzor said.

The delegation will take part in a meeting with the senior officials of the Emergencies Ministry, and get acquainted with the activities of the national center for control and response to emergencies. The European experts will also visit the site of construction of the Belarusian nuclear power plant near Ostrovets and meet with senior officials and specialists of Gosatomnadzor. Founded in 1952, the Nordic Council is the official inter-parliamentary body of the northern region. The Council includes 87 elected representatives of Denmark, Finland, Iceland, Norway, Sweden, the Faroe Islands and the Island of Oland. The Nordic Council is responsible for protection of the environment and natural resources (including ensuring the safe use of nuclear energy), industry, culture, education.

Source: http://eng.belta.by/, 27 May 2015.

UK

Trident Nuclear Safety Probe after Claims by Royal Navy Submariner

Security and safety concerns around the UK's nuclear deterrent are being investigated after a series of claims from a Royal Navy submariner. Able Seaman William McNeilly criticised measures in place around the Trident submarine programme, describing it as a "disaster waiting to happen". In an online post he said he is an Engineering Technician Submariner who was on patrol with HMS Victorious in 2015. He claimed there are fire risks and leaks on board and that security checks are rarely carried out on personnel and contractors working on the submarines when they are docked at Faslane.

The Royal Navy confirmed Mr McNeilly is a member of the naval service and said it is "concerned for his whereabouts and wellbeing". The Navy said many of the claims are "subjective and unsubstantiated personal views, made by a very junior sailor, with which the naval service

completely disagrees". Mr McNeilly said he raised concerns with senior officers but decided to publish his claims as they were ignored. A Royal Navy spokeswoman said: "The Royal Navy takes security and nuclear safety extremely seriously and we are fully investigating both the issue of the unauthorised release of this document and its contents.

"The naval service operates its submarine fleet under the most stringent safety regime and submarines do not go to sea unless they are completely safe to do so." Peter Burt, of Nuclear Information Service, said: "William McNeilly is a brave young man who has done not only his colleagues in the submarine service but the whole nation a service by exposing the risks that submariners face because of cost-cutting, staff shortages and lax management. "The MoD's nuclear programme operates to far lower safety standards than the civil nuclear sector because independent regulators are not allowed to scrutinise its activities, and because much is covered up under the pretence of security. "This must now stop, and the PM must order an immediate reform of military nuclear safety."

Source: http://news.stv.tv, 17 May 2015.

NUCLEAR WASTE MANAGEMENT

CANADA

Ontario First Nations Demand a Say Over Nuclear Waste Storage

First Nations in Northern Ontario say municipalities are opening their doors to the federal organization that is looking for a place to dump nuclear waste but most of the sites being proposed lie outside municipal boundaries on traditional treaty land. Isadore Day, the Lake Huron Regional Grand Chief, has written to Ontario Premier Kathleen Wynne to ask her government to talk directly with First Nations and to "come to a fair and acceptable resolution" about the location of the $24-billion Deep Geological Repository for the waste generated by nuclear reactors.

Environmental groups and some local residents reacted angrily earlier May when a federal review panel agreed that a repository far below ground near Kincardine, Ont., could be used to store low- and intermediate radioactive nuclear waste including clothing and used parts. But the hunt for a place to permanently store used fuel bundles, a far more contentious form of the hazardous material, continues. The NWMO has narrowed its search to nine municipalities – three in the southwestern part of Ontario and six in the North. Those municipalities have all told the organization they are willing to explore the possibility of being a host site for the repository that will take decades to build and will store the spent nuclear fuel bundles for 400,000 years or more until they are safely non-toxic.

Having the site nearby will mean increased jobs and improved infrastructure for a community. All of the municipalities that finished the preliminary phase of the assessment received a $400,000 "sustainability and well-being" payment from the NWMO for showing leadership on a difficult national public policy issue. But, even though it is the municipalities that are being consulted and compensated, most of the sites being considered for the dump lie well outside of their jurisdictions on traditional First Nations territory, said Mr. Day. "The actual sites being looked at are on treaty lands and municipalities have no say about what happens on those lands," Mr. Day says in his letter to Ms. Wynne. "This matter is a discussion that must take place between treaty partners."

A spokeswoman for Ms. Wynne said the province is committed to working with its aboriginal partners, including Mr. Day, and will continue to monitor the work of the NWMO to make sure the interests of Ontarians are protected. Mr. Day and other First Nations leaders say they will not negotiate with the organization even though it has created a division to reach out to aboriginal communities. The First Nations are not eligible for the "sustainability and well-being" paid to the municipalities, but they can tap into a fund to further their understanding about nuclear waste. Bob Watts, the director of aboriginal community relations for the NWMO, said the reaction to date among First Nations has been mixed.

