Nuclear, Missile & Space Digest

Volume 12, Number 15 A Fortnightly Newsletter from the Indian Pugwash Society August 15, 2020

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A. India

India-Argentina Nuclear Cooperation: Fission Molly Project in Mumbai nears completion

Huma Siddiqui

Financial Express, July 18, 2020

With the bilateral trade between India and Argentina doubling for the first time in ten years, the South American nation's state-owned company INVAP is in the last phase of development of the Fission Molly Project, a molybdenum plant being built in Mumbai. This plant focuses on creating isotopes. Some of the components being used in the Indian power reactors are being manufactured by the same company. Daniel Chuburu, the outgoing ambassador of Argentina in India told Financial Express Online in a recent interaction, "The state-owned INVAP has designed and built research and radioisotope production reactors worldwide and is eager to continue working side by side with India."

"Devoted to the design and construction of complex technological systems, the company has more than 40 years of history both in the domestic market and in more than twenty in the international scene. It mainly focuses in the areas of Nuclear, Aerospace, Government & Defense and Industrial and Medical Equipment," the envoy said. According to Ambassador Chuburu, "Since both countries have decided to elevate their multi-faceted cooperation to a Strategic Partnership with a focus on key areas like Defence, Pacific Use of Nuclear Energy, Outer Space, Energy & Mining and Agricultural Cooperation, during last year bilateral trade between the two countries reached its historical maximum."

https://www.financialexpress.com/defence/india-argentina-nuclear-cooperation-fission-molly-project-in-mumbai-nears-completion/2027908/

Kakrapar 3 achieves first criticality

World Nuclear News, July 22, 2020

Unit 3 of the Kakrapar nuclear power plant in the Surat district of the Indian state of Gujarat has attained a sustained chain reaction for the first time. It is the country's first indigenously-designed 700 MWe pressurised heavy water reactor (PHWR) to reach the commissioning milestone. Loading of fuel into the reactor's core was completed in mid-March. "Thereafter, many tests and procedures were carried out during the lockdown period following all COVID-19 guidelines," Nuclear Power Corporation of India Ltd (NPCIL) noted in a statement. The reactor achieved first criticality at 9.36am today, it said, marking a "historic development".

NPCIL noted the components and equipment for the reactor have been manufactured by Indian industries and its construction was undertaken by various Indian contractors. "As a next step, various experiments/tests will be conducted and power will be increased progressively. Thereafter it will be connected with the western grid." The unit is India's 23rd reactor to enter operation. The milestone was welcomed by Prime Minister Narendra Modi, who tweeted: "Congratulations to our nuclear scientists for achieving criticality of Kakrapar Atomic Power Plant 3! This indigenously designed 700 MWe KAPP-3 reactor is a shining example of 'Make in India'. And a trailblazer for many such future achievements!"

https://www.world-nuclear-news.org/Articles/Kakrapar-3-achieves-first-criticality

PM congratulates Indian nuclear scientists for achieving criticality of Kakrapar Atomic Power Plant-3

PIB India, July 22, 2020

The Prime Minister, Shri Narendra Modi has congratulated Indian nuclear scientists for achieving criticality of Kakrapar Atomic Power Plant-3. In a tweet, the Prime Minister said, "Congratulations to our nuclear scientists for achieving criticality of Kakrapar Atomic Power Plant-3! This indigenously designed 700 MWe KAPP-3 reactor is a shining example of Make in India. And a trailblazer for many such future achievements.

https://pib.gov.in/PressReleasePage.aspx?PRID=1640338

Kakrapar-3 Atomic Power Plant: What does it mean for India's nuclear energy programme?

Financial Express, July 23, 2020

The indigenously-built third unit of Kakrapar Atomic Power Station (KAPP-3) on Wednesday achieved criticality, which marks a significant scale-up in technology, both in terms of optimisation of PHWR design and improvement in the economies of scale. July 22, 2020, marked a big day for India's atomic energy sector. On Wednesday, the indigenously built third unit of Gujarat-based Kakrapar Atomic Power Project (KAPP-3) achieved criticality. Prime Minister Narendra Modi also congratulated scientists for this achievement, terming it as a shining example of the 'Make in India' initiative and a "trailblazer for many such future achievements."

Why this is so important? Data suggest India's energy demand is likely to grow at 4.2% per annum through 2035. According to the information available on the International Atomic Energy Agency's website, India used to generate 4.1 billion kWhr power during 1947-48, which grew to about 1,272 billion kWhr, including captive power, in 2014-15. India is a big country so it needs a large amount of electricity generating capacity to cater to the rising energy demand. The country is still heavily dependent on fossil energy for its energy need.

https://www.financialexpress.com/defence/kakrapar-3-atomic-power-plant-what-does-it-mean-for-indias-nuclear-energy-programme/2032845/

India's first 700 MWe pressurized heavy water reactor at Gujarat's Kakrapar attains criticality

DNA, July 23, 2020

Kakrapar Atomic Power Plant, Unit-3 (KAPP-3), India's first 700 MWe (megawatt electric) pressurized Heavy Water Reactor (PHWR) with innovative features attained criticality at around 9:36 am on July 22, the Department of Atomic Energy said. A nuclear reactor attains criticality when every nuclear fission event releases a sufficient number of neutrons to sustain an ongoing series of reactions or a self-sustaining chain reaction. Atomic Energy Regulatory Board (AERB) has carried out exhaustive safety review of various safety aspects to ensure satisfactory compliances to regulatory requirements and granted permission for First Approach to Criticality of KAPP-3 on 17 July, 2020.

Due to prevailing COVID-19 situation, the safety review was carried out by working from home, partial working from office and through discussions and meetings over video conferencing, the department said in a press release.

https://www.dnaindia.com/india/report-india-s-first-700-mwe-pressurized-heavy-water-reactor-at-gujarat-s-kakrapar-attains-criticality-2833745

Explained: What is the significance of Kakrapar-3?

Anil Sasi

The Indian Express, July 26, 2020

The third unit of the Kakrapar Atomic Power Project (KAPP-3) in Gujarat achieved its 'first criticality' — a term that signifies the initiation of a controlled but sustained nuclear fission reaction — at 9.36 am on Wednesday. PM Narendra Modi congratulated India's nuclear scientists on this achievement, describing the development of the indigenous reactor as "a shining example of Make in India" and a "trailblazer for many such future achievements".

Why is this achievement significant? This is a landmark event in India's domestic civilian nuclear programme given that KAPP-3 is the country's first 700 MWe (megawatt electric) unit, and the biggest indigenously developed variant of the Pressurised Heavy Water Reactor (PHWR).

https://indianexpress.com/article/explained/kakrapar-atomic-power-project-third-unit-achieves-first-criticality-india-nuclear-mission-6518946/

B. China

90 CAS nuclear scientists who resigned were allegedly 'poached'

Global Times, July 16, 2020

More than 90 nuclear safety scientists with an institute under the Chinese Academy of Sciences (CAS) resigned enmasse according to media reports, with the unusual high number of resignation drawing public attention, considering the essential service the scientists provide. An employee at the Institute of Nuclear Energy Safety Technology (INEST) under The Hefei Institutes of Physical Science (CASHIPS) of CAS said the more than 90 researchers who voluntarily left their jobs were "poached" and the resignations were part of "normal staff turnover," the Shanghai-based news website thepaper.cn reported Thursday. The employee didn't identify which company or institute may have recruited the researchers. INEST, located in Hefei, capital of Central China's Anhui Province, a hub of China's scientists, has about 600 members and 80 percent of researchers have PhD degrees, according to the institute's website. The employee said the 90-plus researchers submitted their resignations in June.

http://www.globaltimes.cn/content/1194812.shtml

Air force missile brigade gets zero non-combat attrition rate in days of flood fight

Zhang Mimi, Fu Gan and Lin Wengui

China Military Online, July 21, 2020

Troops of a ground-based missile brigade of the air force under the PLA Eastern Theater Command have been fighting the flood in south China for nearly half a month. Up to now, no service members got ill and the non-combat attrition rate is zero, in spite of the troops' long time flood- fighting efforts in high temperature and high humidity. "I was so deeply moved by the thoughtful preparations made by our logistic support troops," said Private Tu Chao. It was the first time for him to participate in an anti-flood mission. He was distributed with rain boots, moisture-proof mattresses and other items before setting-off. And on the first day of the mission, when he returned from the embankment at 9 p.m., he saw the heat stroke prevention drugs, sunscreen cream, and sun-protective sleeves on the bed at the first sight.

Zhu Zhengyou, head of the logistic support department of the brigade, introduced that they had make thorough plan and preparation based on their experience of previous anti-flood missions, and fully predicted the difficulties that might be encountered by officers and soldiers this time. Based on this, they came out with this sunburn-protection package before the departure. Besides, the brigade prepared extra camouflage uniforms, shoes and T-shirts to each service member, to ensure that they could put on dry clothes when returning from the flooding site. Inside the temporary warehouse, there are piles of mineral water, canned porridge, milk, bread and other food. "The warehouse is open 24 hours a day, and these foods are available at any time," said Yang Tao, head of the supply section of the logistic support department. To facilitate service members to grab water or food at intervals of short break, they also got food and drinking water stored in those shuttle vehicles.

http://eng.chinamil.com.cn/view/2020-07/21/content_9857974.htm

China launches new high-resolution mapping satellite

CGTN, July 25, 2020

China sent a new high-resolution mapping satellite into space on Saturday from Taiyuan Satellite Launch Center in the northern province of Shanxi. The Ziyuan III 03 satellite was launched by a Long March-4B carrier rocket at 11:13 a.m. Beijing time, according to the center. It was the 341st flight mission by the Long March rocket series. Also on board were two satellites used for dark matter detection and commercial data acquisition respectively, which were developed by the Shanghai ASES Spaceflight Technology Co. Ltd. All three satellites have entered preset orbits, Taiyuan center sources said.

The Ziyuan III 03, developed by the China Academy of Space Technology, will join its predecessor the Ziyuan III 02 to form a network and capture high-definition 3D images and multispectral data. It will provide data for the country's land resource investigations, natural disaster prevention, agriculture development, water resource management, environmental survey and urban planning.

https://news.cgtn.com/news/2020-07-25/China-launches-new-high-resolution-mapping-satellite-SpIDGxEtz2/index.html

China needs to expand nuclear arsenal as US presses closer: GT chief editor

Global Times, July 26, 2020

China must be prepared to deal with the next more extreme adventures by the US, Hu wrote in his Sina Weibo account Sunday. "Hurry up and build more nuclear missiles to deter the US lunatics," reads the post. "China having more powerful nuclear arsenal is the most important leverage to keep American arrogance below a safety line. Nothing else is very effective." In the post, Hu stressed that China will not give up its efforts to resolve various issues through consultation with the US, "however, it is not up to us. With the US suppressing further, we cannot rule out the possibility that clashes break out between China and the US in the South China Sea and the Taiwan Straits. There will be a contest of wills between China and the US, and sufficient nuclear weapons are an indispensable pillar of China's will," Hu wrote. At a time when the US is pressing closer, China's national security is facing unprecedented challenges, reads the post, "China was forced to increase its nuclear arsenal, which many people in the world can understand. China must not tie its own hands and make a big mistake."

http://www.globaltimes.cn/content/1195708.shtml

Mars probe begins science operations

China Daily, July 29, 2020

China's Tianwen 1 Mars probe has begun to conduct scientific operations, according to designers of one of its scientific payloads. The Mars Energetic Particle Analyzer, mounted on the spacecraft's orbiter, was activated late Friday night and has transmitted data back to ground control, according to a statement from the Lanzhou Institute of Physics of the China Academy of Space Technology and the Institute of Modern Physics of the Chinese Academy of Sciences.

It is the first of 13 scientific apparatuses on the probe to start operating and will be the longest working device during the spacecraft's seven-month journey toward Mars' gravitational field, the statement said. The instrument is tasked with measuring the spatial radiation environment of Mars and along the Earth-Mars transfer trajectory, as well as investigating a variety of topics including the energy spectrum and changing pattern of energetic particles in the spatial environment. Its first mission is studying the spatial radiation environment along the Earth-Mars transfer trajectory, according to designers.

http://www.chinadaily.com.cn/a/202007/29/WS5f20dc19a31083481725cc8a.html

C. Pakistan

Which is the fastest-growing nuclear programme?

Anum A Khan

Pakistan Today, July 21, 2020

India, by expanding and modernizing its nuclear weapons, has made the region more volatile. These desires of New Delhi have tilted South Asia towards a nuclear arms race. Climbing up this ladder of chaos, the only priority of New Delhi is

for India to be seen as a consensual leader in the region. Such moves by India to achieve its national goal of being a regional power, altogether altered the security dynamics of South Asia. As the world seeks to shrink global stockpiles of nuclear weapons, India continues to modernize its arsenal which increases Pakistan's security dilemmas, compelling it to adopt an appropriate response.

