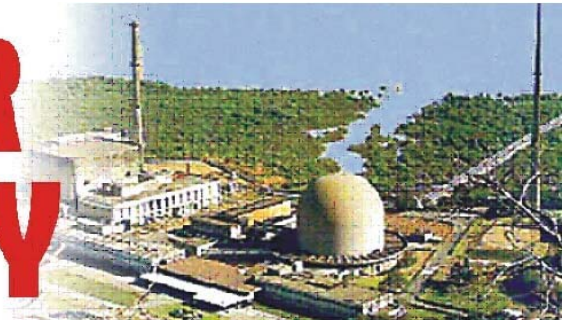


NUCLEAR SECURITY



A FORTNIGHTLY NEWSLETTER ON NUCLEAR DEFENCE, ENERGY AND PROLIFERATION FROM
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OPINION – Manpreet Sethi

India-EU Partnership for Non-Proliferation: Challenges and Opportunities

Despite being a strong economic entity of 28 major European countries, and India's largest trading partner, the EU does not figure prominently in India's foreign policy conversation. The general perception of the bloc has been one of an economic player with little political weight and influence in international relations. The India-EU political relationship has been particularly constrained in the dimension of nuclear non-proliferation. But, the situation might be changing in contemporary times. Given the increased focus of the EU itself on non-proliferation and its changed view of India, given India's own outreach on the uniqueness of its relationship with the cause and instruments of non-proliferation, and given the transformed international context, there is an opportunity for the long-standing estrangement to blossom into a non-proliferation partnership.

Among the traditional roadblocks in cooperation between India and EU has been the latter's own lack of focus on non-proliferation in the 1970s-1980s, a period in which India was grappling with growing nuclear and missile proliferation from China to Pakistan and

Given the increased focus of the EU itself on non-proliferation and its changed view of India, given India's own outreach on the uniqueness of its relationship with the cause and instruments of non-proliferation, and given the transformed international context, there is an opportunity for the long-standing estrangement to blossom into a non-proliferation partnership.

beyond. Engaged as the EU was until the early 1990s on internal consolidation issues, there was

no unitary approach on the risks from nuclear non-proliferation. This issue, in fact, came into the EU's sharp focus only in the run up to the NPT Review and Extension Conference in 1995. It was then that the EU put its weight behind the unconditional and indefinite extension of the NPT, a treaty which has never been a favourite with India. Three years later when India felt the imperative to demonstrate its nuclear weapons capability through the conduct of tests, the EU (as a bloc) displayed little understanding for Indian security compulsions, though some

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member states such as France were less critical. Subsequently, EU's continued insistence on the universality of the NPT and its championing of the CTBT have been among the major reasons for keeping it distant from India.

The relationship, however, began to show signs of change in the first half of the 2000s. The two entered into a Strategic Partnership in 2004 and this presaged the EU's ability to become a facilitator in India's accommodation into the non-proliferation regime once the US began the process in 2005. Of course,

some of the EU member states did not find this easy in view of India's 'defiance' of the NPT. The issue of making an exception for India in the NSG was vociferously projected as a test case for EU's own commitment to non-proliferation. Some EU member states still argue as before that allowing India access to international nuclear commerce without getting it to accept a non-nuclear weapons status under the NPT amounts to undermining the regime.

However, India's proactive outreach to the EU as a whole, and to its individual members, has enabled a better understanding of Indian support for the principles of non-proliferation despite its inability to join the NPT in its current formulation. EU support, en masse, for India's membership of the NSG would, in fact, help to underline, not undermine, the distinction between responsible and irresponsible nuclear behaviour and encourage non-proliferation. It is a specious argument to tie India's membership to the NSG

EU support, en masse, for India's membership of the NSG would, in fact, help to underline, not undermine, the distinction between responsible and irresponsible nuclear behaviour and encourage non-proliferation. It is a specious argument to tie India's membership to the NSG with similar treatment of other non-NPT states. Especially so, when the cases are so dissimilar in their non-proliferation history, behaviour, nuclear doctrines, and capability build-up, leave alone in fomenting dangers of nuclear terrorism from state support for non-state actors. The EU can help mark this distinction and rapidly change the course of India-EU non-proliferation partnership for the benefit of the larger international community.

India and EU find themselves on the same side in arguing for the full and effective implementation of the Iran deal, diplomatic handling of the US-North Korea stand-off, concerns on terrorism, including nuclear terrorism, and support for export controls and nuclear safety.

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Another aspect that is different today and bodes well for India-EU

cooperation is EU's own wider focus on the issue of non-proliferation. After having tasted success in the conclusion of the JCPOA with Iran in which the EU played a seminal role, the body has become more conscious of its own potential. This awakening is happening simultaneously with the relative retreat of the US under President Trump from the major global non-proliferation issues. Therefore, India and EU find themselves on the same side in arguing for the full and effective implementation of the Iran deal, diplomatic handling of the US-North Korea stand-off, concerns on terrorism, including nuclear terrorism, and support for export controls and nuclear safety.

Many potential areas for a non-proliferation partnership, therefore, can be identified. The first of

these could be cooperation in nuclear security, including through collaboration between the Centres of Excellence on both sides that could undertake joint/complementary research in nuclear forensics, training of customs or border officials,

or sharing of information or best practices on cyber challenges staring commonly at all in the coming times. Joint research and development on new and more proliferation resistant reactors as also the nuclear safety dimension is another area ripe with possibilities. It may be mentioned that the EURATOM and DAE have envisaged an agreement on R&D cooperation in peaceful uses of nuclear energy, as also on fusion energy research.

Another area of partnership can be found in promotion of nuclear disarmament through joint work on verification. Many countries of the EU, as also India, are skeptical of the ability of the recently concluded treaty on prohibition of nuclear weapons (more colloquially called the ban treaty) to be able to achieve a nuclear weapons-free world. Among the drawbacks of the treaty is its inability to have fleshed out the thorny issues of how to verifiably get rid of existing nuclear weapons. Indeed, lack of verification procedures and mechanisms remains an impediment to the acceptance of the feasibility of disarmament. This is an area that needs collaborative effort and the EU and India could find some common ground to work here.

Having remained estranged on non-proliferation for many decades, India and EU have plenty of scope for a meaningful partnership in the current times. There is a shared concern on non-proliferation which is perhaps being felt with equal intensity, and there is a willingness to explore common solutions. The possibilities are immense and must be exploited prudently by both sides to further a cause that is central to international security.

Source: <http://www.ipcs.org>, 20 December 2017.

OPINION – Rafal Rohozinski

How the Internet Made Nuclear War Thinkable (Again)

Nuclear weapons formed the basis of strategic stability between the nuclear superpowers for the past seventy years. The threat of instantaneous and mutual annihilation helped concentrate minds, including the establishment of clear and unambiguous “rules of the game” among the nuclear superpowers. States continued to compete, but competition was never allowed to compromise overall strategic stability. Nuclear deterrence was based on a simple calculus. Once launched, nuclear weapons were nearly impossible to stop and even limited use would result in civilization ending consequences. In former US President Reagan’s words, nuclear war was “unthinkable”. The knowledge that entire nations could be obliterated was a sufficient guarantor of strategic stability based on MAD.

The shared confidence in MAD that underpinned the nuclear regime started changing during the 1990s. New research and development into anti-ballistic missile systems improved raised concerns over the durability of nuclear deterrence. Specifically, the Russian government interpreted the placement of radars and ballistic missiles in Eastern Europe as an existential threat to Russia’s nuclear deterrence capability, and not a bulwark against supposed rogue states as alleged by the US and its allies. Even so, MAD survived into the early twenty first century, keeping the nuclear threat on the back-burner. Cooperation between the major nuclear

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powers to disarm also reached an all-time high. Both the US and Russia focused on reducing their nuclear stockpiles with admirable results. Working with the UN, the focus was on the threat of loose nukes, rather than a confrontation between nuclear-armed foes. Tensions, which persisted, were treated by all sides as manageable and negotiable.

All of this changed with the Internet. The Internet shares a coincidental heritage with the nuclear age. Indeed, it was conceived as a decentralized and distributed communications network that could survive a nuclear war and preserve a command and control. In the post Cold War era, its principal significance is not so much military as the news backbone of the global digital economy. These two worlds – the nuclear and the digital – are now converging. They are also giving rise new risks, three of which stand out. The first risk relates to bringing nuclear command-and-control systems into the digital age. The existing nuclear weapons infrastructure is for the most part analog and predates the Internet era. As Russian and US nuclear command and control systems are modernized over the next few years their dependence on digital technologies will increase. Modernization necessarily increases complexity – and complexity creates new possibilities for error.

The planet came perilously close to a nuclear exchange on several occasions over the past half century. A nuclear calamity was only averted by

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The Stuxnet case is a reminder that this possibility is more science than fiction. The implanting of malware designed to destroy Iran’s capacity to separate uranium demonstrated emphatically the utility and feasibility of strategic cyber attacks. Interventions designed to disrupt and destroy the command and control systems of nuclear weapons are the Internet equivalent of Ronald Reagan’s Strategic Defence Initiative.

the courageous actions of men such as Lt Col. Petrov, who in September 1983 deliberately ignored sensor data that falsely reported the Soviet Union under a massive nuclear attack from America. With nuclear command and control systems increasingly dependent on artificial intelligence, there are less opportunities for human intervention. There are also the risks of hacking and digital manipulation. The Stuxnet case is a reminder that this possibility is more science

than fiction. The implanting of malware designed to destroy Iran’s capacity to separate uranium demonstrated emphatically the utility and feasibility of strategic cyber attacks. Interventions designed to disrupt and destroy the command and control systems of nuclear weapons are the Internet equivalent of Ronald Reagan’s Strategic Defence Initiative. They dangerously entangle cyber warfare and nuclear stability. There are just 9 nuclear armed states, but over 140 countries are actively developing cyber warfare capabilities.

The second risk is that the world’s dependence on cyber actually increases the deterrence value of acquiring even a few nuclear weapons. Due to their blast, radioactive and EMP effects, nuclear weaponry is especially effective against states that are hyper-connected and reliant on digital technologies. They can disable and destroy electrical grids, data farms and computer and communication systems – wreaking havoc on everything from financial systems to water and

food supplies. A new suite of hydrogen bombs are being developed with the EMP impacts in mind. The weapons tested by North Korea are reportedly based on Russian design and intended to have an enhanced electromagnetic effects, a fact publicized by North Korea's leadership. New research from Accenture strategy and Oxford Economics suggests that roughly 25% of all global GDP will be tied to the digital economy by 2020. The detonation of just one EMP in the upper atmosphere above North America or Western Europe could cripple their digital infrastructures for years. Even outgunned, North Korea is potentially holding world's digital economy hostage.

The third risk is perhaps most unsettling risk is that nuclear first strikes are becoming thinkable as a viable option to stop the use of similar weapons by states like North Korea. Recall that nuclear deployment systems are based on electronics. These electronic systems may be resistant to offensive cyber attacks. It is not inconceivable that in a moment of crisis, EMP-enhanced nuclear weapons could be deployed to prevent a rogue nuclear state from launching its ballistic missiles. Such an action may even appear rational, or the lesser of two evils.

