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## OPINION – KS Parthasarathy

### Biased Views on India's Nuclear Program

Mr Usman Ali Khan's OpEd ("India's Sprawling Nuclear Quest", *Eurasia Review*, July 24) reveals a totally biased view on India's nuclear power program. Mr Khan passionately supports Pakistan's nuclear programme; however, he considers "Massive Indian Nuclear build up plans" as alarming. I have a broader view. Nuclear energy can play a vital role in all developing countries including India and Pakistan.

Usman criticized his compatriot Dr. Pervez Hoodbhoy, for opposing Pakistan's plan to construct two Chinese-supported nuclear power reactors in Karachi ("Nuclear Energy Viable Option", *Pakistannewsviews.com*, April 14, 2014). However, Mr Khan quotes (Late) Praful Bidwai, for whom anti-nuclear sentiment is an article of faith to criticize India's nuclear program. Mr Bidwai remained anti-nuclear till his last breath. Mr Khan must know that both Dr Hoodbhoy and Mr Bidwai are birds of the same feather! Ideologically, Bidwai was India's Hoodbhoy and Hoodbhoy is Pakistan's Bidwai!

While referring to the way the Government treated anti-nuclear movements in India, Mr Khan wrote thus: "The protestors shouldn't be treated like ignorant and misguided children to be coached and disciplined by a nanny state. Their

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leaders are well-informed professionals, including S.P. Udayakumar, who has taught at a US university, M. Pushparayan, a lawyer, and Tuticorin's Bishop."

Bidwai wrote these words over three years ago on Oct 18, 2011 ("People's power vs. nuclear power"). He would have forgiven Khan for his indiscretion in copying his words! "If one looks at the history of nuclear power projects in India, practically each reactor took longer to build, cost more than projected, and performed worse than had been envisaged when plans were made." Khan asserted. This was exactly what Dr MV Ramana, an acerbic critic of India's nuclear program wrote two years ago (Paragraph 10, "The Limited Future of Nuclear Power in India").

Usman sourced selected information on India's nuclear program exclusively from anti-nuclear activists/writers such as MV Ramana. As is the practice recommended by the IAEA, the AERB rates events in nuclear installations in India based on their safety significance and publish them in its annual reports. Anti nuclear activists such as Ramana portray a laundry list of such events as catastrophic and diabolic. Rather than parroting these views blindly, if Mr Khan seeks the views of the officials in Pakistan Nuclear Regulatory Authority (PNRA), he may realize how baseless are Dr Ramana's opinions on the safety status of India's nuclear plants.

Mr Khan invokes the memories of Bhopal to highlight the consequences of a nuclear disaster in India. Thus: "Memories of the Bhopal tragedy, which killed an estimated 10,000 people in 1984, are still fresh, and so is the mismanagement of the fallout by the government of the day, including letting the senior management of US firm Union Carbide escape scot free."

Mr Kabir Tarneja, a journalist, made the same statement in *The Diplomat* on December 13, 2013 (Lessons from Japan for India on Nuclear Energy).

Linking the Bhopal tragedy with nuclear power is inappropriate.

Mr Khan asserted that "the details of nuclear programme information on several fronts are unavailable to the public". "These include the question on: What exactly is the purpose of the nuclear programme- production of energy, or use of nuclear technology for 'peaceful' purposes, for India's security or for all purposes keeping in mind the story of CANDU reactors? What is the extent of nuclear energy potential in India on the basis of fuel to be used? What is the extent to which technology is imported from other countries? How much is spent on the development of nuclear technology and individual projects in India?" he added.

Khan reproduced these questions verbatim from what Ms Manju Menon wrote exactly four years ago (Who knows, who cares? Environmental and

social safety violations in nuclear projects in India, 08/2011) One can answer these questions based on publicly available documents. "Apart from the law that shields the nuclear programme from the public, it is the nuclear bureaucracy that guards its projects and schemes." ...

Ms Menon's statements which Usman uses indiscreetly seem to be on the secrecy provisions in the Atomic Energy Act 1962. Those provisions are similar in other countries with similar stakes. The Honourable Supreme Court of India has upheld the constitutional validity of such provisions (<http://indiankanoon.org/doc/516862/>). Usman copied para six starting with "Second, ...and ending with "security culture"(148 words) describing a few nuclear events in India's nuclear reactors, which

Kabir Tareja wrote on November 13, 2011 (<http://defence.pk>).

In summary, Mr. Usman Ali Khan uses without attribution large portions of articles from many authors to show India's nuclear program in poor light. Because of this practice, this article on India's nuclear program is biased and "tellingly short on facts and abundantly long on unsupported opinions", as I wrote earlier ("Muddled Up

Views On India's Nuclear Program", *Eurasia Review*, June 13, 2015) while responding to "India's Nuclear Muddle" (*Eurasia Review*, May 15, 2015).

Source: <http://www.eurasiareview.com/13082015-biased-views-on-indias-nuclear-program-oped/>, 13 August 2015.

#### OPINION – Chaitanya Mallapur

#### How Iran's Nuclear Deal could Benefit India

India hopes for a new business bonanza from Iran after the international community agreed to release a nine-year-old sanctions and trade embargo. Iran's Foreign Minister Javad Zarif visits India on August 14, the first ministerial visit to India after Iran signed a historic and controversial nuclear deal with the West on July 14. India has welcomed the nuclear deal. Zarif is expected to meet Prime Minister Narendra Modi, External Affairs Minister

Sushma Swaraj and Transport Minister Nitin Gadkari. Here are some benefits predicted for India:

- India's exports to Iran are expected to jump over a third to \$6 billion this financial year, according to this report (However, some traders fear competition from global suppliers).
- Iran's gas reserves, one of the world's largest, are important for India's gas-starved power plants, which provide clean energy in a coal-dependent country.
- Iran will offer Indian companies a slew of infrastructure projects, including developing a vital port that will allow access to central Asia and Afghanistan, bypassing hostile Pakistan; and a transport corridor into Russia.

**A Chance to Renew Ancient Ties:** India and Iran shared a border until 1947, and there are ancient cultural and political ties between the two countries. Indeed, Persian was once the language of India's ruling class. India and Iran maintained cordial relations during the nine years of UN sanctions. India is Iran's largest oil importer after China, and the world's fourth-largest oil consumer. Iran ranks fifth in terms of India's oil imports from Middle East.

India's crude oil imports from Iran almost halved from 21 million metric tonnes (MMT) in 2009-10 to 11 MMT in 2014-15. Washington recently acknowledged India's economic sacrifices in supporting sanctions against Iran.

**How India Weaned itself off Iranian Oil:** In May 2012, Hillary Clinton, then US secretary of State, made a short visit to India, which was thought as her farewell trip to New Delhi. Clinton later disclosed in her book "Hard Choices" that the visit was solely to convince India to reduce its reliance on Iranian oil, which India eventually did. Oil imports from Iran declined 28 percent the

following year.

India's crude oil imports from Iran dropped to zero this March due to US pressure. However, it increased 65 per cent in May over the previous year, ahead of the final talks by international negotiators over Iran's nuclear deal in June, according to a Reuters report.

Complying with US sanctions also affected India's bilateral trade with Iran. India's bilateral trade with Iran increased eight-fold between 2005-06 and 2011-12, from \$2 billion to \$16 billion, declining to \$13 billion in 2014-15. India's imports declined 36 per cent, from \$14 billion in 2011-12 to \$9 billion in 2014-15. India's major commodity import from Iran was mineral fuel-oils (including bituminous substances and mineral waxes) worth \$7 billion in 2014-15. Exports to Iran stood at \$4 billion in 2014-15 with cereals - the leading export commodity - worth \$1 billion in 2014-15. Iran's

major purchases in cereals have been basmati rice and sugar, and India has been using the rupee credit for its oil due to restrictions on dollar trades. India is Iran's top rice supplier.

**Iran Can Fulfil India's Gas Requirements:** Iran is an energy-rich country, with the world's fourth-largest proven

reserves of crude oil and one of the world's largest natural-gas reserves. A slew of unfolding gas projects is vital to India. Gas-based power accounts for just 10 percent of installed electricity generation capacity. More than 23,000 MW of natural-gas-fired power plants operate at a fraction (20%) of capacity due to lack of fuel, IndiaSpend has reported.

India's ONGC Videsh (OVL) had discovered the Farzad-B gas field in the Persian Gulf in 2008, which had recoverable gas reserves of an estimated 12.8 trillion cubic feet. International pressure forced India to quit, after it invested \$90 million in exploration, according to this report. Iran has now reopened the bid, and Indian companies are set to face competition from western firms once

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sanctions are lifted. An Iran-Pakistan-India (IPI) gas pipeline project has been under discussion since 2005, but there has been no progress.

Another ambitious project for India is the \$4 billion Middle-East-to-India-Deepwater Pipeline (also called the South Asia Gas Enterprise project), expected to supply 31 million cubic meters of gas per day to India once implemented.

The 1,300-km-long pipeline will start from Chahbahar in Iran and Ras Al-Jifan in Oman. After traversing the deep bed of the Arabian Sea and bypassing Pakistan, it will reach Porbandar in Gujarat. The project could also bring Turkmenistan gas to India through a swap arrangement with Iran from a gas field in the Arabian Sea.

Iranian President Hassan Rouhani has offered India an opportunity to invest in infrastructure and connectivity projects worth \$8 billion. Rouhani met Modi in July on the sidelines of a BRICS summit in Russia and had suggested a larger role for India. India signed an agreement with Iran in May 2015 to develop the Chahbahar port on the country's southeastern coast, which will give India sea-land access to Central Asia and Afghanistan, bypassing Pakistan.

India will invest \$85 million to outfit two berths, one as a container terminal, the second as a multi-purpose cargo terminal. India is also part of the International North-South Transport Corridor, a multimodal transportation system connecting India, Central Asia and Russia via Iran. The project can reduce cargo-transport time to Russia, from the current 45-60 days to 25-30 days. A successful dry-run was conducted last year.

*Source: The Economic Times, 14 August 2015.*

**OPINION – Andrew Hammond**

**70 Years On, Nuclear Security Threat Grows**

This August marks the 70th anniversary of the atomic bombings in Hiroshima and Nagasaki, the only use of nuclear weapons for warfare in history.

The massive loss of life and wider devastation caused ultimately led Japan, within days, to surrender in the WW-II to Allied Forces. Seven decades on, the world is transformed from that of 1945, but nuclear security remains a key issue. However, rather than concern being exclusively focused on potential use of atomic weapons by one of the handful of states with such arsenal, the agenda of policymakers is increasingly attuned to the dangers of nuclear terrorism. For instance,

US President Obama declared in Prague in 2009 that atomic terrorism is "the most immediate and extreme threat to global security". Upon assuming office, his administration created the NSS process and, to date, there have been three major NSS summits in Washington (2010), Seoul (2012), and The Hague (2014), with the next meeting scheduled for 2016.

In 2009, Obama set an enormously ambitious deadline to "secure all vulnerable nuclear material around the world within four years". While this goal was

not achieved, there has been significant progress, including in reducing the number of countries with access to HEU and plutonium. Enough HEU for some 3,000 nuclear weapons has been 'down-blended' by Moscow and Washington; around a dozen countries have returned their previous stockpile of HEU back to the country of origin (mostly to the US and Russia); a significant number of former nuclear facilities across the world are now both HEU and plutonium free; more countries have adopted international requirements for nuclear security; and around 20 countries have launched a counter-nuclear smuggling initiative.