The latest yearbook by SIPRI mentions, as of June 2020, India is estimated to have a growing arsenal of approximately 150 nuclear weapons and Pakistan of 160. The Western as well as Indian media immediately picked up the estimates of Pakistan's nuclear weapons and reported it as the fastest growing. However, realities on ground are quite the opposite. Among the Non-NPT states, India, not Pakistan, has the world's fastest growing nuclear arsenal.

https://www.pakistantoday.com.pk/2020/07/21/which-is-the-fastest-growing-nuclear-programme/

Pakistan 'most improved' country on US nuclear security index

Dawn, July 23, 2020

A United States study on worldwide nuclear materials security for 2020 has said Pakistan is the "most improved country" after increasing its overall score by seven points. On the whole, Pakistan ranked 19 with 47 points, while India ranked one place below at 20th spot with 41 points.

According to the National Threat Initiative Nuclear Security Index report for 2020, the majority of improvements were in the Security and Control Measures category, which increased by 25 points, because of the passage of new regulations. A screengrab of one of the pages of the report on Pakistan. An improvement was also witnessed in the Global Norms category, in which the ranking improved by one point.

https://www.dawn.com/news/1570702/pakistan-most-improved-country-on-us-nuclear-security-index

FATF restrictions and economic terrorism

Senator Rehman Malik

The Nation, July 27, 2020

FATF sanctions via the Grey List are in fact economic restrictions and it is a well-known internationally-recognised fact that economic restrictions are basically applied only to cripple the economy of a country. Pakistan has experienced direct economic sanctions/restrictions by the USA in the past. History reveals that the US has abruptly changed its policy towards Pakistan and has imposed sanctions with ill-motives. The attitude of America can easily be understood from 1988 to 2001, which revolved around the sanctions on Pakistan. During that era, the US imposed many sanctions on Pakistan to bring it under pressure. Pakistan's nuclear programme, missile proliferation, the saga of the Kashmir issue, and continuing bilateral nuclear standoff all became the cause of Pak-US strained relations from 1988-2001. In 1974, the US imposed an embargo and sanctions on Pakistan to interrupt its nuclear weapons programme. In 1990 again, right after the withdrawal of Soviet forces from Afghanistan, the US banned the delivery of military equipment worth $368 million and 28 F-16 air-crafts to Pakistan for which the country had already paid. During the President Clinton era, the Symington Amendment was imposed on Pakistan which states that uranium enhancement technology and nuclear weapons are not allowed to acquire or develop. This amendment was imposed due to the 1998 nuclear tests of Pakistan. Currently, Pakistan is under strict visa restrictions by the US under the Trump administration. The other countries under US Visa restrictions include Guyana in 2001, the Gambia in 2016, Cambodia, Eritrea, Guinea, and Sierra Leone in 2017, Burma and Laos in 2018. The United States has currently imposed commercial, economic, and financial embargo against Cuba. The United States has also applied economic, trade, scientific, and military sanctions

against Iran. In 2019, these sanctions led to a sharp downturn in Iran's economy, pushing the value of its currency to record lows, hiked inflation rate, reduced foreign investments, and triggering public protests.

https://nation.com.pk/27-Jul-2020/fatf-restrictions-and-economic-terrorism

D. USA

House appropriators request more details on US uranium reserve

World Nuclear News, July 16, 2020

The US House Committee on Appropriations has denied a funding request from the US Department of Energy (DOE) for fiscal 2021 for establishing a uranium stockpile. The committee requested further information from the department on the justification for the reserve and how it will be implemented. The US Administration's 2021 budget request unveiled on 10 February by President Donald Trump included USD150 million to set up a uranium reserve to address challenges to the production of domestic uranium. This reserve would ensure a backup supply of uranium in the event of a significant market disruption and support the operation of at least two US uranium mines, according to the DOE. It will begin with the purchase of uranium from US mines and of US conversion services.

However, in a 13 July report accompanying the House energy and water development appropriations bill for fiscal 2021, which begins on 1 October, the committee said the DOE "has been unable to provide specific information about how it would implement the programme, including in congressional justifications, briefings, and in responses to questions from the committee about how the funds would be spent, including the process for the purchase, conversion, or sale of uranium in a reserve". The committee said it is concerned about "the lack of justification for a reserve and potential market implications of establishing a reserve for commercial purposes". It also noted the DOE "will require a domestic source of uranium for defence purposes in the coming decades".

https://www.world-nuclear-news.org/Articles/House-appropriators-request-more-details-on-uraniu

US has 'several' indications Iran has put portions of air defense on high alert

Barbara Starr

CNN, July 16, 2020

The US has "several" intelligence indications that Iran has put portions of its air defense system on "high alert" in recent days, following unexplained explosions at key facilities tied to the country's military and nuclear programs, according to a US official who is closely tracking developments. The change in alert status means Iranian surface-to-air missile batteries would be ready to fire at targets perceived to be a threat.

The official would not say how the US picked up on these indicators, but American satellites, spy planes, and ships routinely operate in nearby international airspace and waters where they continuously monitor Iranian activity. Several US military officials declined to publicly comment on whether the US has intelligence related to Iran's alert status.

https://edition.cnn.com/2020/07/16/politics/us-intelligence-iran-air-defenses/index.html

Pandemic drives plant operators to employ remote checks

World Nuclear News, July 17, 2020

Nuclear power plant operators are carrying out remote quality and safety related assessments of systems, structures and components (SSCs) to overcome physical distancing and mobility restrictions during the global COVID-19 pandemic, participants in a recent International Atomic Energy Agency (IAEA) webinar said. SSCs must be regularly monitored, replaced and have their quality verified.

"The pandemic has tested the resilience of the nuclear power industry and sparked the development of innovative solutions to a range of challenges, including to the supply chain of goods and services such as assessments of SSC and suppliers," the IAEA said. However, limitations such as reduced on-site staffing and travel restrictions have forced both operators and suppliers to rethink their practices. Panelists in the 9 July Webinar on COVID-19 and Its Impact on the Nuclear Power Supply Chain discussed how their organisations had been meeting these challenges, including by carrying out remote assessments.

https://www.world-nuclear-news.org/Articles/Pandemic-drives-plant-operators-to-employ-remote-c

Report shows advantages of nuclear employment

World Nuclear News, July 21, 2020

The nuclear energy industry provides more numerous, better-paid and more highly-trained jobs than does the wind power sector, according to a technical position paper published today by World Nuclear Association. It provides around 25% more employment per unit of electricity generated. Employment in the Nuclear and Wind Energy Generating Sectors focuses on the job opportunities created by nuclear power plants and provides a comparison with wind, another major source of low-carbon electricity.

Separating employment into several distinct stages - construction, operations and maintenance, and the supply chain - it uses data from existing studies to estimate employment in France and the USA, selected in part on the assumption that the broader supply chain in both those countries is largely nationally based. Direct and indirect employment from the generation of 1000 TWh per year is estimated at 461,000 in the nuclear fleet and 346,000 in wind. While most sector employment estimates are 'point-in-time', providing a snapshot rather than a view over plant lifetime, the World Nuclear Association paper estimates employment in a 'steady state' for both industries: that is, employment per unit of capacity or of electricity generated in a sector that is neither growing nor contracting and where construction is sufficient only to maintain the size of the current fleet. This enables it to make allowance for the temporarily enlarged labour force employed in planning and construction of a rapidly growing industry - such as wind - against an essentially mature industry, such as nuclear.

https://www.world-nuclear-news.org/Articles/Nuclear-offers-employment-advantages-paper-finds

Deep Isolation, NAC extend cooperation on waste canisters

World Nuclear News, July 22, 2020

Deep Isolation has signed a long-term cooperation and licensing agreement with NAC International to design, manufacture and supply canisters to store and/or dispose of nuclear waste in deep horizontal boreholes. The agreement follows a short-term memorandum of understanding the two companies signed last year. Berkeley, California-based Deep Isolation has developed a solution for the management of used nuclear fuel and high-level radioactive waste (HLW) by emplacing it in corrosion-resistant canisters placed in deep horizontal drillholes. The latest agreement will see NAC engineer, license and deliver the canisters and other equipment associated with the handling and transferal of high-level waste, used nuclear fuel and other nuclear waste from existing storage areas to a Deep Isolation repository. The agreement includes an in-kind commitment by NAC for its services.

"As we approach the milestone of licensing a disposal facility, we have an internal team focused on the process of moving the spent fuel from its current storage state, transferring it to a Deep Isolation canister and into the drillhole," said Deep Isolation CEO Elizabeth Muller. "This is a non-trivial challenge that requires the highest standards of safety

and precision, and we are making great strides. The disposal canister design and NAC's expertise with spent fuel handling are essential to this work, and we are excited to sign this long-term agreement between Deep Isolation and NAC." NAC, a wholly-owned subsidiary of Hitachi Zosen Corporation, has supplied a "large share" of the used fuel systems in use at decommissioning US utility sites, and has also developed and deployed transportable storage systems for use at US Department of Energy (DOE) sites, the companies said.

https://www.world-nuclear-news.org/Articles/Deep-Isolation-NAC-extend-cooperation-on-waste-can

Climate Point: FBI probes bailout of Ohio nuclear, coal plants; will Nevada be bombed again?

Mark Olalde

USA Today, July 23, 2020

Welcome to Climate Point, your weekly guide to climate, energy and environment news from around the Golden State and the country. In Palm Springs, Calif., I'm Mark Olalde. Let's jump right in with an FBI investigation into alleged corruption tied to nuclear and coal subsidies in Ohio. Who said energy policy isn't exciting? Ohio House Speaker Larry Householder and several others were arrested this week and "charged in a racketeering conspiracy after allegedly taking $60 million from FirstEnergy," a major utility company, the Columbus Dispatch reports. The purported scheme was centered on HB 6, a highly controversial bailout of nuclear and coal power plants that passed under mysterious circumstances last year with energy experts calling it a boondoggle.

Leah Stokes, an assistant professor at UC Santa Barbara, dug into the juicy details in this helpful explainer in Vox. "Spending a few million to get more than a billion dollars? Not a bad return on investment," she wrote.

https://www.usatoday.com/story/news/2020/07/23/climate-point-ohio-corruption-allegedly-goes-nuclear/5480825002/

Trump, Russia's Putin, discuss arms control, Iran, coronavirus: statements

Reuters, July 23, 2020

President Donald Trump told Russian counterpart Vladimir Putin on Thursday he wanted to avoid a costly arms race with Russia and China and hoped for progress in arms control negotiations, the White House said. "President Trump reiterated his hope of avoiding an expensive three-way arms race between China, Russia and the United States and looked forward to progress on upcoming arms control negotiations in Vienna," White House spokesman Judd Deere said.

"The need for collective efforts to maintain regional stability and the global nuclear non-proliferation regime has been emphasized on both sides," the Kremlin said. The White House did not mention Iran but said Trump and Putin discussed ways to defeat the coronavirus pandemic while continuing to reopen global economies. The United States says that, as a growing nuclear weapons power, China should join it and Russia in a new treaty. But China's estimated 300 warheads are dwarfed by the arsenals of Russia and the United States.

https://www.reuters.com/article/us-usa-russia-trump/trump-russias-putin-discuss-arms-control-iran-coronavirus-statements-idUSKCN24O2KY

Ohio legislator charged in racketeering case

World Nuclear News, July 23, 2020

Five people, including the Speaker of Ohio's House of Representatives, have been charged in a federal racketeering conspiracy involving USD60 million related to legislation passed last year to provide financial support to two nuclear power plants. According to the US Attorney's Office for the Southern District of Ohio, it is alleged that Speaker Larry Householder "conspired to violate the racketeering statute through honest services wire fraud, receipt of millions of dollars in bribes and money laundering."

The four other individuals arrested and charged are: lobbyist and former Ohio Republican Party chair Mathew Borges; campaign and political strategist Jeffrey Longstreth; and lobbyists Neil Clark and Juan Cespedes. The Generation Now corporate entity has also been charged. According to the criminal complaint against the defendants, the enterprise from March 2017 to March 2020 received millions of dollars in exchange for help in passing House Bill 6. The bill, which was passed last July by Ohio's House of Representatives and signed into law by Governor Mike DeWine, provides clean energy credits to zero-emission power producers, including nuclear power plants. "The defendants then also allegedly worked to corruptly ensure that HB 6 went into effect by defeating a ballot initiative to overturn the legislation," the Attorney's Office said.

https://www.world-nuclear-news.org/Articles/Ohio-legislator-charged-in-racketeering-case

U.S. Eyes Building Nuclear Power Plants on the Moon, Mars

Keith Ridler

Time, July 24, 2020

The U.S. wants to build nuclear power plants that will work on the moon and Mars, and on Friday put out a request for ideas from the private sector on how to do that. The U.S. Department of Energy put out the formal request to build what it calls a fission surface power system that could allow humans to live for long periods in harsh space environments.

