



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

Vol 09, No. 19, 01 AUG. 2015

OPINION – Srinath Raghvan

Making Sense of the Iran Nuclear Deal

The nuclear deal between Iran and the Western powers could lead to some major changes in the geopolitics of West Asia. Even though there remains fairly strong domestic opposition to the deal in both camps, the historically important strategic location of Iran makes this deal eminently justifiable for all parties. However, the consequences for India could be mixed, as it neglected strengthening its relations with Iran when the window of opportunity was open the widest.

The recently concluded international agreement on the Iranian nuclear programme is likely to have far-reaching implications for West Asia. The agreement caters for sharp limits on Iran's nuclear activities, while progressively lifting the multilateral and bilateral sanctions imposed on the country. Iran will be allowed to enrich uranium, but only to a low level that is far below weapons-grade enrichment. It will have to forego most of its enriched uranium besides reducing the number of operational centrifuges and refraining from upgrading the centrifuges. The Arak research reactor will be modified to prevent production of plutonium for a nuclear weapon and technology relating to bomb design will be off limits. Iran's nuclear activities

Even though there remains fairly strong domestic opposition to the deal in both camps, the historically important strategic location of Iran makes this deal eminently justifiable for all parties. However, the consequences for India could be mixed, as it neglected strengthening its relations with Iran when the window of opportunity was open the widest.

will also be under a stringent monitoring and verification regime. All in all, the deal seeks to ensure that Iran cannot reach the threshold of nuclear weapons for at least 15 years. Further, the international embargo on arms will remain in place for five years and sanctions on missiles for eight years.

The agreement comes at the end of a long and tortuous process of negotiations. The US embarked on this road owing to the realisation that its long-standing policy of international isolation, containment and sanctions on Iran was incapable of preventing Iran from acquiring nuclear weapons capability. Equally, exercising military options to strike at Iranian nuclear facilities

CONTENTS

- ☞ OPINION
- ☞ STATEMENT
- ☞ INTERVIEW
- ☞ NUCLEAR STRATEGY
- ☞ BALLISTIC MISSILE DEFENCE
- ☞ NUCLEAR ENERGY
- ☞ NUCLEAR COOPERATION
- ☞ URANIUM PRODUCTION
- ☞ NUCLEAR PROLIFERATION
- ☞ NUCLEAR NON-PROLIFERATION
- ☞ NUCLEAR SAFETY
- ☞ NUCLEAR WASTE MANAGEMENT

would not only be costly but counterproductive. The Iranians, for their part, made several important concessions from their own stated positions, including on a host of issues that had not been resolved in the interim agreement reached in November 2013.

The road ahead for both countries will be rocky as well. The Republicans have already attacked US President Barack Obama for having caved in. Israel's Prime Minister Benjamin Netanyahu has denounced the accord and will undoubtedly crank the Israel lobby in the US into action to mobilise domestic opposition. In Iran, too, conservative clergy and nationalist hardliners are likely to circle their wagons against the concessions made. Domestic reaction in the US and Iran as well as attempts by the governments to respond to them will fuel opposition in both countries.

President Obama has made it clear that he will strike down any attempt by the US Congress to block the agreement. At the same time, his administration has been at pains to present the deal as narrowly focused on nuclear issues and as not presaging a wider rapprochement with Iran. This is entirely understandable. Couching the agreement in these terms is at once technically correct and politically expedient. It could take the sting out of Republican overreaction to the deal and limit potential political costs for the Democrats. Simultaneously, it is aimed at reassuring US allies in the region—not only Israel but also the Gulf kingdoms. Saudi Arabia has for several years been as concerned as Israel about the prospect of Iran going nuclear. A US diplomatic cable of 2008 accessed by WikiLeaks famously quoted the Saudis as calling on the Americans to eschew negotiations and to “cut off the head of the snake.”¹ Yet the very extent of Israeli and Saudi opposition underscores the fact that any such agreement will have wider regional ramifications.

Regional Power: The fundamental point is that Iran has always potentially been the most important

regional power. For one thing, it has a unique geopolitical location owing to its reach in Central Asia and the Caucasus as well as in West Asia and the Persian Gulf. Owing to its geography, Iran was historically an important arena of great power jostling for influence. From the turn of the 19th century to mid-20th century, the British and Russian empires vied for influence in Iran. Britain saw Iran as an important buffer state that held an expansionist Russia at a secure distance from the frontiers of its Raj. Controlling the Persian Gulf was also deemed critical to securing the sea lanes to India and ensuring that the Indian Ocean remained a British lake. The treaty of 1907 ushered in a détente between Britain and Russia and divided Iran into two informal spheres of influence:

The road ahead for both countries will be rocky as well. The Republicans have already attacked US President Barack Obama for having caved in. Domestic reaction in the US and Iran as well as attempts by the governments to respond to them will fuel opposition in both countries.

Russian to the north and British to the south. The country was accordingly occupied by the two powers during World War I. Following the Bolshevik Revolution, however, Russia and Iran concluded a separate treaty in 1921. The accord allowed Soviet forces to enter northern Iran, if any other power sent its troops to the southern part of the country.

During WW-II, the Soviet Union and Britain once again jointly occupied Iran: the Red Army to the north and the Indian Army to the south. By this time, Britain was also interested in the oilfields of southern Iran that were under joint Anglo-Iranian management. After the war the US supplanted Britain as Iran's main external patron, forcing out the Soviets from the country in 1946 and overthrowing an elected nationalist leader, Mohammad Mossadegh, seven years later. Under the reinstated Shah, Mohammad Reza Pahlavi, Iran became the stalwart US ally in West Asia. In the early 1970s, following the British naval withdrawal from east of Suez, the Shah became the main upholder of US interests in the Persian Gulf.

Following the revolution of 1979 Iran, of course, became beyond the pale for the US. In the 1980s, the Americans and their Arab allies supported the Iraqi aggression on Iran. In the following decades, the US sought to keep Iran out of all regional

initiatives, including the Palestinian peace process and the GCC. Yet, paradoxically, America's own regional policies ensured the resurrection of Iran's relative power and influence. The wars against Iraq in 1991 and in 2003 removed the strongest regional counterweight to Iran. During this period, Iran also began supporting dissident Palestinian groups such as the Hamas as well as anti-Israel outfits like the Hezbollah. It was in this context that the Israel and the Arab kingdoms grew anxious about Iran's growing regional heft—its alleged quest for nuclear weapons being merely a symptom of this larger issue.

Yet, paradoxically, America's own regional policies ensured the resurrection of Iran's relative power and influence. The wars against Iraq in 1991 and in 2003 removed the strongest regional counterweight to Iran.

Whether the nuclear accord prepares the ground for a wider Iranian role remains a key issue. Hitherto, the US has worked over time to ensure that Iran was not included in any security architecture in West Asia or the Gulf. Iran has been painted as a uniquely destabilising force in the region. To be sure, Iran has supported unsavoury regimes and terrorist groups—but so have most other countries in the region, including American allies. There is nothing to be gained by the continued refusal to accord Iran its legitimate place in the regional order. If anything, persisting with this policy will only harden Iran's resolve to play the spoiler. At the time of writing this, it is unclear whether President Obama can move ahead and take his diplomatic initiative towards Iran to its logical conclusion.

India may not find Iran very cooperative on issues such as access to Central Asia or Afghanistan. Why should Iran facilitate the projection of Indian influence in Central Asia when it can expand its own influence to those parts? Similarly, with the rise of the Islamic State and mounting turbulence in Iraq and Syria, Iran will want to keep its north-eastern frontiers stable. So, Tehran is likely to take a more positive view than India of the ongoing talks between the Afghan government and the Taliban.

Missed Opportunities: What about the implications of this deal for India? At one level, it will certainly work to India's advantage. The removal of sanctions could enable India to once again emerge as a major importer of Iranian oil. In the past few years, the American and European Union sanctions

had made it rather difficult to finance oil purchases from Iran. The closure of the Asian Clearing Union forced Iran to agree to a rupee payment mechanism for 45% of its oil exports to India. The refusal of shipping insurers to underwrite tankers carrying Iranian oil was another major problem. Above all, there was pressure from the US to scale down Indian imports from Iran. Concomitantly, there was a concern in New Delhi that violating American sanctions on Iran, which India did not officially adhere to, might attract indirect sanctions on Indian companies as well. The removal of these multiple constraints should naturally be welcome to India.

At another level, though, Iran might not be interested in according much priority to economic or strategic overtures from India. For a start, there is India's record of voting against Iran in the IAEA. Of course, New Delhi did this in order to stay on the right side of the US and secure its own entry into the international nuclear order. But Iran could hardly be expected to look upon this positively. Further, the nuclear deal opens up Iran to the West. European companies, in particular, are drooling at the prospect of resuming business with Iran. Tehran will have many more and more attractive options, for building economic ties than India.

Finally, India may not find Iran very cooperative on issues such as access to Central Asia or Afghanistan. Why should Iran facilitate the projection of Indian influence in Central Asia when it can expand its own influence to those parts? Similarly, with the rise of the Islamic State and mounting turbulence in Iraq and Syria, Iran will want to keep its north-eastern frontiers stable. So, Tehran is likely to take a more

positive view than India of the ongoing talks between the Afghan government and the Taliban, facilitated by Pakistan and supported by the US, China and Russia. Let us also not forget that in the past the Iranians have themselves worked with the Taliban.

In fact, the years of Iran's isolation were best suited for New Delhi to build a strategic relationship with Tehran. This was admittedly rather difficult during the tenure of the former Iranian President, Mahmoud Ahmadinejad. But part of the problem was also on the Indian side. Various parts of the Government of India seemed to pull in different directions when it came to Iran. The finance ministry slowed down the plans for development of Chabahar port, apparently insisting that there had to be a certain assured return on investment for the project. They were oblivious to the strategic import of the project, especially by way of providing access to Afghanistan.

The MEA also seems to have misjudged the situation. It worked on the assumption that the nuclear negotiations were merely a tactical ploy on the part of Tehran owing to immediate economic difficulties posed by the sanctions. The clerical system under the supreme leader was deemed to be implacably opposed to the US and unwilling to give up the nuclear option. The fact that Iran might be engaging in these negotiations to regain its legitimate place and role in the region appears to have been discounted. In any event, India's foreign ministry chose to wait and watch. This stance, reportedly, came under criticism from the then national security adviser, who was said to have pointed out that unless India moved quickly, the opportunity with Iran might close once the US and other Western countries came in after a nuclear deal. This is exactly the situation now confronting India. It remains to be seen if the government can make the best of the bad hand that it has been dealt.

Source: <http://www.epw.in/>, 25 July 2015.

OPINION – Ashley J. Tellis

A Decade of the Nuclear Deal

Ten years ago this day, on 18 July 2005, the US and India moved boldly to cement their bilateral relationship. President Bush and PM Singh issued a historic joint statement renewing civil nuclear

cooperation, eliminating the singular discord that had bedevilled mutual ties for over 30 years. Although it often appears as if the 18 July 2005 initiative inaugurated this fresh start, in reality, it only capped a deeply transformative phase of bilateral cooperation that had begun earlier under PM Atal Bihari Vajpayee—and which reached its apotheosis during Bush's first term.

During this period, it was India that had seized the initiative to boldly support the US. By endorsing Bush's plans for deep nuclear reductions and missile defence, offering Indian military facilities for the US campaign in Afghanistan, refusing to lead the international chorus of opposition to the US war in Iraq, and coming close to contributing even an Indian Army division for post-conflict stabilization in Iraq, Vajpayee demonstrated that New Delhi could behave as Washington's "natural ally" because it served, first and foremost, India's own deepest national interests.