All of the risks outlined above are still hypothetical. But as the digital and nuclear worlds become increasingly entangled, reality is catching-up. The strategy of deterrence is being redefined and the implications are deeply

worrying. The launch of cyber-attacks and precision nuclear strikes using EMP against the weapons systems of adversaries no longer seems as far-fetched as it once was. With nuclear war becoming thinkable again, we are clearly entering uncharted waters.

Source: <http://moderndiplomacy.eu>, 24 December 2017.

OPINION – Roger Hanson

The Problem of Nuclear Weapons and Agreements to Not Use Them

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There was one abstention, Singapore and one, the Netherlands voted against the PWN saying that it conflicted with their commitments to the NATO military alliance. The science of evolutionary biology predicts and history shows that communal agreements or cartels are nearly always doomed to fail. The bigger the incentive to renege on the agreement the greater the probability of failure.

Suppose every nation really did stop producing,

stockpiling and using nuclear weapons, that would be wonderful, but, if just one nation secretly reneged, it would immediately become the most powerful nation in the world. It alone could back-up any demand with the threat of nuclear annihilation. The first problem is that the prize for reneging on a nuclear agreement is enormous. If you can annihilate countries, you must be listened to – each of the Big

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The second problem is that the track record of nations complying with treaties which they have signed, is not good. The Biological Weapons Convention is a multilateral disarmament treaty banning the production of biological weapons. It came into force in 1975, but in the early 80s dissidents reported that the Soviet Union was busily continuing with research and with the stockpiling of biological toxins and weapons, despite having ratified the treaty. There is no doubt that China and the US are doing the same.

Their argument is sure to be that it is just too risky not to do so.

The third problem is, at the time of signing there may have been good intentions, however that doesn't mean those countries are going to be ruled by such compliant leaders in the future. One hundred years ago no one would have predicted the rise of Saddam Hussein or Kim Jong-un. The strategy appears to be, prepare in secret to make sure that if things turn sour in the future, you won't be caught unawares. When it comes to nuclear disarmament, there is no such thing as neutrality under all circumstances. That includes New Zealand. With its ample water and food resources New Zealand could become a very attractive invasion target in a future world with burgeoning populations and climate-change-driven water and food shortages.

If thousands of enemy forces backed up by nuclear missiles and aircraft appeared over the horizon, New Zealand would immediately have to call on assistance from a nuclear capable ally to threaten the aggressor. To some this may seem a ridiculous scenario, however there are many precedents. For example, battle weary after the ravages of World War I, Belgium in 1936 declared itself neutral in the event of another European war. In 1937 Nazi

Germany formally guaranteed Belgium's neutral status. But in 1939 when war was declared between Germany and the UK/France, the Belgian government ordered a huge re-armament programme.

It was too late. Belgium, being inconveniently located between Germany and France meant that in 1940 the Nazis tore up all agreements and invaded. It was all too fast for Belgium who were ill prepared to deal with the Nazi treachery. Despite brave and desperate resistance, Belgium was overrun in 18 days. Its neutral status meant nothing. Beyond the Big Five, North Korea, Israel

and Pakistan are all nuclear capable and many other countries are keen to join the nuclear club. The best approach to address proliferation of the nuclear weapons is the ICAN strategy, which is to promote adherence to the PWN and to shame any reneging signatories. Realistically however, the inconvenient truth is that the nuclear weapon genie is well and truly out of the

bottle and can never be returned.

Source: www.stuff.co.nz/, 19 December 2017.

OPINION — Modina Jaffer, Yuen Pau Woo

In a Nuclear Age, Peace is the Only Choice

As the threat of catastrophic war looms over Northeast Asia, Canada has a duty to help de-escalate tensions in the region before it is too late. In November 2017, North Korea tested its newest long-range missile, the Hwaesong-15, which could threaten any city in North America. This is the latest addition to an arsenal that already has the ability to devastate the heavily populated cities of surrounding countries. The American response has not been reassuring. Sharp rhetoric from both the White House and Congress has put the US on a collision course with the rogue state of Jong Un. The worst case is nuclear war,

Beyond the Big Five, North Korea, Israel and Pakistan are all nuclear capable and many other countries are keen to join the nuclear club. The best approach to address proliferation of the nuclear weapons is the ICAN strategy, which is to promote adherence to the PWN and to shame any reneging signatories. Realistically however, the inconvenient truth is that the nuclear weapon genie is well and truly out of the bottle and can never be returned.

and despite claims from the White House, North America may be more vulnerable than many assume.

BMD systems are not foolproof. If anything, the complacency that comes from misplaced faith in these systems could make a peaceful resolution to the crisis more difficult, while endangering lives on both sides of the Pacific. Currently, there is only one system capable of stopping North Korea's Hwasong intercontinental missiles — Ground-Based Midcourse Defence interceptors. Experts say that it is a near-perfect defence against North Korea, with a 97 per cent chance of shooting down a missile if four interceptors are used. While these may seem like good odds, there is one glaring problem: the US only has 44 of these interceptors at its disposal. In other words, if North Korea fires more than 11 missiles — including any number of decoys — the chances of successfully stopping a missile attack plummet. The problem is compounded.

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Even in the best case scenario — where North Korea lacks the ability to effectively aim and control their intercontinental ballistic missiles — relying on BMD systems is a reckless gamble that puts millions of lives on the line. The world is closer to nuclear war than at any time since the Cuban Missile Crisis in 1962. As a non-nuclear state with a history of peacemaking, how should Canada respond? We should recall the words of Lester B. Pearson in his Nobel Peace Prize speech sixty years ago: “What is needed is a new and vigorous determination to use every technique of discussion and negotiation that may be available, or, more important, that can be made available, for the solution of the tangled, frightening problems that divide today, in fear and hostility ...” In the face of nuclear war, diplomacy is the best option. Indeed, it may be the only option. In this respect, Canada has already demonstrated leadership by hosting an

international summit in early 2018 to help de-escalate this crisis. This event may amount to nothing, but as Churchill said, “Jaw-Jaw is better than War-War”.

Canada's special relationship with the US, and our generally positive history and standing in Asia, put us in a privileged position to advance diplomatic solutions to the Northeast Asian nuclear crisis. We have already succeeded in securing Secretary of State Tillerson's commitment to co-host a meeting of foreign ministers to address the threat of North Korea in early 2018, despite aggressive rhetoric from the United States. Every effort should be made

to also secure the highest level of representation from China, which may hold the key to a peaceful solution for the region, and — as importantly — a pathway for economic development in impoverished North Korea.

Uniquely recognized as an honest broker on the world stage, Canada has a responsibility to employ its international standing to create a space for all sides

to hear each other out and find a peaceful solution to what amounts to existential threats. Another Canadian was in Oslo December 10 to receive the Nobel Peace Prize. Hiroshima survivor Setsuko Thurlow received the award along with colleagues from the International Campaign to Abolish Nuclear Weapons....

Source: Mobina Jaffer and Yuen Pau Woo are senators from British Columbia. <http://vancouver.sun.com/>, 25 December 2017.

OPINION — Mahan Abedin

Nikki Haley's Frantic Missile Display Betrays US Anxiety over the Yemen War

The firing of a ballistic missile at Riyadh on 19 December, which was reportedly intercepted by the Patriot missile defence system, underscores the potential for escalation in the nearly three-year-long Yemen conflict. The latest missile strike

came on the heels of a highly dramatic presentation by Nikki Haley, the US' ambassador to the UN, which purported to show "undeniable" evidence of an Iranian connection to the missile strikes on Saudi Arabia.

Incomplete Case?: The setting of the presentation, at an air force hangar in Washington DC, was instructive, as was Haley's standing in front of the "charred remnants" of what the US Pentagon claims was an Iranian-made ballistic missile fired at King Khaled international airport in early November. The firm US conviction as expressed by Haley is more based on politics than evidence. It is instructive that a UN panel of experts investigating the ballistic missile strikes found no "smoking gun" as to the specific maker or supplier of the missiles. In a report to the UNSC on 24 November, the independent panel of UN monitors said the remnants of four ballistic missiles fired into Saudi Arabia by Yemen's Houthi rebels appear to have been designed and manufacture by Riyadh's regional rival, Iran.

At the heart of Haley and the Pentagon's case is that the short-range ballistic missiles fired at Saudi targets since July bear remarkable resemblance to the Qiam-1, a short-range, liquid-fuelled ballistic missile first unveiled by Iran in August 2010. Rhetoric aside, the sole technical aspect of Haley's case against Iran is the questionable assertion that Qiam-1 is the only ballistic missile in the world without stabiliser fins. If this is the strongest technical aspect of the case, then as sceptics have pointed out, it leaves key questions unanswered.

However, the panel said it "as yet has no evidence as to the identity of the broker or supplier" of the missiles which were likely shipped to the Houthis in violation of a targeted UN arms embargo imposed in April 2015. On 9 December, another UN panel submitted a report to UN Secretary-General Guterres on the implementation of UN sanctions and restrictions on Iran. According to the report, described as confidential, UN officials have found that "the missiles had similar structural and manufacturing features which suggest a common origin", but they were still investigating US and Saudi claims that Iran supplied them.

In fact, UN investigators looking at the shrapnel of projectiles fired between July and November

have reportedly discovered both Iranian and American hardware in the missiles, thus strengthening the hypothesis that the deployment of these missiles may have more to do with Yemeni Houthi ingenuity than a direct Iranian supply network.

A Deterrent Capability: Irrespective of the missiles' origin, their strategic impact is already evident, as demonstrated by Haley's dramatic and – in part – desperate presentation. By demonstrating its ability to strike deep inside Saudi Arabia, the Ansar Allah movement (aka the Houthis) have established a sufficiently strong deterrent capability which is set to influence the outcome of the war. At the heart of

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the case, then as sceptics have pointed out, it leaves key questions unanswered.

Iran's Ballistic Missile Industry: Established in the mid-1980s at the height of the Iran-Iraq War, Iran's ballistic missile industry has been owned from the outset by a specialised wing of the Islamic Revolutionary Guards Corps (IRGC). Today this specialised wing is housed in the aerospace division of the IRGC commanded by Brigadier-General Hajizadeh. Whilst Iran produces and deploys up to a dozen different type of ballistic missiles – differentiated by fuel type, accuracy, range and size of warhead – at the conceptual level most of them can be traced to the Soviet Scud-B and Scud-C ballistic missiles.

Specifically, the Qiam-1 is a variant of the Shahab-2, originally modelled on the Soviet Scud-C. The Shahab family of missiles is the crown jewel of the Iranian ballistic missile programme, in so far as they demonstrate a relatively high degree of innovation and indigenous capability. Latest models include the Shahab-3, a medium-range ballistic missile which carries a warhead payload in excess of 1,000kg. Hitherto, there has been only one officially verified operational use of the Qiam-1; that occurred in June when the IRGC struck so-called Islamic State group targets in eastern Syria in retaliation for the group's twin terror attacks in Tehran earlier in December.

Whilst the apparently successful deployment of Qiam-1 in June tends to lend credence to the US charge that they have been supplied to the Houthis – in the confidence that they can be deployed successfully in an operational setting – Haley and the Pentagon have left at least three technical questions unanswered. First and foremost, in view of the blockade imposed on Yemen, and more specifically the forensic scrutiny applied to any potential Iranian access to Yemeni ports, how was it possible for the IRGC to ship sophisticated and high-maintenance ballistic missiles to Yemen?