The Idaho National Laboratory, a nuclear research facility in eastern Idaho, the Energy Department and NASA will evaluate the ideas for developing the reactor. The lab has been leading the way in the U.S. on advanced reactors, some of them micro reactors and others that can operate without water for cooling. Water-cooled nuclear reactors are the vast majority of reactors on Earth.

https://time.com/5871667/nuclear-power-plant-moon/

US agencies agree to work together on ISL regulation

World Nuclear News, July 24, 2020

The USA's Environmental Protection Agency and Nuclear Regulatory Commission aim to improve their coordination and cooperation in the regulation of uranium extraction using in-situ recovery methods through a new Memorandum of Understanding. EPA Administrator Andrew Wheeler said the MOU, which he signed with NRC Chairman Kristine Svinicki, is an important step towards establishing a robust domestic uranium mining industry, and reflects a "commonsense" approach between agencies.

"In-situ uranium mining is a proven safe and cost-effective way to provide fuel for America's nuclear power plants, which supports thousands of jobs and is a large source of emissions-free energy," he said. Both the EPA and NRC have individual statutory responsibilities under the Atomic Energy Act of 1954 regarding uranium and thorium processing at in-situ recovery, or in-situ leach (ISL), facilities: the EPA is responsible for the standards to protect public health, safety and the environment from radiological and non-radiological hazards associated with operations; while the NRC develops regulations to implement those standards and regulate the facilities.

https://www.world-nuclear-news.org/Articles/US-agencies-agree-to-work-together-on-ISL-regulati

U.S. moves to streamline uranium extraction rules in bid to boost mining

Reuters, July 24, 2020

The Trump administration on Thursday moved to streamline water rules on uranium mining, in a move environmentalist said allows the Environmental Protection Agency to give up authority on regulating water pollution. EPA Administrator Andrew

Wheeler signed an initial agreement, or memorandum of understanding, with U.S. Nuclear Regulatory Commission Chairman Kristine Svinicki that they said would improve coordination in the regulation of in-situ mining of uranium.

Wheeler said the mining technique is a "proven safe and cost-effective way to provide fuel for America's nuclear power plants, which supports thousands of jobs and is a large source of emissions-free energy." The administration of President Donald Trump has been trying to boost nuclear power plants, which are suffering from high security costs and competition from plants that burn cheap natural gas, and a number of which are shutting down. The administration is also seeking to help uranium mining.

https://www.reuters.com/article/us-usa-uranium-epa/u-s-moves-to-streamline-uranium-extraction-rules-in-bid-to-boost-mining-idUSKCN24O363

USA lifts nuclear finance ban

World Nuclear News, July 24, 2020

The USA has lifted its legacy prohibition on funding nuclear energy projects overseas. The US International Development Finance Corporation (DFC) changed its Environmental and Social Policy and Procedures following a 30-day public consultation period. Adam Boehler, CEO of the DFC, said the corporation's decision - which also brings its definition of renewable energy into alignment with that used by the US Energy Information Administration - marks a "significant step forward" in US efforts to support the energy needs of its allies around the world, and also positions the DFC to accelerate growth in developing economies that have limited energy resources.

"We look forward to exploring opportunities to leverage this new capability to deliver affordable, reliable and emission-free energy where it is needed most," he said. "At the same time, these efforts will also advance innovative technologies that adhere to the United States' high safety, security, and non-proliferation standards." The DFC - the USA's development bank - works in partnership with the private sector to finance solutions to challenges facing developing countries, and invests across a range of sectors. Its Environmental and Social Policies and Procedures had previously categorically prohibited it from investing in the production of, or trade in, radioactive materials, including nuclear reactors and their components. The inability to offer attractive financing options has been seen as a barrier to the potential export of US reactors and nuclear technology.

https://www.world-nuclear-news.org/Articles/USA-lifts-nuclear-finance-ban

US Senate passes Nuclear Energy Leadership Act

World Nuclear News, July 27, 2020

The US Senate has passed the Nuclear Energy Leadership Act (NELA) after it was included as an amendment to an act authorising defence appropriations and policies for fiscal 2021. NELA aims to re-establish US leadership in nuclear energy, with a focus on the demonstration of advanced reactors.

NELA (S 903) was introduced as an amendment to the National Defense Authorisation Act for Fiscal Year 2021 (NDAA, S 4049) by Senators Lisa Murkowski and Cory Booker during a floor debate on 23 July. The NDAA was passed the same day, with 86 senators voting in favour and 14 against. "For too long, the United States has lagged woefully behind on innovative nuclear energy technologies, which comes at great cost to our economy, our global leadership and the environment," Murkowski, who chairs the Senate Committee on Energy and Natural Resources, said after the vote. "The Department of Defense is a logical first customer for advanced reactors, especially the microreactors currently under development, which can be deployed to remote regions. Nuclear energy can also provide safe, clean, and affordable power to homes, schools and businesses that traditionally rely on more costly energy sources."

Bills to instate NELA were introduced into the House and Senate last year. The legislation would focus US Department of Energy efforts on the demonstration of advanced reactor concepts, providing fuel for initial advanced nuclear reactors, and developing the nuclear energy workforce. According to Murkowski, the advanced reactors supported by NELA have significant potential to provide safe, clean, reliable and affordable energy to installations such as military bases, remote communities in states like her own, Alaska, and to larger towns and cities.

https://www.world-nuclear-news.org/Articles/US-Senate-passes-Nuclear-Energy-Leadership-Act

INL seeks industry partners for lunar nuclear power system

World Nuclear News, July 27, 2020

Battelle Energy Alliance, LLC (BEA), the managing and operating contractor for the US Department of Energy's Idaho National Laboratory, has issued a request for information (RFI) on a fission surface power (FSP) system that can be operated on the Moon. Sponsored by NASA in collaboration with the Department of Energy and INL, the request for information seeks partnership on technologies and approaches to test and validate an FSP design that can be built and deployed on the Moon, and used for subsequent missions such as to Mars.

John Wagner, associate laboratory director of INL's Nuclear Science & Technology Directorate, said the laboratory has a central role in US nuclear innovation, with the anticipated demonstration of advanced reactors on the INL site. "The prospect of deploying an advanced reactor to the lunar surface is as exciting as it is challenging, and partnering with the most forward-thinking companies in the private sector and national laboratory system will help us get there," he said. "As space exploration operations go further and for longer periods of time, it is crucial that NASA provide energy sources that are more durable, resilient, and reliable than ever before," the RFI notes. "Small nuclear reactors can provide the power capability necessary for space exploration missions of interest to the Federal government. NASA, through the Nuclear Fission Power Project, has identified the need for a FSP system to provide reliable, durable energy for an installation on the Moon."

https://www.world-nuclear-news.org/Articles/INL-seeks-industry-partners-for-lunar-nuclear-powe

Coast Guard To Deliver Nuclear Icebreaker Plan to White House

Paul Mcleary

Breaking Defence, July 28, 2020

The Coast Guard is on track to deliver plans for a new generation of potentially nuclear-powered icebreakers to the White House by August 10, just two months after the Trump administration issued a surprise public directive to do so. For decades, the US has only used nuclear power on its supercarriers and submarines. Russia has nine nuclear-powered icebreakers. The ability to go long voyages without refueling is attractive in the infrastructure-poor Arctic, especially given the immense power demands of plowing a ship through ice.

The plans to be presented next month won't affect the acquisition, already underway, of three new conventionally-powered breakers — known as Polar Security Cutters — over the next six years. Instead, it will be a blueprint for three ships of yet-to-be-determined design that the Coast Guard and Department of Homeland Security will procure beyond 2026. The June 9 statement from the White House calling for the study was the public face of work already well along, however. So the 60-day deadline was less a demand for quick action than a long-held schedule. The memo "reflects the Administration's commitment to the Arctic and Antarctica and directs the interagency to conduct a holistic analysis of icebreaking capabilities for a future polar icebreaking fleet," Coast

Guard spokesman Cmdr. Jay Guyer said in an email. "It does not however, impact the current Polar Security Cutter acquisition program."

https://breakingdefense.com/2020/07/coast-guard-to-deliver-nuclear-icebreaker-plan-to-white-house/

75th Anniversary of Trinity Nuclear Test & Possible Resumption of Nuclear Testing

Hananah Zarrar

Modern Diplomacy, July 29, 2020

Trinity test untethered the nuclear demon with potential apocalyptic power. According to United States, 1945's Japan needed a psychological shock strong enough to make it surrender unconditionally at the cost of putting future generations on the verge of irreversible calamity. The uncertainty attached with these nuclear tests remain unpredictable even after 75 years with two devastating nuclear attacks, crises like Cuban missile crisis, and more than 2000 nuclear explosive tests. Although nuclear non-proliferation and arms control has a predominant place in nuclear realm to contain the unleashed demon with consequential threats, yet nuclear testing remained a practiced phenomenon. Trinity test took place under strained circumstances, war pressure and complete uncertainty of results. The uncalculated risks taken at the time of first explosion and unsatisfying anti-radioactive measures following the tests were strong enough to convince the administrative and decision-making body to realize the emerging challenges in the wake of nuclear weapon discovery. Scientist are always afraid of being accused of providing mass destructive means to nations. The committee headed by German scientist James Frank issued the Frank Report, that attempted to first demonstrate the power of the weapons to members of the United Nations. Yet, there were no signs of reconsideration of retreating from use of nuclear bomb and begin with pure deterrence with just a warning of use of nukes. It was due to the fact that Truman wanted to end the war soon and maybe because Japan seemed to be stubborn enough to consider the warning.

United States reserves the pride of being an initiator nuclear weapon state with the legacy of conducting more than half of up-till-date global nuclear device tests. U.S. nuclear testing practice is on a hold since 1992 as a result of nuclear test ban treaty. Recently, U.S. officials alarmed the world with possibility of resuming nuclear weapon tests. The reasons behind are less technical -checking the reliability of nuclear stockpiles- and more political in nature. It is surely another psychological shock from the United States, this time not for any single war mongering state but the whole world. The assumption that the U.S.' proposed trilateral arms control initiative would get a strong base to get into reality, through the imposed political pressure on other major nuclear powers, is a mere credulity. Threat of resuming nuclear testing adds to the mistrust among the nuclear weapon states. Following U.S. footsteps, the allied nuclear weapon states could take up the same course, putting rival nations in security dilemma and the domino effect would emerge. It would further devalue the already waning and uncertain future arms control accords. The clear clash of security interests is likely to emerge as a result of United States re-testing while compelling others to follow the course. Resumption of nuclear testing by all existing nuclear weapon states would be resulting in the filling up of nuclear weapons knowledge gap that existed all long the decades providing U.S. with the edge over other nuclear weapon states.

https://moderndiplomacy.eu/2020/07/29/75th-anniversary-of-trinity-nuclear-test-possible-resumption-of-nuclear-testing/

Ratepayer files class action suit against FirstEnergy amid nuclear plant bailout scandal

Sebastien Malo

Reuters, July 29, 2020

An Ohio resident has filed a class action lawsuit against FirstEnergy Corp and one of its former subsidiaries, claiming that the electric utilities should pay damages for conspiring with the state's former House

speaker, who was federally charged with conspiring to bail out two of the subsidiary's nuclear power plants in exchange for $60 million in bribes.

Jacob Smith filed a Racketeer Influenced and Corrupt Organizations Act civil lawsuit against FirstEnergy Corp and First Energy Service Company on Monday in U.S. District Court for the Southern District of Ohio, claiming that tens of thousands of customers were like him wrongly charged on their electricity bills to subsidize the survival of the failing power plant under a law championed by the disgraced politician.

https://www.reuters.com/article/usa-energy-lawsuit/ratepayer-files-class-action-suit-against-firstenergy-amid-nuclear-plant-bailout-scandal-idUSL2N2F000N

E. Europe

Europe Continues to Brush Off the U.S. Maximum Pressure Campaign Against Iran

Darya Dolzikova and Aniseh Bassiri Tabrizi

Lawfare, July 15, 2020

On June 19, the board of governors of the International Atomic Energy Agency (IAEA) passed a resolution expressing "serious concern" over Iran's refusal to provide the agency with access to two facilities suspected of possibly having hosted undeclared nuclear materials and activities. The resolution came two years after the U.S. pulled out of the Iran nuclear deal (also known as the Joint Comprehensive Plan of Action or JCPOA) and reimposed sanctions on Iran. It was drafted and tabled by France, Germany and the United Kingdom (known as the E3), leading to speculations that Europe might have finally decided to join the U.S. maximum pressure campaign against the Islamic Republic. However, despite the optics of the resolution, this does not appear to be the case.