What Condoleezza Rice would declare to be India's willingness to "think differently", then, laid the foundations for closing the deal that was finally announced a decade ago today. Although Vajpayee was not in office to enjoy the full fruit of what his courage had begotten, it was appropriate that Singh should have been the beneficiary of his legacy because he too viewed the US as India's true and most valuable friend.

That his government, his party, and sometimes his own diffidence, came in the way of demonstrating this sentiment as boldly as Vajpayee had done before—and as PM Narendra Modi does now—does not change the fact that his acceptance of the US offer on 18 July 2005 codified the transformation in bilateral ties indelibly and for a startled world to see.

US-India ties since then have progressed so dramatically that it is often easy to forget the recrimination that dominated bilateral encounters since 1974. Yet, amid the amity that now characterizes the relationship, it is often charged, both in Washington and New Delhi, that the deal has turned out to be the breakthrough that wasn't.

This accusation is astounding—and wrong. First, the deal revolutionized the terms of engagement between the US and India. Prior to 18 July 2005,

New Delhi was the principal target of a dense global nuclear non-proliferation regime erected and managed by the US. India was the example to be made of for any future state seeking to develop nuclear weapons: it was subjected to continuous diplomatic haranguing, denied access to all high-technology goods of strategic import and treated as an outcast in all the international regimes that regulated trade in controlled commodities. The nuclear deal transformed India overnight from being a target of this determined American non-proliferation policy to becoming a partner in US's larger geopolitical endeavours. As a result, New Delhi today can contemplate admittance to the very cartels that penalized it for many decades, but, more importantly, also be endorsed by Washington as the linchpin of its strategy for preserving peace and security throughout the Indo-Pacific.

The nuclear deal transformed India overnight from being a target of this determined American non-proliferation policy to becoming a partner in US's larger geopolitical endeavours. As a result, New Delhi today can contemplate admittance to the very cartels that penalized it for many decades, but, more importantly, also be endorsed by Washington as the linchpin of its strategy for preserving peace and security throughout the Indo-Pacific.

Second, the nuclear deal bailed out India's indigenous nuclear programme. Ever since its founding, this programme has been one of the three crown jewels in India's effort to domesticate advanced technology for defence and development. For all its achievements, however, India's nuclear reactors were running out of fuel at the turn of the century, thanks partly to New Delhi's enforced isolation from international nuclear commerce. At the time of the deal's announcement, 11 of India's 17 nuclear power reactors were operating below capacity, with load factors reportedly ranging from

At the time of the deal's announcement, 11 of India's 17 nuclear power reactors were operating below capacity, with load factors reportedly ranging from 23% to 68%. The overall capacity utilization for India's nuclear power plants then was an abysmal 50%. Since receiving fuel supplies from abroad—a key benefit of the nuclear deal—capacity utilization in 2014 shot up to 82%.

23% to 68%. The overall capacity utilization for India's nuclear power plants then was an abysmal 50%. Since receiving fuel supplies from abroad—a key benefit of the nuclear deal—capacity utilization in 2014 shot up to 82%, consistent with the global average. The ability to import fuel, components and even complete nuclear reactors if desired has rescued India's nuclear programme from the jaws of death. And its entry into advanced global research and development initiatives, such as the ITER, provide the assurance that it will stay au courant with cutting-edge innovations for a long time to come.

Third, the nuclear deal paved the way for altering India's status in the US export control system. The US's opposition to India's nuclear programme ever since its 1974 nuclear test resulted in the progressive tightening of its export control regime, which regulates all nuclear resources, dual-use commodities of strategic import and advanced weapon systems and components. This regime, which Indian commentators loosely refer to as "technology sanctions", was aimed not simply at denying India the capacity to build nuclear weapons and delivery systems but rather at choking its entire nuclear industry, stifling its ability to incorporate any controlled dual-use item even in purely civilian applications and denying it advanced arms because of the challenge posed by India to US interests. The conclusion of the nuclear deal altered these traditional US policy objectives. The vast majority of US advanced technology exports to India presently do not require a licence. US

This regime, which Indian commentators loosely refer to as "technology sanctions", was aimed not simply at denying India the capacity to build nuclear weapons and delivery systems but rather at choking its entire nuclear industry, stifling its ability to incorporate any controlled dual-use item even in purely civilian applications and denying it advanced arms because of the challenge posed by India to US interests. The conclusion of the nuclear deal altered these traditional US policy objectives. The vast majority of US advanced technology exports to India presently do not require a licence. US

majority of US advanced technology exports to India presently do not require a licence. US

imports of high technology from India have, in fact, more than doubled since 2005, while exports to India have almost tripled since then.

By treating India now as aligned, even if not allied, with the US, the Barack Obama administration has changed India's standing in the US export control system to further accelerate New Delhi's access to those technologies that eluded it for the past 30 years. If the nuclear deal has thus been a spectacular success on three counts, it is only on the fourth count—the sale of foreign reactors to India—that progress has been slower than desirable.

In fairness, however, reactor acquisition decisions are slow almost everywhere and, in any case, the nuclear deal was never principally about selling reactors to India. How that became the storyline is another story. But until that tale is told, what bears repeating is that the nuclear deal was never aimed at securing quid pro quos from India. It was never meant to be transactional, only transformative. It was conceived and implemented as an American investment in enabling India's rise as a global power. And because it has already made remarkable contributions towards that end—even if it is still batting only three out of four—both sides can, with great satisfaction, say "what a deal!"

Source: <http://www.livemint.com/>, 18 July 2015.

STATEMENT – John Kerry, Secretary of State, USA

Iran Nuclear Agreement: The Administration's Case

...We genuinely appreciate the opportunity to be here to frankly clear up a lot of misinterpretation, some element of public distortion that exists out there... there are conclusions that have been drawn that just don't, in fact, match with the

reality of what this deal sets forth....

We are convinced that the plan that we have developed with five other nations accomplishes ...close off the four pathways to a bomb.... The

We were crystal clear that we would not accept anything less than a good deal, one that would shut off all of those pathways towards fissile material for a nuclear weapon. And after 18 months of very intensive talks, accomplishes that.

Treasury Department's knowledge of the sanctions and application of the sanctions has been exemplary, and they helped us understand the implications of all of these sanctions. And as Jack will let you know, we're not talking about 150 billion, we're not talking about 100 billion; we're actually

talking about \$55 billion that will go to Iran, and we'll go into that later.

But from the day that our negotiations began, Mr. Chairman, we were crystal clear that we would not accept anything less than a good deal, one that would shut off all of those pathways towards fissile material for a nuclear weapon. And after 18 months of very intensive talks, the facts are pretty clear that the plan announced in July by six nations, in fact, accomplishes that.

Iran will ratify prior to the conclusion of the agreement and with – if they don't it's a material breach of the agreement – to ratify the Additional Protocol, which requires extensive access as well as significant additional transparency measures.

...So under the terms of this agreement, Iran has agreed to remove 98 percent of its stockpile of enriched uranium, dismantle two-thirds

of its installed centrifuges, and destroy – by filling it with concrete – the existing core of its heavy water plutonium reactor. Iran has agreed to refrain from producing or acquiring highly enriched uranium and weapons-grade plutonium for nuclear weapons forever. Now, how do we enforce or verify so that that is more than words, and particularly to speak to the ranking member's question what happens after 15 years, what happens is forever we have an extremely rigorous inspection verification regime, because Iran has agreed to accept and will ratify prior to the conclusion of the agreement and with – if they don't it's a material breach of the agreement – to ratify the Additional Protocol, which requires

extensive access as well as significant additional transparency measures, including cradle-to-grave accountability for the country's uranium, from mining to milling through the centrifuge production to the waste for 25 years. Bottom line: If Iran fails to comply with the terms of our agreement, our intel community, our Energy Department which is responsible for nuclear weaponry, are absolutely clear that we will quickly know it and we will be able to respond accordingly with every option available to us today.

And when it comes to verification and monitoring, there is absolutely no sunset in this agreement – not in 10 years, not in 15 years, not in 20 years, not in 25 years. No sunset ever. Now remember, two years ago when we began these negotiations – and a lot of people are kind of forgetting conveniently sort of where we are today. People are sitting there saying, "Oh, my gosh, in 15 years this is going to happen," or whatever, Iran's going to have the ability to be a capable nuclear power. Folks, when we began our negotiations, we faced an Iran that was already enriching uranium up to 20 percent. They already had a facility built in secret underground in a mountain that was rapidly stockpiling enriched uranium. When we began negotiations, they had enough enriched uranium for 10 to 12 bombs already. Already they had installed as many as 19,000 nuclear centrifuges, and they had nearly finished building a heavy water reactor that could produce weapons-grade plutonium at a rate of one to two bombs per year.

Experts put Iran's breakout time when we began – which, remember, is not the old breakout time that we used to refer to in the context of arms control, which is the time to go have a weapon and be able to deploy it. Breakout time as we have applied it is extraordinarily conservative. It is the time it takes to have enough fissile material for one bomb, but for one potential bomb. It's not the amount of time to the bomb. So when we say

When we began negotiations, they had enough enriched uranium for 10 to 12 bombs already. Already they had installed as many as 19,000 nuclear centrifuges, and they had nearly finished building a heavy water reactor that could produce weapons-grade plutonium at a rate of one to two bombs per year.

Breakout time as we have applied it is extraordinarily conservative. It is the time it takes to have enough fissile material for one bomb, but for one potential bomb. It's not the amount of time to the bomb.

they'll have one year to a certain amount of fissile material, they still have to go design the bomb, test, do a whole bunch of other things. And I think you would agree no nation is going to consider itself nuclear capable with one bomb.

So if this deal is rejected, folks – by the way, we – that – the existing – when we started negotiations, the existing breakout time was about two months. We're going to take it to one year and then it tails down slowly, and I'll explain how that provides us with guarantees. But if this deal is rejected, we immediately go back to the reality I just described without any viable alternative, except that the unified diplomatic support that produced this agreement will disappear overnight.

Let me underscore, the alternative to the deal that we have reached is not some kind of unicorn fantasy that contemplates Iran's complete capitulation. I've heard people talk about dismantling their program. That didn't happen under President Bush when they had a policy of no enrichment, and they had 163 centrifuges. They went up to the 19,000. Our intelligence community confirms – and I ask you all to sit with them. They'll tell you that's not going to happen. So in the real world we have two options: Either we move ahead with this agreement to ensure that Iran's nuclear program is limited, rigorously scrutinized, and wholly peaceful; or we have no agreement at all, no inspections, no restraints, no sanctions, no knowledge of what they're doing, and they start to enrich.

Now to be clear, if Congress rejects what was agreed to in Vienna, you will not only be rejecting every one of the restrictions that we put in place – and by the way, nobody's counting the two years that Iran has already complied with the interim agreement, and by the way complied completely and totally, so that we've already rolled their program back. We've reduced their 20 percent enriched uranium to zero. That's already been

accomplished. But if this is rejected, we go back to their ability to move down that road. You'll not only be giving Iran a free pass to double the pace of its uranium enrichment, to build a heavy water reactor, to install new and more efficient centrifuges, but they will do it all without the unprecedented inspection and transparency measures that we have secured. Everything that we have tried to prevent will now happen. Now what's worse? If we walk away, we walk away alone. Our partners are not going to be with us. Instead, they'll walk away from the tough multilateral sanctions that brought Iran to the negotiating table in the first place, and we will have squandered the best chance that we have to solve this problem through peaceful means.