Second, US and Saudi charges of an Iranian connection completely fail to take into account Yemen's pre-existing stockpile of ballistic missiles. When the Houthis took over Sanaa in September 2014, the Yemeni armed forces were in possession of at least 85 ballistic missiles. Just under half was comprised of Scud-B missiles directly supplied to South Yemen by the former

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Soviet Union in late 1979. An additional 45 Hwasong-6 ballistic missiles were supplied to Yemen by North Korea in the period 2001-2002.

This connection led the South Korean intelligence service to assess that the Hwasong-6 was fired at Saudi Arabia during the early phase of the war.

More broadly, the firing of missiles at the early stage of the conflict was instructive, in so far as it hinted at a pre-existing Yemeni national defence

strategy to use missiles against a proximate adversary in the event of war. This reality speaks to the complexity of the issue and undermines the US and Saudi obsession to attribute the Yemenis' missile capability entirely to Iran. Third, if the IRGC is supplying the Houthis with ballistic missiles, they could have done better by giving them shorter range and more accurate missiles. For example, the short-range Fateh-110 (first developed in the 1990s but only fully deployed since 2002) has relatively advanced control and guidance systems.

While the Fateh-110 cannot reach Riyadh from northern Yemen, nevertheless it can cause devastation to Saudi defence installations in the

south of the country. More importantly, it is easier to de-assemble, transport and re-assemble than the Qiam-1. None of this of course proves that there is *no* Iranian connection to the missile strikes on Riyadh. But it does point firmly to the US's incomplete case against Iran and the highly

politicised nature of Haley's presentation.

American and Saudi Fears: Independent experts not connected to the US Defense Intelligence Agency are likely to form a more expansive

background, situational and operational assessment of the recent missile strikes on Saudi Arabia. Beyond technical issues, there is a clear strategic logic for the IRGC to help the Houthis develop deterrent capabilities, especially in the context of Saudi escalation. It is clear that the targeting of Riyadh has rattled both the Saudis and the Americans, thus prompting Haley's frantic presentation. American and Saudi fears are compounded by emerging reports that the US-supplied Patriot missile defence system may have failed to destroy the missile aimed at King Khaled international airport.

In view of the Houthis' demonstrable ability to target sensitive Saudi sites, the kingdom is likely to be more cautious in its bombing campaign of Yemen. Saudi leaders are now all too aware that any serious escalation, particularly high-casualty attacks, may prompt the Houthis to target Riyadh in retaliation. A measured and timely use of ballistic missiles could even shorten the duration of the war and torpedo Saudi plans to inflict a decisive military defeat on the Houthis. A possible Iranian hand in this approach can be discerned from the rhetoric of Iranian defence and national security leaders. Alluding to the deployment of ballistic missiles by the Houthis, former defence minister Vahidi, claimed on 21 December that the US is "hostage" to Iran's regional strategy of "resistance".

Source: *middleeasteye.net*, 22 December 2017.

OPINION — Peter Jenkins

Saudi Plans to Develop Nuclear Power

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Tom Lippman reported that Westinghouse hopes to win an order for nuclear reactors from Saudi Arabia (KSA). He also referred to speculation that, to help Westinghouse, the US would not insist on KSA foregoing uranium enrichment when it came to formulating the intergovernmental agreement on nuclear cooperation (123 agreement) that would

have to underpin a US reactor sale. If things turn out that way, those who have a taste for irony will be able to enjoy a quiet chuckle. Back in the 1990s, the US portrayed Iran's wish to complete construction of a nuclear reactor at Bushehr, with Russian help, as an indicator of nuclear proliferation intent, arguing that a state as rich in oil and gas as Iran had no need of nuclear power. Now, Lippman implies, the US is happy to accept that KSA and other Gulf Arab states need nuclear power because burning their crude oil to meet a domestic demand for electricity reduces the amount available for export—the very argument Iran used in the 1990s to justify the resumption of a civil nuclear program abandoned after the fall of the Shah.

The US is happy to accept that KSA and other Gulf Arab states need nuclear power because burning their crude oil to meet a domestic demand for electricity reduces the amount available for export—the very argument Iran used in the 1990s to justify the resumption of a civil nuclear program abandoned after the fall of the Shah.

More significant, however, would be US readiness to tolerate Saudi acquisition of a uranium enrichment capability. According to Lippman, there are extensive uranium reserves in KSA, and the Saudi government has made clear that it wants these to be processed domestically. Since 1975 the US has argued more fiercely than any other

supplier of nuclear equipment for restricting the spread of uranium enrichment (and spent fuel reprocessing) technology, because this can be used for the production of nuclear weapon material. Initially the most the US could obtain from other suppliers was agreement to “exercise restraint in the transfer of sensitive facilities, technology and weapons-usable materials.” But by 2011 they had persuaded the other members of the NSG to accept three pages of “Special Controls on Sensitive Exports.”

So tolerating Saudi acquisition of an enrichment capability—maybe even facilitating it—would be either a major inconsistency or a major policy shift. In addition, it would have implications for Iran policy. Under the July 2015 nuclear agreement with Iran (JCPOA), Iran is applying the IAEA Additional Protocol. This allows the IAEA to subject Iran’s nuclear program to a root-and-branch investigation. The aim of such investigations—completed or underway in many countries, not just Iran—is the acquisition of confidence in the entirely peaceful nature of nuclear programs. Typically, once an investigation has been completed—and if nothing untoward has come to light—the IAEA “assures” the international community that there is no undeclared nuclear activity or material in the state concerned.

If—as currently seems likely—the IAEA proves able, a few years from now, to provide such an assurance in relation to Iran’s program, the assurance will constitute a final line under the nuclear safeguards non-compliance that the IAEA reported in 2003. It will spell the disappearance of a legitimate and reasonable case for discriminating against Iran and denying that Iran has a sovereign right to make what use it pleases of nuclear technology as long as it is for peaceful purposes. This suggests that—outside the US and Israel, and any other states that are hostile to

Iran—there is unlikely to be support for coercing Iran into accepting further restrictions on its uranium enrichment capability when the restrictions for which the JCPOA provides expire.

How much greater—to come to the point—will be global resistance to discriminating against Iran’s uranium enrichment activities if by 2026-31 (when JCPOA restrictions will be falling away) KSA is happily developing an unrestricted uranium enrichment capability with US blessing? The US may be fond of applying double standards, especially in the Middle East, but most of the rest of the world believes that double standards do harm to a rules-based international order.

The ultimate pleasure for ironists may come from observing how Israel reacts to Saudi acquisition of a uranium enrichment capability. For many years the Israeli government portrayed Iranian acquisition of enrichment technology as an “existential threat” to Israel. If Israel and KSA continue to be best buddies (despite Israel’s continuing illegal occupation of East Jerusalem and the West Bank), will Israel be content for KSA to acquire that technology? Or will the Israeli government recall Lord Palmerston’s immortal aphorism: “We have no eternal allies, and we have no perpetual enemies. Our interests are eternal and perpetual, and those interests it is our duty to follow.”

Source: lobelog.com/, 18 December 2017.

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OPINION — Deandra Madeena Moerdaning

2018 UN Talks on Disarmament: What to Expect from Indonesia?

We still vividly remember the horror of August 1945, when the US dropped the world’s first atomic bombs on Hiroshima and Nagasaki. Decades later, multilateral efforts have attempted

to contain the spread of nuclear weapons to achieve a nuclear-weapon-free world. One of these efforts is the Treaty of NPT that entered into force in 1970. To date, a total of 190 states including five countries that possess nuclear weapons are state parties of NPT, making the treaty the largest in membership of any arms-control agreement.

NPT incorporates three pillars; 1) preventing the spread of nuclear weapons/non-proliferation, 2) total abolishment of nuclear arsenals/disarmament, and 3) peaceful civilian uses of nuclear energy. While non-proliferation has dominated the NPT agenda, recently marked by the success of the JCPOA, known as the Iran Deal, countries including Indonesia have continuously voiced concerns over the very slow pace of nuclear disarmament and hence question the commitments of nuclear weapons states. Russia and the US are believed to have the largest arsenals, accounting for 90 percent of around 15,000 nuclear warheads in the world. Worse, other countries such as Israel, India, Pakistan and North Korea that also possess nuclear weapons remain outside the treaty.

To challenge NPT's status quo approach, in 2013 the UNGA adopted a pioneering resolution submitted by the NAM of which Indonesia is a member. This resolution decided to boost disarmament by holding the first-ever UN high-level conference on disarmament in 2018 and established Sept. 26 as the International Day for the Total Elimination of Nuclear Weapons. The UN talks would be the first of its kind to push for a new treaty that categorically prohibits nuclear weapons.

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The UN talks on disarmament should showcase Jakarta's determination to eliminate the double standards in enforcing non-proliferation efforts – by questioning the future of Israel's opaque nuclear posture and raising the agenda of a Middle East nuclear weapon free zone. At the regional level, Indonesia should be able to persuade Singapore, who chose to abstain from voting in July, to support the Nuclear Weapon Ban Treaty by affirming the shared value and principles of the Southeast Asian Nuclear Weapon Free Zone Treaty.

Indonesia should actively contribute to make the UN talks effective. Indonesia is not only one of the strongest opponents of nuclear weapons, it has also actively encouraged all nations to counter modernization of nuclear warheads. Jakarta's contributions are visible through its participation in international organizations and commitment to multilateral agreements concerning nuclear proliferation and disarmament. Earlier this 2017 in March and June 15 to July 7, Indonesia served as one of the vice presidents on the Negotiations Conference of the Treaty on the Prohibition of Nuclear Weapons. On July 7 the UN introduced the first global treaty that bans all nuclear-weapon-related activities. In September FM Marsudi signed the agreement in New York.

So far, a total of 122 states have signed the treaty while three have ratified. The Nuclear Weapon Ban Treaty will enter into force 90 days after 50 states have ratified. Although an overwhelming number of countries view this treaty as UN's accomplishment towards elimination of nuclear weapons, nuclear-armed states and their allies skipped the July meeting and are less likely to sign the treaty anytime soon. This treaty will not bear fruit overnight. However, it could affect nuclear disarmament and the current non-proliferation regime. That is why it is of vital importance that Indonesia and like-minded countries make the best of the 2018 conference and together come up with a concrete diplomatic solution to pressure nuclear-armed nations and their allies to sign and ratify the treaty.

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by questioning the future of Israel's opaque nuclear posture and raising the agenda of a Middle East nuclear weapon free zone. At the regional level, Indonesia should be able to persuade Singapore, who chose to abstain from voting in July, to support the Nuclear Weapon Ban Treaty by affirming the shared value and principles of the Southeast Asian Nuclear Weapon Free Zone Treaty. Under its "free and active" foreign policy doctrine, Indonesia should feel free to consistently criticize and pressure nuclear-armed states without being restrained by any special relationships with these countries. Moreover, Indonesia should take a proactive approach in providing a range of measures that can be taken by nuclear-armed states to support this treaty eventually.