The resolution follows discovery by the IAEA in January 2019 of uranium particles that appear to have resulted from human activity at an undeclared location in Iran. The agency suspects that, between 2002 and 2003, Iran may have carried out nuclear-related activities—including nuclear fuel cycle research and development, and conventional explosive testing—at three different facilities inside Iran. Since summer 2019, the agency has requested access to and information about these facilities as part of its verification activities relating to Iran's Comprehensive Safeguards Agreement (CSA) and the related Additional Protocol (AP), which are both linked to Iran's obligations under the Treaty on the Non-Proliferation of Nuclear Weapons. The AP, in particular, grants the IAEA the right to request access to suspected undeclared nuclear facilities.

https://www.lawfareblog.com/europe-continues-brush-us-maximum-pressure-campaign-against-iran

Borrell says there is no alternative to nuclear deal

Tehran Times, July 15, 2020

EU foreign policy chief Josep Borrell has said that it is urgent to preserve the 2015 nuclear deal, known as the JCPOA, because there is no effective alternative to the agreement. "Today, the JCPOA is under great pressure on multiple fronts. I am convinced that action to preserve it is not just necessary but urgent, for at least two reasons. First, it took more than 12 years for the international community and Iran to bridge their differences and conclude a deal. If the JCPOA is lost, no other comprehensive or effective alternative will be waiting around the corner," he wrote in an article published by Project Syndicate on Tuesday.

Following is an excerpt of the article: The deal would have not been possible without diplomatic persistence. It required the full buy-in not just of the United States, but also of Russia, China, and of course Iran. The final agreement was solid. At more than 100 pages, and with several annexes, it set out all of the details for a clear quid pro quo: Iran would abide by strict limitations on its nuclear program in exchange for the lifting of nuclear-related economic and financial sanctions. The

JCPOA is enshrined in international law through UNSC Resolution 2231 (which needs to be fully implemented). It stands as a prime example of what European diplomacy and effective multilateralism can achieve within the rules-based international order. But the process leading up to it was lengthy and difficult, all but ruling out another chance at a deal.

https://www.tehrantimes.com/news/450051/Borrell-says-there-is-no-alternative-to-nuclear-deal

Borrell says EU opposes U.S. policy of sanctions

Tehran Times, July 18, 2020

EU foreign policy chief Josep Borrell said on Friday that the European Union opposes the United States' policy of sanctions. According to Malay Mail daily, he pointed to sanctions on Iran, Cuba and the International Criminal Court, saying the EU opposed the U.S. policy of enforcing its measures against companies and individuals around the world. "I am deeply concerned at the growing use of sanctions, or the threat of sanctions, by the United States against European companies and interests," Borrell said in a statement. He said Washington's secondary sanctions on those doing business with its foes was hitting European companies carrying out "legitimate business."

"Where common foreign and security policy goals are shared, there is great value in the coordination of targeted sanctions with partners. Where policy differences exist, the European Union is always open to dialogue. But this cannot take place against the threat of sanctions," he said. U.S. President Donald Trump quit the nuclear deal in May 2018 and introduced the harshest ever sanctions in history on Iran as part of his administration's "maximum pressure" campaign against Iran.

https://www.tehrantimes.com/news/450175/Borrell-says-EU-opposes-U-S-policy-of-sanctions

EU recovery fund includes R&D and nuclear decommissioning

World Nuclear News, July 21, 2020

At the end of a five-day special meeting of the European Council, EU leaders reached agreement today to jointly borrow EUR750 billion (USD862 billion) to respond to the coronavirus pandemic. The EU's recovery fund, to be composed of EUR390 billion in grants and EUR360 billion in loans, will be attached to a new EUR1.074 trillion seven-year budget, the Multiannual Financial Framework (MFF). This brings the total financial package to EUR1.82 trillion. The agreement followed the European Commission's presentation at the end of May of a wide-ranging package combining the future MFF and a specific recovery effort under its Next Generation EU plan.

"We are slowly exiting the acute health crisis. While utmost vigilance is still required on the sanitary situation, the emphasis is now shifting to mitigating the socio-economic damage. This requires an unprecedented effort and an innovative approach, fostering convergence, resilience and transformation in the European Union," the European Council said today. The plan is an "ambitious and comprehensive package combining the classical MFF with an extraordinary recovery effort destined to tackle the effects of an unprecedented crisis in the best interest of the EU", it added.

https://www.world-nuclear-news.org/Articles/EU-recovery-fund-includes-R-D-and-nuclear-decommis

Debts force Ukraine to adjust fuel supply schedule

World Nuclear News, July 21, 2020

Energoatom has had to adjust its fuel delivery schedule owing to its financial problems, but the Ukrainian nuclear power plant operator is still ensuring a diverse range of suppliers, Natalya

Shumkova, the state-run company's executive director for nuclear and radiation safety and scientific and technical support, said last week.

Energoatom has complained that the country's electricity market discriminates against nuclear power and recent reforms do little to help its mounting debts. Recent amendments to electricity market regulations enable Energoatom to sell just 5% of its generation through bilateral contracts, but the company wants this to be increased to 50%. Ukraine launched an electricity market in July last year, but this tied Energoatom to selling 85% of its electricity production to the Guaranteed Buyer at a fixed low price within the Public Service Obligation mechanism. Energoatom did not purchase nuclear fuel from Westinghouse in the first quarter of this year, Shumkova said, adding that the schedule and annual volume for the supply of fresh nuclear fuel are agreed in advance with suppliers.

https://www.world-nuclear-news.org/Articles/Debts-force-Ukraine-to-adjust-fuel-supply-schedule

Energoatom is 'doomed to succeed', says vice president

World Nuclear News, July 27, 2020

Ukraine's nuclear power plant operator will thrive in a free market and be able to export surplus electricity if the government removes impediments to its success, Herman Halushchenko, Energoatom's vice president of development, said in an interview with Energy Club last week. Asked where he sees the company in five years, he said: "There is good phrase for this - 'We are doomed to succeed'. We must give this unique company the opportunity to become truly successful." Ukraine launched an electricity market in July last year, but this tied Energoatom to selling 85% of its electricity production to the Guaranteed Buyer at a fixed low price within the Public Service Obligation (PSO) mechanism. The other 15% could be sold on the day-ahead market. On 20 May, the Cabinet of Ministers approved two resolutions on regulations governing PSOs and electronic auctions for bilateral contracts. The first reduces the 85% restriction to 80%, meaning Energoatom may sell 5% of the electricity it produces under bilateral contract via electronic auctions.

In the 17 July interview with Energy Club, Halushchenko said having a wholesale market was "a big plus", but only when there is a level playing field and a guarantee of full payment. Unfortunately, neither condition is being met at present, he said. As a result, market participants have accrued a huge amount of debt - more than UAH30 billion, which will grow to UAH100 billion (USD3.6 billion) by the end of this year if nothing changes, he added. "This isn't Energoatom's fault but a case of how the market is functioning," Halushchenko said, adding that even before the wholesale market was launched, the company's debt from non-payment was already as much as UAH11.7 billion. It was welcome therefore, he said, that President of Ukraine Volodymyr Zelensky signed a law 'on measures to pay off debts on the wholesale electricity market', which was adopted by the Verkhovna Rada on 17 June.

https://www.world-nuclear-news.org/Articles/Energoatom-is-doomed-to-succeed-says-vice-presiden

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World Nuclear News, July 27, 2020

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https://www.world-nuclear-news.org/Articles/Energoatom-is-doomed-to-succeed-says-vice-presiden

Ukraine signs agreement with GE and receives European loans

Nuclear Engineering, July 28, 2020

US-based GE Steam Power announced that it has been selected by Ukraine's AtomRemontServis for its first Multi-Year Agreement in Ukraine on the Khmelnitsky and Rovno NPPs. Under the agreement, GE Steam Power will provide maintenance services on the power plants' four generators over the next three years to help ensure reliable operations at the two sites. AtomRemontServis is a subsidiary of nuclear utility Energoatom, the owner and operator of all Ukraine's nuclear plants in which account for nearly half of total energy supply. "AtomRemontServis is committed to delivering reliable nuclear power for Ukraine in support of the country's clean energy goals," said Vitaliy Shikun, director of AtomRemontServis. "We look forward to working with GE as our service partner on the generators at Khmelnitsky and Rovno nuclear power plants. We count on them to help us achieve long-term, high performance operations."

"GE Steam Power's global expertise combined with our regional presence as a services team gives us the ability to support customers like AtomRemontServis where and how they need us. Through this new service agreement, we are expanding our long-term nuclear service capabilities into Ukraine," said Paul Wise, Europe Region General Manager for GE Steam Power. GE steam turbine technology operates in 50 percent of the world's nuclear power plants. This includes GE's Arabelle steam turbine which represents six decades of nuclear steam turbine expertise and is the most powerful turbine in the world in terms of output.

https://www.neimagazine.com/news/newsukraine-signs-agreement-with-ge-and-receives-european-loans-8047533

EU marks assembly phase of world nuclear fusion project in France

New Europe, July 28, 2020

The European Commission hailed on July 28 the official beginning of assembling giant components to build the world's biggest fusion machine in the south of France. The EU is part of the ambitious energy project, the International Thermonuclear Experimental Reactor (ITER), collaborating with China, India, Japan, Korea, Russia and the United States. "Today we mark an important milestone for the ITER project, and for fusion energy development. Ten years of work, and ten million components will culminate in the world's largest fusion research device," EU Energy Commissioner Kadri Simson said in her speech by video to the attendees gathered in person at the ITER site in Cadarache, France, and via livestream. The ceremony to celebrate the official beginning of ITER's assembly was co-hosted by French President Emmanuel Macron and ITER's Director-General Bernard Bigot.

"We cannot understate the importance of this as a technical achievement. Almost every individual element of ITER is at the cutting edge of its field. And I'm looking forward to seeing these extraordinary components combine to make something even greater than the sum of its parts," Simson said, thanking the European Domestic Agency and Fusion for Energy, as well as all the European companies and research organisations for delivering the European contribution to the ITER project. Simson noted that the ITER represents the

determination of the EU in the fight against climate change. She reminded that the Commission has adopted the European Green Deal as its roadmap to climate neutrality by 2050. "In that light, the clean energy transition is both an ethical necessity and an economic opportunity. ITER perfectly demonstrates this duality: it is a major investment in our high-tech industries and clean energy sources for the future," the Commissioner said, stressing the importance of continuing to support projects like the ITER during the COVID-19 pandemic. "The journey might change, but our end goal remains the same. And so, our commitment to projects like ITER cannot waver. It is not only a milestone on the path to fusion power, but also a valuable tool for investment and development of our industries. This is why the European Union will maintain its support to ITER over the next seven years," Simson said.

https://www.neweurope.eu/article/eu-marks-assembly-phase-of-world-nuclear-fusion-project-in-france/

Assembly of ITER begins in France

Nuclear Engineering, July 30, 2020

The ITER group, in a ceremony on 28 July marked the start of the machine assembly of the international experimental tokamak nuclear fusion reactor under construction at Cadarache in France. ITER construction is funded mainly by the European Union (45.6%) with the remainder shared equally by China, India, Japan, Korea, Russia and the USA (9.1% each). However, in practice, the members deliver little monetary contribution to the project, instead providing 'in-kind' contributions of components, systems or buildings. The project has faced budget overruns and delays with partner countries trying to coordinate financing and cooperation on technical issues. Project Director Bernard Bigot, said the estimated budget for the European Union is about •20 billion ($23.5 billion).

The ITER project was launched in 2006. Its original timeline called for a test of its first super-heated plasma by 2020, with full fusion by 2023 but this has been revised several times. Bigot said he now expects first plasma in December 2025, which should prove the reactor concept works, and full power by 2035. However, he acknowledged the challenges in meeting that schedule. "Constructing the machine piece by piece will be like assembling a three-dimensional puzzle on an intricate timeline," he said. "We have a complicated script to follow over the next few years." He noted that the coronavirus pandemic had impacted the initial schedule

https://www.neimagazine.com/news/newsassembly-of-iter-begins-in-france-8053044

F. Russia

Russian shipyard floats out first serial Borei-A-class nuclear-powered submarine

TASS News Agency, July 17, 2020

The first serial Project 955A (Borei-A) strategic nuclear-powered missile-carrying submarine Knyaz Oleg was floated out on Thursday, the Sevmash shipbuilding plant's press service said. "Today, on July 16, a ceremony to float out the Knyaz Oleg strategic nuclear-powered missile-carrying submarine of the Borei-A class took place at the Sevmash shipyard in Severodvinsk," the statement said.

The ceremony was attended by officials from the Defense Ministry, the Russian Navy, the United Shipbuilding Corporation, Sevmash and other agencies. The lead submarine of Project 955A, the Knyaz Vladimir, has already entered service with the Russian Navy. It arrived to Gadzhiyevo, the main base of the Northern Fleet's submarine forces, on July 3.

https://tass.com/defense/1179521

US needs billions to adjust missile shield for hypersonic missiles — Russian official

TASS News Agency, July 17, 2020

The United States will have to spend hundreds of billions of dollars to make its existing missile shield efficient against hypersonic missiles, chief of the Russian

National Centre for Nuclear Risk Reduction Sergei Ryzhkov said in an interview published by the Krasnaya Zvezda newspaper on Friday.