However, this effort still remains very much a work in progress. As of late 2013, for instance, some 30 states, including Uzbekistan, Kazakhstan, Belarus and Pakistan had at least 1kg of HEU in civilian stocks. Moreover, since 1993, it is reported that there have been some 16 confirmed cases of theft of HEU and/or plutonium documented by the IAEA, Illicit Trafficking Database, most of them in the former SU. While the conventional wisdom is

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that the probability of a major nuclear terrorism event is low, the consequences would be so dramatic that it is a major preoccupation of the international community. According to the Nuclear Security Governance Experts Group, detonation of even a small handful-sized amount of plutonium in a nuclear device could kill or wound hundreds of thousands of people in a densely populated area.

Given the hurdles facing terrorist groups obtaining weapons-grade material, perhaps the bigger danger is the possibility that a terrorist group could detonate a small nuclear weapon or a radiological dispersal device (a so-called 'dirty bomb'), in a major urban area. Here, the complexity of the operation would be reduced as conventional explosives would be used to spread radiation from a radioactive source. Given the continuing threat, a very significant body of work is needed in the next year before the potentially final NSS in 2016. This meeting will coincide with Obama's last full year in the White House and he wants to ensure the strongest possible outcome so that nuclear security becomes a key part of his presidential legacy. As well as initiating the NSS process, Obama has signed the New Strategic Arms Reduction Treaty which will see Moscow and Washington reducing their deployed nuclear arsenal. And the US administration and other world powers, also reached in recent weeks a final, comprehensive deal with Iran to curb the latter's nuclear programme.

Going forward, the ultimate success of the NSS is likely to be determined by several factors, include international 'buy-in', resources, and whether the process can be institutionalised after Obama's presidency. On the first issue, it is clear that stronger international cooperation is needed, especially between key actors like Russia, China and the US. However, Moscow has pulled out of the 2016 NSS, having attended the previous meetings, following the chill in relations with Washington since the annexation of Crimea 2014. Russia's withdrawal is highly unfortunate given

that the country is such an important player in attempts to counter nuclear terrorism. Indeed, the issue of atomic terrorism first came prominently onto the international radar screen following the SU's collapse, when major concerns were raised about safeguarding the former Communist state's extensive nuclear weaponry.

Secondly, on the budgetary resources front, key US nuclear programmes have received significantly less funding in fiscal year 2015, which ends on September 31, compared to the previous 12 months, underlining the challenge of adequate international funding to confront the terrorism threat. Schemes that have been hit by these cutbacks in fiscal 2015 include the US International Material Protection and Cooperation Programme – focused on enhancing the security of vulnerable stockpiles of nuclear weapons and weapons-usable nuclear material in "countries of concern" and for improving the ability to detect the illicit trafficking of those materials; and the US Global Threat Reduction Initiative – focused on identifying, securing, removing and/or facilitating the disposition of high risk vulnerable nuclear and radiological materials around the world that pose a threat to the US and the international community.

Thirdly, given that the NSS agenda is unlikely to be fully realised in 2016, it is key to look beyond Obama's presidency. Especially if the NSS process is not renewed beyond 2016, it will be important, where possible, to anchor ongoing efforts into other long-standing mechanisms, including potentially the IAEA, so that the successes of NSS are institutionalised as much as possible for the future. Taken overall, nuclear terrorism may become only a growing threat to the international community. While the NSS is a welcome initiative to help tackle this problem, it needs greater international buy-in and institutionalisation beyond Obama's presidency if it is to fulfil its significant long-term potential.

Source: <http://gulfnews.com/>, 01 August 2015

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OPINION – Charles Stevenson

History's Real Lessons on the Iran Deal

Opponents of the Iran nuclear deal see many virtues and no significant risks in congressional disapproval of the agreement. And they often advance their views with historical arguments. Unfortunately for them and the larger debate on the Iran deal, their reading of history is flawed. If Congress misses the opportunity to help secure America's interests abroad, it would not be the first time. The Senate, for example, rejected the Versailles Treaty ending World War I. Whatever the treaty's flaws, that decision locked America out of the League of Nations, and out of efforts to prevent the rise of Nazism in Germany. In 1999, congressional defeat of the CTBT makes it harder for America to challenge nuclear proliferation. And today concerns remain in some quarters about the UNCLOS, rejected in 1960 but championed anew by recent administrations. Unless, and until, we ratify UNCLOS, America has no legal standing to challenge China's maritime expansion.

The consequences of congressional disapproval of the Joint Comprehensive Plan of Action (JCPOA), as the Iran deal is called, are more serious and immediate. Iran would feel free to disregard its commitments to current or future international inspections, as well as the restraints incorporated in the pending deal. US officials say Iran could have a nuclear weapon in months, not years. International sanctions will collapse. Already European businessmen are rushing to Tehran to take advantage of the new opportunities allowed by the agreement. To prevent an Iranian bomb would then require military action – and not just the elusive "surgical strikes" touted by armchair generals, but war, a big war.

Frederick Kagan, writing in the *Washington Post*, wants us to believe that rejection of the Iran agreement would not lead to war. His justification? The failure to ratify the SALT II did

not lead to war. Unfortunately, Kagan does violence to the history he calls upon us to learn from. Kagan claims that "the Senate refused to ratify SALT II, ending the SALT process." In truth, the Senate never voted on the treaty, which was intended to put tight caps on American and Soviet missiles and bombers, though the Foreign Relations Committee had voted in favor of ratification. After the Soviet invasion of Afghanistan, President Carter asked the Senate leaders to set the treaty aside. It remained on the Senate's Executive Calendar until 2000, when it was returned to President Bill Clinton along with 17 other long-dormant treaties.

Nor did the SALT process "end" in 1980, despite the absence of formal ratification. President Reagan adopted what was called the "no undercut policy" of US adherence to the SALT limits and then sought and signed additional agreements limiting nuclear weapons. These treaties were possible precisely because both sides had kept the treaty limits and built on the negotiating history. Kagan also wrongly suggests that the SALT I agreements, signed by President Nixon in 1972, "did not have the desired effect" because "the Soviet nuclear stockpile expanded dramatically in subsequent years." In fact, both sides stuck to the agreed limits, but the agreement excluded the

numbers of warheads on missiles, and the Soviet ability to arm missiles with multiple warheads gradually caught up to the US.

Contrary to Kagan's argument, the experience with SALT I and II provides useful analogies that support approval of the Iran nuclear deal rather than buttress those calling for its rejection. The Nixon administration did not link SALT I – which froze offensive weapons numbers for five years and banned nationwide anti-ballistic missile defenses – to other objectionable Soviet behavior, such as its support for North Vietnam, which was then killing US soldiers. Nor did Nixon refuse to cut a deal on nuclear weapons because of Soviet mistreatment of its Jewish citizens or of the

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captive nations of Eastern Europe. He wanted SALT judged on what it did do in the nuclear realm and nothing more.

Similarly, Carter and Reagan challenged Soviet behavior on separate, nuclear and nonnuclear paths. The Berlin wall came down after Reagan left office, after he had signed an agreement limited to nuclear weapons in Europe. Diplomats also learned from the criticisms of earlier agreements. That's why the JCPOA with Iran is over 100 pages in English, compared to only 17 for SALT II. Negotiators insisted on detailed language rather than informal assurances. The SALT agreements basically ratified each side's military plans but put limits on the capabilities most worrisome to the other side. The Iran nuclear deal appears to do the same. But in both cases, the agreements limited the breakout potential in case the parties were lying about their plans. The failure of formal ratification of SALT

II did not lead to war because there were other alternatives, including the informal adherence that was adopted. Neither side tried to break out of the basic limits – until 2002, when George W. Bush formally abrogated the 1972 Anti-Ballistic Missile treaty, as allowed under the treaty, in order to expand US missile defenses.

Of course, Congress can say no to the Iran deal. But critics owe us an honest assessment of the risks of war if the deal is voted down. Instead, they pretend that somehow a "better deal" can be had from the collapse of international sanctions and the removal of restraints and international inspections – the things that prevent an Iranian bomb today.

Source: <http://warontherocks.com/>, 03 August 2015.

**OPINION – Joe Cirincione**

**The Real Nuclear Danger Isn't Iran or North Korea**

Seventy years after the first atomic explosion lit up the New Mexican desert and nearly 25 years after the collapse of the SU, both Russia and the US retain nuclear postures from the darkest days of their rivalry. There are almost 16,000 nuclear

weapons still in the world today, and the US and Russia possess 94 percent of them. Worse, 1,800 of these Russian and American weapons sit atop missiles on hair-trigger alert, ready to launch on a few minutes' notice. Few people are even aware of these dangers. Most have forgotten about the weapons. They think the only nuclear threat is the chance that Iran might get a bomb. Or that plans are in place that effectively prevent or contain nuclear threats. They are wrong. On any given day, we

could wake up to a crisis that threatens our country, our region, our very planet.

There is good news. The size of these arsenals has decreased dramatically in the last 30 years. When Reagan and Brezhnev squared off in the 1980s, pouring new nuclear missiles into Europe, there were more than 70,000 nuclear weapons in the world. Mass protests and the wisdom of Reagan and his negotiating partner Gorbachev, who succeeded Brezhnev as the head of the SU, led to arms control treaties that slashed arsenals by 50 percent. The restraint of the two nuclear superpowers rippled to other

nuclear aspirants. More countries gave up nuclear weapons or nuclear weapons programs in the past 30 years than tried to get them. And these were

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tough cases, including Brazil, Argentina, South Africa, the nuclear successor states to the SU: Belarus, Ukraine and Kazakhstan, and Iraq and Libya.

In turn, the American and Russian arsenals were cut 50 percent further under Presidents George H.W. Bush and George W. Bush. President Obama, early in his term, trimmed them a bit more. And the entire interlocking network of global treaties and security arrangements has gone a long way to providing tougher inspections, more rigorous export controls on nuclear technologies, better security over "loose nukes" and nuclear materials, and more formidable barriers to new states getting weapons. Indeed, while people talk of "states like Iran and North Korea," there actually are no states like Iran and North Korea. Apart from the eight countries with established programs there are no other governments racing to get the capability to build nuclear weapons.

...The nuclear agreement with Iran is a major step in stopping the spread of nuclear weapons. If we can contain North Korea's program, or strike a similar deal, it then becomes possible to talk about the end of the wave of proliferation that began 70 years ago. Global intelligence officials are clear: There is no other nation looming on the new-nuclear-state horizon. Even as proliferation risks decrease, however, the risks of accident, miscalculation or intentional use of one of the existing nuclear weapons is unacceptably high. Indeed, since the end of the Cold War, we have come closer to Armageddon than many realize.

In January 1995, a global nuclear war almost started by mistake. Russian military officials mistook a Norwegian weather rocket for a US submarine-launched ballistic missile. Yeltsin's

senior military officials told him that Russia was under attack and that he had to launch hundreds of nuclear-tipped missiles at America. He became the first Russian president to ever have the "nuclear suitcase" opened in front of him. But Yeltsin trusted US officials, and he was confident that there was no hidden crisis that might prompt a surprise attack by the US. With just a few minutes to decide, Yeltsin concluded that his radars were in error. The suitcase was closed. American nuclear weapons, too, have often come within a hair's breadth of detonation.