Now make no mistake, from the very first day in office, President Obama has made it clear that he will never accept a nuclear-armed Iran, and he is the only president who has asked for and commissioned the design of a weapon that has the ability to take out the facilities and who has actually deployed that weapon. But the fact is Iran has already mastered the fuel cycle, they've mastered the ability to produce significant stockpiles of fissile material, and you have to have that to make a nuclear weapon. You can't bomb away that knowledge any more than you can sanction it away.

Now I was chair of the Senate Foreign Relations Committee when we – a lot of us joined together and put many – most of the Iran sanctions in place, and I know well, as you do, that the whole point was to bring Iran to the negotiating table. Even the toughest sanctions previously did not stop Iran's program from growing from a hundred and – a hundred and what, sixty-three, to 300, to 5,000, to more than 19,000 now. And it didn't stop Iran from accumulating a stockpile of enriched uranium.

Now make no mistake, from the very first day in office, President Obama has made it clear that he will never accept a nuclear-armed Iran, and he is the only president who has asked for and commissioned the design of a weapon that has the ability to take out the facilities and who has actually deployed that weapon.

The IAEA will be continuously monitoring their centrifuge production, as centrifuge — so centrifuges cannot be diverted to a covert facility. For the next 25 years, the IAEA will be continuously monitoring uranium from the point that it's produced all the way through production so that it cannot be diverted to another facility.

Now, sanctions are not an end to themselves. They're a diplomatic tool that has enabled us to actually do what sanctions could not without the negotiation, and that is to rein in a nuclear program that was headed in a very dangerous direction and to put limits on it, to shine a spotlight on it, to watch it like no other nuclear program has ever been watched before. We have secured the ability to do things that exist in no other agreement.

Now, to those who are thinking about opposing this deal because of what might happen in year 15 or year 20, I ask you to simply focus on this: If you walk away, year 15 or 20 starts tomorrow and without any of the long-term access and verification safeguards that we have put in place. What is the alternative? What are you going to do when Iran does start to enrich, which they will feel they have a right to if we walk away from the deal? What are you going to do when the sanctions aren't in place and can't be reconstituted because we walked away from a deal that our five fellow nations accepted?

I've heard critics suggest that the Vienna agreement would somehow legitimize Iran's nuclear program. That is nonsense. Under the agreement, Iran's leaders are permanently barred from pursuing a nuclear weapon and there are permanent restraints and access provisions and inspection provisions to guarantee that. And I underscore: If they try to evade that obligation, we will know it because a civil nuclear program requires full access 24/7, requires full documentation, and we will have the ability to track that as no other program before.

The IAEA will be continuously monitoring their centrifuge production, as centrifuge — so centrifuges cannot be diverted to a covert facility. For the next 25 years, the IAEA will be continuously monitoring uranium from the point that it's produced all the way through production so that it cannot be

diverted to another facility. For the life of this agreement, however long Iran stays in the NPT and is living up to its obligations, they must live up to the Additional Protocol, and that Additional Protocol, as we can get into today, greatly expands the IAEA's capacity to have accountability. So this agreement – and I'll close by saying this agreement gives us a far stronger detection capability, more time to respond to any attempt to break out toward a bomb, and much more international support in stopping it than we would have without the deal. If we walk away from this deal and then we decide to use military force, we're not going to have the UN or the other five nations that negotiated with us because they will feel we walked away. And make no mistake: President Obama is committed to staying with a policy of stopping this bomb.

So in the 28 years, a little more, that I was privileged to represent Massachusetts, I had a 100 percent voting record on every issue for Israel. I first traveled there in 1986. I have great friends there, members of my family, others, who care enormously about Israel. I understand the fear. I understand the concerns that our friends in Israel have. But we believe that what we have laid out here is a way of making Israel and the region, in fact, safer. And I emphasize: We do not lose any option in 15 years, 10 years, 20 years, 5 years that we have available to us today.

We will push back against Iran's other activities. We've laid out a very detailed policy for working with the Gulf states and others, and we look forward to working with Israel in the effort to do that. Our current security cooperation with Israel is at an unprecedented level, and it's why we have a robust military presence in the region and it's why we're working so closely with the Gulf states.

So Mr. Chairman, we will continue to push back against Iran on every front available, but the fact is it's a lot easier to push back against an Iran that doesn't have a nuclear weapon rather than one that does. That's been our principal strategic objective: Deal with the nuclear weapon, and then you have an easier time dealing with the other

issues too. The outcome here is critical. We believe this deal makes our country and our allies safer; it will guarantee that Iran's program is under intense scrutiny; it will ensure that the world community is unified in backing this up; and in the end it will guarantee Iran's program has to be peaceful and therefore is a good deal for the world, a good deal for America, a good deal for our allies and our friends, and we believe it richly deserves your support.

Source: <http://www.state.gov/>, 28 July 2015.

OPINION – I.A. Rehman

A Game-Changing Deal

While the agreement between P5+1 and Iran over the latter's nuclear programme has rightly been hailed as the beginning of a new phase in international relations, its implications for Middle Eastern politics are truly momentous and hence of special interest to Pakistan. After making up with China many years ago and shaking hands with Cuba recently, the US has allowed pragmatism to persuade it to embrace a country it had kept on its enemy list for more than three decades. At the same time, Iran has recognised its interest in closing the chapter of its high intensity hostility towards Western countries, the US in particular.

Iran is apparently the principal beneficiary of the deal as it promises it the revival of its economy and an increase in its stature as a regional power. However, much will depend upon the way the agreement is implemented.

Iran is apparently the principal beneficiary of the deal as it promises it the revival of its economy and an increase in its stature as a regional power. However, much will depend upon the way the agreement is implemented. Apprehensions of a radical shift in the balance of power in the Middle East are perhaps the reason that the deal has attracted some adverse comments too. The anxieties of critics, however, can easily be understood. Israel's loud protest means no more than a pro forma reaction and a plea for greater aid from the US. It has no reason to doubt US determination to provide it with effective protection. The US defence secretary has already declared that the accord does not preclude military

action against Iran.

Pakistan, Iran and India must accept that the security cover N-bombs are supposed to provide is illusory. Saudi Arabia has real worries. The kingdom finds itself surrounded by pockets of Iranian influence — in Iraq, Syria and Yemen, to say nothing of Hezbollah's presence in Lebanon. This is the end of King Faisal's dream of countering Nasserite Arab nationalism and the secular politics of the Baath party in the Syria-Iraq region with what was called Islamic nationalism or what Robert Fisk has aptly described as Sunni dominance. The only option before the kingdom is to grow out of the tribal phase and stop mixing belief with politics.

More relevant than external criticism are the voices of dissent in Iran itself. Its foremost religious authority, Ayatollah Khamenei, hardly appeared to favour the deal as it signified, in his view, abandonment of his country's opposition to US policies. The official Iranian response has been reaffirmation of support to its friends across the Near East. The confrontation between President Rouhani and his critics is unlikely to end soon. At the heart of the disagreement lies the belief that the Muslims have cherished throughout the centuries of their subjugation by the West that their natural prowess as fighters will enable them to vanquish any rival, no matter how superior in number and arms it may be. The price the Muslim world has paid for nourishing this improbable myth is colossal. Israel today occupies an area much larger than what it had at the time of its creation, thanks to the Arab regimes' attempts to destroy it with their passion alone.

...Those against the deal on the grounds that Iran will not be able to manufacture nuclear weapons for a decade, or perhaps longer, need to realise that nuclear weapons make their owners less secure and not more. They may look at the huge cost Pakistan has paid for gate-crashing into the nuclear powers' club. Islamabad has to spend a good bit of time offering assurances that Pakistani nukes are in safe and responsible hands. Nobody

realises the negation of such rhetoric by statements, such as the one attributed to the country's defence minister, to the effect that Pakistan's nuclear devices are not mere showcase decorations. The reality that both Pakistan and Iran, and India too, must accept is that the security cover that nuclear bombs are supposed to provide is illusory. Far better security can be achieved by realising the developing world's economic potential, by offering its populations a higher stake in patriotism, and by cementing friendly relations among the Third World countries. Looked at from this point of view Iran loses nothing by the Vienna deal.

Quite a few Pakistani observers have gleefully hailed the nuclear accord as they see enhanced prospects for gainful cooperation with Iran.

Islamabad will do well to control its emotions, for the change in the Middle East politics presents it with quite a few challenges. That Iran has become a key player in the region is not debatable but the way it chooses to play its trumps will have to be watched as closely as the Saudi moves to face the situation.

The one thing Islamabad cannot afford to do is to judge

its friendship with Iran and Saudi Arabia by their ties with India, as both are likely to warm up to New Delhi. Pakistan will need diplomacy of the highest calibre to keep its feet in both the Iranian and Saudi boats. It must not get involved with the religious rift between two of its closest friends. The ideal of being able to broker peace between them is much too tempting but Pakistan has done little to qualify for this august role.

Source: <http://www.dawn.com/>, 23 July 2015.

OPINION – Ari Shavit

The Iran Deal: From Thriller to Horror Story

The international community is ensuring the establishment of a new Iranian nuclear program, immeasurably more dangerous than its predecessor. Signing of the historic document that is going to shake the Middle East and shape the

The one thing Islamabad cannot afford to do is to judge its friendship with Iran and Saudi Arabia by their ties with India, as both are likely to warm up to New Delhi. Pakistan will need diplomacy of the highest calibre to keep its feet in both the Iranian and Saudi boats. It must not get involved with the religious rift between two of its closest friends.

21st century. Who will enjoy the last laugh following this week's agreement between Iran and the world powers?

After a long, intensive work week and an intensive hour in Channel 1's television studio, I took a plane and craved for the moment in which I could finally close my eyes. But until take-off I decided to take a quick look at the thick document of the nuclear agreement with Iran. After reading all kinds of summaries, it was time to read the text itself. "The joint comprehensive plan of action" that was signed in Vienna on July 14, 2015, turned out to be a thriller. While my neighboring passengers plunged into their dreams, I couldn't put down the 159-page document, which could turn the world we live in into a nightmare.

First of all, the points of light: The international negotiating team managed to get the Iranians to make a sweeping commitment not to develop and not to acquire nuclear weapons. More importantly, the team surprisingly succeeded in suspending the old Iranian nuclear program. The reactor in Arak, the enrichment facility in Natanz and the facility in Fordow will indeed stop threatening the world in the next decade.

Reducing the number of centrifuges and the amount of enriched uranium and monitoring the known sites – these are all substantial achievements. Then the shadows in the agreement: The Iranian negotiating team succeeded in destroying completely the sanctions mechanism that had been activated against Iran. It also managed to prevent real, effective supervision of secret, unknown nuclear sites. Consequently, if the Islamic Republic decides to develop a covert nuclear program outside Fordow, Natanz and Arak, it will have no difficulty doing so. The chance of its getting caught is low and the chance of reactivating the sanctions is slim. So the decision of whether to race or not to race toward the bomb in a new secret track will be very much up to Iran.

Now for the darkness: In the Vienna agreement, the US, EU, Britain, France, Russia and China

recognize again and again Iran's right to develop advanced centrifuges. These centrifuges' enrichment capacity could be 5-10 times bigger than the capacity of the old ones, which Iran is now foregoing. This means that the international community is not only enabling, but actually ensuring the establishment of a new Iranian nuclear program, which will be immeasurably more powerful and dangerous than its predecessor. In fact the Iranians are giving up an outdated, anachronistic deployment in order to build an innovative legitimate one, with the world's permission and authority.