Finally, as the coordinator of the Non-Aligned Movement's working group on disarmament, it is Indonesia's responsibility to call for universal adherence to the Nuclear Weapon Ban Treaty. To this end, Indonesian delegates should provide concrete action plans for nuclear-armed states and influence them to contribute to a world without nuclear weapons.

Source: thejakartapost.com, 19 December 2017.

NUCLEAR STRATEGY

CHINA

China Conducts 'World First' Nuclear Missile Test that could Hit Target in Seconds

In November, China's PLA Rocket Force conducted two flight tests of a new ballistic missile that was attached to a hypersonic glide vehicle (HGV). A HGV is a form of aircraft that is capable of reaching speeds five times faster than the speed of sound, allowing it to deliver nuclear weapons to their target in a matter of seconds.

According to the US official the test was "the first HGV test in the world using a system intended to be fielded operationally". Both the US and Russia have been working hard on their own tests of HGVs, but neither are believed to have conducted tests for a system that could be operational.

... The new tests conducted by China are their first since the ruling Communist Party's annual Congress in October. The HGV tested on November 1 is said to have been specifically designed for a medium-range ballistic missile called DF-17 and landed "within metres" of its intended target.

A second test of the missile took place on November 15. According to US officials the missile is expected to become fully operational by 2020. A National Air and Space Intelligence Centre report released in June warned that HGVs could be more dangerous as they were harder to defend against due to the speed the missile travels at. It said: "The combination of high speed, manoeuvrability, and relatively low altitudes makes HGVs challenging targets for missile defence systems."

The planned introduction of the HGV into China's nuclear arsenal comes after President Xi Jinping used the Communist Party's 19th conference to unveil his plans to make a "world-class military". Centred around a new, condensed structure of 84 military units, the military reshuffle builds on Xi's years-long efforts to modernise the PLA with greater emphasis on new capabilities including cyberspace, electronic and information warfare.

As chair of the Central Military Commission, Xi is also commander-in-chief of China's armed forces. President Xi told commanders of the new units at the PLA headquarters in Beijing the test "has profound and significant meaning in building a world-class military". All 84 new units are at the combined-corps level, which means commanders will hold the rank of major-general or rear-admiral, and unit members would likely be regrouped from existing forces.

The Chinese military is currently cutting its troops by 300,000, as part of a number of wide-ranging military reforms introduced by President Xi in late 2015. Those reforms include establishing a joint operational command structure by 2020 and rejigging existing military regions, as well as streamlining troop numbers particularly in non-combat facing roles.

Source: Article by Dan Falvey, <https://www.express.co.uk>, 29 December 2017.

INDIA

India's Nuclear Weapons Program to Get a Boost as Uranium Output to Increase 10x by 2031-32

India has plans to increase the output of uranium — the key fuel used in its nuclear weapons program — by ten times by 2031-32 and achieve self-sufficiency, the Department of Atomic Energy said. India is estimated to have 232,315 tons of uranium contained in deposits of 273,956 tons of uranium octoxide. Even though the amount of uranium deposits is known, the actual quantity of uranium produced by India from indigenous sources at present is a state secret, as it can be used to calculate the quantity of nuclear weapons that the country makes. India cannot use imported uranium to make weapons due to restrictions placed by the exporters of the nuclear fuel, and has to depend on indigenous production to fuel its weapons program. It also uses part of the domestically mined uranium to produce power. Out of about 7,000 MW of nuclear power produced in India, 2400 MW is fuelled by domestic uranium.

India aims to increase the output of uranium soon, the government said. "Uranium Corporation of India has made a detailed plan in line with DAE's vision to achieve self sufficiency in Uranium production achieving

nearly ten-fold rise in next 15 years (by 2031-32)," the DAE said. "UCIL has outlined a plan for massive expansion which includes plan to maintain sustained supply from existing facilities, capacity

expansion of some existing units and construction of new production centres (mines and plants) in different parts of the country." ...

Source: ultra.news, 22 December 2017.

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JAPAN

Japan Approves Record \$45 Billion Defence Budget after North Korea Missile Threat

Japan's government approved a record military budget on 22 December but did not earmark enough

extra money to stop a splurge on US-made BMD kit from putting a squeeze on funding for an ambitious domestic jet fighter project. Japan's defence outlays for the year starting April 1 will rise for a sixth straight year, increasing by 1.3

percent to 5.19 trillion yen (\$45.76 billion), according to a budget breakdown published by the government. The biggest ticket item is 137 billion yen to reinforce defences against a possible North Korean ballistic missile attack. That includes purchases of a new longer range interceptor, the SM-3 Block IIA, designed to strike ballistic missiles in space, upgrades for the Patriot missile batteries that are the last line of defence against incoming warheads and preparations for the

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construction of two ground-based Aegis radar stations. Japan will also spend 2.2 billion yen to begin acquiring medium-range air-launched cruise missiles able to strike sites in North Korea in a bid to deter any potential attack by Pyongyang, which continues to test ballistic missiles.

...A spending spree on mostly US-made equipment means Japan's defence planners are being forced to curtail domestic programmes that would help local defence contractors such as Mitsubishi Heavy Industries and Kawasaki Heavy Industries maintain their military industrial base. That may force Japan to curtail its long-held ambition to build an advanced stealth fighter, dubbed the F-3. In November, US President Trump called on PM Abe to buy more US-made weapons as his administration pushes Washington's allies to contribute more to their joint defence. Japan plans to allocate 279 billion yen of its next budget to buy defence equipment through the US government's Foreign Military Sales system, 15 percent more than the current budget and more than double the amount spent in year that ended March 31, 2015.

...Japan will delay a decision to develop the F-3, which is meant to counter military technology advances by China, putting on hold a project estimated to be worth more than \$40 billion. The latest defence spending plans provide the first concrete public indication that pause is underway. A budget request submitted in August earmarked 7.4 billion yen for a new large jet engine test facility that Japan's defence ministry will need to test a prototype F-3 engine. That item was not included in the budget approved on 22 December. A proposed 2.4 billion for other F-3 research was also trimmed

to 1.6 billion yen....

Source: <http://www.news18.com>, 22 December 2017.

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Pyongyang's new Hwasong-15 intercontinental ballistic missile launched November 29, flew a record distance of 600 miles as well as an unprecedented 2,800 miles in altitude. If the rocket was shot from a standard angle, experts believe it could have flown 8,100 miles, putting Washington D.C. within its target range.

NORTH KOREA

North Korea Seeks the Capability to Kill Millions of Americans

North Korea seeks the capability to kill millions of Americans with nuclear weapons, according to the Trump administration's NSS report. The 68-page report released on 18 December raises concern on the rapid advancement in missile technology in "hostile states" around the world which could be a "means to use a nuclear weapon against the US." It directly mentions North Korea 13 times, as a potential threat to the US homeland. Pyongyang's new Hwasong-15 intercontinental ballistic missile launched November 29, flew a record distance of 600 miles as well as an unprecedented 2,800 miles in altitude. If the rocket was shot from a standard angle, experts believe it could have flown 8,100 miles, putting Washington D.C. within its target range.

The report says, such missiles could mount nuclear, chemical and biological weapons which

North Koreans are also seeking to acquire. It stresses that a global response is needed to address the growing danger of seeing a nuclear-armed North Korea which could lead to proliferation of the weapons of mass destruction in the Indo-Pacific region and beyond.... One of the priority measures mentioned is the deployment of "a layered missile defense system to defend the homeland against possible missile attacks from North Korea and Iran." This includes

the ability to intercept missile threats prior to launch.

The report, however, says enhanced missile defense is not intended to undermine the strategic stability of China and Russia, possibly alluding to US military drills in the Asia Pacific region and the deployment of the US THAAD anti-missile system to South Korea. South Korea and Japan are highlighted as key allies in building up a strong defense network in the region, and in achieving “complete, verifiable and irreversible denuclearization on the Korean peninsula.” The Trump administration pledges maintain a forward military presence capable of deterring and, if necessary, defeating any adversary.

The two sides also planned to discuss contingency measures such as dealing with the North’s nuclear weapons and the possible outbreak of a refugee crisis upon conflict with the North or the collapse of the Jong Un regime. While Washington agreed to take more prudent steps in terms of military drills against the North, and “showed understanding” toward a “dialogue-based solution,” the paper reported that the US-China partnership may waver if Beijing doesn’t provide sufficient information on its sanctions on the North.

Source: www.upi.com, 18 December 2017.

USA–CHINA

Washington and Beijing to Establish Military Hotline on N. Korea

Washington and Beijing have agreed to install a military hotline for emergency talks on North Korea, according to the Shimbun on 25 December. US President Trump and his Chinese counterpart Jinping in November exchanged their views on how to deal with the North Korea nuclear crisis, the Japanese daily reported, citing Washington officials. During their bilateral summit in Beijing, Trump and Xi reportedly agreed that North Korea will never be accepted as a nuclear state and that international pressure must continue until the regime gives up its nuclear ambition.

As a means of cooperation, the two heads of state decided to establish a direct line of communication between the US Forces Korea based in Seoul and China’s army base in Shenyang, an eastern city that borders North Korea. They also

agreed to hold regular high-level meetings between military and intelligence officials to share information on Pyongyang’s nuclear and missile program as well as the impact of sanctions on the North Korean economy. China pledged to update Washington on its progress of enforcing sanctions on the regime through various financial authorities every few months.

According to the paper, the two sides also planned to discuss contingency measures such as dealing with the North’s nuclear weapons and the possible outbreak of a refugee crisis upon conflict with the North or the collapse of the Jong Un regime. While Washington agreed to take more prudent steps in terms of military drills against the North, and “showed understanding”

toward a “dialogue-based solution,” the paper reported that the US-China partnership may waver if Beijing doesn’t provide sufficient information on its sanctions on the North.

Source: www.upi.com/, 25 December 2017.

BALLISTIC MISSILE DEFENCE

PAKISTAN

Pakistan Voices Concern over Nuclearisation of Indian Ocean

Top Pakistan civil-military leadership on 21 December expressed concern over the stockpiling of nuclear arms and installation of BMD systems by neighbouring countries, including India, noting that such destabilising manoeuvres could undermine strategic stability in South Asia. The NCA meeting, chaired by PM Abbasi, backed Pakistan’s defence forces to hold their own in case of any acts of aggression by the adversaries, but reaffirmed its commitment to Full Spectrum Deterrence – the principle on which Pakistan’s

nuclear strategy is based, Dawn reported.

The meeting expressed full confidence in security measures in place to protect the nation's strategic assets, and reiterated that as a responsible nuclear state, Pakistan will keep on improving its nuclear security as well as non-proliferation measures. During the meeting, the high standards of training and operational readiness of the strategic forces to dispel all kinds of threats was also praised. The meeting was attended by the Federal Minister of Defence and Interior, Chairman Joint Stafs Chief, all three service chiefs, DG SPD, DG ISI, Secretary Foreign Affairs and other senior officials.

House GOP leaders backed down from their initial plan to appease the defence hawks in their ranks by attaching full funds for the 2018 military budget and forcing the Senate to decide how to approach the Democrats whose help they would need to help pass it. There was simmering resentment – as Republicans cast their votes just before leaving town for the holiday – that their policy-making would once again be held hostage by the minority party in the Senate.

Source: <http://www.business-standard.com>, 21 December 2017.