In 1958, a B-47 crew accidentally dropped an H-bomb that exploded near Myrtle Beach, South Carolina. Luckily, only the weapon's conventional explosives detonated, but the crater can still be seen. In 1961, a B-52 carrying two *armed* weapons broke apart over Goldsboro, North Carolina. Two bombs dropped from the bomb bay. One bomb's parachute deployed and carried it safely to the ground. The other fell all the way down. All of the weapon's safety mechanisms failed, save one. A single low-voltage switch, the technical equivalent of a light switch, prevented a hydrogen bomb from destroying a good portion of North Carolina. As the numbers and deployment of US nuclear weapons declined, accidents also decreased, but they did not end. In 2007, a B-52 flew from Minot Air Force Base in North Dakota to Barksdale Air Force Base in Louisiana, carrying 12 cruise missiles on its wings. Unbeknownst to the crew, six of the cruise missiles were armed with nuclear warheads.

One has to be a true optimist to believe that we can leave 16,000 nuclear bombs in fallible human hands indefinitely and nothing will go wrong. It could get worse. The world's nuclear weapons are aging. Bombs, like cars, wear out and eventually

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**One has to be a true optimist to believe that we can leave 16,000 nuclear bombs in fallible human hands indefinitely and nothing will go wrong. It could get worse. The world's nuclear weapons are aging. Bombs, like cars, wear out and eventually have to be replaced. We are now in a generational transition, when the weapons built during the terrifying Cold War rivalry of the 1980's are ready for retirement.**

have to be replaced. We are now in a generational transition, when the weapons built during the terrifying Cold War rivalry of the 1980's are ready for retirement. This could be a good time for Russia, the US and other nations to close down these obsolete arsenals and save billions of dollars.

Instead, the nuclear nations are raiding their treasuries to build an entire new generation of the deadliest weapons ever invented. As Hans Kristensen and Robert Norris point out, "nuclear nations have undertaken ambitious nuclear weapon modernization programs that threaten to prolong the nuclear era indefinitely. ...New or improved nuclear weapon programs underway worldwide include at least 27 ballistic missiles, nine cruise missiles, eight naval vessels, five bombers, eight warheads, and eight weapons factories."

The world doesn't need more nuclear weapons. Russia currently has the largest nuclear arsenal, with a total of approximately 7,500 warheads. The US is second, with roughly 7,100 warheads. Other nuclear weapons states have far fewer. France possesses 300, China 260, and Great Britain, 225. Pakistan has about 120 weapons and India 110. Although Israel has never acknowledged its nuclear weapons stockpile, it is estimated to have nearly 80 weapons. North Korea has enough material for less than 10 bombs but has not deployed any. Nuclear weapons are not cheap. According to the nonpartisan Congressional Budget Office, US nuclear weapons spending alone is estimated to reach \$348 billion over the next decade, while arms control experts estimate that it could reach up to \$1 trillion over the next 30 years. Russia is also increasing the role of nuclear weapons in its strategy. But why?

It is difficult to think of a military combat mission that requires the use of even one nuclear bomb.

There has not been one in 70 years. Perhaps there is a mission that might someday require one bomb.

Or ten. Or an arsenal of 500. But the US has 7,000. This is beyond all logic and military need. Clinging to these obsolete weapons is a vestige of Cold War thinking propped up by contracts and the desire of those with nuclear bases to keep the few thousand jobs they provide. Pandering to these parochial motives and flawed strategies risks catastrophes whose financial and human costs dwarf any conceivable benefits. Pope Francis told a conference on nuclear threats in Vienna this 2014 that "spending on nuclear weapons squanders the wealth of nations." He questioned the morality of

maintaining these huge arsenals for any purpose. These horrific weapons, he said, must be "banned once and for all." Seventy years after it was born on the sands of Alamogordo, there is a growing global sense that it is time to retire the Bomb.

Source: <http://america.aljazeera.com/>, 04 August 2015.

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**OPINION – Essar Mehdi**

**Nuclear Hyperbole**

The nuclear agreement signed between Iran and P5+1 is historic and almost everyone agrees on that. There are scholars who see it as a gateway to a more peaceful regional order in West Asia. However, some analysts assert that the deal will mend 'the 36 years long feud with America and the romance between the old rival states is budding' and some argue that 'it will increase nuclear proliferation across west Asia'. Both perceptions are a mere hyperbole and an underestimation of the facts on the ground. Firstly, Iran's standing against the 'great Satan' is still based on the post-revolutionary anti-Americanism and there is no credible evidence to suggest the

contrary. It is reflected from the speeches and sermons of the Iranian supreme leader, Khamenei, the ultimate power in the Iranian politics including its foreign policy and also by the statements issued by the Iranian government's top officials right from President Rouhani to the minister of foreign affairs Zarif.

In the second sermon at Eid ul-fitr prayers in Tehran, the supreme leader candidly asserted that "despite these negotiations and the document that has been prepared, our policy towards the arrogant government of America will not change in any way". Furthermore, the supreme leader scathingly added that "The American policies in the region are 180 degrees opposite of the policies of Islamic republic". This openly reflects Iran's firm posture against American policies.

The second argument that 'the nuclear agreement will increase proliferation across west Asia' sounds hypocritical and factually incorrect. In fact, it is the nuclear arsenal possessed by Israel that has fuelled nuclear proliferation across West Asia and has led to the security dilemma in the neighboring states. The famous IR Scholar Kenneth Waltz argues in his article 'why Iran should get the bomb' that "Israel's regional nuclear monopoly, which has proved remarkably durable for the past four decades, has long fueled instability in the West Asia. It is Israel's nuclear arsenal, not Iran's desire for one, which has contributed most to the current crisis". The taproot of the problems in the West Asia lies in the unchecked nuclear prowess of Israel.

As realists argue that states tend to balance the power of other states that threaten them. So, in such a situation, the nuclear Iran will lead to stability in the West Asia as Waltz argues, "power begs to be balanced". He further writes that "a

**Israel's regional nuclear monopoly, which has proved remarkably durable for the past four decades, has long fueled instability in the West Asia. It is Israel's nuclear arsenal, not Iran's desire for one, which has contributed most to the current crisis". The taproot of the problems in the West Asia lies in the unchecked nuclear prowess of Israel.**

**The al-Saud and Israeli regime see the growing influence of Iran in the region as a threat to their interests. Interestingly, the amount of power and influence that Iran wields in the region, the international community sees it as the only country capable of de-hyphenating the current west Asian crisis. This flies in the face of the well oiled Israeli and Saudi propaganda machinery.**

decades-long Middle East nuclear crisis that will end only when a balance of military power is restored". Additionally, it is within the rights of Iran as a member of NPT to build an enrichment capability for peaceful purposes which most western critics have largely ignored and carried the official American state department line on Iranian Nuclear Programme.

Now what explains this hype and hyperbole about the nuclear deal? Simply put, it is the reflection of the frustration and insecurity of the two powers that see the Iranian rise as a direct threat to their own standing and interests in the region: Israel and Saudi Arabia. They don't want to see Iran turning into a regional great power. By engineering nefarious plots, these strategic enemies of the Islamic republic are busy to see Iran and US fall into what is called a "Thucydides trap". In fact, they tried hard to push America to continue crippling sanctions on Iran and make it surrender its peaceful nuclear programme but Americans found it a very reckless gamble. They even knew that if threatened, Iran would more likely dig in its heels.

After the Islamic revolution of 1979, containing Iran became the shared policy objective for US and its two regional allies, Israel and Saudi Arabia. Ever since the ouster of two anti-Iranian regimes in Iraq and Afghanistan, the revolutionary ideology has spread its tentacles easily across the region. This has made the policy of containing Iran nearly impossible. The al-Saud and Israeli regime see the growing influence of Iran in the region as a threat to their interests. Interestingly, the amount of power and influence that Iran wields in the region, the international community sees it as the only country capable of de-hyphenating the current west Asian crisis. This flies in the face of the well oiled Israeli and Saudi

propaganda machinery. Undeniably, the nuclear agreement will bolster Iran's standing regionally and end its decades long international isolation. It legitimizes Iran as a threshold nuclear state and acts as a watershed moment for Iran's re-entering into international politics. Accordingly, the world should embrace it because it will lead to a much stable West Asia.

Source: <http://www.dailykashmirimages.com/>, 07 August 2015.

**OPINION – Mark Haim**

**Put Nuclear Disarmament Back on the Agenda!**

[We observed] the 70th anniversary of the atomic bombings of Hiroshima and Nagasaki, Japanese cities leveled, with hundreds of thousands of casualties, in the waning days of World War II. The bombs dropped there, though the most devastating weapons ever used in war, are dwarfed by those in today's nuclear arsenals. With nine nuclear-weapons states and about 17,000 warheads deployed or readily deployable – many of these in a high-alert, launch-on-warning mode, nuclear war by miscalculation, miscommunication or accident remains a present danger. More than 90 percent of these warheads are in the hands of two nations, the US and Russia.

In many ways, the fact that we still face the threat of nuclear annihilation is a measure of the profound failing of humanity. To date, we have been unwilling or unable to deal with this enormous threat to our collective well-being and, indeed, our very survival. Here in the US, the media, as well as the politicians and their funders – those who dictate political agendas – have nearly defined away nuclear weapons, presenting them as a nonissue. The sole exception seems to be nuclear proliferation to states that are official enemies, including Iran and North Korea. It is deeply troubling that the abolition of nuclear weapons through mutual, verifiable and universal nuclear disarmament, once an urgent issue that mobilized millions, is today not even on most

citizens' radar as an issue of concern.

Despite the ongoing existential threat, we certainly have not heard any US presidential candidate putting this forward as a concern for the voters in 2016. Although not surprising, as this has been a fairly consistent pattern since the end of the Cold War, it is high time to insist this very real threat is addressed. In fact, despite our treaty commitments, under the 1970 NPT to pursue universal disarmament, it is the intention of our government to maintain a huge arsenal of these doomsday devices in perpetuity... We, the American taxpayers, are spending more on nuclear weapons than all other nations combined.

The sad reality is all these bombs and all the money we spend on them are not making us more secure. Rather, they are telegraphing a message to other nations that nuclear weapons are an

**in crisis, nuclear-armed states face "use-it-or-lose-it" scenarios. As command and control systems age, it becomes more likely there will be glitches that lead to accidental nuclear war. And the longer we delay nuclear abolition, the more nuclear-armed nations there will be in the world, not to mention the prospect of sub-national groups acquiring these weapons. The more fingers on the trigger, the more likely nuclear war will be a reality.**

acceptable component of a major power's military establishment. In fact, our government's attachment to its nuclear weapons is sending a signal to the rest of the world that going nuclear – acquiring weapons capabilities – gives stature and legitimacy. The longer the US insists on maintaining its current nuclear position, the more likely we are to see proliferation, regional nuclear arms races and ultimately the use of nuclear bombs

somewhere in the world. And that "somewhere" will lead to disaster virtually everywhere in the world. Even a modest-size nuclear war, say between third-tier nuclear powers like India and Pakistan, would in all likelihood cause significant blockage of incoming sunlight for a number of years and lead to widespread cooling, crop failures and mass starvation.