"The joint comprehensive plan of action" will lead to Iran becoming in 2025 a muscular nuclear tiger ready to spring forward, with an ability to produce dozens of nuclear bombs. After many hours of reading I had to stop. The thriller had become a horror story. Not only was the content inconceivable, the tone was, too. The fact is that in each chapter Iran's dignity is preserved, but the US and Europe's isn't. The fact is that the Iranian Islamic Consultative Assembly, or Majlis, has a much higher status in the agreement than the American Congress. The

fact is that Iran is unrepentant, does not promise a change of course and takes an almost supercilious attitude toward the other parties. As though it had been a campaign between Iran and the West, and Iran won and is now dictating the surrender terms to the West....

Source: <http://www.haaretz.com/>, 16 July 2015.

INTERVIEW - Valery Limarenko, Director, JSC NIAEP & Acting President, AtomStroyExport Company

Kudankulam Plant Is Symbol of Russia-India Ties

Over a 30-year period, Russian nuclear corporation Rosatom is expected to build 12 atomic power units in India. In an interview with FE's Huma Siddiqui, director at JSC NIAEP and acting president at AtomStroyExport Company

The Iranian negotiating team succeeded in destroying completely the sanctions mechanism that had been activated against Iran. It also managed to prevent real, effective supervision of secret, unknown nuclear sites. Consequently, if the Islamic Republic decides to develop a covert nuclear program outside Fordow, Natanz and Arak, it will have no difficulty doing so. The chance of its getting caught is low and the chance of reactivating the sanctions is slim.

Valery Limarenko says the Kudankulam plant is a joint project between Russia and India, and the launch of unit 1 at the plant and a decision on its extension are important for engineers, financial experts and Indian consumers. Excerpts:

Q. How important is the Kudankulam plant for the development of relationship between Russia and India?

A. The launch of Kudankulam plant is a key event for India and for the development of relationship between both

the countries. It is the most powerful plant in India, and meets safety requirement. At present, it generates 1,000 MW power, which is supplied to the South Indian grid. The second unit of the plant will be connected to the power grid this year. For units 3 and 4, a contract for the performance of primary design work has been signed and is being implemented. Cost control at each stage of production allows to check and guarantee the price of electricity generated at the plants, constructed by Rosatom. The launch of unit 1 and the decision on further extension of the Kudankulam plant are important both for nuclear engineers as its creators and for financial experts and consumers in India because nuclear energy is necessary for India: It is a thing of the future. This project is our joint achievement and we are excited.

Q. What are the plans for the enhancement of collaboration between Russia and India in the nuclear sphere?

A. The partnership between the two countries is developing at full speed. The agenda includes matters relating to cooperation in the spheres that are of utmost importance for India: The economy,

The launch of Kudankulam plant is a key event for India and for the development of relationship between both the countries. It is the most powerful plant in India, and meets safety requirement. At present, it generates 1,000 MW power, which is supplied to the South Indian grid. The second unit of the plant will be connected to the power grid this year. For units 3 and 4, a contract for the performance of primary design work has been signed and is being implemented.

A distinguishing feature of the Russian design is that power units are well equipped with diagnostic systems enabling personnels to respond to the smallest sign of irregularity in the operation. In addition to active safety systems, a number of technical solutions have been implemented based on passive principles, making the project's nuclear safety performance comparable to that of fourth generation projects.

of the Kudankulam plant construction and a road map for at least 12 power units over the next 20 years. The Russian and Indian sides agreed to work out the necessary measures in the sphere

development of a free market, space and aircraft industry, science, technology and innovations, and cultural exchanges. The partnership will help India achieve the goals set for the nuclear industry and stimulate the development of secondary industries. In December 2014, during the visit of Russian leaders, a number of agreements were signed to provide a regulatory basis for future cooperation. They include documents authorising the second stage of nuclear fuel cycle development. In addition, Russia and India signed a contract for the supply of core equipment for units 3 and 4 of the Kudankulam plant. The Kudankulam plant has become a symbol of the Russia-India partnership in the nuclear industry and both countries are planning to continue and strengthen their cooperation in the development of the nuclear plant.

Q. What are the distinguishing features of the Kudankulam plant?

A. A distinguishing feature of the Russian design is that power units are well equipped with diagnostic systems enabling personnels to respond to the smallest sign of irregularity in the operation. In addition to active safety systems, a number of technical solutions have been implemented based on passive principles, making the project's nuclear safety performance comparable to that of fourth generation projects. Special characteristics of the region have been

taken into account as part of the Kudankulam project. Only reliable technologies, units, systems are applied; design, manufacture and operation experience of the previous generation NPP VVER reactors (Water-Water Energetic Reactor) has been taken into account. The tropical waters of the ocean containing a large number of marine vegetation, mollusks and fauna have also been factored into the project. In particular, the waterworks of Kudankulam NPP have a fairly wide range of features, including original fish-proof systems. It should also be pointed out that Kudankulam NPP project provides for a water desalination system for the needs of the station. Given the hot climate and developed agriculture, the project customer decided that the station would not spend water from local lakes and will generate fresh water independently. Sea water is treated at the desalination plant, and then it goes to the demineralizing plant where all the chemical parameters of water are provided.

Source: <http://www.financialexpress.com>, 18 July 2015.

NUCLEAR STRATEGY

RUSSIA

Russia Will Boost Navy in Atlantic and Arctic to Counter 'Unacceptable' NATO Expansion

Russia will guarantee a permanent naval presence in the Mediterranean and boost its strength in the Atlantic and Arctic under a strategy to counter "unacceptable" NATO expansion. The plans, which also include ambitious ship-building targets and expansion of infrastructure for the country's fleet in the Black Sea, were laid out in a new naval doctrine approved by President Vladimir Putin. NATO was already seen as a major threat in an earlier version published in 2010, but the war in Ukraine has further raised tensions to levels not seen since the Cold War.

The upgraded doctrine follows plans announced in June by Putin to boost Moscow's nuclear

arsenal. Britain's RAF had to scramble fighter jets after Russian bombers flew over the English Channel earlier this 2015.... Dmitry Rogozin, the deputy PM with a portfolio for defence, emphasised the "accent put on the Atlantic and the Arctic" in a meeting with Putin on 26 July. Rogozin, a strong critic of NATO, said the new doctrine reflected "changes in the international political situation and the objective strengthening of Russia as a great naval power."...

Russia's Ministry of Defense apparently plans to deploy Tupolev Tu-22M3 supersonic long-range strategic bombers to Crimea to boost Russia's defense capabilities in the region in response to the US' military buildup in Eastern Europe.

The 46-page document, published on the Kremlin website, lays out a comprehensive vision for civilian and military maritime strategy in the coming years, including maintenance of sea-trade routes and management of fisheries. But

its military section openly identifies Western forces as the primary potential adversary facing the Russian navy. "The determining factor in relations with NATO remains the alliance's unacceptable plans to move military infrastructure towards the Russian Federation's borders and attempts to assume global functions," the document says.

Source: <http://news.nationalpost.com/>, 28 July 2015.

Russia's Supersonic Response to US Missiles in Europe

Russia's Ministry of Defense apparently plans to deploy Tupolev Tu-22M3 supersonic long-range strategic bombers to Crimea to boost Russia's defense capabilities in the region in response to the US' military buildup in Eastern Europe. The Russian defense agency is expected to receive six modernized long-range Tu-22M3 Backfire bomber-missile carriers by the end of 2015 but the exact date of the delivery to the Black Sea peninsula has not been made public. The Tu-22M3 boasts a maximum range of 4,200 miles and has a combat radius of 1,500 miles with a typical weapons load. It is armed with a 23-mm GSh-23 cannon in a remotely controlled tail turret, the Raduga Kh-22 long-range anti-ship missiles and

Raduga Kh-15 air-to-surface missiles, Sputnik reported on 24 July, 2015.

The Russian Army operates more than 100 Tu-22Ms. Their upgrade is part of a major \$400 billion initiative to modernize Russia's forces, scheduled to be completed by 2020. If confirmed, the deployment to Crimea will

come against the backdrop of the US expanding its Operation Atlantic Resolve, launched to protect Eastern European nations and the Baltic states from a non-existent Russian threat following the outbreak of the civil war in Ukraine....

Source: <http://www.tasnimnews.com>, 24 July 2015.

If confirmed, the deployment to Crimea will come against the backdrop of the US expanding its Operation Atlantic Resolve, launched to protect Eastern European nations and the Baltic states from a non-existent Russian threat following the outbreak of the civil war in Ukraine.

at a fast pace and could overtake the US in the future, according to James Acton, co-director of the Nuclear Policy Program and senior associate at the Carnegie Endowment for International Peace....

Congressional Attention: ...The US Congress in recent years has also voiced concerns over China's advancement in the research and development of

hypersonic technologies, expressing concern that the US could be falling behind in the international hypersonic arms race. "While round after round of defense cuts have knocked America's technological advantage on its back, the Chinese and other competitor nations push towards military parity with the US; in some cases...they appear to be leaping ahead of us," former Chairman of the Armed Services Committee in the US House of Representatives, Buck McKeon (R-CA), and two other senior members of the committee said in a statement after China's first test of hypersonic vehicles last year. US officials still hope that maintaining an advantage in quick global strike capability, such as hypersonic missiles, can keep potential enemies from launching attacks in the first place.

Source: <http://www.voanews.com/>, 20 July 2015.

BALLISTIC MISSILE DEFENCE

CHINA

China Pushes Forward Hypersonic Missile Tests

China has conducted four hypersonic weapons tests in just 18 months, a sign of its continued efforts to make advanced weapons. Hypersonic weapon delivery vehicles can reach supersonic speeds more than five times the speed of sound (Mach 5 and above). China confirmed conducting test flights of the new hypersonic missile delivery vehicles, most recently on 09 June 2015, but Beijing insisted that the testing of these vehicles, capable of delivering nuclear warheads with record breaking speed, is "purely scientific and not targeted at any country." The US, Russia and India also have been developing hypersonic vehicles intended to counter hostile missile and space defenses and developed for precise targeting and rapid delivery of weapons.

Catching up to the US?: Even though one of China's four tests reportedly failed, and China still lags far behind the US in missile technology, it is developing hypersonic capability

Even though one of China's four tests reportedly failed, and China still lags far behind the US in missile technology, it is developing hypersonic capability at a fast pace and could overtake the US in the future.

IRAN

Iran to Launch Ballistic Missile Defense Radar

Iran will launch a new strategic radar system, capable of detection and tracking of ballistic missiles in the new future, Brigadier General Farzad Esmaeili, the commander of country's Khatamol-Anbiya air defense base said. The new radar system will be operational near Iran's central Tabas city on September 1, the commander said, Iran's Mehr news agency reported 26 July 2015. He further said that the new radar system will cover areas around 1,000 km in range. "It can detect small flying targets as well as wide-body aircrafts and ballistic missiles in a fraction of a second." Tehran regularly announces military advances that cannot be independently

verified. Iranian media outlets report that Iran has made great achievements in its defense sector and attained self-sufficiency in producing essential military equipment and systems in recent years. Since 1992, Iran has manufactured its own tanks, armored personnel carriers, missiles, radars, boats, submarines and fighter planes.