USA

US House Approves Temporary Funding to Avert Federal Shutdown

The House passed yet another short-term extension of federal funding to keep the government running for three more weeks, while putting off a raft of policy fights. The Bill still has to clear the Senate before the shutdown deadline at the end of the day on 22 December. The measure, which passed 231-188, would maintain current levels of spending through Jan 19 and provide US\$4.5 billion (S\$6 billion) in emergency funding for missile defence work as well as other Pentagon expenses. It also provides money for several health programmes and a funding bridge of US\$2.85 billion for the Children's Health Insurance Programme, or CHIP. A temporary extension of a section of the Foreign Intelligence Surveillance Act, or Fisa, that allows collection of e-mails and other messages without a warrant also was included.

Among the most noteworthy provisions in the stopgap measure is a waiver of automatic cuts to Medicare and dozens of other federal programmes, which would kick in because of the deficit impact of the tax overhaul passed this week. Waiving the rule would clear the way for President Trump to sign the tax legislation before the end of 2017 rather than waiting until January. Separate legislation to send US\$81 billion to Texas, Florida, Puerto Rico and California, all of which were hit by natural disasters this 2017, passed immediately afterward 251-169. Both measures will be taken up by the Senate as soon as 21 December night.

...House GOP leaders backed down from their initial plan to appease the defence hawks in their ranks by attaching full funds for the 2018 military budget and forcing the Senate to decide how to approach the Democrats whose help they would need to help pass it. There was simmering resentment – as Republicans cast their votes just before leaving town for the holiday – that their policy-making would once again be held hostage by the minority party in the Senate. Republican unity still held strong enough in the House to approve the spending Bill without having to count on votes from Democrats – 14 of whom voted for the measure – but the euphoria of passing their sweeping rewrite of the federal tax code just a day earlier had already dissipated.

...One potential hurdle in the Senate is the waiver of the spending cut trigger – known as Paygo, for pay-as-you-go. Some Democrats previously said they opposed the waiver, which could create a hurdle in the Senate where their help is needed to reach 60 votes... Paul, a Kentucky Republican, also said he opposes the permanent re-authorization of the Fisa section that authorises communications monitoring in counter-terrorism investigations, which can also include American

citizens. Because this section is so controversial, including among some Democrats, the spending Bill passed by the House extends that authority just to Jan 19, rather than the full renewal sought by intelligence agencies.

Longer-term extension of the surveillance section is now added to the list of policy battles that this spending Bill simply puts off until 2018. Lawmakers from both parties also have raised issues with disaster aid legislation. Some Republicans opposed the measure because the amount was almost double what the White House requested, and it wasn't offset with cuts to other federal expenses. Several Democrats decried the package as insufficient, particularly in its assistance to Puerto Rico.

...And the defence spending that some conservatives have for weeks said was their number-one priority will continue for just three more weeks, along with some extra funds that the military requested for things like BMD and repairs to naval ships. House Speaker Ryan, recognising the political risks of removing the full defence appropriations Bill because of Senate concerns, assured his members on 20 December night that Defence Secretary Mattis had signed off on this strategy....

Republicans still have to negotiate with Democrats on the ultimate levels for defence and non-defence spending for fiscal year 2018, because the Budget Control Act of 2011 caps those costs. Those levels must be worked out before congressional appropriators can write the package of spending Bills that will last until the end of fiscal year 2018....

Source: <http://www.straitstimes.com/>, 22 December 2017.

NUCLEAR ENERGY

EGYPT

200 Egyptian Companies Vy to Participate in Dabaa Nuclear Project

Two hundred Egyptian companies have requested to participate in the Dabaa Nuclear Power Plant,

according to sources at the Nuclear Power Plants Authority (NPPA). The sources said that the companies showed their desire to participate in the construction work, the transfer of equipment, and the supply of electrical equipment to the nuclear power plant, within the local component proportion of the first reactor, amounting to 20%.

The sources pointed out that the selection of Egyptian companies participating in the station will be in coordination with the Russian nuclear power company Rosatom and the number of contracts expected during the coming period for the implementation of civil works and supplies is 50. The list of Egyptian companies wishing to participate in the nuclear project includes Elsewedy

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Electric, Orascom, Arab Contractors, Petrojet, Hassan Allam, Egyptian German Electrical Manufacturing Co. (EGEMAC), Lafarge, Sinai Cement, Assiut Cement (CEMEX), National Cement, and Egyptian Steel. In addition, the Arab

Organisation for Industrialisation, Omega Egypt, Jotun, Falcon Group, National Transport & Overseas Services Co. (NOSCO), Misr Insurance, DSD Ferrometalco, Sico Electronics, and El Nasr Transformers and Electrical Products (Elmaco) are also looking to join the project.

According to the sources, these companies are aiming to participate in the project, and are awaiting approval to submit their oral offers. The sources pointed out that the Ministry of Military Production agreed with the Ministry of Electricity and Rosatom to manufacture part of the local components within its factories and its subsidiaries. The sources said that a number of Russian experts were present at the Dabaa nuclear site to complete measurements and designs. A high-level Russian delegation will visit Cairo after Christmas to consult with Sabbour Consulting Company about the design of the first phase of the project.

The National Bank of Egypt (NBE) announced its cooperation with the electricity sector, providing banking advice and services in the form of documentary credit that require opening and

letters of guarantee requiring issuance, to the NPPA. President Fattah Al-Sisi and Putin signed the 4,800 MW nuclear power plant contracts, launching the implementation phase. The first unit is expected to be delivered and commercially operational by 2026, and the second, third, and fourth units are expected to be completed by 2028, in accordance with implementation programmes agreed between the parties. Egypt signed a \$25bn with Russia, representing 85% of the cost of the project, with an interest rate of 3% per year.

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Source: *dailynewsegypt.com* /, 24 December 2017.

USA

Department of Energy Documents Further Detail Proposed Nuclear Import Project

The US Department of Energy has given the environmental all-clear on a possible Savannah River Site project that would involve the import and processing of 900 kilograms of highly enriched uranium. A DOE environmental assessment, issued this December, says the project would have very little to no impact on the water, air, land and people involved or surrounding the proposed project. The DOE expects the overall project would cause no latent cancer fatalities, which are deaths caused by cancer that appears long after initial radiation exposure.

The DOE issued a “Finding of No Significant Impact” on Dec. 20. DOE Principal Deputy Assistant Secretary for Environmental Management Owendoff signed off on the findings. The assessment and the findings are not a

decision to move forward with the project, though. The US gifted the nuclear material – now a majority highly enriched uranium embedded in graphite spheres – to Germany under the Atoms for Peace program between 1965-1988. Atoms for

Peace was an initiative introduced by President Eisenhower during the Cold War era. It provided research materials and nuclear education to several countries.

This specific batch of German nuclear material was used for reactor cooling research, according to DOE

documents. In September, the Citizens Advisory Board voted against accepting the nuclear material, according to previous *Aiken Standard* reports. If the repatriation project does go through – which currently is far from a sure thing, as at least four years and \$50 million of technological maturation and several more studies would be required – the 900 kilograms would first be handled and moved by the German government. The spent fuel would be securely packaged in what are known as CASTOR casks, and the German government would charter ships for Atlantic passage.

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According to DOE documents, moving all the material would take approximately 30 shipments over the course of three-and-a-half years. There are approximately 455 CASTOR casks and a total 1 million graphite spheres, each the size of a tennis ball, according to the DOE. A typical shipment would contain 16 casks. The DOE estimates the chance of a cask ending up in

“deep water” to be one in 910,000. The chance of submersion along the coast ranges between

one in 34 billion and one in 67 billion, according to the environmental assessment.... The spent nuclear fuel would then be unloaded, now in the charge of the American government, at Joint Base Charleston Weapons Station, a base within the North Charleston City limits.

Environmental impacts at the joint base are "expected to be minimal," and any accidents there would be within the realm of control and appropriate response, according to the DOE. From there, the nuclear material would be transferred to "dedicated" railcars, DOE documents state, and would be moved to SRS. There, the material would be unloaded and securely stored, which may require minor construction, according to the DOE. Once proper processing facilities are "ready," the assessment reads, the nuclear material would be handled. There are several plans of action on file.

Waste would be stored until proper disposal is available. "All costs" would be paid for by Germany, according to an SRS spokesperson. The proposed import undertaking was first introduced in 2012, when the German state secretary of federal education and research sent a letter to the US. In 2014, preparation work began and a statement of intent for possible consideration was passed, according to the DOE.... The material would be destined for SRS, according to DOE documents, because the "facilities and capabilities proposed for processing this spent nuclear fuel are unique to DOE and SRS."

H-Canyon, an SRS site built in 1950 and operating since 1955, is the only hardened nuclear chemical separations plant still operating in the country. According to an SRS spokesperson, the graphite dissolution technology, which is still under development, needed for the possible project is "unprecedented." H-Canyon was historically used to recover uranium and neptunium from fuel tubes

– foreign and domestic. The DOE documents state L-Area, a storage and receiving sector, and E-Area, a waste management sector, would most likely be involved, too. The repatriation of nuclear material also supports American policy of denuclearization and nonproliferation, according to the environmental assessment.

Source: www.aikenstandard.com/, 23 December 2017.

NUCLEAR COOPERATION

RUSSIA–PAKISTAN

Russia Supports Pakistan's Bid to Join Elite Nuclear Trading Club

The Russian diplomat praised the steps taken by Pakistan for strengthening its national export control programme that complied with the spirit of international regimes and conventions. He also acknowledged the efforts undertaken by Pakistan for stability in the region, including unilateral moratorium on nuclear testing and its support for Russia's stance on the prevention of arms race in outer space.

Russia has thrown its weight behind Pakistan's efforts to become member of the NSG, an exclusive club of nuclear trading nations. The support for Pakistan's bid came from a Russian diplomat, who told a conference on 15 December that Moscow was not opposed to Pakistan's NSG candidature and had no intention to block it. Speaking at a

seminar on 'Disarmament, Non-Proliferation and Strategic Stability' that had been organised by the Strategic Vision Institute (SVI), Didkovsky, First Secretary at Russian Embassy, underlined the possibility of a criteria-based approach for inclusion of non-NPT states in the group. He said Russia along with China and others were working for a formula that could be acceptable to all.

The Russian diplomat praised the steps taken by Pakistan for strengthening its national export control programme that complied with the spirit of international regimes and conventions. He also acknowledged the efforts undertaken by Pakistan for stability in the region, including unilateral moratorium on nuclear testing and its support for Russia's stance on the prevention of arms race in outer space. Speaking on the occasion, Pakistan's

former permanent representative to CD and UN in Geneva Akram said Pakistan was seeking to maintain strategic stability in South Asia by having credible deterrence. He underscored that stability and deterrence were shifting in the region because of India's acquisition of triad of delivery systems, the region's political dynamics, uncertain situation in Afghanistan and Indian hostilities along the Line of Control and its sub-conventional war against Pakistan through Afghanistan-based proxies and terrorist groups.