Although some argue nuclear arsenals deter aggression, they lose sight of several factors. First, as nuclear delivery systems become more sophisticated, supposed nuclear deterrent systems become vulnerable to pre-emptive attack. Thus, in crisis, nuclear-armed states face "use-it-or-lose-it" scenarios. As command and control systems age, it becomes more likely there will be glitches that lead to accidental nuclear war. And

the longer we delay nuclear abolition, the more nuclear-armed nations there will be in the world, not to mention the prospect of sub-national groups acquiring these weapons. The more fingers on the trigger, the more likely nuclear war will be a reality. In truth, nuclear bombs are not an effective instrument of foreign policy. The consequences of their use are so horrific that it would be absolutely insane to use them in any confrontation. And the resources being squandered on arms are sorely needed to address very real threats to our security, including the climate crisis. Now, as the world marks the 70th anniversary of Hiroshima and Nagasaki, it is time for as many of us as possible to speak out, with one voice, insisting upon mutual, verifiable and universal nuclear disarmament. It is time, once again, to take up the cause of nuclear abolition.

Source: <http://www.columbiatribune.com/>, 04 August 2015.

**OPINION – Eric T. Olson**

**What We're not Talking About as the Nuclear Age Turns 70**

This summer marks the 70th anniversary of the Trinity test in the New Mexico desert. Shortly after the test, the US dropped nuclear bombs, one each on Hiroshima and Nagasaki, Japan. Residents of those two cities so far are the only civilian populations to suffer the widespread destruction and hundreds of thousands of deaths just one nuclear bomb can cause. It is my belief that the real challenge going forward is to prevent nuclear war through a worldwide ban on the possession of nuclear weapons.

There is just one nuclear story dominating the headlines – the Joint Comprehensive Plan of Action – the nuclear control agreement signed on July 14 in Vienna by Iran and the P5+1 countries: China, France, Russia, the UK, and the US, plus Germany.... First, the most dangerous and expensive nuclear weapons program in the world

is the one run by my own country, the US of America. In each budget year since 2010, President Obama has signed measures to undertake an extremely aggressive plan to maintain, upgrade and replace the entire US nuclear arsenal. The

**Non-signatory bomb possessors are completely tolerated, a signer with no bomb receives incredible scrutiny, and the recognized bomb possessors (US, Russia, UK, France and China) are allowed to maintain and modernize their nuclear bomb complexes in stark contrast to the supposed principles of Article VI.**

total cost may exceed \$300 billion in the first 10 years and could break \$1 trillion during a proposed 30-year cycle, massive expenditures during a time of budget cuts. Big-ticket items slated for major spending are new nuclear bomb materials facilities, replacement of both land- and sea-based ballistic missiles along with delivery platforms,

and huge new investment in command and control systems.

In one project, the NNSA is proceeding to build a new Uranium Processing Facility (UPF) for warhead component manufacturing at the Y-12 National Security Complex in Oak Ridge, Tennessee. According to the Project on Government Oversight (POGO), estimated over-budget costs have skyrocketed to \$11 billion. Beyond extreme expense, the Obama nuclear rebuilding program raises serious questions of war and peace. Will potential adversaries try to counter the new, aggressive US program? Will a permanent arms race with all the potential for disaster that entails be the Obama nuclear legacy?

Second, the original intent of the 1968 NPT has been turned on its head. Though NPT-signer Iran was singled out while not possessing a single actual nuclear warhead, there are several countries beyond the original nuclear powers that are allowed actual operational nuclear arsenals. Three of these countries – India, Pakistan and Israel – each with deployed warheads numbering in the hundreds, are not signatories to the NPT.... Non-signatory bomb possessors are completely tolerated, a signer with no bomb receives incredible scrutiny, and the recognized bomb possessors (US, Russia, UK, France and China) are allowed to maintain and modernize their nuclear bomb complexes in stark contrast to the supposed

principles of Article VI – which requires them to "pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a Treaty on general and complete disarmament under strict and effective international control." ... "The International Campaign to Abolish Nuclear Weapons (ICAN) is a global campaign coalition working to mobilize people in all countries to inspire, persuade and pressure their governments to initiate and support negotiations for a treaty banning nuclear weapons." It's time to focus a lot more attention and reporting on the real dangers we face 70 years into the nuclear age.

Source: <https://bangordailynews.com/>, 04 August 2015.

#### OPINION – Ryan McNamara

#### Iran is not Biggest Nuclear Cheater – Guess Who Is?

If you think Iran presents the greatest danger of nuclear war today, think again. It is none other than the US that has consistently violated the NPT – and it's these violations that are one of the main drivers of the spread of nuclear weapons and the threat of nuclear war across the world. While some worry about inspecting Iran's nuclear facilities, Americans should be pushing first for inspecting something nearer to home: the embarrassing and dangerous record of nuclear treaty violations committed by the US and its fellow nuclear states. And there's something else that bears closer inspection: how the mainstream media's misreporting about nuclear armaments played a key role in justifying the Iraq war and other recent conflicts. Mainstream reporting on the Iran nuclear deal shows just how successful the US has been in getting its nuclear narrative across. Iran is depicted as a rogue state that the civilized P5+1 nations – the US, UK, France, China, Russia, plus Germany – must curb. In a recent

article, *The New York Times* cited a US nuclear expert skeptical of the deal because, as he put it, the untrustworthy Iranians "are practiced at cheating."...

#### ***The Have-Bombs versus the Have-Not-Bombs:*** The major legal document establishing

**Nuclear warheads are becoming ever more potent. Although the number of warheads since the height of the Cold War has gone down, those warheads has become far more deadly, as the nuclear states continue to research and implement upgrades on weapons and delivery systems.**

international cooperation in the peaceful use of nuclear energy is the NPT. It recognizes five nuclear nations: the US, UK, France, China, and Russia. Briefly put, it establishes a strict quid pro quo: in exchange for promises by non-nuclear states not to pursue nuclear armament, the nuclear

powers will undertake nuclear disarmament. But even as the West faults Iran for allegedly attempting to develop a nuclear bomb in secret, none of the nuclear powers are holding up their end of the deal. Nuclear warheads are becoming ever more potent. Although the number of warheads since the height of the Cold War has gone down, those warheads has become far more deadly, as the nuclear states continue to research and implement upgrades on weapons and delivery systems.

Washington will spend an average of \$35 billion a year for the next decade to modernize and maintain the nation's nuclear force, according to the US Congressional Budget Office estimates. Some in government, including Chairman of the House Armed Services Committee Rep. Mac Thornberry (R-Tx), call for large increases in response to perceived threats from Russian President Putin. And, of course, if the US upgrades its arsenal, so will Russia. And vice versa. These states, under international obligation to disarm, on one hand make statements about their desire to move towards a nuclear-free world, and on the other continue to perfect their stockpiles.

***Spreading the Danger Far and Wide:*** The US has placed nuclear weapons in many other nations as part of NATO's "nuclear sharing" program. These nations not only store US nuclear weapons, they practice handling and delivering them. Under

this system the US has nuclear weapons in Belgium, Germany, Italy, the Netherlands, and Turkey. Many see this as a violation of NPT, which bars nuclear states from delegating "the control of their nuclear weapons directly or indirectly to others." The US also has a history of selling nuclear secrets to friends. In the 1980's the Department of Energy provided Saddam Hussein's Iraq with information important to the construction of nuclear weapons and materials. In 1989, the DOE went so far as to invite three nuclear engineers from Iraq's Al-Qa'qaa' weapons facility to a conference on detonation physics. According to Article I of the NPT, nuclear states may not "assist, encourage, or induce" – in any way – a non-nuclear state to manufacture or acquire a nuclear weapon.

***The Have-Not-Bombs versus the Have-Bombs:*** Not surprisingly, the non-nuclear

states see the current situation as inherently unfair. Barred from creating nuclear weapons by the NPT, they can't help but notice that the nuclear powers are actively enhancing their own nuclear arsenals. The NAM, a group of 120 states, has repeatedly called on nuclear states to live up to their commitment to disarm; stressing that disarmament remains the organization's "highest priority." As the NAM's representative said in an address to a 2015 review conference of the NPT: The Group reiterates its deep concern over the slow pace of progress towards nuclear disarmament, and the lack of progress by the nuclear weapon States to accomplish the total elimination of their nuclear weapons in accordance with their legal obligations and undertakings. These are just a few ways the US has acted to spread nuclear weapons and secrets throughout the world; it is by no means an exhaustive list. With this historical perspective, the Iran deal may be seen in a very different light.

*Source: <http://whowhatwhy.org/>, 04 August 2015.*

**OPINION – Seema Mustafa**

**India's Nuclear 'Renaissance' Over Even Before It Began**

India's nuclear 'renaissance' as declared by former PM Singh and endorsed by PM Modi seems to be in tatters, having hit several stumbling blocks. Instead of the promised new burst of energy it seems to be fading, and rather rapidly at that. One of the projected highlights of PM Modi's visit to

France in April this year was the agreement for the construction of a NPP in Jaitapur with Areva. Somehow both the UPA and the NDA governments have not been able to overcome a strange fascination for Areva, despite warnings by several Indian nuclear experts over the years. Since the agreement was signed amidst great enthusiasm Areva, in financial problems at the time as well, has gone technically bankrupt. This was foreseen by experts in India, who had pointed to

the fact that the French company had not sold a single new reactor since 2007. And its recent presence in the market was marked by two mismanaged products, of which the one in Finland was at least 10 years behind schedule.

But just as Singh did not heed these warnings, the government under PM Modi also preferred to play the ostrich by sinking its head into the nuclear sand, and signed the huge nuclear reactor order with the French company. Areva that was struggling to survive then, gave up subsequently, and has been taken over by EDF in fact within weeks of PM Modi's visit. EDF with a 75% stake is all set to overhaul what it has taken over, with a new designing, manufacturing and servicing plan. The Jaitapur NPP thus is unlikely to see the light of day, or at least not in the foreseeable future. The major nuclear flagship for both the UPA and the NDA governments has been the India-US civilian nuclear agreement. Singh placed his own Prime Ministership at stake to get this agreement off the ground but ran into a major hurdle with the Nuclear Liability Law passed by Parliament that effectively cut into the American enthusiasm for this

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agreement. PM Modi picked this up this agreement almost immediately after assuming power, and the stuck deal was declared "done" during the visit of US President Obama.

No details were given at the time, and subsequently it was disclosed that the two governments were working on a central insurance pool to circumvent some of the provisions of the Liability Law. How this will happen on the ground is still not clear, more so as the Law is passed by Parliament and the insurance understanding-even if worked out to the last point – will not have the Indian legislature's backing. When asked about it a senior nuclear scientist told The Citizen that those sharing his apprehensions were actually now waiting for this agreement "to die a natural death." The reasons, as he pointed out, were plentiful with the devil lying in the details of the current negotiations that had been far from resolved, the burgeoning rise in the price of nuclear reactions and hence, nuclear power, and the risks involved through the increasing privatisation of nuclear energy that activists across the world have been highlighting.

The latest comments on the progress of the India US nuclear agreement came from the US Ambassador to India Richard Verma while speaking at an Indian Express event. He made two points under the positive spin that he was giving to most issues. One, the deal "is not going to happen quickly" and two, the reasons for this. The last were outlined by him in his rather brief response to a question on the agreement as: a) the insurance polls is still being worked on, it is not up and running; b) the commitment to ratify the convention on liability is a major issue of concern and needs to "go through" before any progress can be recorded; c) that his convention then operates "consistently with international practice; and d) government to government commitments then will need to be reflected in commercial contracts.