Source: <http://en.trend.az>, 26 July 2015.

USA

Lockheed Martin Gets \$1.5 Billion Contract for PAC-3 Missile Production

US and allied military forces are set to upgrade key missile defense capabilities under a new \$1.5 billion contract for production and delivery of Patriot Advanced Capability-3 (PAC-3) missiles and PAC-3 Missile Segment Enhancement (PAC-3 MSE) missiles. Lockheed Martin's PAC-3 missiles are assembled in Camden. The contract includes PAC-3 and PAC-3 MSE interceptor deliveries for the US Army, and foreign military sales of PAC-3 interceptors, associated equipment and spares for the Republic of Korea, the Kingdom of Saudi Arabia, Qatar, Taiwan and the United Arab Emirates.

"The PAC-3 and the PAC-3 MSE interceptors are the most advanced, capable and reliable terminal air defense missiles in the world," said Scott Arnold, Lockheed Martin's vice president of PAC-3 programs. "As threats grow in complexity, these interceptors will continue to be in high demand to protect soldiers and citizens around the globe." The PAC-3 Missile is a high velocity interceptor that defends against incoming threats including tactical ballistic missiles, cruise missiles and aircraft using hit-to-kill technology. PAC-3 currently provides missile defense capabilities for six nations – the US, the Netherlands, Germany, Japan, United Arab Emirates and Taiwan; and Lockheed Martin is on contract with four additional nations – Kuwait, Qatar, South Korea and Saudi Arabia. Building on the combat proven PAC-3, the PAC-3 MSE missile uses a two-pulse solid rocket motor that increases altitude and range to

meet evolving threats.

Source: <http://www.magnoliareporter.com>, 24 July 2015.

NUCLEAR ENERGY

CHINA

China Working on World's Largest Nuclear Power Expansion

China began working on a new atomic power plant, taking the number of its nuclear power units that are under construction to 26, state media reported. The construction of the sixth unit of the Hongyanhe plant in Liaoning province began on 25 July, 2015. This is the second nuclear plant under construction this year since the fifth unit of the Hongyanhe plant which started on March 29, state-run People's Daily reported. The new plant will take the number of China's nuclear power units under construction to 26, perceived as number one in scale in the world. Together

The new plant will take the number of China's nuclear power units under construction to 26, perceived as number one in scale in the world. Together with Unit 5 of the Hongyanhe Nuclear Power Plant, the construction of the new unit was part of the implementation of China's energy development strategy action plan in the field of nuclear power.

with Unit 5 of the Hongyanhe Nuclear Power Plant, the construction of the new unit was part of the implementation of China's energy development strategy action plan in the field of nuclear power. In the face of the current serious environmental governance situation, China has seen the development of nuclear power as one of the main solutions to achieve energy transformation and environmental improvement.

As per the "strategic action plan 2014-2020" announced by the Chinese government, the installed nuclear power capacity will reach 58,000 megawatts by 2020. According to earlier reports, once all six units are in operation, the Hongyanhe plant will generate around

As per the "strategic action plan 2014-2020" announced by the Chinese government, the installed nuclear power capacity will reach 58,000 megawatts by 2020.

45 billion kWh of electricity annually, avoiding the need to burn more than 16 million tonnes of coal for power generation and the resulting emissions of some 40 million tonnes of carbon dioxide. China had halted the construction of its

nuclear power plants following the 2011 Fukushima nuclear disaster in Japan and resumed it last year after a review of safety aspects. China is also aggressively marketing its new 1,100 MW nuclear technology abroad. Pakistan and Argentina have already opted for it.

France has relied on nuclear energy more than any other country, and the law would stipulate dramatic cuts to the number of nuclear reactors in the country, suggesting that they should provide half of all the country's power output by 2025.

Source: <http://www.hindustantimes.com>, 25 July 2015.

FRANCE

France Set to Back Reducing Reliance on Nuclear Power

French lawmakers on 22 July, 2015 approved a bill aimed at reducing the reliance on nuclear power in favour of greener sources of energy. Environment minister Segolene Royal said she wanted France, which hosts a critical UN climate summit this December, to be a "nation of environmental excellence". Overall energy consumption is to be slashed 20% from 2012 levels by 2030, with renewables increasing to 32% of the mix.

The new law sets long term targets for France's carbon tax, which will rise from €22 next year to €56 in 2020 and €100 in a decade. 'Now we must organise an orderly transition.' France has relied on nuclear energy more than any other country, and the law would stipulate dramatic cuts to the number of nuclear reactors in the country, suggesting that they should provide half of all the country's power output by 2025, according to Bloomberg. "It's a long-awaited change, since no one, including the opposition, at any time denied the need to break the total dependence on nuclear", said Socialist MP Francois Brottes, who headed the parliamentary group

The current installed nuclear power capacity is 5780 MW, which is expected to increase to 10080 MW on progressive completion of projects under commissioning and construction by 2019. A total of 21 nuclear power reactors. The Government has accorded financial sanction and administrative approval for Gorakhpur Haryana Anu Vidyut Pariyojana (GHAVP) Units - 1&2 (2X700 MW) and Kudankulam Units-3&4 (2X1000 MW) with a total capacity of 3400 MW.

reviewing the law. Areva has faced reduced global demand since the 2011 Fukushima disaster in Japan and been hit by cost overruns and construction difficulties in the building of new reactors in Flamanville, northwestern France and in Finland. Last year, 77 percent of French

electricity production came from nuclear reactors, 13 percent from hydro dams, 5 percent from fossil fuels and 3 percent from wind turbines, according to grid operator Reseau de Transport d'Electricite, reported Bloomberg.

Source: <http://www.dispatchtimes.com>, 24 July 2015.

INDIA

India Ranks 12th in World in Nuclear Power Generation

India ranks 12th in the world in terms of power generation from nuclear sources, according to data published in May 2015 by the Power Reactor Information System (PRIS) of the IAEA. Minister of State for Atomic Energy and Space Jitendra Singh told the Lok Sabha on 22 July, 2015, in a written reply to a question that there are 31 countries, including India, in the world which generate electricity from nuclear sources. In terms of number of reactors in operation, India, with 21 reactors, stood in the sixth position globally, he said.

The current installed nuclear power capacity is 5780 MW, which is expected to increase to 10080 MW on progressive completion of projects under commissioning and construction by 2019. A total of 21 nuclear power reactors.

The Government has accorded financial sanction and administrative approval for Gorakhpur Haryana Anu Vidyut Pariyojana (GHAVP) Units –

1&2 (2X700 MW) and Kudankulam Units-3&4 (2X1000 MW) with a total capacity of 3400 MW. These projects are being prepared for launch in the current year. In addition, one Prototype Fast Breeder Reactor of 500 MW capacity at Kalpakkam, Tamil Nadu is at advanced stage of commissioning. Construction of two more Fast Breeder Reactors (FBR 1&2) of 600 MW capacity each at Kalpakkam, Tamil Nadu is also planned. More nuclear power projects based both on indigenous technologies and with international cooperation are planned in future, he said.

Dr Singh said India had signed nuclear cooperation agreements with the US, France, Russia, Namibia, Mongolia, South Korea, Argentina, UK, Kazakhstan, Canada, Sri Lanka and Australia. India is open to negotiation with other friendly countries who seem to have potential to make contribution to India's nuclear energy programme, he said. In reply to another question, he said that General Insurance Corporation of India (GIC-Re) had, on June 12 this year, launched the Indian Nuclear Insurance Pool (INIP) with a capacity of Rs 1500 crore to provide insurance to cover the liability as prescribed under Civil Liability for Nuclear Damage Act 2010. In reply to another query, Dr Singh said Atomic Minerals Directorate for Exploration & Research (AMD), a constituent unit under the DAE, had carried out survey and exploration of uranium resulting in establishing 2,25,936t in-situ U3O8 (1,91,594t U) reserves as of June, 2015. He said 13 reactors, with a total installed capacity of 3380 MW (excepting one reactor of 100 MW capacity located at Rawatbhata, Rajasthan which is under extended shutdown for techno-economic assessment), are under IAEA safeguards and are eligible for imported fuel.

To meet requirement of fuel for reactors under IAEA safeguards, agreements for import of uranium have been signed with Navoi Mining & Metallurgical Combinat State Company (NMMC), Uzbekistan; JSC TVEL Corporation, Russia; NAC

Kazatomprom, Kazakhstan, and CAMECO, Canada, he said. Dr Singh said eight reactors with a total installed capacity of 2400 MW are fuelled by indigenous fuel. "The Government have made efforts to augment indigenous uranium supply by opening of new mines and processing facilities thus narrowing down the demand-supply gap for reactors using indigenous fuel. As a result, there has been a progressive improvement in capacity utilisation of nuclear power plants," he said. "Contracts have recently been entered into for import of Uranium with M/s. Cameco, Canada for supply of 2750-3000 MT of Uranium Ore Concentrate during 2015-2020; and M/s. Kazatomprom, Kazakhstan for supply of 5000 MT of Uranium Ore Concentrate during 2015-2019," he added.

General Insurance Corporation of India (GIC-Re) had, on June 12 this year, launched the Indian Nuclear Insurance Pool (INIP) with a capacity of Rs 1500 crore to provide insurance to cover the liability as prescribed under Civil Liability for Nuclear Damage Act 2010.

Source: <http://netindian.in/news/>, 23 July 2015.

Kudankulam-II to be Commissioned in 6-8 Months: Indian Envoy

The second unit of the Kudankulam Nuclear Power Plant in Tamil Nadu will be commissioned in the next 6-8 months amid efforts to expedite the setting up of 12 atomic plants proposed to be built by Russia in India in two decades. Giving this information in Moscow, Indian Ambassador to Russia PS Raghavan said discussions are underway on the units III, IV, V and VI to be built at Kudankulam. Process is also underway to identify a site in Karnataka and Andhra Pradesh for a plant which was proposed to be set up in Haripur in West Bengal but could not materialise due to various factors, including protests by locals....

Asked about the progress on unit-II of KNPP which is behind schedule, he said work is underway on the unit which will have the capacity to generate 1,000 MW of electricity. "Hot run is already going on.... I would say that in the next 6-8 months, it should be fully commissioned. It should be on stream," the Ambassador said. "There has been a little bit of delay but that is not significant delay,"

he said. Commissioning of the unit-II has been put off four times so far. The last time the NPCIL had postponed putting the unit into commercial operation was this month (July). On the causes for the delay, the Indian Ambassador said part of it was that after Fukushima radiation exposure of 2011; there has been a “progressive tightening” of safety regulations by the AERB....

... With regard to units III and IV, he said ‘long cycle’ contracts have been done. “So, it is going well,” Mr Raghavan said, adding that, “we are already talking about how to do unit V and VI.” He said that work is also underway to identify another site for Russian nuclear plants, in place of Haripur in West Bengal where problems had erupted. “Some places have been identified.... Karnataka and Andhra Pradesh have shown interest in nuclear power plants,” Mr Raghavan said.

Source: <http://www.ndtv.com>, 16 July 2015.

‘NPCIL Proposes 1,400 MW Nuclear Plant in Mandla’

Addressing a press conference, AEC Chairman Ratan Kumar Sinha said, “NPCIL has proposed to build a 1,400 MW nuclear power plant at Chutka, Mandla district. This will be extremely beneficial for the state.” Claiming that nuclear energy is a big contributor for power generation, Sinha said, “3.5% of the power generation is by nuclear energy. Around 5780 MW is produced by nuclear energy. This is a great resource of energy and the misconceptions about radiation should be eradicated.”....