"In the conditions when hypersonic missile systems appear, the US defense industry will need additional hundreds of billions of dollars to upgrade its existing missile shield to the acceptable degree of efficiency," Ryzhkov said, adding that this is exactly what the US defense industry wants. In his words "hundreds of billions of dollars of US taxpayers" have already been spent to create the missile shield.

https://tass.com/defense/1179533

IAEA, GIF call for faster deployment of next generation reactors

World Nuclear News, July 20, 2020

The International Atomic Energy Agency (IAEA) and the Generation IV International Forum (GIF) have called for greater efforts to support the early deployment of innovative nuclear reactor systems to address climate change. The appeal came during the 14th GIF-IAEA Interface Meeting held last week. Participants in the meeting, held virtually amid the global COVID-19 pandemic, reviewed progress on the research, design and development of innovative nuclear reactor systems, including in areas such as nuclear safety, proliferation resistance, economics, education and training.

"Participants called for stepping up action to support faster deployment of these innovative technologies, which can provide significant help as the world transitions to low-carbon energy systems," said Stefano Monti, head of the IAEA's Nuclear Power Technology Development Section, and co-chair of the 8 July meeting. The IAEA and GIF agreed to follow up on recommendations made at the meeting, including by focusing research and development on using innovative reactors to produce hydrogen and other activities such as the integration of innovative nuclear systems with other low carbon energy sources.

https://www.world-nuclear-news.org/Articles/IAEA-GIF-call-for-faster-deployment-of-next-genera

Two Russian latest nuclear-powered subs to carry hypersonic weapons

TASS News Agency, July 20, 2020

Two upgraded Project 885M 'Yasen-M' nuclear-powered submarines laid down at the Sevmash Shipyard in Russia's northwest on Monday will get hypersonic weapons, Sevmash CEO Mikhail Budnichenko said at the keel-laying ceremony. "Today we are laying down ships with hypersonic weapons, which are the future of the Russian submarine fleet," the chief executive said.

Russia's President Vladimir Putin who attended the keel-laying ceremony for the Russian Navy's first helicopter carriers at the Zaliv Shipyard in Kerch on the Crimean Peninsula on Monday said that the Project 885M 'Yasen-M' two multi-purpose nuclear powered subs laid down at the Sevmash would be named the Voronezh and the Vladivostok in honor of the Russian military glory cities. Three leading Russian shipyards simultaneously laid down six new ocean-going ships on Monday: two universal amphibious assault ships in Kerch on the Crimean Peninsula, two frigates in St. Petersburg and two nuclear-powered submarines in Severodvinsk.

https://tass.com/defense/1180493

Fuel loading starts at Leningrad II-2

World Nuclear News, July 20, 2020

The first of 163 nuclear fuel assemblies has been loaded into unit 2 of the Leningrad II nuclear power plant, marking the start of the physical start-up of the VVER-1200, Russian state nuclear corporation Rosatom

announced yesterday. After fuel is loaded, the reactor will be brought to minimum controllable power level (up to 1%), to ensure safety of all relevant processes. The physical launch will be followed by power start-up, trial operation and integrated testing. The unit will replace the RBMK-1000 reactor-equipped power unit 2 of Leningrad I, which will be shut down at the end of this year after 45 years of service. When it is commissioned next year, the new unit will become the fourth VVER-1200 in operation.

Andrei Petrov, director general of plant operator Rosenergoatom, said: "Beginning physical start-up procedures means that all the works associated with building the unit are complete. Today this important equipment of the unit receives the status of a 'nuclear energy installation', and nuclear specialists take on the responsibility for its safe operations for many years ahead."

https://www.world-nuclear-news.org/Articles/Fuel-loading-starts-at-Leningrad-II-2

Chances to save Iran nuclear deal still in place, says Lavrov

TASS News Agency, July 21, 2020

Moscow and Teheran are sparing no effort to support the Joint Comprehensive Plan of Action (JCPOA) on the Iranian nuclear program and believe that the chances to save the nuclear deal are still in place, Russian Foreign Minister Sergey Lavrov said on Tuesday at the beginning of talks with his visiting Iranian counterpart, Mohammad Javad Zarif. "We are convinced that chances to get the JCPOA back on sustainable track are still in place. At least, we and our Iranian friends are sparing no effort for that. We see that China sticks to the same positions and the European signatories to the JCPOA continue to show interest in that," he noted.

The Russian foreign minister stressed that his talks with the Iranian counterpart was a major part of joint efforts of the deal's participants to keep it in place. He added he would like to discuss with Zarif "additional steps, first of all in the legal sphere, that need to be taken on the basis of United Nations Security Council Resolution 2231, which is part and parcel of the JCPOA." Russia, according to Lavrov, thinks that the United States is pursuing a destructive policy aimed at complete breakdown of both the JCPOA and other agreements in the area of arms control and nonproliferation. The JCPOA, also known as the Iran nuclear deal, was signed between Iran, the five permanent members of the United Nations Security Council (Russia, the United Kingdom, China, the United States and France) and Germany in 2015. Under the deal, Iran undertook to curb its nuclear activities and place them under total control of the International Atomic Energy Agency (IAEA) in exchange of abandonment of the sanctions imposed previously by the United Nations Security Council, the European Union and the United States over its nuclear program.

https://tass.com/world/1180947

Russia starts construction of two more nuclear-powered super-subs

Atle Staalesen

The Barents Observer, July 21, 2020

It was a great day for the Russian Navy. On the 20th July, three shipyards laid down the keel of six new vessels. Among them were the "Voronezh" and the "Vladivostok", two Yasen-M class submarines. The subs are the 8th and 9th vessels of the Yasen class. Like their sister ships, the "Voronezh" and the "Vladivostok" are built at the Sevmash yard in Severodvinsk, northern Russia.

"The Navy has always staunchly protected the borders of Russia [and] in our days it plays an exclusively important role in providing Russian security, it is a firm guardian of national interests, helps support the strategic balance and world stability," President Vladimir Putin said in a speech delivered at the Zaliv Yard in the Crimea. While the Zaliv will build two landing ships, the Severnaya yard in St.Petersburg will build two new frigates and the Sevmash - two submarines. According to the President, Russia has

over the last eight years built as many as 200 new naval vessels. By year 2027, at least 70 percent of the country's Navy's will be modern ships, he assured.

https://thebarentsobserver.com/en/2020/07/russia-starts-construction-two-more-nuclear-powered-super-subs

Russia establishes RBMK decommissioning technology centre

World Nuclear News, July 23, 2020

Rosenergoatom, the operator subsidiary of Russian state nuclear corporation Rosatom, is establishing a new experimental and demonstration engineering centre for the decommissioning of RBMK reactors. The new centre will be based at the Leningrad plant site in the Leningrad region of Russia, with a branch at the Beloyarsk plant in the Sverdlovsk region. The Soviet-designed RBMK (reaktor bolshoy moshchnosty kanalny, high-power channel reactor) is a water-cooled reactor with individual fuel channels and using graphite as its moderator. It is also known as the light water graphite reactor (LWGR). It was designed over 1964-66 and is very different from most other power reactor designs as it derived from a design principally for plutonium production and was intended and used in Russia for both plutonium and power production. Its precursors were an experimental 30 MWt (5 MWe) LWGR at Obninsk which started up in 1954, and two small prototype LWGR (AMB-100 and 200) units - Beloyarsk 1 and 2 - which ran from 1964 and 1968 respectively. There are currently 10 RBMK units operating in Russia.

"Recently, we have committed to constructing new power units, some of those in Leningrad," said Andrei Petrov, director general of Rosenergoatom. "They will replace the power units whose reactors are due to shut down in the next decade. All in all, by 2030, 18 units will be shut in Russia, most of those having RBMK facilities. The newly-established engineering centre will work on safe serial shutdown of the stopped channel-type reactor facility power units." This will be the second pilot and demonstration engineering centre established by Rosenergoatom. The first one was established in 2013 and started operating at the Novovoronezh nuclear power plant, units 1 and 2 of which are VVER reactors.

https://www.world-nuclear-news.org/Articles/Russia-establishes-RBMK-decommissioning-technology

Trump, Russia's Putin, discuss arms control, Iran, coronavirus: statements

Reuters, July 23, 2020

President Donald Trump told Russian counterpart Vladimir Putin on Thursday he wanted to avoid a costly arms race with Russia and China and hoped for progress in arms control negotiations, the White House said. "President Trump reiterated his hope of avoiding an expensive three-way arms race between China, Russia and the United States and looked forward to progress on upcoming arms control negotiations in Vienna," White House spokesman Judd Deere said. The two leaders also discussed Iran's nuclear program, the Kremlin said in its statement on the call.

"The need for collective efforts to maintain regional stability and the global nuclear non-proliferation regime has been emphasized on both sides," the Kremlin said. The White House did not mention Iran but said Trump and Putin discussed ways to defeat the coronavirus pandemic while continuing to reopen global economies. The United States says that, as a growing nuclear weapons power, China should join it and Russia in a new treaty. But China's estimated 300 warheads are dwarfed by the arsenals of Russia and the United States.

https://www.reuters.com/article/us-usa-russia-trump/trump-russias-putin-discuss-arms-control-iran-coronavirus-statements-idUSKCN24O2KY

Reload MOX fuel ready for BN-800 fast reactor

World Nuclear News, July 23, 2020

The manufacture of the first full reload batch of uranium-plutonium mixed oxide (MOX) fuel for unit 4 of the Beloyarsk nuclear power plant in Russia has been completed by the Mining and Chemical Combine (MCC) in Zheleznogorsk, in the Krasnoyarsk region. The 169 fuel assemblies have been accepted by operator Rosenergoatom, and its authorised representative VPO ZAES, which has confirmed the consignment is ready for shipment. TVEL, the fuel manufacturer subsidiary of Russian state nuclear corporation Rosatom, will supply the fresh MOX fuel for Beloyarsk 4, providing the shipments throughout the rest of this year. The refueling at the 789 MWe BN-800 reactor is scheduled for January 2021. The shift towards fully loading the BN-800 core with MOX fuel is scheduled for completion in early 2022, TVEL said.

The BN-800 reactor was initially launched with a hybrid core, partially loaded with uranium fuel produced by Elemash, TVEL's fabrication facility in Elektrostal in the Moscow region, and partially with experimental MOX fuel bundles manufactured at the Research Institute of Atomic Reactors in Dimitrovgrad, Ulyanovsk region. MCC started serial batch-production of MOX fuel in late 2018. The first serial batch of 18 MOX fuel assemblies was loaded into the reactor's core in late-2019, and the rest of the fresh fuel were bundles with enriched uranium. "Starting from the nearest refueling, the BN-800 core will be loaded with fresh MOX fuel," said Alexander Ugryumov, vice-president for research and development at TVEL. "At the same time, TVEL together with the Mining and Chemical Combine, will continue development of MOX fuel fabrication technology."

https://www.world-nuclear-news.org/Articles/Reload-MOX-fuel-ready-for-BN-800-fast-reactor

Russian latest nuclear-powered sub to enter state trials in August

TASS News Agency, July 25, 2020

The state trials of the improved Project 885M (Yasen-M) lead nuclear-powered submarine Kazan will begin in the first half of August, a source in the defense industry told TASS on Saturday. "The deployment of the nuclear-powered submarine Kazan to the sea for state trials is planned for the first half of August. In case of their successful completion, the submarine is due to be delivered to the Navy before the end of 2020," the source said.

The nuclear-powered submarine Kazan is "100% technically ready for the trials," the source added. TASS has no comment yet from the Sevmash Shipyard (part of the United Shipbuilding Corporation) on this issue.

https://tass.com/defense/1182417

Russian navy to get hypersonic nuclear weapons: Putin

Al Jazeera, July 26, 2020

Russian President Vladimir Putin has said the Russian navy will be armed with hypersonic nuclear weapons and underwater nuclear drones. The weapons, some of which have yet to be deployed, include the Poseidon underwater nuclear drone, designed to be carried by submarines, and the Tsirkon (Zircon) hypersonic cruise missile, which can be deployed on surface ships.

The combination of speed, manoeuvrability, and altitude of hypersonic missiles, capable of travelling at more than five times the speed of sound, makes them difficult to track and intercept. Putin, who said he does not want an arms race, has often spoken of a new generation of Russian nuclear weapons he says are unequalled and can hit almost anywhere in the world. Some Western experts have questioned how advanced they are.

https://www.aljazeera.com/news/2020/07/russian-navy-hypersonic-nuclear-weapons-putin-200726160351237.html

Tu-95MS strategic bombers conduct mid-air refueling in Volga area drills

TASS News Agency, July 27, 2020

The crews of Tupolev Tu-95MS strategic missile-carrying bombers practiced mid-air refueling from an Il-78 aerial refueling tanker during training flights in the skies over the Saratov Region, the press office of Russia's Aerospace Force reported on Monday. "The long-range aircraft took off from various airfields. The mid-air refueling was conducted in the daytime at altitudes of over 5,000 meters and at a speed of about 600 km/h. The distance between the planes was less than 30 meters," the press office said in a statement.