In a laypersons terms the situation is pretty much the same as it was when the agreement was signed by the two top leaders, and progress has been slow.... Loose ends are still being tied up, unravelling even as these are knotted, to ensure the implementation of an agreement that India has

placed at the centre of her relations with the U.S for reasons best known to Singh and now PM Modi.

As strategic expert Brahma Chellaney wrote earlier this year, "the Modi government has yielded ground, even at the risk of facing criticism at home. For example, it has agreed to reinterpret domestic law so as to effectively transfer reactor vendors' nuclear accident liability risks to Indian taxpayers. Indian law allows suppliers to be held liable in case of an accident. The government is also reinterpreting another provision of the law to bar victims of a

nuclear accident in India from suing for damages in the US These actions are likely to prove controversial, given India's bitter experience over the 1984 gas leak from an American-owned Bhopal city plant that killed about as many people as the Fukushima disaster. Indeed, Japan's dual liability laws, which indemnify suppliers and make plant operators exclusively liable, should serve as a sobering

**The sea launch of a Bulava ballistic missile will be made by Russia's strategic nuclear submarine Vladimir Monomakh by the end of 2015. The Borey-class submarine, the backbone of Russia's marine nuclear forces, has been equipped with 16 Bulava ballistic missiles, which can carry up to 10 nuclear warheads with an operational range of up to 10,000 kilometers.**

lesson for India: GE built or designed all the three Fukushima reactors that suffered core meltdowns in 2011, yet the US firm went scot-free, despite a fundamental design deficiency in the reactors."

In the meantime the price of nuclear energy has gone up enormously, making it unfeasible for the world that is now looking at solar energy-where it can of course-as a cheaper and more viable option, besides being safe and not fraught with high risk factors such as nuclear power...

Source: <http://www.thecitizen.in/>, 07 August 2015.

## **NUCLEAR STRATEGY**

### **RUSSIA**

#### **Sea Launch of Russian Bulava Missile from Nuclear Sub by Year End**

According to high ranking Navy source, the sea launch of a Bulava ballistic missile will be made by Russia's strategic nuclear submarine Vladimir Monomakh by the end of 2015. The Borey-class submarine, the backbone of Russia's marine

nuclear forces, has been equipped with 16 Bulava ballistic missiles, which can carry up to 10 nuclear warheads with an operational range of up to 10,000 kilometers (6,200 miles).

"The exact launch date of the missile has not yet been determined but it will happen by the end of 2015 from the Vladimir Monomakh submarine," the source said. In December 2014, Russian President Putin emphasized the importance of maintaining the country's nuclear deterrence capabilities due to the growing number of security challenges. The Russian Navy operates three Borey-class submarines, the flag ship Yury Dolgoruky, Alexandr Nevsky and Vladimir Monomakh. The Vladimir Monomakh was officially inducted into the Russian Navy in December 2014. By 2020, the Russian Navy plans to operate a total of eight Borey-class ballistic missile submarines, which will serve until 2050....

Source: <http://sputniknews.com/>, 08 August 2015.

## USA

### **US Nuclear Modernization Program to Cost 5% of Defense Budget**

The modernization of the US nuclear triad over the coming 30 years is affordable under any defense budget, as long as they are made a priority, Center for Strategic and Budgetary Assessments (CSBA) Senior Fellow Todd Harrison told Sputnik. Harrison explained that even under the "worst case" defense budget, restricted by budget caps, the total projected costs of modernizing the US land, sea, and air-based nuclear delivery systems will only amount to 5 percent of the defense budget. ... The CSBA released a new study to more accurately project the costs of modernization, which it put at approximately \$963 billion in the three decades from 2014 to 2043.

By the early 2040s, the US is expected to replace

and upgrade all three legs of its nuclear triad, amounting to costs that some experts have put at close to \$1 trillion. Modernization costs are expected to peak in the mid-2020s, costing the US up to \$40 billion per year. Funding the program will "absolutely" be a challenge, Harrison acknowledged. "But is it a matter of affordability? No. It is a matter of prioritization." Nuclear weapons remain a key component of the US national defense strategy and officials have maintained their commitment to protecting the nuclear deterrent. The Pentagon has estimated it will need an

additional \$10 to \$12 billion annually beginning in 2021 in order to support the nuclear modernization program, which some analysts have decried as unaffordable costs.

Source: <http://sputniknews.com/>, 05 August 2015.

## BALLISTIC MISSILE DEFENCE

### CHINA

#### **China Develops Ability to Intercept Inter-Continental Ballistic Missiles**

China's Science and Technology Daily magazine reports that China has now developed the capacity to intercept ICBMs. It has published a report of China's advances in laser technology, spearheaded by China's top laser scientist Cheng Yong's, which have enabled the interception by Chinese military, China Daily Mail reported. The report says that Yong and his team have been making breakthroughs in strategic technology vital to the development of photoelectric equipment such as adjust-free laser, DLC film prepared by laser deposition and coherent combination of mutual injection, etc. ICBM is a ballistic missile with a minimum range of more than 5,500 kilometers primarily designed for nuclear weapons delivery (delivering one or more nuclear warheads).

Cheng has tackled problems that even US experts find difficult, including making the world's first adjustment-free solid laser. In 2000, Cheng found

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that China's infrared window, the eye of China's large weapon for interception, was not hard enough to resist injury or chemically stable enough to resist erosion, and it became "blind" under hypersonic speed. To remedy this, Cheng spent four years developing DLC film prepared by laser deposition. The film was used in China's new ICBM defence missile to increase its speed by 30%. In 2011, the missile successfully passed a test to intercept an ICBM in mid-course.

Source: <http://en.dailypakistan.com.pk/>, 08 August 2015.

## **INDIA**

### **India's BMD System is in Final Stages of Development and Deployment**

India's BMD system is in the final stages of development and deployment, Scientific Advisor to Defence Minister, G Reddy, said here on 02 August. ...He said BMD was a dream of former President late Kalam. Paying glowing tributes to him, he said Mr. Kalam always used to think big and recalled how he conceived and developed the IGMDP, missile testing range at Balasore and Research Centre Imarat (RCI) here. Describing the 5,000-km plus Agni-V Ballistic Missile as the pride of India with ICBM capability, he listed various missiles developed by DRDO and the technologies that went into them. The design goal for most of them was to lower the mass, increase the range, accuracy and lethality, while ensuring faster delivery, easy operation and lower cost of production and maintenance. Touching upon new technologies, ... work was on to develop navigation on chip by 2017 (a single chip for the whole navigation) and another single chip for the entire avionics required for missiles. DRDO is also working on a hypersonic cruise vehicle and bio-sensors.

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Source: [/www.ibcworldnews.com/](http://www.ibcworldnews.com/), 05 August 2015.

## **USA**

### **US Missile Defense Agency Tests Modified Standard Missile-6**

The US MDA has tested a Raytheon-built modified Standard Missile-6, demonstrating its anti-BMD capability. During the testing, the missile fired by the US Navy intercepted and destroyed a short-range ballistic missile target at sea. Raytheon Missile Systems president Dr Lawrence said: "SM-6 is the only missile in the world that can do both

anti-air warfare and BMD from sea." US Navy commanders want both capability and flexibility to meet a wide variety of missions, and that's exactly what SM-6 offers."

In addition to this test, MDA performed three additional tests that witnessed the US Navy firing two additional SM-6s in anti-air warfare roles. The missiles engaged cruise missile targets. The

third test included the firing of a standard missile-2 Block IV that successfully intercepted the target and proved its capacity to block short-range ballistic missiles in their terminal phase of flight. MDA's sea-based terminal (SBT) programme is

aimed at preventing ballistic threats in their terminal phase of flight using SM-6 missiles integrated into the Aegis Weapon System. The modified system, known as SM-6 Dual 1, is expected to achieve initial operating capability in 2016.

SM-2 offers increased intercept range, high and low-intercept capabilities, and performance against advanced and anti-ship missile threats. It can be

launched from the MK-41, MK-13 and MK-26 launchers. Moreover, SM-6 offers navy vessels with enhanced protection against fixed and rotary-

wing aircraft, unmanned aerial vehicles and cruise missiles as part of the NIFC-CA mission area. In June, the US Navy test fired a Raytheon-built Standard Missile-6 (SM-6) against a medium-range supersonic target from 'over-the-horizon.'

Source: <http://www.naval-technology.com/>, 04 August 2015.

### **Lockheed Tests Aegis' Air Warfare and BMD Capabilities**

Along with US Navy and Missile Defence Agency's Aegis Combat System, Lockheed Martin has successfully completed a series of tests of the combat system's air warfare (AW) and BMD capabilities. Performed aboard USS John Paul Jones (DDG 53), the multi-mission warfare (MMW) tests aimed to verify the performance of recent BMD upgrades. During the four MMW events, Aegis was able to detect, track and engage two ballistic missiles and two air warfare targets. Lockheed Martin aegis BMD programme director Klammer said: "Each generation of the Aegis Combat System adds new capabilities to keep pace with emerging threats, and these tests were really designed to demonstrate the compatibility of new BMD capabilities with the entire system.

...In addition, the trials saw the first endo-atmospheric engagement of a ballistic missile target to show a Baseline 9.C1 capability, which permits Aegis to engage ballistic missiles in their terminal phase. Baseline 9.C1, the new version of the Aegis configuration comprises the current generation of BMD programming, known as BMD 5.0 CU. Under this configuration, Aegis combines BMD and anti-air warfare into its integrated air and missile defense (IAMD) capability with the support of commercial-off-the-shelf and open architecture technologies. Aegis BMD Combat System's key component is the SPY-1 radar, which along with new multi-mission signal processor (MMSP), offers the US and allied nations advanced surveillance services and an unprecedented IAMD capability.

Source: <http://www.naval-technology.com/>, 04 August 2015.

## **NUCLEAR ENERGY**

### **ASEAN-IRAN**

#### **ASEAN Welcomes Accord on Iranian Nuclear Scheme**

The 10-member ASEAN and its neighbours endorsed the Iranian nuclear energy deal on 06 August, on the anniversary of the Hiroshima bombings. In a joint statement, the FMs of the ASEAN countries, along with Japan, China, Australia, India, Japan, New Zealand, South Korea, Russia and the US, welcomed July's agreement as an "important resolution" to years of nuclear proliferation. The deal allows Iran to pursue its peaceful atomic energy programme free from Western sanctions in return for inspections of its atomic facilities. ... On 03 August,

the six members of the GCC came out in support of the agreement after meeting US Secretary of State Kerry in Doha. Shortly before the ASEAN statement was released, Mr Kerry met Japanese FM Kishida in the Malaysian capital Kuala Lumpur.

Source: <http://www.morningstaronline.co.uk/>, 07 August 2015.