Source: <http://timesofindia.indiatimes.com>, 27 July 2015.

Commissioning of the unit-II has been put off four times so far. The last time the NPCIL had postponed putting the unit into commercial operation was this month (July). On the causes for the delay, the Indian Ambassador said part of it was that after Fukushima radiation exposure of 2011; there has been a “progressive tightening” of safety regulations by the AERB.

NPCIL has proposed to build a 1,400 MW nuclear power plant at Chutka, Mandla district. This will be extremely beneficial for the state.” Claiming that nuclear energy is a big contributor for power generation, Sinha said, “3.5% of the power generation is by nuclear energy. Around 5780 MW is produced by nuclear energy. This is a great resource of energy and the misconceptions about radiation should be eradicated.

JAPAN

Japan Two Weeks from Return to Nuclear Power

Kyushu Electric Power Company plans to apply to regulators for the final ‘applied safety inspection’ of Sendai 1 on 3 August 2015. This check is expected to take one week, making 10 August a potential start-up date. The Sendai 1 nuclear power reactor is being readied for restart with fuel already loaded, and tests on main systems underway. Sendai 1 should become the first Japanese reactor to generate power in almost two years.

The company’s technical and operational plans and procedures have been approved by the Nuclear Regulatory Authority (NRA), which then checked that the technical upgrades had been implemented correctly.

Now Kyushu is the process of actually starting the 890 MWe pressurized water reactor and NRA is overseeing functional and safety checks of main systems including fuel assembly configuration, the leak-tightness of containment and the coolant loop, and the instrumentation and control systems. The utility is today conducting an emergency response drill to check the procedures and the readiness of staff to cope with events at the plant that could lead to severe accident conditions.

...Another 20 reactors are behind Sendai in the restart process, which is expected to gradually speed up after the first few units are back in normal operation. The Japanese government envisages a return to using nuclear power for 20-22% of electricity by 2030 as part of a plan to reduce carbon dioxide emissions by 26% compared to fiscal year 2013.

Source: <http://www.world-nuclear-news.org/>, 27 July 2015.

Nuclear to Help Japan Meet Climate Goals

Nuclear power generation will play a role in helping Japan meet its post-2020 greenhouse gas emissions targets. The country has announced its intended contribution towards a possible global climate agreement later this year. The UN Framework Convention on Climate Change (UNFCCC) announced on 20 July, 2015 that it had received Japan's Intended Nationally Determined Contribution (INDC). According to its INDC, Japan aims to cut its greenhouse gas emissions by 26% by fiscal year 2030 (ending March 2031) compared with fiscal year 2013. This equates to the equivalent of some 1.042 billion tonnes of CO2 emissions in 2030.

This target, it says, is consistent with its energy mix goal and "set as a feasible reduction target by bottom-up calculation with concrete policies, measures and individual technologies taking into adequate consideration, inter alia, technological and cost constraints." Some 90% of Japan's greenhouse gas emissions come from energy-originated CO2. Under its INDC, emissions of energy-originated CO2 will be reduced by 25% to 927 million tonnes in 2030 from 1235 million tonnes in 2013. Meanwhile, non-energy originated CO2 emissions will be cut by 17% to some 70.8 million tonnes. Introducing its INDC, Japan says, "Having faced a drastic change in its circumstances with regard to energy due to the Great East Japan Earthquake and the accident at Tokyo Electric Power Company's Fukushima Daiichi nuclear power station, Japan decided the new Strategic Energy plan last year as a starting point for reviewing and rebuilding our energy strategy from scratch."

Nuclear energy is expected to account for 20-22% of Japan's power generation in 2030, with a similar

portion coming from renewable sources. The remainder of the country's power generation will be met by coal (26%), LNG (27%) and oil (3%), according to Japan's latest energy policy. That policy supports "utilizing nuclear power generation whose safety is confirmed". All of Japan's nuclear power plants have remained idle after being taken offline following the March 2011 Fukushima Daiichi accident. The first unit is set to resume operation next month, while another 20 reactors are moving through the restart process. Including Japan, 47 parties have now formally submitted their INDCs to the

According to its INDC, Japan aims to cut its greenhouse gas emissions by 26% by fiscal year 2030 (ending March 2031) compared with fiscal year 2013. This equates to the equivalent of some 1.042 billion tonnes of CO2 emissions in 2030.

UNFCCC ahead of the UN climate change conference in Paris in December.

Source: <http://www.world-nuclear-news.org>, 21 July 2015.

SOUTH KOREA

South Korean Energy Plan Sees Two More Reactors

Two further nuclear power reactors are to be constructed and plans for four coal-fired plants have been dropped in the latest 15-year basic energy plan released by the South Korean government today. The Ministry of Trade, Industry and Energy (MOTIE) published its 7th basic power supply plan for the period up to 2029, the previous plan having covered up to 2027. The plan foresees South Korea's total electricity demand increasing by some 2.2% annually over the next 15 years to reach 657 TWh by 2029. Peak demand is expected to reach 112 GWe in 2029, compared with 80 GWe last year. The plan aims to cut the country's annual electricity consumption by 14.3% and its peak demand by 12.0% from their business-as-usual levels by 2029. The updated plan includes the construction of two additional nuclear power reactors, which had not featured in the previous plan.

South Korea currently has 24 reactors in operation and a further ten either under construction or planned. Unit 1 of the Kori plant is currently scheduled to close in 2017, so the country would have 35 units in operation by 2029. Nuclear energy's share of the country's generating capacity is expected to increase from 22.4% in 2014 to 28.2% in 2029. Under the previous plan, nuclear share was to have increased to 27.4% by 2027.

South Korea currently has 24 reactors in operation and a further ten either under construction or planned. Unit 1 of the Kori plant is currently scheduled to close in 2017, so the country would have 35 units in operation by 2029. Nuclear energy's share of the country's generating capacity is expected to increase from 22.4% in 2014 to 28.2% in 2029. Under the previous plan, nuclear share was to have increased to 27.4% by 2027. The latest plan also aims to reduce the country's greenhouse gas emissions to 37% below business-as-usual levels by 2030, in line with climate targets announced by the government in June. In order to achieve that target, four coal-fired power plants that had been proposed in the 6th energy plan have now been dropped.

Source: <http://www.world-nuclear-news.org>, 22 July 2015.

South Korea currently has 24 reactors in operation and a further ten either under construction or planned. Unit 1 of the Kori plant is currently scheduled to close in 2017, so the country would have 35 units in operation by 2029. Nuclear energy's share of the country's generating capacity is expected to increase from 22.4% in 2014 to 28.2% in 2029. Under the previous plan, nuclear share was to have increased to 27.4% by 2027.

NUCLEAR COOPERATION

CHINA-ARGENTINA

Cooperation with China Helps Ensure Argentina's Energy Security

Nuclear energy cooperation with China plays a key role in guaranteeing Argentina's energy security and independence; Argentina's state-run nuclear energy company said on 24 July, 2015.... During Argentine President Cristina Kirchner's visit to China in February 2015, the two countries signed an agreement on jointly building two nuclear plants in Argentina. Under the agreement, the China National Nuclear Corporation (CNNC) will partner with the NA-SA to build the two nuclear reactors, bringing Argentina's total number of reactors to five.

According to the NA-SA spokesperson, the CNNC will contribute technology, equipment and

The total cost of the project is estimated to include around 2 billion US dollars in foreign investment and 3.46 billion dollars as local costs over a period of eight years.

services, and offer Argentina 70 percent of the funds and services needed for the project. The NA-SA also said the fuel for the reactors and the heavy water to be used in them will be fully manufactured in Argentina. "Seventy percent of the components of the projects will be made in Argentina and the other 30 percent will be imported," while 85 percent of all needed funds will be provided by China after

"financial accords are hopefully finalized by the end of 2015," it stated.

Construction could partly begin soon as some funds are already available, and the majority of the work will move forward once the funding from China is obtained. The first new power station, with a capacity of approximately 800 MW, will be built at the Atucha nuclear complex in the city of Lima, 110 km northeast of the capital. The total cost of the project is estimated to include around 2 billion US dollars in foreign investment and 3.46 billion dollars as local costs over a period of eight years.

Meanwhile, the second new nuclear power station, also Argentina's fifth, will use light water and enriched uranium and have an estimated total capacity of 1,000 MW. Argentina currently has three operational nuke power plants with a combined capacity of 1,755 MW, which use technology from Germany and Canada. The two new plants, with a total output of 1,800 MW, will therefore double the country's nuclear power capacity. This will be the first time for China to export nuclear technology to Latin America and the Chinese company is optimistic about the prospects of its technology exports, thanks to its higher safety level and lower costs, the CNNC said on its website. Allowing Chinese companies to participate in the building of new nuclear power

plants means that China's nuclear technology can be competitive against its Western peers, said Ma Yi, an expert with China Nuclear Power Engineering Company.

For the NA-SA, these plants will strengthen Argentina's energy security and independence. "In the last 60 years, Argentina has accumulated a wealth of experience in the nuclear industry, not only in energy generation, but also in other areas like research as well. This includes the construction and operation of three nuclear plants, various research-style reactors, and now these two new reactors will be built with the help of China," the NA-SA spokesperson said. The cooperation project will also help the country develop new expertise and acquire new technologies for the further development of its nuclear industry. "Undoubtedly, these nuclear projects we are developing with China will play a fundamental role in securing our energy independence," the NA-SA spokesperson added.

Source: <http://www.shanghaidaily.com>, 25 July 2015.

CHINA-IRAN

China Building Two Nuclear Power Plants in Iran

Iranian energy officials announced China's plans to construct two nuclear power plants in Iran following the lifting of the sanctions on the country's nuclear program. According to a report published by the Shanghai-based Guancha Syndicte, the two nuclear plants will be built on the Makran coast near the Gulf of Oman. Atomic Energy Organization in Iran (AEOI) head Ali Akbar Salehi was quoted in the news as saying that China will deploy over 20,000 workers and engineers

Iranian authorities said the country is ready for the two nuclear plants that will be built by China because it has water reserves of 90 tons and up to 8 tons of uranium that will support the project.

for the nuclear power plant project.

Iranian authorities said the country is ready for the two nuclear plants that will be built by China because it has water reserves of 90 tons and up to 8 tons of uranium that will support the project. AEOI spokesman Behrouz

Kamalvandi said the Iranian government expects the two Chinese-built nuclear power plants to produce up to 190,000 separative work units of nuclear fuel. The fuel will be used for industrial purposes. "The new deal will change our country's nuclear industry,"...while the cost of the two plants are high, it will be justified as Chinese firms start to open businesses in Iran. China becomes the first country to build nuclear plants in Iran after the gulf nation reached a deal with the P5+1 countries....

Source: <http://www.chinatopix.com/articles>, 26 July 2015.

WEST AFRICA

West African States Prepare MoU on Nuclear Cooperation

The newly created West African Integrated Nuclear Power Group (WAINPG) prepared a draft memorandum of understanding and three-year action plan at its first meeting, held in Niamey, Niger. The heads of delegations from Benin, Burkina Faso, Ghana, Mali, Niger, Nigeria and Senegal will take the MOU document to their respective governments for signature, which will commit them to proceeding with the initial planning for a regional nuclear power program.