Young officers took part in the training flights, the statement says. The Tu-95MS strategic missile-carrying bomber is designated to accomplish the tasks of striking vital targets in remote military-geographical areas and deep in the rear of continental theaters of military operations, employing nuclear missile weapons. A modernized bomber is furnished with a new control system and hardpoints for Kh-101 missiles that have proven their efficiency in Syria.

https://tass.com/defense/1182893

Russia's state commission clears Proton carrier rocket for July 31 launch from Baikonur

TASS News Agency, July 30, 2020

The state commission at the Baikonur spaceport cleared a Proton-M carrier rocket for its launch on July 31, Russia's State Space Corporation Roscosmos announced on Thursday. "Following the reports by State Corporation Roscosmos specialists about the readiness of the space rocket and the ground-based space infrastructure of the Baikonur Cosmodrome for the launch, the state commission made a decision on fueling the Proton-M launch vehicle and confirmed the launch time," Roscosmos said.

The Proton-M carrier rocket with a Briz-M booster and the Russian Express-103 and Express-80 telecoms satellites will be launched from Site No. 200 of the Baikonur Cosmodrome at 00:25 a.m. Moscow time on July 31, Roscosmos specified. In compliance with the schedule of the pre-launch preparations, the Baikonur spaceport's launch teams will start filling the rocket's tanks with the oxidizer at 6:30 p.m. Moscow time and with the fuel at 8:10 p.m. Moscow time, it said.

https://tass.com/science/1184107

Diplomat describes Russia-US expert consultations as specific, professional

TASS News Agency, July 31, 2020

The Vienna-hosted Russia-US expert consultations on strategic stability turned out to be specific and professional, Deputy Director of the Russian Foreign Ministry's Department of Information and Press Alexei Zaitsev said at a briefing. "The conversation turned out to be specific and professional. The parties will need to conduct an in-depth analysis of its results. Russia is ready to continue dialogue with Washington on various stability issues," he pointed out.

According to Zaitsev, Moscow believes that dialogue "is highly important for the prevention of further violations of international agreements in this area." "At the same time, we are determined to build relations with the US in the arms control area on the principles of parity and mutual respect for each other's interests and concerns," the Russian diplomat added. Zaitsev emphasized that the US had initially proposed to focus on issues related to nuclear warheads but Russia suggested discussing all weapons that could be used for strategic purposes and influence strategic stability. "In fact, the two countries' experts discussed three groups of topics, including space security, doctrines and potentials, transparency and verification," he said.

https://tass.com/politics/1184307

Russian communications satellites put on designated orbit

TASS News Agency, July 31, 2020

The Briz-M booster has put Russian communications satellites Express-80 and Express-103 on the designated orbit at an altitude of 54,900 kilometers, the press service of Russia's state space corporation Roscosmos said on Friday. "The spacecraft separated from the booster unit. The satellites have been put on the designated orbit," the press service said.

The Proton-M carrier rocket was launched from the Baikonur space center at 00:25 Moscow time on July 31. The booster with the spacecraft separated from the carrier rocket at 00:35 Moscow time. It was this year's only Proton launch. The satellites were launched in the interests of Russian satellite operator Space Communications. The Proton-M was initially scheduled to be launched on July 30 but the launch was postponed for one day for an additional check. A source in the Russian space industry told TASS on Wednesday the launch had been postponed due to problems with a device made by the company MOKB Mars (part of Rosatom civilian nuclear power corporation) responsible for the safe operation of the engine of the Briz-M booster.

https://tass.com/science/1184645

West Asia

G. Iran

Rouhani calls Putin, underscores need to confront U.S. unilateralism

Tehran Times, July 17, 2020

In a phone conversation with Russian President Vladimir Putin on Thursday, President Hassan Rouhani highlighted the need to counter the United States' unilateralism and its illegal attempt to extend arms embargo on Iran. According to UN Security Council Resolution 2231, which endorsed the 2015 nuclear deal – JCPOA- the arms embargo against Iran ends in October. Rouhani also called for deepening ties in various areas and praised Russia for supporting the nuclear deal and countering the U.S. unilateralism. For his part, Putin said that Russia supports efforts to preserve the JCPOA.

"As has been the case during the past five years, we continue to support this international agreement, and insist on its implementation and preservation," Putin said. The United States has stepped up efforts for an indefinite extension of UN arms embargo on Iran. It has even submitted a draft resolution to the Security Council for the purpose. The Trump administration has made such an action despite the fact that Donald Trump officially withdrew the U.S. from the nuclear deal in May 2018 and the U.S. is no longer a party to the agreement. The remaining parties to the JCPOA have expressed opposition to the U.S. for trying to extend arms sanctions on Iran. Analysts believe that Russia and China will most likely veto the U.S. plan to extend arms embargo. Rouhani also called for continuations of Iran-Russia-Turkey cooperation on Syria within the Astana format.

https://www.tehrantimes.com/news/450089/Rouhani-calls-Putin-underscores-need-to-confront-U-S-unilateralism

UN nuclear watchdog prepares for confrontation with Iran

Callum Paton

The National, July 17, 2020

The UN's nuclear watchdog is readying itself for a showdown with Tehran over Iran's continued stonewalling on access to two sites possibly linked to an old, clandestine nuclear weapons programme. Since he became the head of the International Atomic Energy Agency (IAEA) last year, Rafael Grossi has been grappling with Iran's decision to renege on commitments under its 2015 nuclear deal with world powers.

Now central to the disagreement, which lies at the heart of tensions between the

United States and Iran, is access to two sites that the agency believes is linked to a secret nuclear programme that was discontinued in 2003. Mr Grossi, who has been seen to take a more confrontational approach with Iran over the past months, has now warned of repercussions if Tehran does not grant access to the sites by the end of the month.

https://www.thenational.ae/world/europe/un-nuclear-watchdog-prepares-for-confrontation-with-iran-1.1050668

Secret Trump order gave CIA more powers to target Iran: report

Tehran Times, July 17, 2020

According to Yahoo News, the secret authorization gives the spy agency more freedom in both the kinds of operations it conducts and who it targets. The authorization allows the CIA to more easily authorize its own covert cyber operations, rather than requiring the agency to get approval from the White House. It "gave the agency very specific authorities to really take the fight offensively to a handful of adversarial countries," said a former U.S. government official. These countries include Russia, China, Iran, and North Korea — which are mentioned directly in the document — but the authorization potentially applies to others as well, according to another former official.

"The White House wanted a vehicle to strike back," said the second former official. "And this was the way to do it." The CIA's new powers are not about hacking to collect intelligence. Instead, they open the way for the agency to launch offensive cyber operations with the aim of producing disruption — like cutting off electricity or compromising an intelligence operation by dumping documents online — as well as destruction, similar to the U.S.-Israeli 2009 Stuxnet attack against Iran's nuclear program. The authorization has made it easier for the CIA to damage adversaries' critical infrastructure, such as petrochemical plants, and to engage in the kind of hack-and-dump operations that Russian hackers and WikiLeaks popularized, in which tranches of stolen documents or data are leaked to journalists or posted on the internet. It has also freed the agency to conduct disruptive operations against organizations that were largely off-limits previously, such as banks and other financial institutions. Another key change with the authorization is it lessened the evidentiary requirements that limited the CIA's ability to conduct covert cyber operations against entities like media organizations, charities, religious institutions or businesses believed to be working on behalf of adversaries' foreign intelligence services, as well as individuals affiliated with these organizations, according to former officials.

https://www.tehrantimes.com/news/450122/Secret-Trump-order-gave-CIA-more-powers-to-target-Iran-report

Zarif says had one-hour useful talk with Putin while in Russia

Tehran Times, July 22, 2020

Foreign Minister Mohammad Javad Zarif says he has spoken with Russian President Vladimir Putin on the phone for an hour. In remarks on Wednesday, Zarif said due to Putin's coronavirus protocol, he spoke on a secure line with the Russian president, IRNA reported. He said he delivered President Hassan Rouhani's message, which was about the Iran nuclear deal and some bilateral issues, to Putin.

"It was a constructive conversation, and inshallah it will lead to good outcomes," the chief Iranian diplomat added. Zarif said he had four hours of compact discussions with the Russians on Tuesday afternoon. Accompanied by Deputy Foreign Minister Seyed Abbas Araqchi, Zarif traveled to Moscow on Tuesday for talks with senior Russian officials, including his counterpart Sergei Lavrov. During his meeting with Lavrov, Zarif said Iran-Russia relations are at their strongest in decades, adding that such sustainable ties will benefit both countries and guarantee global peace and security.

https://www.tehrantimes.com/news/450368/Zarif-says-had-one-hour-useful-talk-with-Putin-while-in-Russia

Enrichment activities continue unabated at Natanz nuclear facility, MP says

Tehran Times, July 22, 2020

Spokesman for the Majlis National Security and Foreign Policy Committee has said enrichment activities in the Natanz nuclear facility continues unabated at the previous level. Abolfazl Amouei said the recent incident in the Natanz nuclear facility has not harmed the activities in the complex, Mehr reported on Tuesday. On July 2, Iran announced an incident affected a shed under construction at the Natanz complex, but it caused no casualties and failed to stop the enrichment work at the facility. A day later, Iran's Supreme National Security Council (SNSC) said the "main cause" of the explosion in the facility has been determined and will be announced at an appropriate time.

SNSC spokesman Keyvan Khosravi said that experts from different sectors started investigating "different hypotheses" about the incident at the site in central Iran immediately after its occurrence, and have determined its main cause. "Due to some security considerations, the cause and manner of this incident will be announced at a proper time," he added. Some reports suggested Tel Aviv's alleged role, but Israeli officials neither confirmed nor denied the regime's involvement.

Meanwhile, Iranian officials have said much of the speculation linking the incident to Israel is nothing but bluster which pleased Israeli leaders, warning Tel Aviv of serious consequences if it turned out to be true.

https://www.tehrantimes.com/news/450331/Enrichment-activities-continue-unabated-at-Natanz-nuclear-facility

Iran says to take legal action against U.S. over passenger plane harassment

Tehran Times, July 24, 2020

Tehran says it is investigating the details of the Thursday night's harassment of a Beirut-bound Mahan Air flight by the U.S. warplanes, warning the U.S. against any further escalation. In a statement on Thursday night, Iranian Foreign Ministry spokesman Abbas Mousavi said Iran will take the necessary political and legal actions once the investigation is completed. "Meanwhile, Iran's permanent representative and ambassador to the United Nations Majid Takht-Ravanchi has explicitly emphasized to UN Secretary-General Antonio Guterres that Iran will hold the U.S. responsible if anything happens to this airplane on its way back," Mousavi said, according to the Foreign Ministry website.

The message has also been conveyed to the Swiss ambassador to Tehran, whose country protects the U.S. interests in Iran, he added. Warplanes deployed by the so-called U.S.-led coalition operating illegally in Syria conducted aggressive maneuvering close to the Beirut-bound Iranian passenger airplane. The incident involved two warplanes and Mahan Air's Flight 1152, which had taken off from Tehran and was en route to the Lebanese capital, IRNA reported. Videos broadcast by Iranian and Lebanese media taken by passengers showed passengers screaming as sudden turbulence seized the plane. In the aftermath, one video showed a passenger with his face and head bloodied, as well as a man lying down, apparently unconscious, while someone tended to him. Oxygen masks dangled overhead.

https://www.tehrantimes.com/news/450404/Iran-says-to-take-legal-action-against-U-S-over-passenger-plane

Deputy FM says U.S. push to extend UN arms embargo on Iran will kill JCPOA

Tehran Times, July 28, 2020

Deputy Foreign Minister for International and Legal Affairs Mohsen Baharvand warned on Tuesday that the U.S. efforts to extend the UN arms embargo on Iran would spell the end of the 2015 nuclear deal between Iran and world powers, the Fars news agency reported. Commenting on the regional tour of U.S. Special

Representative for Iran Brain Hook, Baharvand said, "These moves are aimed at destroying the JCPOA and making the region turbulent."

"The Americans are well aware that Iran is a logical player, and it has never been a security threat to the region's countries," he said, calling on the regional countries to avoid being deceived by the U.S. Hook has visited many countries, including Tunisia, Qatar, and Kuwait, in a bid to muster support for U.S. efforts to extend the UN arms embargo on Iran, which is scheduled to expire in mid-October. Iran has repeatedly said that the extension of the arms embargo would inevitably lead to the death of the Joint Comprehensive Plan of Action (JCPOA)

https://www.tehrantimes.com/news/450614/Deputy-FM-says-U-S-push-to-extend-UN-arms-embargo-on-Iran-will

Iran's Khamenei accuses U.S. of trying to stoke protests

Parisa Hafezi

Reuters, July 31, 2020

Iran's Supreme Leader, Ayatollah Ali Khamenei, accused the United States on Friday of trying to stir anti-government protests by imposing sanctions that he said are aimed at bankrupting the country. Iran's clerical rulers have tried to prevent a revival of anti-government unrest that have shaken the country in recent years and that began with protests over economic hardship but turned political, with demonstrators demanding top officials step down. Authorities have said street protests will be dealt with "decisively".