### **AUSTRALIA**

#### **South Australia's Future Role in the Nuclear Industry**

South Australia was in the news thanks to PM Abbott's announcement of a new naval construction plan that, if implemented, will see Adelaide confirmed as Australia's naval shipbuilding hub. Behind the headlines, however, South Australia's emerging nuclear ambitions may ultimately prove to be a more significant development, politically and economically, for the state and the nation. In the hopes of nuclear industry advocates, a technological alliance with Japan, South Korea and Taiwan on nuclear power, fuel recycling and waste storage could bring in

**In the hopes of nuclear industry advocates, a technological alliance with Japan, South Korea and Taiwan on nuclear power, fuel recycling and waste storage could bring in \$28 billion for South Australia. It's a bold vision in which the state could be transformed into the "Saudis of the South."**

\$28 billion for South Australia. It's a bold vision in which the state could be transformed into the "Saudis of the South." If nothing else, it's likely to generate plenty of political heat.

Local political and business leaders were predictably enthusiastic with Labor Premier Jay Weatherill saying the state is now better placed to also build Australia's next generation of submarines. Others were less impressed.... Debate on naval shipbuilding and the still undecided future submarine program will certainly continue, fuelled by the parlous state of South Australia's economy. South Australia is now the worst state for unemployment, last month recording its highest jobless rate in 15 years, with Australian Bureau of Statistics figures showing the unemployment rate climbing to 8.2 per cent. University of Adelaide associate professor John Spoehr says the state is "on a pathway to double-digit unemployment in the absence of major new investment in infrastructure and construction projects"....

The premier said the inquiry would facilitate debate on "what role our state can and should play in the fuel cycle for the peaceful use of nuclear energy". ... Weatherill is a leader in Labor's Left faction that has historically opposed nuclear power and other involvement in the nuclear fuel cycle. While Labor has long accepted uranium mining, the party's national platform retains a commitment to "prohibit the establishment of NPPs and all other stages of the nuclear fuel cycle in Australia".

The South Australian Labor government previously opposed proposals for the establishment of a nuclear waste repository in the state. However, reservations about nuclear industry appear to have evaporated in the wake of further, politically fatal, rises in unemployment. ... It appears to reflect a major shift in thinking within the Weatherill government and potentially puts his

government on a collision course with federal Labor." Another pointer to where the process is headed was provided by the appointment of former South Australian governor Kevin Scarce as royal commissioner. A one-time Royal Australian Navy officer who rose to the rank of rear-admiral and head of maritime systems at the Defence Materiel Organisation, much of Scarce's naval career has involved the risk management of complex, high-technology projects. ...

Scarce and a panel of technical experts have travelled overseas to inspect nuclear facilities in Japan, Taiwan, Finland, Austria, France, Britain, Canada and the US. The commission has also visited the world's newest nuclear power facility in the UAE that, with four reactors, is expected to be complete and producing power within 10 years. "The fact that they can proceed from zero to a fully functioning facility within 10 years is a very clear example that it can be done," Scarce said. Significantly the royal commission enjoys strong bipartisan support from Liberal opposition leader Steven Marshall, and from the federal Coalition government. Abbott has welcomed the prospect of new debate on Australia's involvement in the nuclear fuel cycle.

...Perhaps the most interesting twist in these proceedings, however, has been the role of South Australian Liberal senator Sean Edwards, who in April

outlined a radical plan for an integrated nuclear industry embracing nuclear waste storage and recycling, fuel fabrication and power production. Edwards has demonstrated a sustained interest in nuclear issues since he entered federal parliament in 2011. He argues that East Asian countries could pay up to \$1 million a tonne to send used fuel rods to South Australia for storage. By using a new form of reactor, an integral fast reactor (specifically the power reactor

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**East Asian countries could pay up to \$1 million a tonne to send used fuel rods to South Australia for storage. By using a new form of reactor, an integral fast reactor (specifically the power reactor innovative small module – PRISM – design proposed by GE Hitachi Nuclear Energy), 95% of the energy could be extracted from the rods, with electricity generation as a by-product.**

innovative small module – PRISM – design proposed by GE Hitachi Nuclear Energy), 95% of the energy could be extracted from the rods, with electricity generation as a by-product.

...After consultation with a group of pro-nuclear advocates and technical experts, Edwards has submitted an as-yet-unpublished 213-page submission to the royal commission, arguing that South Australia can take advantage of the "under-serviced market for the management of used nuclear fuel. Several nations are holding quarantined budgets in the tens of billions of dollars with no satisfactory pathway to discharge responsibility for this material".

Edwards' submission proposes the establishment of a multinational spent fuel storage installation, an industrial pilot-scale fuel recycling and fabrication facility, a new "fourth generation" fast-breeder reactor, and deep borehole disposal of short-lived waste products. Substantially funded by foreign investment, Edwards estimates the project could deliver \$28 billion to South Australia, including very low-cost, even free, electricity for the state. During the past 18 months, Edwards has also engaged in discussions with the nuclear industries in several Asian countries, which he says have expressed "considerable interest". He is currently not prepared to identify the countries involved, but *The Saturday Paper* has established they include South Korea and Japan. Edwards has also briefed Abbott, Industry Minister Macfarlane and Trade Minister Robb.

It remains to be seen whether Edwards' scheme stands critical scrutiny from the royal commission and wider debate. There are already plenty of critics. The Australian Greens have expressed strong opposition to the entire royal commission process, so too has veteran anti-nuclear campaigner Caldicott.... Nonetheless, Edwards'

scheme, especially the possibility that a pilot fourth-generation reactor may be financed entirely by foreign capital with the associated prospect of "free electricity", could be a political and economic "game changer" for South Australia and for the nuclear debate at a national level. ...

*Source: www.thesaturdaypaper.com.au/, 08 August 2015.*

## **JAPAN**

### **Japan Ends Nuclear Shutdown Four Years after Fukushima**

Japan on 11 August ended a two-year nuclear shutdown in the energy-hungry country, sparked by public fears following the 2011 Fukushima crisis.... Utility Kyushu Electric Power turned on a reactor at Sendai, about 1,000 kilometres (620 miles) southwest of Tokyo. The 31-year-old reactor operating under tougher post-Fukushima safety rules was expected to reach full capacity by 11 August and would start generating power by 14 August. Commercial operations are to begin early next month, a company spokesman said.

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The restart comes more than four years after a quake-sparked tsunami triggered meltdowns at the Fukushima plant, prompting the shutdown of Japan's stable of reactors and setting off a pitched battle over the future use of atomic power. ...Decommissioning of the crippled Fukushima reactors is expected to take decades with compensation expenses – excluding the cost of the site's clean up now topping \$57 billion. Anti-nuclear sentiment still runs high in Japan and television showed protesters scuffling with police in front of the Sendai plant, which is on the southernmost main island of Kyushu.

... The country has ushered in stricter safety regulations to avoid a repeat of the accident,

including more backup prevention measures and higher tsunami-blocking walls in some areas. ... Beefed-up safety measures are key to Prime Minister Shinzo Abe's bid to get some of about four dozen reactors back up and running, as Tokyo's energy policy sets its sights on nuclear accounting for as much as 22 percent of Japan's energy needs by 2030.

Power companies that own them are also keen for more restarts, fed up with having to make up lost generating capacity with pricey fossil fuels.

Japan's post-Fukushima energy bill skyrocketed as it scrambled to fill the gap left by taking reactors offline, pushing the country into successive trade deficits. Those expenses were exacerbated by a sharp weakening of the yen, which pushed up costs for energy imports paid for in other currencies, particularly the US dollar. Several other reactors have received a safety green light from officials, but battle lines have been drawn with many local communities strongly opposed to restarts. ... Safety officials have stressed that any switched-on reactor would operate under much tighter regulations than those that existed before Fukushima, the worst atomic disaster since Chernobyl in 1986. ...

*Source: The Times of India, 11 August 2015.*

## **UK**

### **UK Invests in Advanced Nuclear Fuel Research**

Grants totalling £2.5 million (\$3.9 million) have been awarded by the UK government to the National Nuclear Laboratory (NNL) and the University of Manchester for the development of accident tolerant nuclear fuels. The Department of Energy and Climate Change (DECC) has awarded £1.5 million (\$2.3 million) to the NNL and £1.0 million (\$1.6 million) to the University of

Manchester to fund new capital equipment for nuclear fuel and manufacturing research. The investment will establish facilities for the development of nuclear fuels with enhanced accident tolerance.

Through the investment, equipment will be installed at NNL's laboratory in Preston, including a purpose-built rig to enable studies of the reaction between uranium hexafluoride and silicon, as well as an arc melter for fabrication of uranium-based intermetallic compounds. An inert

**Equipment will be installed at NNL's laboratory in Preston, including a purpose-built rig to enable studies of the reaction between uranium hexafluoride and silicon, as well as an arc melter for fabrication of uranium-based intermetallic compounds. An inert glovebox fuel line will also be set up containing grinding and milling equipment, a press and furnace, to enable pellet fabrication suitable for use in test reactor irradiations.**

glovebox fuel line will also be set up containing grinding and milling equipment, a press and furnace, to enable pellet fabrication suitable for use in test reactor irradiations. The grant to the University of Manchester will enable work on advanced ceramic composite claddings which it claims could offer great potential to improve the temperature capabilities of nuclear fuel.

NNL said that fuels are being developed with the aim of not only enhancing safety performance, but also to improve the economics and efficiency of existing and future reactors, including some designs of small modular reactors. In particular, it said, fuel materials with higher density and thermal conductivity - such as uranium nitrides and silicides - are being considered as potential replacements for uranium oxide. The new capabilities will "allow the scalability of manufacturing processes to be assessed as well as providing a test bed for the investigation of promising advanced fuel fabrication techniques, such as spark plasma sintering and additive manufacturing," NNL said. It noted that facilities are also being developed to characterise novel accident tolerant fuel (ATF) materials.

Research into ATF has been identified as a high priority by the UK government's independent

advisory board on civil nuclear energy research, the Nuclear Innovation and Research Advisory Board. Work on nuclear fuels research and development is carried out through the Nuclear Fuel Centre of Excellence (NFCE), launched jointly by the University of Manchester and NNL last October. Access to the new equipment will also be available to researchers from outside the NNL through funded research programs facilitated by the NFCE.

Source: <http://www.world-nuclear-news.org/>, 07 August 2015.

## **NUCLEAR COOPERATION**

### **CHINA–USA**

#### **US-China Nuclear Agreement Passes Congressional Review**

An agreement allowing American involvement in China's civilian atomic industry is set to be renewed for 30 years despite some stiff criticism from lawmakers over the Asian nation's record on nuclear proliferation. A 90-day congressional review period expired on 31 August without legislative action or a joint resolution to block or alter the agreement. The State Department said that the US and China will decide "a suitable time in the near future" when the agreement will enter into force. The current 30-year agreement expires at the end of 2015. The Obama administration had warned that ending US-China nuclear cooperation would be devastating to the US nuclear industry and would hurt bilateral relations and diminish American leverage on non-proliferation and nuclear safety.

China has the world's fastest-growing atomic industry. Four American-designed reactors worth \$8 billion are under construction in China, and dozens more are planned or proposed that, industry advocates say, could support tens of

thousands of US jobs. Daniel Lipman, vice president at the Nuclear Energy Institute, said on 03 August, he was pleased the agreement is "almost complete." He said China will be the single largest market for US nuclear technology, goods and services for the foreseeable future. Both Republicans and Democrats, particularly in the Senate, had aired concerns that US civilian nuclear technology may have been adapted for use in Chinese nuclear submarines, which is forbidden by the agreement. ... Republican Sen. Rubio of Florida, a 2016 presidential hopeful, had co-sponsored a resolution in July seeking to block the agreement, but it failed to galvanize action....