The newly created West African Integrated Nuclear Power Group (WAINPG) prepared a draft memorandum of understanding and three-year action plan at its first meeting. The heads of delegations from Benin, Burkina Faso, Ghana, Mali, Niger, Nigeria and Senegal will take the MOU document to their respective governments for signature, which will commit them to proceeding with the initial planning for a regional nuclear power program.

The meeting, which was convened at the invitation of Niger President Mahamadou Issoufou and the Nigerien Atomic Energy High Authority (NAEHA), also included

representatives of the Economic Community of West African States (ECOWAS) and the IAEA to discuss the possibility of developing a regional nuclear power program in West Africa.

...The Third African Conference on Energy and Nuclear Power, held in April 2015 in Mombasa, Kenya, recommended that the West African states create a sub-regional group for the development and implementation of a nuclear power program. The Niger meeting is also related to plans by ECOWAS to implement a West Africa Power Pool. This is stimulated by World Bank funding for the first phase of the \$1.3 billion Eastern Africa power integration program, with intent to form an Eastern African Power Pool.

The draft memorandum states that the parties recognize the potential role that nuclear energy can achieve in meeting the following needs of the West African region: economic development and improvement in the quality of life of their populations; continued growth in the energy sector; development of the countries in a sustainable manner; clean, baseload electricity generation in response to the impact of climate change.

...In their "unwavering commitment" to the peaceful use of nuclear energy, the parties shall endeavour to approve the plan no later than 15 February 2016. The group also outlined a two-phase roadmap, with the first starting no later than 1 November. The second phase is to last two to three years. Among its recommendations, WAINPG would like as many ECOWAS Member States as possible to join it for the development of an integrated regional nuclear power program.

In May 2012 Ghana hosted a regional meeting on "Co-operation and Networking for Nuclear Power

Programme in Africa", organized by the Ghana Atomic Energy Commission (GAEC) under the auspices of the IAEA. The GAEC said that the increasing energy requirements for the socio-economic development of Africa, coupled with the ever volatile prices of fossil fuels, continue to be a major challenge for a lot of African countries.

Source: <http://www.world-nuclear-news.org/>, 29 July 2015.

URANIUM PRODUCTION

CANADA

Quebec's Plan Nord Project Snubs Uranium Mining in the Province

Quebec is moving steadfastly ahead on its Plan Nord project to open up the vast resource-rich northern reaches of the province. But there is one activity notably absent from the to-do list in the 20-year mining-forestry-energy action plan: uranium mining.

Quebec is moving steadfastly ahead on its Plan Nord project to open up the vast resource-rich northern reaches of the province. But there is one activity notably absent from the to-do list in the 20-year mining-forestry-energy action plan: uranium mining. Despite

progress made in recent years polishing Quebec's image as an unwelcoming place for investment in mining ventures, uranium exploration and development continue to be blocked by the government over environmental, health and social concerns. Quebec uranium mining company Strateco Resources Inc. – once promoted as a high-

Quebec uranium mining company Strateco Resources Inc. – once promoted as a high-profile player in a previous, more ambitious incarnation of the Plan Nord – is caught in the middle of a seemingly endless conflict over the right to mine the yellow mineral.

profile player in a previous, more ambitious incarnation of the Plan Nord – is caught in the middle of a seemingly endless conflict over the right to mine the yellow mineral.

The latest blow to Strateco's nearly decade-long effort to launch the province's first uranium mine – in Northern

Quebec – is a recommendation from the Bureau d'audiences publiques sur l'environnement (BAPE) agency that it would be premature at this time to authorize development of a uranium industry. Allowing uranium mining operations would be "premature" in the current context because there

are too many uncertainties and unanswered questions as to the risks involved, the BAPE said in its 626-page report recently made public. The report, based on one year of public consultations throughout the province, said Quebec should – however – carefully weigh the consequences of a temporary or permanent ban on uranium extraction, specifically the “legal and economic impacts.” The Quebec government said it will establish an interdepartmental committee to assess the findings.

The province’s Cree Nation strongly opposes Strateco’s proposed mine. “The BAPE’s report confirms what the Cree Nation has long maintained: that uranium development poses unique and significant risks for our lands, our environment, our communities and our future generations,” Grand Chief of the Grand Council of the Crees Matthew Coon Come said. For Strateco president and chief executive officer Guy Hébert, the BAPE report amounts to a moratorium on mining the material used as fuel in nuclear reactors. “This is a very bad message [the Quebec government] is sending to foreign investors,” he said. Strateco is suing the provincial government for \$190-million in investment losses as a result of Quebec’s blocking its underground Matoush uranium project in the Otish Mountains. Mr. Hébert said his company invested an average of \$20-million a year on the project between 2006 and 2012 based on the existing legal and regulatory framework that never suggested uranium was problematic.

Then, in 2013, the newly elected Parti Québécois government brought down a moratorium on uranium-related activities, pending an environmental review. Following that, the

environment minister of the day declined to grant Strateco the certificate needed to start the advanced exploration phase of Matoush. And yet Matoush was cleared for underground exploration by the Canadian Nuclear Safety Commission and the federal environment minister based on detailed environmental impact studies. Raymond James

The BAPE’s report confirms what the Cree Nation has long maintained: that uranium development poses unique and significant risks for our lands, our environment, our communities and our future generations.

mining analyst David Sadowski said the Quebec government’s position on uranium mining is puzzling given the fact that secure mining and management of radioactive effects have been solidly established over the years, with no safety or environment concerns to note in Saskatchewan, the hub of Canada’s uranium mining industry. “They should be opening the door on every commodity, on every mineral,” he said. “A commodity like [uranium] can really add jobs and revitalize part of Northern Quebec.”

Developing new uranium mines may not be economical for most companies in the current context of global oversupply and low prices, but

Developing new uranium mines may not be economical for most companies in the current context of global oversupply and low prices, but demand for the commodity is expected to rise over the next several years as China, India, South Korea and other countries build up their nuclear energy programs, Mr. Sadowski said.

demand for the commodity is expected to rise over the next several years as China, India, South Korea and other countries build up their nuclear energy programs, Mr. Sadowski said. “Strateco did define a reasonable resource potential with long-term viability,” which can turn out to be profitable if spot uranium prices – now in the \$36 range – break through the \$70 ceiling in the longer term,

he said. In June, Strateco, based in Boucherville, Que, filed for bankruptcy protection under the Companies’ Creditors Arrangement Act (CCA), claiming that the Quebec government’s actions have “placed Strateco in a situation where it has become impossible to interest investors in the Matoush project” and that it can no longer meet its financial commitments. The company is seeking interim financing to allow it continue its \$190-

million suit against the government.

Source: <http://www.theglobeandmail.com>, 26 July 2015.

NUCLEAR PROLIFERATION

NORTH KOREA

North Korea Official Says Not Interested In Iran-Style Deal

The North Korean ambassador to China said that his country has no interest in an Iran-style nuclear disarmament deal because North Korea is a "nuclear weapons state." Ji Jae Ryong told reporters that the Iranian nuclear deal reached earlier this July 2015 was an achievement made through protracted efforts, but that North Korea was different to Iran because it is "a nuclear weapons state both in name and in reality." "We are not interested at all in dialogue to discuss the issue of freezing or dismantling our nukes unilaterally first," he said at the North Korean embassy in Beijing.

North Korea's nuclear program is a major regional concern. International talks over North Korea's nuclear disarmament have been stalled since early 2009. North Korean officials called news conference to reiterate Pyongyang's view that the "hostile policy" by the US toward it is the root cause of tensions on the Korean Peninsula. The US stations troops in South Korea as deterrence against potential aggression from North Korea, a legacy of the 1950-53 Korean War, which ended with an armistice, not a peace treaty.

Source: <http://www.sunherald.com>, 27 July 2015.

NUCLEAR NON-PROLIFERATION

IRAN

Iran's Top Diplomat Tours Arab States Following Nuclear Deal

Iran's most senior diplomat arrived in Kuwait on 26 July 2015, to begin a three-nation regional tour aimed at deepening ties with Arab neighbours

following the conclusion of the Islamic Republic's historic nuclear deal with world powers. Saudi Arabia and other Western-allied Arab states lining the Persian Gulf harbor deep suspicions about Iran's intentions in the region, though they have expressed hope that the nuclear deal will enhance regional security by reducing the chances Iran will acquire an atomic bomb.

Iranian Foreign Minister Mohammad Javad Zarif received a red-carpet airport greeting from his Kuwaiti counterpart, Sheikh Sabah Khaled Al Hamad Al Sabah. He is expected to hold talks later with the ruling emir, Sheikh Sabah Al Ahmed Al Sabah, who paid his first visit as head of state to Iran last year. Iran agreed earlier in July to limits

on its nuclear program in exchange for broad sanctions relief. The curbs are aimed at preventing Iran from obtaining an atomic bomb, something it denies it is seeking. After Kuwait, Zarif is scheduled to visit Qatar and Iraq. Iranian state-linked media say he will brief officials in all three countries on the nuclear accord and discuss ways to improve cooperation and fight terrorism.

Iran shares control of a vast underwater natural gas field

with Qatar, a wealthy nation rapidly being transformed by its hydrocarbon riches. In Iraq, Tehran has close ties with senior government leaders and Shiite militia groups, and it is playing an active role in fighting Islamic State militants who have seized a third of the country. Growing discord with another Gulf Arab state, the island nation of Bahrain, threatens to overshadow Zarif's outreach effort. Bahrain on 25 July 2015, announced it was recalling its ambassador to Iran for consultations following what it called "continued hostile statements made by Iranian officials towards Bahrain," according to the official Bahrain News Agency.

Authorities also announced they have broken up an attempt to smuggle weapons, ammunition and explosives into the kingdom. Among those arrested were two 30-year-old Bahraini suspects,

Ji Jae Ryong told reporters that the Iranian nuclear deal reached earlier this July 2015 was an achievement made through protracted efforts, but that North Korea was different to Iran because it is "a nuclear weapons state both in name and in reality." "We are not interested at all in dialogue to discuss the issue of freezing or dismantling our nukes unilaterally first," he said at the North Korean embassy in Beijing.

Mahdi Subah Abdulmohsen Mohammed and Abbas Abdulhussain Abdullah Mohammed. Officials say the first suspect received military training in Iran in August 2013, and that the men admitted to receiving the shipment from "Iranian handlers outside Bahrain's territorial waters." Bahraini authorities have announced similar confiscations of contraband weapons and explosives in the past. A Shi'ite-led opposition movement in Bahrain continues to press for reform in the country, which hosts the US Navy's 5th Fleet. Iran has voiced support for those demanding change in Bahrain but denies direct interference in the country.

Bahrain summoned Iran's acting *charge d'affaires*, Mortadha Sanubari, to protest comments made by top Iranian leader, Ayatollah Ali Khamenei. In a televised speech earlier this July 2015, Khamenei said Iran would continue to support its regional friends despite its recent nuclear deal with world powers, including "the oppressed Palestinian nation, Yemen, Syria, Iraq [and] Bahrain." Iranian Deputy Foreign Minister for Consular Affairs Hassan Ghashghavi downplayed the ambassador's recall. He said it was only for consultations and that there would be no cut in diplomatic ties, according to the official IRNA news agency.

Source: <http://www.voanews.com>, 26 July 2015.

NUCLEAR SAFETY

JAPAN

IAEA Inspects Safety of Japanese Nuclear Plant

A team from the IAEA has completed an operational safety review of a nuclear station in

Japan. The Japanese Government asked the IAEA to inspect the Kashiwazaki-Kariwa Nuclear Power Station. In a 14-day review, the Operational Safety Review Team (OSART) noted a series of good practices and made recommendations to reinforce some safety measures during the mission, stated the IAEA. OSART comprised 10 experts from Canada, the Czech Republic, Finland, France, Sweden, Slovakia, the United Kingdom and the US of America as well as two officials from the IAEA.