The mandate of the organization demands that it reaches out to indigenous groups. And the

changing legal landscape, including recent Supreme Court decisions, will require that rights holders be consulted, said Mr. Watts. Municipalities that have invited the organization to discuss the possibility of having a nuclear dump site nearby can remove themselves from the process at any time. When asked whether a First Nation would have a similar right to refuse to have the waste site on its traditional territory, Mr. Watts said that position would be "taken into account in terms of the likelihood of being able to work with communities in that area." Mr. Day said the site selection process has been "fraught with controversy" and will not result in the support that is being sought from First Nations. "The social contract is not with municipalities," he said. "It's with treaty nations."

Source: http://www.theglobeandmail.com, 21 May 2015.

JAPAN

Government Restarts Process to Select Final Nuclear Waste Storage Sites

The government has restarted work to select final disposal sites for highly contaminated radioactive waste from spent nuclear fuel at atomic power plants nationwide. In an effort to stoke interest, the government has decided to conduct a series of public symposiums in nine cities. Seminars for municipalities are also planned for June. The move comes as the government shifted its basic policy for final disposal sites 22 May for the first time in seven years by deciding to assume a leading role in the selection process.

Currently, some 17,000 tons of spent fuel from nuclear plants across the country are stored in pools at the plants themselves and in a storage facility at the reprocessing plant built in Rokkasho, Aomori Prefecture. With the government and utilities pushing to restart idled nuclear plants, that total is likely to rise.

The Nuclear Waste Management Organization of Japan had been tasked since 2002 with finding municipalities willing to host the final disposal sites, but little progress was made. Currently, some 17,000 tons of spent fuel from nuclear plants across the country are stored in pools at the plants themselves and in a storage facility at the reprocessing plant built in Rokkasho, Aomori Prefecture. With the government and utilities pushing to restart idled nuclear plants, that total is likely to rise.

An expert panel of the Ministry of Economy, Trade and Industry is compiling selection guidelines that will set conditions for candidate sites, such as the absence of volcanoes or active faults nearby. Using the guidelines, the government will pick promising sites and ask local municipalities to accept detailed investigations. "The number of promising sites would be considerably large," METI chief Yoichi Miyazawa has said. In 2007, the town of Toyo, Kochi Prefecture, applied for an on-site survey to examine the possibility of setting up a final disposal site. Strong opposition from residents forced the application to be withdrawn.

In 2008, the government set a policy that would choose candidate sites for detailed investigations around 2013. A final selection was due around 2028. At that time, the government hoped to start the final disposal process within a few years of the site selection. But the March 2011 Fukushima nuclear disaster have effectively cancelled that timetable.

Scientists have proposed the establishment of a state company specialised in storing radioactive waste ahead of the construction of two nuclear power plants in Ninh Thuan province.

Source: http://www.japantimes.co.jp, 25 May 2015.

VIETNAM

State May Manage Vietnam Nuclear Waste

Scientists have proposed the establishment of a state company specialised in storing radioactive waste ahead of the construction of two nuclear power plants in Ninh Thuan province. The proposal on radioactive waste management was one of the

key issues discussed at the three-day second Nuclear Regulations Conference that ended on May 22 at Da Lat City in central highland province Lam Dong. More than 400 national and international scientists and experts, including those from the IAEA, attended the conference.

Stressing the importance of radioactive waste management, scientists noted that it was a crucial step to be taken before Ninh Thuan nuclear power plants become operational, especially as Vietnam lacks a specialised unit to monitor radioactive waste. Vietnam currently has only two agencies to store radioactive wastes, one of them is the Radioactive Management Unit of the Da Lat Nuclear Research Institute, according to Nguyen Nu Hoai Vi, Director of the Nuclear Control Division of the Vietnam Agency for Radiation and Nuclear Safety. The other agency is Hanoi-based Centre of Radioactive Wastes Management, in addition to four other storage for used radioactive materials located in different units.

However, the two agencies and four storage units do not take in radioactive wastes from outside, leaving the other units that use radioactive materials to make their own arrangements to collect and keep their waste. "If those outside units cannot make a deal with material provider countries to take back wastes after use, they will have no choice but to keep such wastes at their make-shift storage," said. "As such storage is not specially designed to keep radioactive wastes for long, it poses a serious threat to national safety and security."

Deputy Minister of Science and Technology Tran Viet Thanh said that the number of licences granted for work involving radiation purposes has been increasing on average 10% a year. Nuclear scientists and experts at the conference agreed on the need to establish a state company that will be in charge of collecting, transporting, storing and burying radioactive wastes. That company will also do researches to develop procedures for the dismantling of closed nuclear power plants in the future.

Source: http://english.vietnamnet.vn/, 25 May 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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