Source: <http://economictimes.Indiatimes.com/>, 04 August 2015.

### **INDIA–RUSSIA**

#### **Russia May Build a Nuclear Plant in Andhra Pradesh**

India is in talks for a new location, possibly within the new state of Andhra Pradesh, where it could build a new nuclear plant with Russian assistance.... "Discussions between DAE and the Government of Andhra Pradesh for location of the second Russian technology based LWR NPP are at an advanced stage," a source in the Department said. The Indian Government has apparently accorded "In-principle" approval for setting up of nuclear power reactors with international technical co-operation with the US at Kovvada (Srikakulam District) in Andhra Pradesh. "At present, the pre-project activities comprising of Land Acquisition, Environmental Clearance by Ministry of Environment and Forests (MoEF), geo-technical and other scientific studies for regulatory clearances are in progress at the site," officials said.

During his visit to New Delhi on December 11, 2014, President Putin signed a document defining

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plans for Russia to assist in building at least 12 NPPs in India. Recently the *Indian Express* reported that Russia has proposed a plan to involve India in building Russian-designed NPPs in third countries. According to the newspaper, the cooperation is to be extended also to the area of joint extraction of natural uranium and the production of nuclear fuel and atomic waste elimination. "Russia has also offered to build over 20 nuclear power units in India, up from the 12 offered earlier", it added. It also quotes a high-level source, saying that Moscow saw it as "long-term, mutually beneficial cooperation" in the nuclear sector.

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A government source of RIR has confirmed that such negotiations have taken place, and added that this could lead to "joint construction of power stations and other aspects of cooperation, including the training of personnel in other Asian countries, including Bangladesh, Vietnam, and Sri Lanka". "This, in particular, is due to logistical issues. New Delhi is much closer to these countries than is Moscow. ...

Source: <http://in.rbth.com/economics/>, 27 July 2015.

## **RUSSIA-EGYPT**

### **Russia, Egypt to Sign a Second Bilateral Agreement for NPP Construction in Egypt**

A new intergovernmental agreement on a planned NPP construction project in Egypt is almost ready for signing, Russian PM Medvedev said.... A package of relevant contracts is already being prepared and is expected to be signed this autumn, Medvedev added. An NPP development project was signed between the two countries on February 10 during Russian President Putin's visit to Egypt. Medvedev noticed that "Technical

specifications and the number of nuclear power units, as well as the key commercial terms, have been agreed upon. They will be included in a new intergovernmental agreement, which is almost ready for signing". He expressed hope that the document will be signed during the next bilateral meeting at the highest level.

Medvedev also noted that both countries' respective FM's "are conducting intensive consultations on an intergovernmental agreement, which will make a Russian government loan available to Egypt". He added that Russia can provide Egypt with the latest power units equipped with the safety systems that were developed following the Fukushima-1 accident. The same Russian projects are built in many countries (e.g. Iran, India, China and others). According to Russian PM, the joint project will create thousands of jobs for Egyptians, who will also have the opportunity to get "academic and hands-on training" at Russian nuclear facilities. Medvedev highlighted that there are about 50 Egyptian students who will start training at Russian universities in various professions this year already. ...

Source: <http://www.thehansIndia.com/>, 07 August 2015.

## **NUCLEAR NON-PROLIFERATION**

### **INDIA**

#### **India's 'Substantial Sacrifice' in Backing Sanctions Helped Seal Iran Nuclear Deal**

Acknowledging India's "substantial sacrifice" in backing the sanctions regime against Iran, the White House has again warned that if the

Republican-controlled Congress unilaterally kills the Iran nuclear deal, it would greatly damage America's standing. "No longer would countries like India, who have been making a substantial sacrifice over the years, have any interest or incentive to continue to enforce those sanctions against Iran," White House press secretary Josh Earnest told reporters on Friday.

Indian leaders had agreed to curtail the import of oil from Iran making an "economic sacrifice" and backed the sanctions against Tehran to advance US effort to prevent Iran from obtaining a nuclear weapon through diplomacy, he said. "In essence ...countries like India had agreed that they would take these steps, even at their own expense, to try to reach this broader international agreement," he said. Earnest recalled that when the sanctions were originally put in place, US officials travelled around the world "including to India, sat down with the Indian government and asked them to curtail the amount of Iranian oil that they imported into the country". "And we acknowledged in the context of those discussions that this would be an economic sacrifice that the people of India and that the economy of India would have to make," he said.

"But Indian leaders agreed to it by saying that this is something that they were willing to do if they can advance our effort to prevent Iran from obtaining a nuclear weapon through diplomacy," Earnest said. "And the good news is that that agreement has been reached. And it is an agreement that is supported by the international community - 99 percent of the world as the President (Barack Obama) has

described it," Earnest said. "And that's why it would be so damaging to the standing of the United States for the United States Congress to act unilaterally to kill this deal," he said.

"No longer would countries like India, who have been making a substantial sacrifice over the years, have any interest or incentive to continue to enforce those sanctions against Iran," Earnest said. "There is no basis, there is no credible claim for why they would be

willing to do that," he said. "And there is no denying the significant negative impact on United States credibility for the United States to be isolated in this way." "That's why the president has said if Congress were to move forward to kill this deal or kill this agreement, it would, in fact, yield a better deal for Iran," Earnest said.

"Because what we would see is that Iran would get sanctions relief; they would have the ability to sell oil to India and get the proceeds of doing so...without having to submit to the most intrusive

set of inspections that have ever been imposed on a country's nuclear programme," he said. "That's why I've long said that the case before Congress is that Iran is going to get sanctions relief," Earnest said. ...

*Source: The Times of India, 08 August 2015.*

### **29 Top US Scientists Support Iran Nuclear Deal in a Letter to Obama**

Twenty-nine of the nation's top scientists – including Nobel laureates, veteran makers of nuclear arms and former White House science advisers – wrote to President Obama on

**Indian leaders had agreed to curtail the import of oil from Iran making an "economic sacrifice" and backed the sanctions against Tehran to advance US effort to prevent Iran from obtaining a nuclear weapon through diplomacy. In essence ...countries like India had agreed that they would take these steps, even at their own expense, to try to reach this broader international agreement.**

**Twenty-nine of the nation's top scientists – including Nobel laureates, veteran makers of nuclear arms and former White House science advisers – wrote to President Obama on 08 August to praise the Iran deal, calling it innovative and stringent. The letter, from some of the world's most knowledgeable experts in the fields of nuclear weapons and arms control, arrives as Obama is lobbying Congress, the US public and the nation's allies to support the agreement.**

08 August to praise the Iran deal, calling it innovative and stringent. The letter, from some of the world's most knowledgeable experts in the fields of nuclear weapons and arms control, arrives as Obama is lobbying Congress, the US public and the nation's allies to support the agreement. The two-page letter may give the White House arguments a boost after the blow Obama suffered on 06 August when Sen. Schumer, D-N.Y., one of the most influential Jewish voices in Congress, announced he would oppose the deal, which calls for Iran to curb its nuclear program and allow inspections in return for an end to international oil and financial sanctions.

The first signature on the letter is from Richard L. Garwin, a physicist who helped design the world's first hydrogen bomb and has long advised Washington on nuclear weapons and arms control. He is among the last living physicists who helped usher in the nuclear age. Also signing is Siegfried S. Hecker, a Stanford professor who, from 1986 to 1997, directed the Los Alamos weapons laboratory in New Mexico, the birthplace of the bomb. The facility produced designs for most of the arms now in the nation's nuclear arsenal. Other prominent signatories include Freeman Dyson of Princeton, Sidney Drell of Stanford and Rush D. Holt, a physicist and former member of Congress who now leads the American Association for the Advancement of Science, the world's largest general scientific society.

Most of the 29 who signed the letter are physicists, and many of them have held what the government calls Q clearances – granting access to a special category of secret information that bears on the design of nuclear arms and is considered equivalent to the military's top secret security clearance. Many of them have advised Congress, the White House or federal agencies over the decades. For instance, Hippel, a Princeton physicist, served as assistant director for national security in the White House Office of Science and Technology Policy during the Clinton administration. The five Nobel laureates who signed are Leon N. Cooper of Brown University; Sheldon L. Glashow of Boston University; David Gross of the University of California, Santa

Barbara; Burton Richter of Stanford; and Frank Wilczek of the Massachusetts Institute of Technology.

The letter uses the words "innovative" and "stringent" more than a half-dozen times, saying, for instance, that the Iran accord has "more stringent constraints than any previously negotiated non-proliferation framework." "We congratulate you and your team," the letter says in its opening to Obama, adding that the Iran deal "will advance the cause of peace and security in the Middle East and can serve as a guidepost for future non-proliferation agreements." In a technical judgment that seemed more ominous than some other assessments of Tehran's nuclear capability, the letter says that Iran, before curbing its nuclear program during the long negotiations, was "only a few weeks" away from having fuel for nuclear weapons.

The body of the letter praises the technical features of the Iran accord and offers tacit rebuttals to recent criticisms on such issues as verification and provisions for investigating what specialists see as evidence of Iran's past research on nuclear arms. It also focuses on whether Iran could use the accord as diplomatic cover to pursue nuclear weapons in secret. The deal's plan for resolving disputes, the letter says, greatly mitigates "concerns about clandestine activities." It hails the 24-day cap on Iranian delays to site investigations as "unprecedented," adding that the agreement "will allow effective challenge inspection for the suspected activities of greatest concern."

It also welcomes as without precedent the deal's explicit banning of research on nuclear weapons "rather than only their manufacture," as established in the 1968 NPT, the top arms-control agreement of the nuclear age. The letter notes criticism that the Iran accord, after 10 years, will let Tehran potentially develop nuclear arms without constraint. "In contrast," it says, "we find that the deal includes important long-term verification procedures that last until 2040, and others that last indefinitely."

*Source: <http://www.theday.com/>, 08 August 2015.*

NUCLEAR TERRORISM

ISRAEL

Open Confession to State Terrorism

In an interview with the German magazine *Der Spiegel* published on 08 August, Israeli war minister Moshe Yaalon has said that he bore no responsibility "for the life expectancy of Iranian scientists". The remarks were a plain confession that Israel's intelligence services were behind the serial killings of Iranian nuclear scientists and that it plans to continue its vicious acts. It is necessary that the UNSC, without any delay, respond strongly to such extremely shameful remarks and officially declare Israel as a terrorist regime. Yaalon said, "Ultimately it is very clear, one way or another, Iran's military nuclear program must be stopped." He also said the only effective strategy against Iran would be to leave Iran with a choice – either it acquires nuclear weapons or it is permitted to survive.

Though these remarks are clearly a sign of disappointment by ultra-hardliners in Israel who are extremely angry over the Iran nuclear deal it is the responsibility of the international community to strongly condemn such open and vulgar threats. It is no surprise that Israel has been talking irresponsibly, irrationally and acting savagely throughout its nearly 70-year old history but it is the inaction of the international community which has emboldened this regime to shamelessly signal that it seeks to kill more Iranian scientists. ...

Source: <http://www.tehrantimes.com/>, 09 August 2015.