A televised speech earlier this July 2015, Khamenei said Iran would continue to support its regional friends despite its recent nuclear deal with world powers, including "the oppressed Palestinian nation, Yemen, Syria, Iraq [and] Bahrain.

The Japanese Government asked the IAEA to inspect the Kashiwazaki-Kariwa Nuclear Power Station. In a 14-day review, the Operational Safety Review Team (OSART) noted a series of good practices and made recommendations to reinforce some safety measures during the mission, stated the IAEA. OSART comprised 10 experts from Canada, the Czech Republic, Finland, France, Sweden, Slovakia, the United Kingdom and the US of America as well as two officials from the IAEA.

The review focused on areas such as leadership and training, operations, radiation protection and technical support. It also covered operating experience, emergency preparedness and severe accident management. The OSART team identified a number of good practices at the plant that will be shared with the nuclear industry globally such as controlling its combustible material to reduce fire risk or preparing its staff for emergency situations. A final report of the station, operated by TEPCO, will be launched within three months, stated the IAEA.

Japan's nuclear industry is only just recovering after the Fukushima disaster four years ago.

Source: <http://www.energylivenews.com>, 21 July 2015.

Fukushima Team Studies Swiss Nuclear Experience

A Japanese delegation from Fukushima, site of a nuclear disaster in March 2011, has visited Switzerland to discuss energy policies, technologies and the development of renewable forms of energy. "Almost five years after the explosions in the Fukushima Daiichi nuclear power plant, 110,000 people still can't return to

live in their homes," Masao Uchibori, mayor of the prefecture of Fukushima since November, told swissinfo.ch in Solothurn. "The inhabitants of zones with raised levels of radioactivity can't lead a normal life." While most foreign reports on Fukushima focus on the reconstruction of the destroyed power plant, Uchibori points out that "time hasn't stood still in Fukushima – we've made progress on rebuilding the infrastructure".

On March 11, 2011, a magnitude-9 earthquake occurred off the Sanriku coast, triggering a tsunami that killed 15,000 people and wiped out cities and villages. It knocked out reactor cooling systems at the Fukushima Daiichi nuclear plant, 240km north of Tokyo, resulting in meltdowns in three of the six nuclear reactors and radiation leaks. Some 150,000 people were evacuated from a 20km zone surrounding the plant.

On March 11, 2011, a magnitude-9 earthquake occurred off the Sanriku coast, triggering a tsunami that killed 15,000 people and wiped out cities and villages. It knocked out reactor cooling systems at the Fukushima Daiichi nuclear plant, 240km north of Tokyo, resulting in meltdowns in three of the six nuclear reactors and radiation leaks. Some 150,000 people were evacuated from a 20km zone surrounding the plant. Uchibori said the prefecture of Fukushima had set itself the ambitious target of getting 100% of its energy from renewable sources by 2040.

Phasing it out step-by-step means that all existing nuclear power plants would be shut down after a maximum operating period of 50 years. Switzerland's newest nuclear power plant at Leibstadt, launched in 1984, is set to close in 2034. When that happens it will mark the end of nuclear power production in Switzerland.

To that end, the delegation is interested in Switzerland's experiences in withdrawing from nuclear power. Three days after the disaster, Energy Minister Doris Leuthard suspended the general licences for the three planned nuclear power plants. At the end of May 2011, the cabinet decided to phase out nuclear power step-by-step. Parliament confirmed this in autumn 2011. Phasing it out step-by-step means that all existing nuclear power plants would be shut down after a maximum operating period of 50 years. Switzerland's newest nuclear power plant at Leibstadt, launched in 1984, is set to close in 2034. When that happens it will mark the end of nuclear power production in Switzerland.

Pioneering Project: Uchibori wants Fukushima to become a model for a society that is not reliant

on nuclear power. The Japanese government is spending big on renewable energy. A floating wind project about 20 kilometres off the coast of Fukushima will soon add a seven-megawatt turbine, the largest of its kind ever to be used at sea. The new turbine will join a smaller two-megawatt model, which has been generating power since November 2013. The government has allocated 50 billion yen (CHF385 million) for the project. The technology involves attaching turbines to structures that float in areas too deep for traditional towers fixed to the seafloor. Nevertheless, the Japanese government intends to keep nuclear power as one of the country's main sources of energy.

Asked by <swissinfo.ch> what he makes of that policy, which goes against what he's trying to do in Fukushima, Uchibori replied: "The most important thing is that no nuclear power station accident happens ever again – it doesn't matter whether it's in Japan or another country. Countries should cooperate so that the

world isn't dependent on nuclear power."

Source: <http://www.swissinfo.ch>, 16 July 2015.

NUCLEAR WASTE MANAGEMENT

SOUTH KOREA

First Waste Disposal at Korean Repository

The first waste has been placed within South Korea's underground low- and intermediate-level radioactive waste (LLW/ILW) disposal facility at Gyeongju in North Gyeongsang province. Sixteen drums of waste within a concrete disposal container were put within one of the facility's silos on 13 July, the Korea Radioactive Waste Agency (KORAD) announced. The milestone marks the start of operations at Asia's first underground

radioactive waste disposal facility. KORAD said the operation to move the waste from the above-ground receipt and storage building to the underground silo took three hours to complete. The storage building currently holds 5032 drums of LLW/ILW: 2536 drums from the Wolsong nuclear power plant, 1000 drums from the Hanul plant and 1496 from contaminated paved road in Seoul. KORAD said that, starting from next month, the facility plans to receive 4233 drums of waste from nuclear power plants, industries and hospitals.

Construction of the 1.56 trillion won (\$1.5 billion) disposal facility was completed in June 2014, having started in early 2006. The first phase of the repository consists of six underground silos, each with a diameter of some 24 metres and located deeper than 80 metres below sea-level. This first phase can hold up to 100,000 barrels of radioactive waste. The South Korean nuclear regulator - the Nuclear Safety and Security Commission - gave approval last December for full operation to begin at the facility's first phase.

The building of a second phase of the repository, which will be near-surface, began in January 2012 and is expected to be completed by 2019. This will add capacity to store a further 125,000 drums of LLW/ILW. Ultimately, the facility will be used to dispose of a total of 800,000 barrels of waste. Low-level waste is typically composed of, for example, clothes, filters, and equipment used routinely at nuclear sites. It is usually placed in drums that are then compacted. Intermediate-level waste contains, for example, resins, chemical sludges and metal fuel claddings which have higher levels of radioactivity and require shielding.

Source: www.world-nuclear-news.org, 14 July 2015.

The storage building currently holds 5032 drums of LLW/ILW: 2536 drums from the Wolsong nuclear power plant, 1000 drums from the Hanul plant and 1496 from contaminated paved road in Seoul. KORAD said that, starting from next month, the facility plans to receive 4233 drums of waste from nuclear power plants, industries and hospitals.

In the past Edison provided local and state governments with \$2.3 million a year in emergency preparedness funds. The company is extending some of that funding even as it scales back nuclear-emergency precautions and escape plans for communities near San Onofre because federal safety officials regard a major disaster as increasingly unlikely.

USA

San Diego County Wades into Nuclear-Waste Dilemma

The San Diego County Board of Supervisors is considering lobbying state and federal officials to move nuclear waste away from the site of the

retired San Onofre nuclear plant near the northern county limits. Nuclear safety activists on 21 July, 2015, urged the board to take a more active role in determining the fate of the nuclear plant's stockpile of spent fuel rods. The discussion erupted as the board voted unanimously to continue accepting emergency planning funds from San Onofre plant

operator Southern California Edison. San Onofre was retired in June 2013 after brand new steam generators showed rapid deterioration. Dismantling the plant is expected to last 20 years, and radioactive waste is being held at the site indefinitely. The emergency preparedness agreement with Edison provides the county with \$1.63 million through 2019. Edison bills those costs to customers of the plant. San Diego Gas & Electric holds a 20 percent stake in San Onofre.

In the past Edison provided local and state governments with \$2.3 million a year in emergency preparedness funds. The company is extending some of that funding even as it scales back nuclear-emergency precautions and escape plans for communities near San Onofre because federal safety officials regard a major disaster as increasingly unlikely. Supervisors Dianne Jacob and Ron Roberts plan

to explore developing an official county policy against the prolonged storage of radioactive waste at San Onofre that could be voted on at a future meeting. Ron Roberts said the county should outline its position on relevant government

legislation. Michael Aguirre, a former city attorney for San Diego, suggested the county and other local governments appeal to Gov. Jerry Brown to convening a blue ribbon commission to ensure nuclear waste is removed from the coast at San Onofre. Gary Headrick, of the anti-nuclear group San Clemente Green, said he is worried that county officials, by continuing to accept emergency planning funds from Edison, may grow complacent on long-term safety issues associated with nuclear waste. "I'm concerned we're going to be blinded by their generosity," Headrick said.

Across the country, spent nuclear fuel is being stored indefinitely at active and retired reactor sites amid a political stalemate over where and how to safely isolate the materials for tens of thousands of years or longer. Most of San Onofre's spent nuclear fuel currently rests in cooling pools adjacent to the reactors. Edison plans to transfer it as soon as 2019 to steel reinforced dry casks, held in underground concrete bunkers. The administration of President Barack Obama has shelved plans for a deep underground repository at Yucca Mountain in Nevada. The administration's Blue Ribbon Commission has

suggested creating an above-ground interim site, while a deep-storage site is prepared by midcentury. County Board Chair Bill Horn, whose district overlaps the nuclear plant, lamented the political stalemate over Yucca Mountain. "I think this would be an opportunity to get that revised," he said.

The administration of President Barack Obama has shelved plans for a deep underground repository at Yucca Mountain in Nevada. The administration's Blue Ribbon Commission has suggested creating an above-ground interim site, while a deep-storage site is prepared by midcentury.

The county supervisors' chambers were the backdrop for a 2013 forum of nuclear safety attended by former Japanese Prime Minister NatoKan, who led his country through the 2011 tsunami and Fukushima nuclear disaster, and former Nuclear Regulatory Commission Chairman Gregory Jaczko,

among others. Elsewhere in California, spent nuclear is stockpiled at the site of the Humbolt Bay nuclear plant outside Eureka, which was shut in 1976. Solutions for relocating high-level nuclear waste also could emerge from the private sector. A Dallas-based waste storage company is seeking approval to house spent nuclear fuel from reactor sites around the country — including the retired San Onofre nuclear plant in northern San Diego County — at a facility in western Texas.

Source: <http://www.sandiegouniontribune.com>, 21 July 2015.



Centre for Air Power Studies

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

Centre for Air Power Studies

P-284

Arjan Path, Subroto Park,

New Delhi - 110010

Tel.: +91 - 11 - 25699131/32

Fax: +91 - 11 - 25682533

Email: capsnetdroff@gmail.com

Website: www.capsindia.org

Edited by: Director General, CAPS

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

Composed by: CAPS

Disclaimer: Information and data included in this newsletter is for educational non-commercial purposes only and has been carefully adapted, excerpted or edited from sources deemed reliable and accurate at the time of preparation. The Centre does not accept any liability for error therein. All copyrighted material belongs to respective owners and is provided only for purposes of wider dissemination.