"Their (The U.S.) short-term goal was to make our people so fed up and tired that they would stand up against the (ruling) system," Khamenei said in a televised speech marking the Muslim religious holiday of Eid al-Adha. "Their long-term aim is to bankrupt the country, the state, in other words to make the economy collapse." In addition to the U.S. sanctions, Iran's economy has been hit by a fall in oil prices, as well as the coronavirus crisis: Iran has one of the highest death tolls in the Middle East from the pandemic.

https://uk.reuters.com/article/uk-iran-usa-khamenei/irans-khamenei-accuses-u-s-of-trying-to-stoke-protests-idUKKCN24W10W

Top MP rejects claims of missile attack on Natanz nuclear facility

Tehran Times, July 31, 2020

Mojtaba Zolnour, the head of the Parliament National Security and Foreign Policy Committee, has rejected claims of missile or drone attacks on the Natanz nuclear facility. "Explosion had internal origin, and for the time being we cannot say the details," ISNA quoted Zolnour as saying on Friday. Atomic Energy Organization of Iran (AEOI) spokesman Behrouz Kamalvandi said on July 2 there was an incident in "one of the industrial sheds under construction" at the Natanz uranium enrichment plant. He noted that the incident caused no stoppage or slowdown of enrichment because the affected shed was actually under construction and not part of the enrichment process yet.

His remarks came hours after an informed Iranian security official told Press TV that there was no evidence to show that the incident has been an act of intentional sabotage. Kamalvandi said, "The incident took place at about 02:00 local time this morning and caused no loss of life," adding, "We have many open-space sheds at the Shahid Ahmadi Roshan enrichment complex. Our enrichment activities are mostly done underground." "Our open-space sheds do different things. This was one of those sheds, which was under construction. We have material damage, but no loss of life," he explained. Natanz is a uranium enrichment center located in the city of the same name in Isfahan Province, some 250 kilometers (155 miles) south of the capital, Tehran. It is among the sites now being constantly monitored by the International Atomic Energy Agency (IAEA).

https://www.tehrantimes.com/news/450701/

Top-MP-rejects-claims-of-missile-attack-on-Natanz-nuclear-facility

Iran struggles to buy medicine under U.S. sanctions

Tehran Times, July 31, 2020

In a report published by Reuters on Thursday, it is said that Iran is struggling to buy medicine and food under the United States' sanctions despite such supplies being exempt from sanctions. Pointing to the Swiss Humanitarian Trade Agreement (SHTA), a trade channel launched by the Swiss government to facilitate such Iranian purchases from Swiss companies, it said, "Yet Iran's central bank (CBI) has been unable to transfer the billions of dollars worth of oil export cash it had built up between 2016 and 2018 to bank accounts working with the SHTA, the five sources with knowledge of the matter told Reuters." It added, "That money was accumulated in bank accounts in countries that Iran sold oil to, especially in Asia, with its biggest customers including South Korea and Japan, in the years after Iran signed the nuclear accord with world powers, but before the Trump administration withdrew and reimposed sanctions in 2018."

"The funds were frozen when the sanctions, which target the CBI as well as dollar transactions with Iranian entities, were reintroduced. As a result, international banks and their governments - whom they seek clearance from - are wary of allowing funds to be released without specific authorisation from Washington for each transfer, the sources said." It is also said in the report that the blockage, according to the sources, illustrates how the complexity of the U.S. sanctions has made many banks, companies, and countries wary of doing any business with Iran, even when exemptions exist because breaches can involve huge financial penalties and being effectively shut out of the crucial U.S. financial system.

https://www.tehrantimes.com/news/450698/Iran-struggles-to-buy-medicine-under-U-S-sanctions

U.S. has failed to garner support to extend arms embargo on Iran: embassy

Tehran Times, July 31, 2020

Iran's embassy in London said in a tweet on Thursday that the United States' government has failed to garner support for extending arms embargo on Iran at the UN Security Council. "Another failure for the US maximum pressure policy against Iran: the US government has failed to garner support for extending Iran's arms embargo in the UN Security Council. After the US Secretary of State, Brian Hook also left London empty-handed," says the tweet. Brian Hook, the U.S. special representative for Iran, was in London on Wednesday to meet Foreign Office officials as part of his attempt to drum up support for the U.S. policy of extending the arms embargo.

The United States has stepped up calls for an extension of UN arms embargo on Iran since April. The arms embargo on Iran is set to expire in October. Under the UN Security Council Resolution 2231, which endorsed the 2015 nuclear deal, arms embargo against Iran expires in October. On June 30, the U.S. was rebuked at the UN Security Council meeting, including by the five European countries on the council. Russia's Ambassador to the UN Vassily Nebenzia slammed the U.S. for pursuing a "maximum suffocation" foreign policy against Iran, saying Washington's goal was to "achieve regime change or create a situation where Iran literally wouldn't be able to breathe". "This is like putting a knee to one's neck," said Nebenzia, in a veiled reference to the death of black man George Floyd in Minneapolis after a white police officer knelt on his neck.

https://www.tehrantimes.com/news/450696/U-S-has-failed-to-garner-support-to-extend-arms-embargo-on-Iran

JCPOA is annexed to UNSCR 2231 and U.S. has legal obligations to implement both: Iran

Tehran Times, July 31, 2020

Majid Takht-Ravanchi, Iran's ambassador to the United Nations, has said that the 2015 nuclear deal, officially known as the JCPOA, is annexed to the resolution 2231 of the UN Security Council and the United States has legal obligations to implement both of them. "The U.S.—with media stunts—continues to claim #JCPOA has no legal standing at UN. But JCPOA is *annexed* to UNSCR 2231, and U.S. has legal obligations to implement BOTH. Article 2 of 2231 calls upon members to support implementation of JCPOA: the U.S. is shirking its responsibility," Takht-Ravanchi tweeted on July 29.

U.S. President Donald Trump quit the nuclear deal in May 2018 and introduced the harshest ever sanctions in history on Iran as part of his administration's "maximum pressure" campaign against Iran. The JCPOA is endorsed by the UN Security Council Resolution 2231. The United States has stepped up calls for the extension of a UN arms embargo on Iran since April. Under the Resolution 2231, the arms embargo expires in October. The Trump administration has threatened that it may seek to trigger a snapback of all sanctions on Iran if its attempts to extend the arms embargo fail.

https://www.tehrantimes.com/news/450694/JCPOA-is-annexed-to-UNSCR-2231-and-U-S-has-legal-obligations

H. Saudi Arabia

Nuclear Gulf: Is Saudi Arabia pushing itself into a nuclear trap?

Patricia Sabga

Al Jazeera, July 21, 2020

When countries start dabbling in nuclear energy, eyebrows raise. It's understandable. Stopping the spread of nuclear weapons while allowing countries to pursue civilian nuclear programmes has proven a tough and sometimes unsuccessful balancing act for the global community. So when atom-splitting initiatives surface in a region with a history of nuclear secrecy and where whacking missiles into one's enemies is relatively common, it is not just eyebrows that are hoisted, but red flags.

Right now, warning banners are waving above the Arabian Peninsula, where the United Arab Emirates has loaded fuel rods into the first of four reactors at Barakah - the Arab world's first nuclear power plant. Roughly 620 kilometres (388 miles) west, Saudi Arabia is constructing its first research reactor at the King Abdulaziz City for Science and Technology.

https://www.aljazeera.com/ajimpact/nuclear-gulf-saudi-arabia-pushing-nuclear-trap-200718155513128.html

East Asia

I. Japan

International study finds plutonium particles were released during Fukushima accident

Nuclear Engineering, July 16, 2020

Researchers have found that small amounts of plutonium were included inside cesium-rich microparticles (CsMPs) emitted during the Fukushima Daiichi accident in 2011, the University of Helsinki reports. CsMPs are microscopic radioactive particles that formed inside the Fukushima reactors when the melting nuclear fuel interacted with the reactor's structural concrete. Due to loss of containment in the reactors, the particles were released into the atmosphere; many were then deposited across Japan. Studies have shown that the CsMPs are incredibly radioactive and that they are primarily composed of glass (with silica from the concrete) and radio-caesium (a volatile fission product formed in the reactors). Whilst the environmental impact and distribution of the CsMPs is still an active subject of debate, learning about the chemical composition of the CsMPs has been shown to offer a much-needed insight into the nature and extent of the meltdowns at Fukushima.

The study published in Science of the Total Environment, involving scientists from Japan, Finland, France, Switzerland, the UK, and USA, was led by Dr. Satoshi Utsunomiya and graduate student Eitaro Kurihara (Department of Chemistry, Kyushu University). The team used a combination of advanced analytical techniques (synchrotron-based micro-X-ray analysis, secondary ion mass spectrometry, and high-resolution transmission electron microscopy) to find and characterize the Pu that was present in the CsMP samples. The researchers initially discovered incredibly small uranium-dioxide inclusions, of less than 10 nanometers in diameter, inside the CsMPs; this indicated possible inclusion of nuclear fuel inside the particles. Detailed analysis then revealed, for the first-time, that Pu-oxide concentrates were associated with the uranium, and that the isotopic composition of the U and Pu matched that calculated for the Fukushima Daiichi NPP irradiated fuel inventory.

https://www.neimagazine.com/news/newsinternational-study-finds-plutonium-particles-were-released-during-fukushima-accident-8029597

Fukushima localities speak out against dumping radioactive water in sea

Japan Times, July 17, 2020

Seventeen out of 59 municipal assemblies in Fukushima Prefecture have either passed a resolution or issued a statement opposing the discharge into the Pacific Ocean of treated radioactive water currently stored at the Fukushima No. 1 nuclear power plant, a Fukushima Minpo survey has shown. The resolutions and statements also described measures taken by the central government as inadequate to combat reputational damage to food and fishery goods produced in Fukushima Prefecture, and the hope that local voices will be reflected in Tokyo's decision on whether to release the tritium-tainted water into the sea.

Fukushima Minpo conducted a survey of assemblies in the prefecture's 59 cities, towns and villages from June 18 to June 24. The assembly for the town of Namie, close to where the nuclear power plant is located, adopted a resolution that opposed the release of the radioactive water into the sea, while assemblies from the town of Miharu and village of Nishigo both issued statements opposing both sea discharge and evaporation as methods for disposing of the water. Many municipal assemblies have urged the central government to instead come up with measures involving long-term storage of the contaminated water in tanks and to fight rumors related to Fukushima produce.

https://www.japantimes.co.jp/news/2020/07/17/national/fukushima-assemblies-radioactive-water/#.XzD_4SgzbIU

Robot to use brush to retrieve melted fuel at Fukushima plant

Keitaro Fukuchi

The Asahi Shimbun, July 27, 2020

A robotic arm under development in Britain will use a brush and vacuum vessel on its end to collect melted fuel in a step toward retrieving debris at the crippled Fukushima No. 1 nuclear power plant. Details of the device, which will start collecting debris inside the No. 2 reactor on a trial basis next year, were announced on July 2. The government and plant operator Tokyo Electric Power Co. plan to retrieve melted fuel at the No. 2 reactor ahead of two other reactors because radiation levels are relatively low.

The No. 2 reactor, along with the No. 1 and No. 3 reactors, suffered meltdowns following the Great East Japan Earthquake and tsunami in 2011. The situation inside the No. 2 reactor is relatively known through past inspections. It has been confirmed that apparent debris in the lower part of its containment vessel can be collected with a robot. Measuring 22 meters long and weighing 4.6 tons, the robotic arm will be made of high-strength stainless steel so it will not bend when stretched out. It will be inserted into a closed box connected to a hole made on the side of the containment vessel and

remotely operated to prevent radioactive substances from being released.

http://www.asahi.com/ajw/articles/13529394

Troubled nuclear fuel reprocessing plant in Japan clears safety screening

Kyodo News, July 29, 2020

A trouble-plagued nuclear fuel reprocessing plant in northeastern Japan formally passed safety checks on Wednesday despite the questionable future of the government's decades-old nuclear fuel cycle policy based on uranium recycling. The plant in Rokkasho, Aomori Prefecture, which has been under construction for nearly three decades, has long been intended to play a key role in the country's nuclear policy by taking spent fuel from reactors and extracting uranium and plutonium for reuse.

The plant, operated by Japan Nuclear Fuel Ltd., cleared the tougher safety standards introduced in the wake of the 2011 Fukushima nuclear crisis, including more robust measures against earthquakes and tsunami. But the outlook for Japan's nuclear recycling policy is clouded by the decommissioning of a fast-breeder reactor that was to have used mixed-oxide, or MOX, fuel to be produced by the Rokkasho plant and the limited number of reactors in operation using such recycled fuel for pluthermal power generation.

https://english.kyodonews.net/news/2020/07/a56d67e8553e-troubled-nuclear-fuel-reprocessing-plant-clears-safety-screening.html

J. North Korea

North Korea's Punggye-ri Nuclear Test Site: Minor Caretaking Activities Continue

Jack Liu and Frank Pabian

38 North, July 16, 2020

Commercial satellite imagery of North Korea's Punggye-ri Nuclear Test Site from May to July indicates the site is being well maintained. Occasional vehicle tracks are observable, but there are no indications of site reactivation or new tunneling.