Pakistan's response strategy, he recalled, had been to develop low-yield weapons, sea-based deterrent, and long-range ballistic missile; and achieve MIRV capability, and an effective counterterrorism undertaking. "But still we are ready for dialogue and more CBM to stabilise the situation," he emphasised. Former Defence Production secretary Lt Gen (ret'd) Owais agreed that regional stability was being disturbed by India. He said India was being encouraged in its weapons build-up by the US, whose government's 'erratic and incendiary' policies were destabilising the world at large.

Meanwhile, Ambassador of Iran Honardoost met National Security Adviser Lt Gen (ret'd) Janjua to discuss bilateral relations, economic prospects of CPEC, Gwadar, Chabahar and matters pertaining to regional and Muslim world's security situation. An official handout said the NSA, while welcoming the guest, said: "Iran is our brotherly Muslim neighbouring country to which Pakistan has always extended a friendly hand and is keen to strengthen these ties in future." The ambassador said the Muslim world was passing through challenging times and added that Iran believed that Pakistan could play a very constructive and balanced role in the given

scenario. While stressing the need for consolidating regional cooperation, the envoy said that cooperation was the only way to achieve sustainable peace in the region, particularly in the Muslim world.

The ambassador said the Muslim world was passing through challenging times and added that Iran believed that Pakistan could play a very constructive and balanced role in the given scenario. While stressing the need for consolidating regional cooperation, the envoy said that cooperation was the only way to achieve sustainable peace in the region, particularly in the Muslim world.

He regarded CPEC a game-changer endeavour for the region and said that Iran was keen to be a part of it. Discussing the importance of Chabahar and Gwadar ports, the envoy reiterated that Iran would never let its resources used against Pakistan and that both the ports would complement each other in a cooperative framework. Both sides

agreed that Pakistan and Iran shared a common future. "The most valuable part of the Pakistan-Iran relations is the mutual feeling of brotherhood among the people of both the countries," he added. Broader understanding of each other's stance regarding key regional developments could consolidate Pakistan-Iran relations and pave the way to enhance bilateral engagements further, they agreed. The ambassador extended an invitation on Regional Security Seminar to the NSA scheduled to be held early next year in Iran which the NSA thankfully accepted.

Source: tribune.com.pk, 15 December 2017.

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RUSSIA-SUDAN

Russia Rosatom to Develop Nuclear Power Plant Project in Sudan

...Russia and Sudan have signed an agreement to construct a nuclear power plant in the North African country, Russia's Rosatom said on 22 December. The agreement was signed by Rosatom's subsidiary Rusatom Overseas and the Sudanese Ministry of Water Resources, Irrigation and Electricity. As part of the feasibility study of

the NPP construction project, the site will be selected and the key parameters for the project will be identified: technology, capacity, equipment, terms and stages of implementation, and financing schemes.

The development of cooperation in the nuclear field between Russia and the Sudan began this year. During the visit of Sudanese President Omar al-Bashir, an intergovernmental agreement on cooperation in the field of the use of atomic energy for peaceful purposes was signed.

Source: *steelguru.com/*, 25 December 2017.

USA–SAUDI ARABIA

US Nuclear Deal with Saudis could Lead to Catastrophe

A lawmaker denounced the prospect of a US uranium enrichment deal with Saudi Arabia, predicting a “global catastrophe” should the oil kingdom mix nuclear technology with its takfiri ideology. In a recent talk with ICANA, Falahatpisheh, a member of Majlis National Security and Foreign Policy Commission, said, “Unfortunately, even human rights and international laws have not stopped the Saudi crimes in Yemen. Now, if Saudi Arabia is allowed the uranium technology, it would certainly use it in its military.” Takfiris are hardliners who accuse anyone, including Muslims, not following their extreme interpretation of Islam as infidels and apostates punishable by death.

Reuters has reported that US firms attracted by Saudi plans to build nuclear reactors are pushing Washington to restart talks with Riyadh on an agreement to help the kingdom develop atomic energy. It said the US may be open to the idea of allowing the oil kingdom to one day enrich uranium that can have military uses. Saudi Arabia’s influential Prince Turki al-Faisal said that his country should not forfeit its “sovereign” right to one day enrich uranium under its planned

civilian nuclear program, especially as world powers have allowed Iran to do so. Falahatpisheh refuted that argument, highlighting Saudi unaccountability regarding its devastating war in Yemen. He pointed to the Saudi regime’s war crimes in Yemen and Bahrain, condemning the broad scale military force used by Al Saud to suppress the impoverished nation.

“Even the European Parliament has passed [a non-binding resolution] banning the exports of weapons to Saudi Arabia because it has breached international laws concerning wars,” he said. A US-backed Saudi-led coalition started a devastating war in Yemen in 2015, killing over 13,000 civilians, displacing three million people and pushing the war-ravaged nation to the brink of famine. The Saudi-led airstrikes have hit schools, hospitals and

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markets, killing thousands of civilians and prompting rights groups to accuse the coalition of war crimes. Activists have called on western countries, including the US and Britain, to cease their military support for the coalition. Riyadh has also imposed a tight blockade on

nearly all Yemeni air, land and sea ports, prompting human rights and charity groups to sound alarm over the deteriorating situation in the country as people, particularly children, are increasingly suffering from the lack of food and medical aid.

Huge Policy Shift: A uranium enrichment deal with Riyadh would be unprecedented, as Washington usually requires a country to sign a nuclear cooperation pact—known as a 123 agreement that forfeits steps in fuel production with potential bomb-making uses. “Doing less than this would undermine US credibility and risk the increased spread of nuclear weapons capabilities to Saudi Arabia and the region,” said Albright, a former UN weapons inspector and president of the Washington-based Institute for Science and International Security...

Falahatpisheh, however, said the deal may go

ahead as part of “US-Saudi shared targets” to counter what they portray as an increasingly powerful Iran that could be a threat for the region in the future. Pointing to the Saudi excuse of a nuclear Iran allowed to enrich uranium, he said, “Iran has never flouted international law [for its nuclear program] and has cooperated with [relevant international bodies] through JCPOA.” JCPOA stands for the formal name of the nuclear accord, JCPOA, that was signed between Iran and world powers in 2015 to curb Iran’s nuclear program—albeit allowing it to enrich uranium up to the refinement level of 3.67%—in exchange for lifting international sanctions.

Reactors need uranium enriched to around 5% purity but the same technology in this process can also be used to enrich the heavy metal to a higher, weapons-grade level. Ironically, western countries imposed years of biting international sanctions on Iran because of the same technology that Washington is currently considering to sell to Riyadh, which is currently staging a heavy war on Yemen. Iran, which has never launched a war on any other country in recent history, denies its nuclear program has had any military dimension. Amano, the head of the UN nuclear watchdog, has repeatedly verified that Iran is complying with its commitments under JCPOA, calling the verification measures in Iran “the most robust regime” currently in existence.

Source: *financialtribune.com*, 26 December 2017.

URANIUM PRODUCTION

SAUDI ARABIA

Saudi Arabia should not Forfeit ‘Sovereign’ Right to Enrich Uranium

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Saudi Arabia should not forfeit its “sovereign” right to one day enrich uranium under its planned civilian nuclear program, especially as world powers have allowed Iran to do so, a senior Saudi royal told Reuters. Former intelligence chief Prince Turki al-Faisal’s comments reinforced Riyadh’s stance on what is likely to be a sensitive issue in talks between Saudi Arabia and the US on an agreement to help the kingdom develop atomic energy. Riyadh aims to start talks with the US within weeks on a civilian nuclear cooperation pact, which is essential if US firms are to bid in a multi-billion-dollar tender next year for building Saudi Arabia’s first two nuclear reactors.

The reactors will be part of a wider program to produce electricity from atomic energy so that the kingdom can export more crude oil. Riyadh says it wants nuclear technology only for peaceful uses but has left unclear whether it also wants to

enrich uranium to produce nuclear fuel, a process which can also be used in the production of atomic weapons. US companies can usually transfer nuclear technology to another country only if the US has signed an agreement with that country ruling out domestic uranium enrichment and the preprocessing of spent nuclear fuel – steps that can have military uses.

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“It’s a sovereign issue. If you look at the agreement between the P5+1 with Iran specifically it allows Iran to enrich,” Prince Turki, who now holds no government office but remains influential, said in an interview on 20 December in Riyadh. ...

“Self-Sufficiency”: The dual technology has been at the heart of Western and regional concerns over the nuclear work of Iran, Saudi Arabia’s regional rival. These worries helped lead to the 2015 deal, which allows Iran to enrich uranium to around the normal level needed for commercial power production. Atomic reactors need uranium enriched to around five percent purity but the same technology can also be used to enrich the heavy metal to higher, weapons-grade levels. Saudi Arabia plans to build 17.6 GW of nuclear capacity by 2032, the equivalent of around 16 reactors.

Riyadh has previously said it wants to tap its own uranium resources for “self-sufficiency” in producing nuclear fuel. Energy Minister Khalid al-Falih told Reuters on 21 December that said these large resources were being explored, were promising and that Saudi Arabia would like to localize the industry in the long-term. Prince Turki said the only way to stop uranium enrichment would be by establishing a nuclear weapons-free zone in the Middle East, a longstanding idea which has been backed by the UN’s nuclear assembly. “This is not going to happen overnight. You have to set a time scale for negotiations to include regional discussions between the prospective members of

the zone on issues not just of nuclear, but of achieving peace in the Middle East between Israel and Palestine,” he said.

Source: www.reuters.com/, 22 December 2017.

NUCLEAR PROLIFERATION

EUROPE

Europe Won’t Defy US over Iran Nuclear Deal

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Fouad Izadi, an expert on international relations has, in an interview with the Persian-language *Mehr News Agency*, weighed in on Europe’s policy vis-à-vis the nuclear deal between Iran and six world powers known as the JCPOA. In his interview, Izadi said it would not be difficult to find out what measure Europeans will adopt toward the JCPOA as one can analyse their behaviour and actions so far and predict their future course of action.

He said some European officials such as High Representative of the EU for Foreign Affairs and Security Policy Federica Mogherini make some

The Europeans have not practically stood up to Washington and not drawn a line between their approach and that of the White House, and they do not seem to have any intention of doing so. The analyst noted that Europe and America are competing with one another over steel trade, and that the Europeans use a different tone and language in dealing with the US when it comes to trade.

comments in support of the JCPOA, which is natural as the nuclear deal is a good agreement for the Europeans and Americans. However, he added, the Europeans have not practically stood up to Washington and not drawn a line between their approach and that of the White House, and they do not seem to have any intention of doing so. The analyst noted that Europe and America are competing with one another over steel trade, and that the Europeans

use a different tone and language in dealing with the US when it comes to trade.

“The Europeans threaten the US with a trade war very seriously and harshly. This means the Europeans are working firmly and seriously in domains where they have concerns, but they have not adopted such an approach and not used such a language when it comes to the JCPOA,” said Izadi. “If the Europeans want to act more seriously vis-à-vis the JCPOA, they should act [with] the same [seriousness] that they used to keep passing anti-Iran laws, and now they should adopt laws at the EU that would support the European companies cooperating with Iran,” he added.

Under the WTO rules, he said, Europe can sue Washington. He said the reason is that the US passes laws inside the country and makes others obey them, a trend which is against international regulations and the principle of international independence. He said no country can contravene the sovereignty of other countries and force them to abide by its domestic laws. Recently, said the analyst, the CIA chief was asked about the agency’s strategy toward Iran. ...