NUCLEAR SAFETY

CANADA

Nordion Fire 'Non-Radiological' Says Canadian Nuclear Safety Commission

The Canadian Nuclear Safety Commission says 06 August morning's fire at the Nordion complex in Kanata was a "non-radiological event." The Commission says there were no injuries, and no

impact to the safety of workers, the public, or to the local environment, but an inspector will be monitoring the situation. Nordion processes nuclear substances, called radioisotopes, for medical and industrial applications. The call for the fire came in around 10:23 a.m. and the building was evacuated. Ottawa Firefighters located a fire on the roof and quickly put it out. The Commission adds the fire will be discussed at a Commission hearing on August 19.

Source: <http://www.cfra.com/>, 06 August 2015.

CHINA

Public to Get a Say on Nuclear Plants: Official

The new nuclear security law will allow the public to have a say on whether a nuclear plant should be built, an official from the NEA told media on 08 August. The draft nuclear security law will be submitted to China's top legislator for review in the middle of 2016, the China Business Journal newspaper reported on 08 August. The law stipulates that the public would participate in planning and approval of the establishment of nuclear plants, according to the report. "If the public disagrees, a nuclear plant will definitely not be built," it cited an unnamed staff at the NEA as saying. The law would also specify compensation for damages in nuclear accidents, said the report.

Local officials and related parties would be invited to visit the existing plants. Information about construction projects will also be posted online, the report noted. The voices from grass-roots on environment and safety evaluation would be heard in the monitoring of nuclear and radiation safety, said Xu Jianping, the chief engineer at a regional branch of the Ministry of Environmental Protection. The National People's Congress, China's top legislature, put the nuclear security law onto its legislative agenda in 2013 and a first version of the draft was finished for review by the NPC in 2014, the staff said.

China now has a set of regulations and guidelines in accordance with international standards on nuclear safety, but lacks a set of specified laws on nuclear development. The Nuclear Security Law

Israeli war minister Moshe Yaalon has said that he bore no responsibility "for the life expectancy of Iranian scientists". The remarks were a plain confession that Israel's intelligence services were behind the serial killings of Iranian nuclear scientists and that it plans to continue its vicious acts.

might fill the gap," an unnamed source who reportedly participated in the drafting of the nuclear security law told the [eeo.com.cn](http://www.eeo.com.cn). ...

Source: <http://www.ecns.cn/>, 10 August 2015.

## **UK**

### **Sellafield Ordered to Improve after Safety Breaches**

Inspectors have taken action following safety breaches at Sellafield. The Office for Nuclear Regulation served Sellafield Ltd with an Improvement following a number of incidents at a reprocessing plant on the site. ONR inspectors took action following safety breaches at the Magnox Reprocessing Separation Plant. Whilst Sellafield Ltd was proactive in identifying some of the problems, ONR decided it was necessary to issue the Improvement Notice. The main area of concern was a failure to follow operating instructions, which are measures in place to keep the plant safe. Although no harm or release of radioactivity occurred, the ONR says that these incidents compromised nuclear safety. A statement from the ONR said: "Sellafield Ltd acknowledges the importance of good conduct of operations and was already developing a programme of improvements prior to this Improvement Notice being served. "ONR welcomes this strong commitment to improve standards at the Magnox Reprocessing Separation Plant." Sellafield Limited has until 30 September 2016 to complete the necessary improvements.

Source: <http://www.in-cumbria.com/>, 03 August 2015.

## **UKRAINE**

### **Ukraine Aims to Complete Safety Upgrade Program in 2020**

Energoatom has postponed the completion target date for its program to improve the safety of its NPPs from 2017 to the end of 2020. The Ukrainian NPP operator said the postponement is due to the

delayed entry into force of two €300 million (\$327 million) loan agreements following a change of government in Ukraine. Signed in August 2013 and ratified by the Ukrainian parliament, the Verkhovna Rada, in May 2014, the agreements with the European Bank for Reconstruction and Development (EBRD) and Euratom finally entered into force on 19 December 2014 and 28 May 2015, respectively. The *UNIAN* news agency reported that the change in schedule was announced by Plachkov, Energoatom's deputy director of investment and long-term development, at a meeting of the state-run company's Friendly Nuclear UA community.

**The main area of concern was a failure to follow operating instructions, which are measures in place to keep the plant safe. Although no harm or release of radioactivity occurred, the ONR says that these incidents compromised nuclear safety.**

The total cost for the program to bring all of Ukraine's 15 operating nuclear reactors into line with both international standards and local regulations is estimated at €1.4 billion (\$1.8 billion). Plachkov noted that the total amount of the loan is the largest in the history of the Ukrainian energy sector. The project will cover up to 87 different safety measures at plants that the EBRD has said do not currently meet international standards. Depending on the individual plant, measures will address design safety issues comprising the replacement of equipment in safety relevant systems, improvements of instrumentation and control for safety relevant systems and the introduction of organisational improvements for accident management. Further measures will be added to the evolving program if and when new issues are identified, in particular as a result of the post-Fukushima EU stress tests in which Ukraine participated voluntarily.

**The total cost for the program to bring all of Ukraine's 15 operating nuclear reactors into line with both international standards and local regulations is estimated at €1.4 billion (\$1.8 billion). Plachkov noted that the total amount of the loan is the largest in the history of the Ukrainian energy sector. The project will cover up to 87 different safety measures at plants.**

The upgrade program takes into account IAEA recommendations and has been reviewed by Ukraine's nuclear regulator with assistance from the European Commission to ensure internationally acceptable safety levels. Energoatom is "constantly" working on projects to improve the safety of its plants, Plachkov stressed. "This process is permanent, we never

stop improving safety and work on it every day. It is our duty as a licensee of nuclear installations." Ukraine has four NPPs with 15 units in operation.

Source: <http://www.world-nuclear-news.org/>, 07 August 2015.

## **USA**

### **US Ratifies Key Nuclear Security Amendment**

The US on 31 July formally ratified the Amendment to the CPPNM, a move welcomed by IAEA Director General Amano as "an important step to bolster nuclear security around the world." Two-thirds of the 151 States Parties to the Convention must adhere to the Amendment for it to enter into force. Adherence by 14 more States Parties is still needed for the Amendment to take effect. "The adoption of the Amendment to the CPPNM is the single most important step the international community can take to strengthen nuclear security globally," Amano said.... "The ratification of the Amendment by the USA brings this vital tool a step closer to coming into force."...The USA's ratification of the Amendment follows that of Italy and Turkey, which submitted their instruments to the IAEA on 8 July 2015.

Source: <http://www.rttnews.com/>, 31 July 2015.

## **USA**

### **Public Debates Diablo Canyon License Renewal**

The Nuclear Regulatory Commission heard public comment in San Luis Obispo about the environmental risks that could affect the relicensing of Diablo Canyon NPP. In 2009, Pacific Gas and Electric Co. applied to renew its license to operate Diablo Canyon. PG&E sought to extend its license 20 years until 2044 and 2045. But, in 2011, PG&E paused the license renewal process to evaluate seismic concerns at Diablo Canyon. The NRC has since resumed the renewal process. PG&E officials say they still have not determined how the company will proceed, and they are continuing to consider feedback on seismic research. Environmental groups, including San Luis Obispo Mothers for Peace, have already mounted opposition to the renewal of PG&E's license.

On 05 August, the NRC held two public hearings

at the Courtyard Marriot in San Luis Obispo. Public speakers included legendary musician David Crosby and SLO County Supervisor Lynn Compton. Crosby said the nuclear plant is unsafe and should

be shut down. Compton spoke in support of Diablo Canyon, saying nuclear energy is the leading producer of clean energy. The NRC is still taking public comment on the license renewal issue. Members of the public can comment in person, by mail or online at [regulations.gov](http://regulations.gov) until August 31.

Source: <http://calcoastnews.com/>, 06 August 2015.

**The French government seems to have its sights set on Bure, a town in eastern France, around 120 km (74 miles) from the German border. There, scientists have spent years investigating whether highly and moderately radioactive waste can be disposed of 500 meters underground.**

## **NUCLEAR WASTE MANAGEMENT**

## **FRANCE**

### **French Nuclear Waste Plan Irks Germans Near Site**

France wants to build a permanent nuclear waste storage facility not far from the German border. The plan has irked many in the region, but the government in Berlin sees no need for action. ... Even Germany, which is set to phase out nuclear power, is looking for a final repository for its spent nuclear fuel, but has not yet decided on the location. Finding a geologically suitable site is not the problem, but rather, the protests over the location. Nobody wants to live with a nuclear waste dump at their doorstep. For many decades, France has focused and relied on nuclear power, and now, plant operators are under pressure to find repositories for the radioactive waste.

The French government seems to have its sights set on Bure, a town in eastern France, around 120 km (74 miles) from the German border. There, scientists have spent years investigating whether highly and moderately radioactive waste can be disposed of 500 meters underground. ANDRA, the French national agency for radioactive waste, believes that Bure offers what a repository requires: Nuclear waste can be stored there for 100 years; then, the site can be closed off....

**'Unbearable Coup':** Opponents of the site feel less bothered by the repository itself than by the decision-making process that led to choosing it. In mid-July, the government added a last minute

clause to a legislative package promoting business development but did not hold a debate or vote in parliament. And since no other potential nuclear waste sites have been explored in France, critics believe that the Bure location was practically predetermined. The Green party group in the French national assembly calls the procedure an "unbearable coup," while the nation's nuclear regulatory body and the French Institute for Radiological Protection and Reactor Safety (IRSN) have expressed "numerous reservations" about the plans.

The French Greens see eye to eye with their political counterparts on the German side of the border – actually, with almost all the political parties in Germany. The German Social Democrat MEP, Jo Leinen, criticizes the fact that parliament was bypassed, saying it "contradicts all the rules of transparency and good neighborly relations." A storm of protest has been unleashed in the German state of Saarland, which is situated 150 kilometers away from Bure: the entire state government openly rejects Bure as a nuclear waste disposal site.

In light of the massive criticism, the French national agency for nuclear waste now makes a point of promoting transparency. On its website, the organization writes, "In the spirit of openness

and exchange, ANDRA would like to open a dialogue with all people affected." ANDRA has even organized guided tours to the site – each year, it receives 100,000 visitors. No signs of resistance can be seen in the small town, which comes as no surprise, considering the fact that the repository will create jobs in the economically weak area.

**German, French Approaches Differ:** This is where the great divide between the German and French mentalities has become clear. ...Only recently have the French decided to adjust their policy by slightly reducing nuclear energy output and promoting electricity from renewable sources and energy conservation. Even if the French went for a radical shift in nuclear policy, radioactive waste would still be produced for a long time and emit radiation for an even longer period of time. So a repository for nuclear waste is still necessary. Whether the repository is situated on the French Atlantic coast or near the German border, protests are of no avail, as the German government points out that it is France's prerogative. ... The German government has succinctly stated that the location of the French repository for nuclear waste lies solely within the French government's jurisdiction.

*Source: <http://www.dw.com/>, 04 August 2015.*



Centre for Air Power Studies

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Centre for Air Power Studies

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Arjan Path, Subroto Park,

New Delhi - 110010

Tel.: +91 - 11 - 25699131/32

Fax: +91 - 11 - 25682533

Email: [capsnetdroff@gmail.com](mailto:capsnetdroff@gmail.com)

Website: [www.capsindia.org](http://www.capsindia.org)

**Edited by: Director General, CAPS**

**Editorial Team: Hina Pandey, Arjun Subramanian P, Chandra Rekha, Manisha Chaurasiya**

**Composed by: CAPS**

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