The commentator reiterated that such an approach would amount to a violation of the JCPOA as no signatory to the agreement must disrupt the implementation of the nuclear deal. Izadi said the CIA has also warned European companies against cooperating with the Islamic Revolution Guards Corps (IRGC). “So, as you can see, the US has adopted measures and exerted pressure [on European firms] on a large scale, and if Europe really wants to take some practical action regarding the JCPOA, it should reject Washington’s demands.

He said France, which enjoys various economic benefits in Iran with the implementation of the JCPOA, has aligned itself with the US regarding the nuclear deal. ...He said Iran should maintain its diplomatic relations with the Europeans and continue its activities in the public diplomacy domain to influence them. “We should continue and expand our cooperation with small European companies, but we should have no expectation of European governments,” he noted. He said Iran cannot pin its hopes on European governments.

Izadi noted Iran needs to do more in the diplomacy arena and take more serious action in order to better advance national interests.

Source: <http://ifpnews.com>, 25 December 2017.

NORTH KOREA

Australian Man Accused of Brokering North Korea Missile Sales

Australian police have arrested a Sydney man accused of acting as an agent for North Korea by allegedly attempting to broker sales for Pyongyang including components used in ballistic missiles.... The suspect has been identified as a 59-year-old naturalized Australian citizen who was born in South Korea. He was arrested on 16 December and charged over two transactions that were unsuccessful. “But we estimate that if these trades were successful, we’re talking tens of millions of dollars,” Gaughan said.

Police allege the man was generating tens of millions of dollars for the Pyongyang regime by arranging the sale of missiles, components and expertise from North Korea to other international entities, and was trying to arrange the transfer of coal from the country to Indonesia and Vietnam.

Gaughan added that there was no evidence any weapons or components passed through Australia and said the governments of Indonesia and Vietnam – or authorities in those countries – were not involved. ...The suspect is the first person charged under Australia’s Weapons of Mass Destruction Act and faces a maximum 10-year prison sentence. However, Gaughan said the investigation was ongoing and more charges were expected.

Police started investigating the man after a tip-off from another international agency on another matter, Gaughan said, adding that the man’s activities also involved commodities including oil and gemstones. Despite international sanctions, cash-strapped North Korea last month test-fired its most powerful missile that may be able to target the US mainland.

Source: <http://www.foxnews.com>, 16 December 2017.

NUCLEAR NON-PROLIFERATION

RUSSIA

Putin Accuses US of Violating Cold War-Era Nuclear Pact

Russian President Vladimir Putin on 22 December accused the US of violating a landmark Cold War-era nuclear arms pact and harbouring aggressive intentions, and pledged to fend off any potential threats at a fraction of the US cost. Putin, speaking during a meeting with the top military brass, alleged that the US missile defence sites in Romania containing interceptor missiles could also house ground-to-ground intermediate-range cruise missiles, which would be in violation of the 1987 INF Treaty.

He added that US launches of target vehicles as part of tests represented another violation of the pact that bans all land-based cruise and ballistic missiles with a range between 500 and 5,500 kilometres (310-3,410 miles). Washington has rejected claims of perceived violations and accused Russia of breaking the pact by developing a new cruise missile, accusations Moscow has denied. "They are searching for some violations on our part while consistently infringing on it themselves," Putin said. "All that seriously affects security in Europe and in the whole world."

The Russian leader also pointed at the new US NSS as proof of what he described as Washington's aggressive intentions. He emphasized that the deployment of NATO

forces near Russia's borders has threatened its security. "When we move military units on our own territory, they present it as some kind of a threat," he said. "And when they move military bases, infrastructure and new weapons near our borders they present it as something normal. It's probably normal for those who do it, but not for us."

NATO has deployed military units to Poland and the Baltics to reassure allies worried over Russia's intentions following its 2014 annexation of Ukraine's Crimea and its support for pro-Russia separatists in eastern Ukraine. Putin mentioned NATO's US-led missile defence system and efforts to develop new prospective conventional weapons among other security challenges. Russia has long expressed concern about the US Prompt Global Strike program — prospective conventional weapons systems that would be capable of delivering a quick precision strike anywhere in the world within an hour.

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... Putin insisted that the Russian military has all the means to protect the nation, and that the focus will be on cutting-edge military technologies to maintain a military parity with the US and its allies. ... Putin noted that the Pentagon's budget of about \$700 billion in 2018 dwarfs the Russian military budget of some \$47 billion.

Russian Defence Minister Shoigu said that a massive arms modernization program has allowed the military to commission 182 intercontinental ballistic missiles, over 1,000 aircraft, more than

3,200 tanks and other armoured vehicles and more than 150 navy ships over the past five years. He said that the military gained “priceless” experience during the Syrian campaign, with more than 48,000 servicemen spending shifts there. He said up to 90 per cent of all Russian combat pilots flew at least 100 combat sorties each to the total of 34,000 missions in Syria since the start of the Russian air campaign in September 2015.

Shoigu said that the military has killed over 60,000 militants, including 2,840 Russian citizens during its campaign in Syria. He emphasized said that the military tested the entire range of its arsenals in Syria, including long-range cruise missiles launched by navy ships, submarines and strategic bombers and ground-based Iskander ballistic missiles. Shoigu said that the military has withdrawn 36 combat planes and 4 helicopters from Syria along with a battalion of military police, field engineers, military doctors and special forces units earlier this month in line with Putin’s orders.

The minister noted that Russia will continue operations at the Hemeimeem air base and the Tartus naval supply facility and also retain three battalions of military police in Syria among other military personnel. Putin, who visited the Hemeimeem air base earlier this December, said on 22 December 2017 the campaign has demonstrated an enhanced capability of the Russian armed forces. ...

Source: <http://theprovince.com/>, 22 December 2017.

NUCLEAR DISARMAMENT

RUSSIA

Plan was Floated to Wipe Soviet Debt in Exchange for Nuclear Disarmament, Files Show

Britain was urged to write off billions of dollars of Soviet debt in return for nuclear disarmament, declassified documents show. The 1991 plan was

designed to stop nukes falling into the wrong hands after the USSR collapsed.

Then-British Prime Minister John Major received a letter from Jacques Attali, head of the London-based European Bank for Reconstruction and Development (EBRD), suggesting how to deal with the dangers of the Soviet Union’s collapse. “Dear John,” Attali wrote, “as you know the world’s main problems with the Soviet Union today are debt and nuclear weapons.

“I should therefore like to propose that we think about using one problem to solve another, that is

I should therefore like to propose that we think about using one problem to solve another, that is to say, the organization of debt-nuclear swap – the partial or total exchange of nuclear weapons against debt relief. The price of world peace might only amount to some 1 percent of the combined annual defense budgets of the G7.

to say, the organization of debt-nuclear swap – the partial or total exchange of nuclear weapons against debt relief. The price of world peace might only amount to some 1 percent of the combined annual defense budgets of the G7 [nations].”

Overall Soviet debt was estimated to be \$60 billion. There were around 25,000 Soviet nuclear devices. The debt-for-disarmament plan was never tested, appearing to have generated little interest in Downing Street as the Soviet Union’s dissolution accelerated.

The files, released for the first time by the National Archives, also contain records of frank and affectionate conversations between the last Soviet leader, Mikhail Gorbachev, and Major. Two days before his resignation, Gorbachev told Major the Soviet Union was on the point of collapse and may soon no longer exist.

In a phone conversation, he attempted to reassure Major that the nuclear arsenal remained under “strict control,” according to the Independent. Major spoke of Britain’s “enormous affection and respect” for Gorbachev and his wife, adding that his own wife, Norma, was with him and “sent her love.”

A record of the conversation said Gorbachev described the Majors as “great human beings,” adding: “Dear John, I and Raisa have developed an affection for you and Norma. I am allowing

myself to be sentimental in saying it but at this time I can allow myself to be sentimental. In our family we still remember what Norma said during your visit to Moscow on your way to China – her reaction and her tears. Thank you for all of that.” On December 25, 1991, Gorbachev finally announced his resignation, which was followed by a declaration that the Soviet Union had ceased to exist.

Source: <https://www.rt.com/uk/414530-soviet-debt-nuclear-major/>, 29 December 2017.

NUCLEAR SAFETY

BELARUS

Belarus’ NPP Stress Tests Fail to Answer Lithuania’s Key Questions

Belarus’ stress tests report on the Astravyets Nuclear Power Plant under construction some 50 kilometers from Vilnius fails to provide answers to Lithuania’s key questions regarding site selection, environmental impact assessment and construction safety or quality, the Lithuanian State Nuclear Power Safety Inspectorate (VATESI) said, cites LETA/BNS. Belarus has submitted its national stress tests report on the plant to the European Commission for review.

... Slepavicius will head a group of Lithuanian specialists who will analyze Belarus’ national stress tests report. The European Commission has also set up a group of nuclear safety experts. The Lithuanian team has until January 5 to prepare their comments and questions about the report and forward them to the EU’s executive body. “Since the review of the stress test report has its own structure and takes place according

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to the approved requirements, we have to evaluate based on these. Since site selection is not covered there, we won’t be able ask these questions. But that means nothing. These questions remain in place,” the official said.

The European Commission will sum up EU member states’ comments and questions and will submit them to Belarus. The EU’s executive body will make its final assessment only after it receives Belarus’ answers to the questions asked. Slepavicius expects a final assessment to be made in June. The stress tests were performed by *Atomproekt*, a subsidiary of Russia’s *Rosatom*, the Astravyets project’s main contractor, in 2016. Lithuanian government officials have said that the tests fail to provide answers to all questions and call for tests to be conducted based on the EU methodology. Lithuanian FM Linkevicius said in November that the stress tests did not prove that the nuclear facility was being built safely. In an effort to hinder the project, Lithuania plans to block the import of electricity from the Astravyets plant.

Source: baltic-course.com, 18 December 2017.

JAPAN

Coast Guard’s Maizuru Base Stands on the Front Line of Japan’s Poaching and Nuclear Concerns

Located less than 900 kilometers from North Korea and beside Fukui Prefecture’s nuclear power reactors, Japan Coast Guard’s 8th Regional Headquarters in Maizuru,

Kyoto Prefecture, finds some of the nation’s challenges close at hand. The Maizuru base is one of 11 regional coast guard headquarters nationwide. Its patrol areas include the coasts of Fukui, Kyoto, Hyogo, Tottori and Shimane

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prefectures. While tensions along the Sea of Japan coast are rising due to a series of North Korean missile launches, for Maizuru's fisherman, the more immediate, tangible problem is cracking down on poachers.

...As for protecting Fukui's nuclear power plants, coast guard officials were reluctant to provide specific details citing security reasons. Governors of prefectures along the Sea of Japan hosting NPP are particularly concerned about a terrorist or missile attack. In July, the National Governors' Association submitted a list of actions it wanted the central government to take in regard to safety and disaster prevention at the nation's nuclear plants. One of these was closer cooperation between the Self-Defense Forces, the coast guard, police, firefighters and local governments in the event of an armed attack.

"The response of the coast guard at the time of a missile launch is to accurately provide nationally issued warnings and information about the safety of the sea to ships, as well as to confirm their safety with patrol ships and aircraft," said Imade, a spokesman for the Maizuru regional headquarters. There are also strong concerns about nuclear disasters and evacuation procedures. On Aug. 27, 2016, the Maizuru coast guard base was part of a drill that simulated an accident at a Fukui nuclear power plant.

The drill involved evacuating residents within a 30-km radius. In November 2016, lawyers for a group of citizens trying to halt the restart of the Oi nuclear reactors submitted a document to the Kyoto District Court outlining their reasons, one of which touched on potential problems the coast guard could face. The group warned that one of the harbors planned for an evacuation was quite small, making it difficult for big ships to turn and dock. The coast guard has set channels of communication for standard emergencies at sea.

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The Japan Coast Guard office in Tokyo is responsible for issuing national notices and navigational warnings to mariners in the event of everything from lighthouses that don't work to earthquakes and tsunamis, to reports of pirates in the area or a notice of terrorism or an armed attack — including North Korean missile launches.

...Radio, telegraphy and the internet are used for communications. Imade said that broadcasts are not made in Chinese or Korean... Yamada, a professor at Tokai University well-versed in maritime security, says cooperation with other countries on different areas, beginning with rescue operations, is possible. But it's difficult in areas related to state sovereignty.

In the case of piracy, he adds, there is the Regional Cooperation Agreement on

Combating Piracy and Armed Robbery against ships in Asia. This agreement among 20 nations is designed to promote and enhance cooperation against piracy and armed robbery against ships in Asia. "Hopefully, cooperation in areas such as environmental conservation and navigation safety can be strengthened, and that will eventually lead to the development of security cooperation," Yamada said. Of course, for fishing vessels, cargo ships and pleasure craft, search and rescue remains the coast guard's key function. ...

Source: www.japantimes.co.jp/, 25 December 2017.

USA

US Bars Drones over Nuclear Sites for Security Reasons

The Federal Aviation Administration said on 18 December it will bar drone flights over seven major US nuclear sites, including Los Alamos National Laboratory in New Mexico. The move is the latest in a series of growing restrictions on unmanned aerial vehicles over US sites that have national

security implications. The new restrictions begin Dec. 29 and include the Hanford Site in Washington State, Idaho National Laboratory, Savannah River National Laboratory in South Carolina, Pantex Site in Texas and the Y-12 National Security Site and Oak Ridge National Laboratory in Tennessee.

The FAA said it is considering additional requests from other federal security agencies to bar drones. Earlier this 2017, the FAA banned drone flights over 133 US military facilities. The Pentagon said in August that US military bases could shoot down drones that endanger aviation safety or pose other threats. The FAA also banned drone flights over 10 US landmarks in September, including the Statue of Liberty in New York and Mount Rushmore National Memorial in South Dakota, at the request of national security and law enforcement agencies.

It separately barred drone flights over the USS Constitution in Boston, the Gateway Arch in St. Louis and Independence National Historical Park in Philadelphia. The list also includes Glen Canyon Dam in Arizona, Hoover Dam in Nevada and Grand Coulee Dam in Washington state. The National Transportation Safety Board said a September collision between a small civilian drone and a US Army helicopter was caused by the drone operator's failure to see the helicopter because he was intentionally flying the drone out of visual range.

The incident between a US Army UH-60M Black Hawk helicopter and a DJI Phantom 4 drone near Staten Island, New York occurred as concerns mount over the rising number of unmanned aircraft in US airspace. The helicopter landed safely but a 1 1/2-inch (3.8-cm) dent was found on the leading edge of one of its four main rotor blades and parts of the drone were found lodged in its engine oil cooler fan. ... Government and private-sector

officials are concerned that dangerous or even hostile drones could get too close to places like military bases, airports and sports stadiums.

Source: www.reuters.com, 18 December 2017.

NUCLEAR WASTE MANAGEMENT

SWEDEN

Damen Oskarshamnsvarvet Wins Order for Precision Steel Nuclear Storage Tanks

Damen Oskarshamnsvarvet Sweden has been awarded the contract to manufacture high-precision special steel tanks together with their

While Damen Oskarshamnsvarvet Sweden is best known as one of the ship repair and conversion yards in the Baltic Sea, it has over many years built up a reputation as a niche fabricator of high quality steel structures of all kinds. Its certifications include ISO 3834-2, which defines the rigorous quality procedures for the fusion welding of metallic materials and represents the highest possible accolade in the welding industry. The yard also has a certified painting facility that was built in 2009 for a similar project.

integrated cassettes for OKG; operator of three nuclear reactors on Sweden's Simpevarp peninsula. With two reactors due to be decommissioned and dismantled, the tanks will be used to store radioactive reactor parts as part of the disposal process. While Damen Oskarshamnsvarvet Sweden is best known as one of the ship repair and conversion yards in the Baltic Sea, it has over many years built up a

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Deliveries of the tanks to OKG will start in spring 2018 and will continue through to the end of the following year. The reactor parts will first be cut down to manageable sizes under a separate contract won by General Electric, before being interred in the tanks. Three different designs will be built at the yard to meet different needs. The

majority will have walls 50mm in thickness, but others will have walls up to 100mm and 150mm across.

Mr Waal, Managing Director of Damen Oskarshamnsvarvet Sweden, commented that “We are very pleased to have won this contract. Our highly trained and experienced staff have built similar containers in the past for both OKG and the Forsmark nuclear power plant and waste repository, also intended for the intermediate storage of radioactive waste. We are confident that we will be able to meet the extremely high demands of our customer with regards to HSEQS which are subject to the rules of the International Atomic Energy Agency and regard this contract as a confirmation of our technical and management capabilities. While our steel and painting facilities are optimised for precisely this type of project, we also continue to fabricate specialised steel structures for other industries including the automotive sector.

Mr Dasht, CEO of OKG, added that “Damen Oskarshamnsvarvet Sweden not only had the most competitive offer, it also has proven experience in working with OKG on similar projects. In addition it gives me great satisfaction to be able to say that we have now signed with a supplier that is in such close proximity.” The OKG site and Damen Oskarshamnsvarvet Sweden are just 30 kilometres apart. Ship repair and maintenance projects currently underway at the yard include the refit and repair of the 77-metre Ro-Ro ferry Castella for Trafikverket; the Swedish Transport Administration. Damen Oskarshamnsvarvet’s combination of a dedicated production hall for steel works and a separate painting shed which is unique in the region was a factor in the award of the Castella contract.

Source: *steeltguru.com*, 21 December 2017.

UK

Rosyth Wins New £95 Million Nuclear Waste Contract

ROSYTH Dockyard has won a 10-year contract to build specialist equipment for the treatment of nuclear waste at Sellafield. Cavendish Nuclear was awarded the deal, worth up to £95 million in the first three years, to supply ‘glove box systems’ for the site in Cumbria. It’s a subsidiary of Babcock and the firm said the work would come to Rosyth as it had a “proven track record in delivering large-scale complex products”. The news comes just three weeks after 250 jobs at the dockyard were axed, as the £6 billion project to deliver the Queen Elizabeth class aircraft carriers nears the end.

Babcock CEO Bethel said: “We are delighted that Cavendish Nuclear continues to support

Sellafield in the delivery of this strategically-important programme. “The team will provide the significant manufacturing capacity the project needs, as well as opportunities to share best practice across the UK.” Cavendish will use the Rosyth facility, one of the UK’s largest manufacturing facilities, to supply Sellafield Ltd with specialist handling and containment systems to process nuclear material. It follows major investment in new workshops, fabrication bays and remote overhead cranes at the Fife port, and the workers’ reputation for completing large-scale, complex jobs, including the containment doors for the pile fuel cladding silo at Sellafield.

Virtual reality simulation will play a key part in delivering the contract. Once the preliminary design is complete, full-scale mock-ups with virtual reality headsets will allow the customer to test out the ergonomics and identify any

While Damen Oskarshamnsvarvet Sweden is best known as one of the ship repair and conversion yards in the Baltic Sea, it has over many years built up a reputation as a niche fabricator of high quality steel structures of all kinds. Its certifications include ISO 3834-2, which defines the rigorous quality procedures for the fusion welding of metallic materials and represents the highest possible accolade in the welding industry. The yard also has a certified painting facility that was built in 2009 for a similar project.

modifications at the earliest possible stage. The decade-long deal is an integral part of Sellafield Ltd's strategy for the long-term management of special nuclear material at the site, with the first glove boxes ready to be installed in the early 2020s. ...

Source: *dunfermlinepress.com*, 21 December 2017.

USA

Contract Awarded to Manage LANL Contamination

A new consortium of two Virginia companies has been awarded a contract worth up to \$1.4 billion to monitor contaminated water systems, clean up soiled lands and ship radioactive waste at Los Alamos National Laboratory. The US Energy Department awarded the contract this week to Newport News Nuclear BWXT-Los Alamos LLC. It was formed by BWXT and Stoller Newport News Nuclear. BWXT is part of Los Alamos National Security LLC, a consortium that has been managing Los Alamos National Laboratory since 2006. The Department of Energy is in the process of selecting a new manager for the lab.

Nuclear BWXT-Los Alamos LLC will take over the environmental program in March. The contract calls for a five-year base period, followed by possible three- and two-year renewals. In a news release, the Department of Energy said the new consortium will focus on cleaning up contaminated waste sites; decontaminating and demolishing contaminated buildings; and packaging and shipping mixed, low-level and transuranic radioactive waste to disposal facilities.

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Monitoring and protecting the Los Alamos regional aquifer also will be an objective of the new consortium. A plume of hexavalent chromium in the aquifer has been an issue at the laboratory for a decade. Horak, a spokesman for the Department of Energy's environmental management field office at Los Alamos, said in an email: "DOE will work closely with both the incumbent cleanup contractor Los Alamos National Security and the new legacy cleanup contractor to ensure a safe, smooth transition of this important work at the Los Alamos National Laboratory."

The department said the new consortium was selected from three proposals. Stoller Newport News Nuclear is a subsidiary of Huntington Ingalls Industries and is known as being the nation's largest military shipbuilding company. The company's website states that it has been "a solution provider to the nuclear and commercial power industries for the past 50 years," with services in radiological remediation and soil and groundwater evaluation.

BWXT says it is the leading supplier of nuclear materials and fuel to the US government. It cites weapons fabrication, supercomputing and nuclear surveillance among its accomplishments at Los Alamos. Its environmental cleanup work has been in partnership with the Waste Isolation Pilot Plant in Carlsbad, the Advanced Mixed Waste Treatment Project in Idaho, and at gaseous diffusion plants in Ohio and Kentucky, among others. The management of legacy waste — radioactive waste generated prior to 1999 as part

of the Cold War — was separated into an independent field office by the Department of Energy in 2015.

The action came a year after a waste drum packed at Los Alamos burst inside the Waste Isolation Pilot Plant, resulting in a costly accident that led to a release of radiation, worker contamination and the plant's shutdown for nearly three years. In part because of that accident, the Department

of Energy said it would not renew Los Alamos National Security's contract to manage the lab. Originally, federal officials said the lab would be under new management in September 2017 and a separate contractor would handle environmental cleanup. The rest of the lab is expected to come under separate management in September.

Source: <http://www.santafenewmexican.com>, 20 December 2017.



Centre for Air Power Studies

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

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