Portal Areas

The North Portal is the entrance to the tunnel complex where the last five North Korean nuclear tests have occurred. The entrance was demolished via explosives in May 2018, however, the North Korean claim of total destruction of the tunnel complex cannot be verified via satellite imagery. The unidentified objects near the collapsed entrance, first spotted in March, were still present in May and June. It is unclear whether they remain in place, as the area is now obscured by foliage. The purpose of these objects is unclear, but they may be related to radiation monitoring. No activity is observable around the East, West or South Portal areas.

https://www.38north.org/2020/07/punggye071620/

North Korea's Kim says there will be no more war thanks to nuclear weapons

Reuters, July 28, 2020

North Korean leader Kim Jong Un has said there will be no more war as the country's nuclear weapons guarantee its safety and future despite unabated outside pressure and military threats, state media said on Tuesday. Kim made the remarks as he celebrated the 67th anniversary of the end of the 1950-53 Korean War, which fell on July 27, with a reception for veterans, the official KCNA news agency said.

The country developed nuclear weapons to win "absolute strength" to stave off another armed conflict, Kim said in a speech carried by KCNA, emphasising the defensive nature of the programmes. "Now we are capable of defending ourselves in the face of any form of high intensity pressure and military threats from imperialist and hostile forces," he said.

https://www.reuters.com/article/us-northkorea-southkorea-usa/north-koreas-kim-says-there-

will-be-no-more-war-thanks-to-nuclear-weapons-idUSKCN24S2PQ

Kim Jong Un says nuclear weapons will guarantee North Korea's national safety

Yuliya Talmazan and Stella Kim

NBC News, July 28, 2020

North Korean leader Kim Jong Un hailed his country's nuclear weapons as a powerful deterrent against military threats, state media reported, as prospects of denuclearizing the Korean Peninsula continue to dim amid stalled talks with Washington. "We have become able to reliably defend ourselves against any form of high-intensity pressure and military threat by imperialist reactionaries and other hostile forces," Kim said during a reception for veterans marking the 67th anniversary of the end of the 1950-53 Korean War, the official state-run KCNA news agency said Tuesday.

"Thanks to our reliable and effective self-defense nuclear deterrence, the word war would no longer exist on this land, and the security and future of our state will be guaranteed forever," the North Korean leader said in his speech. Kim's remarks come amid the stalled talks aimed at denuclearizing the Korean Peninsula in exchange for sanctions relief from Washington.

https://www.nbcnews.com/news/world/kim-jong-un-says-nuclear-weapons-will-guarantee-north-korea-n1235072

K. South Korea

SpaceX launches South Korean military communications satellite

William Harwood

CBS News, July 20, 2020

After standing down last week to resolve an unspecified technical issue, SpaceX launched a Falcon 9 rocket Monday, lifting a South Korean military communications satellite into orbit. Using the same first stage that helped launch two astronauts on a May flight to the International Space Station, the 229-foot-tall Falcon 9 roared to life at 5:30 p.m. EDT and raced away from pad 40 at the Cape Canaveral Air Force Station.

The rocket quickly powered through the sound barrier and the region of maximum aerodynamic stress as it consumed propellants, lost weight and steadily accelerated, arcing to the east and out of sight over the Atlantic Ocean. The first stage then fell away and headed for touchdown on a SpaceX droneship stationed several hundred miles off shore while the second stage continued the climb to space. The engine fired for about eight minutes, putting the vehicle in an interim "parking" orbit as planned.

https://www.cbsnews.com/news/spacex-launches-south-korean-military-communications-satellite/

South Korean 2H coal demand faces headwinds

Argus, July 23, 2020

Power sector coal demand in South Korea faces the dual headwind of rising nuclear availability and increasingly competitive gas prices as the country heads towards a decade-low annual import total. South Korean thermal coal imports fell by 5.7mn t, or 11pc, on the year in the first half of 2020 to 45.7mn t, customs data show, with consumption among the five state utilities down by around 4.7mn t at 33.6mn t, according to Argus estimates based on the latest Kepco data. The biggest declines came early in the year as the government restricted the use of coal-fired plants in the first quarter to combat fine dust emissions — a policy that is expected to become an annual measure each winter.

Pressure on coal burn will likely remain in the second half of the year as rising nuclear availability and weaker power demand because of Covid-19 weighs on the need for fossil fuels, while competitive gas pricing creates an additional downside risk for coal. Nuclear generation rose by 1.5pc

on the year in January-June to 18.7GW and maintenance schedules suggest the growth will accelerate in the second half of the year. Some 19.4GW is currently scheduled to be available over July-December, which would be up from actual output of 15GW last year.

https://www.argusmedia.com/en/news/2125799-south-korean-2h-coal-demand-faces-headwinds

South Korea Says It Will Launch Spy Satellites as Missile Deal Is Revised

Choe Sang-Hun

The New York Times, July 28, 2020

The South Korean government said on Tuesday that it would begin work on launching its own military surveillance satellites to monitor North Korea, after negotiating a loosening in an agreement with the United States that limits the kind of rockets it is permitted to develop. South Korea and the United States have just finished negotiations to revise their so-called missile guidelines, first signed in 1979, under which Washington maintained tight restrictions on what type of missiles and rockets Seoul could develop, Kim Hyun-jong, a senior national security aide to President Moon Jae-in, said in a news briefing on Tuesday.

Mr. Kim denied that the easing of the missile guidelines had been part of negotiations over how much South Korea should pay annually to help cover the cost of keeping 28,500 American troops in the South. President Trump has insisted on a sharp increase from this year's 1.04 trillion won ($866 million), accusing South Korea of not spending enough for its own defense. Under the revised guidelines, Mr. Kim said, Washington has removed the limit on how powerful solid-fuel rockets South Korea can build to launch space vehicles. Solid-fuel rockets are much easier to store and handle than their liquid-fuel counterparts, making them ideal for missile engines.

https://www.nytimes.com/2020/07/28/world/asia/south-korea-satellites-rockets.html

US company and South Korea to co-operate on MMR

Nuclear Engineering, July 31, 2020

US-based Ultra Safe Nuclear Corporation (USNC) on 29 July signed a Memorandum of Understanding with South Korea's Hyundai Engineering (HEC) and the Korea Atomic Energy Research Institute (KAERI) for co-operation in the development of USNC's Micro Modular Reactor (MMR). The 15 MWt/5 MWe high-temperature gas-cooled reactor (HTGR), comprises a nuclear plant that generates heat, and an adjacent power plant that converts heat into electricity or provides process heat for industrial applications. The MMR uses fuel in prismatic graphite blocks and has a sealed transportable core. Cooperation will focus on development and deployment of HTGR technology for supplying power as well as process-heat production, critical to the operations of industrial processing plants); and, development and deployment of a very-high-temperature gas-cooled reactor (VHTR) system for production of hydrogen for use in fuel cells.

Last month, a joint venture was formed between USNC and Ontario Power Generation (OPG) to build, own and operate the proposed MMR project at the Chalk River Laboratories site. The joint venture - the Global First Power Limited Partnership - is owned equally by OPG and USNC-Power, the Canadian subsidiary of USNC. The reactor completed the first phase of the Canadian Nuclear Safety Commission pre-licensing vendor design review process in January 2019. The MMR project is in the third stage of Canadian Nuclear Laboratories' four-stage process to site a demonstration small modular reactor (SMR) at Chalk River Laboratories. The MMR project is undergoing environmental assessment.

https://www.neimagazine.com/news/newsus-company-and-south-korea-to-co-operate-on-mmr-8055826

L. Misc

Nuclear Tests Have Changed, but They Never Really Stopped

Daniel Oberhaus

Wired, July 16, 2020

Just before sunrise on July 16, 1945—75 years ago today—a patch of New Mexican desert was incinerated during the first trial of the most destructive weapon ever created. The plutonium bomb used for the Trinity test left a 5-foot crater in the ground and turned the surrounding desert floor into a radioactive green glass. The blast bathed the peaks of the nearby Oscura Mountains in a blinding white light, and dozens of scientific observers watching from 20 miles away reported feeling an immense heat wash over them. As the light from the explosion faded, one of the architects of the bomb, Kenneth Bainbridge, gave a pithy appraisal of the event to J. Robert Oppenheimer, the project's lead scientist: "Now we are all sons of bitches." And he was right. Less than a month later, the United States dropped the same type of bomb on Nagasaki, Japan, just three days after detonating a smaller nuclear warhead over Hiroshima. It effectively ended World War II, but it came at the price of well over 100,000 civilian lives and the enduring suffering of those who survived.

The bombing of Nagasaki was the second and final time a country has deployed a nuclear weapon in combat. But it wasn't the last nuclear explosion. Despite a lifetime of activism by Bainbridge and many of his colleagues, nuclear tests didn't end with the war. By the time the US signed the United Nations Comprehensive Nuclear Test Ban Treaty in 1996 and agreed to stop blowing up nukes, American physicists and engineers had conducted more than 1,000 tests. They blew up nuclear weapons in the ocean. They blew them up on land. They blew them up in space. They dropped them from planes. They launched them on rockets. They buried them underground. A small army of US weapons scientists blew up a nuclear weapon every chance they got, and at the height of the nation's testing program they were averaging one detonation per week.

https://www.wired.com/story/nuclear-tests-have-changed-but-they-never-really-stopped/

The inclusive route to low-carbon electricity

World Nuclear News, July 17, 2020

Successfully decarbonising the electricity sector requires suitable policies for the rapid deployment of all available low-carbon technologies, Jan Horst Keppler, senior economic advisor at the OECD Nuclear Energy Agency said yesterday. Keppler spoke during a webinar held to discuss the Paris-based agency's newly published Policy Brief, Nuclear power and the cost-effective decarbonisation of electricity systems.

Keppler presented a 2019 NEA study that assessed the total costs of achieving the low-carbon constraint of 50g of CO2 per kWh in the electric power sector of a representative OECD country. Meeting the 2015 Paris Agreement goals demands that the carbon intensity of the electric power sector is reduced to 50gCO2/kWh by 2050, or one-eighth of the current levels in OECD countries.

https://www.world-nuclear-news.org/Articles/The-inclusive-route-to-low-carbon-electricity

Rooppur unit 1 hydraulic tests completed

World Nuclear News, July 17, 2020

Atommash has completed hydraulic tests on the reactor pressure vessel (RPV) of unit 1 of the Rooppur nuclear power plant under construction for Bangladesh. Atommash is part of Atomenergomash, the engineering division of Russian state nuclear corporation Rosatom.

A watertight chamber, or caisson, was used for the hydraulic tests, during which a maximum pressure of 24.5 MPa was generated in the RPV 1.4 times higher than the operating pressure. A crane with a lifting capacity of 600 tonnes was used to lower the 11-meter RPV into the caisson. The tests confirmed the strength of the base metal and welded joints of the RPV. Two 1200 MWe (gross) VVER-1200 units are being built at Rooppur, which is on the

eastern bank of the river Ganges at Rooppur, 160 km from Dhaka.

https://www.world-nuclear-news.org/Articles/Rooppur-unit-1-hydraulic-tests-completed

Pandemic drives plant operators to employ remote checks

World Nuclear News, July 17, 2020

Nuclear power plant operators are carrying out remote quality and safety related assessments of systems, structures and components (SSCs) to overcome physical distancing and mobility restrictions during the global COVID-19 pandemic, participants in a recent International Atomic Energy Agency (IAEA) webinar said. SSCs must be regularly monitored, replaced and have their quality verified. "The pandemic has tested the resilience of the nuclear power industry and sparked the development of innovative solutions to a range of challenges, including to the supply chain of goods and services such as assessments of SSC and suppliers," the IAEA said. However, limitations such as reduced on-site staffing and travel restrictions have forced both operators and suppliers to rethink their practices.

Panelists in the 9 July Webinar on COVID-19 and Its Impact on the Nuclear Power Supply Chain discussed how their organisations had been meeting these challenges, including by carrying out remote assessments. Marc Tannenbaum, a senior technical executive at the Electric Power Research Institute (EPRI) in the USA, talked about issues experienced by US nuclear power plant operators as a result of the pandemic, including the inability to perform source verification for critical items from suppliers due to travel restrictions and stay-at-home orders. Source verification refers to the process of assessing the quality of plant components and ensuring that they meet regulatory standards.

https://www.world-nuclear-news.org/Articles/Pandemic-drives-plant-operators-to-employ-remote-c

Renewables have outpaced nuclear and coal to start 2020

Tim Sylvia

Pv Magazine, July 27, 2020

2020 has been a benchmark year for renewable generation, with the latest edition of the U.S. Energy Information Administration's (EIA) Electric Power Monthly report showing that renewable resources have generated more electricity through May 31st than both coal and nuclear power. This breakout year for renewables has been highlighted by the month of May, where renewable resources reached an all-time high share of the country's electricity generation at 25.3%. This figure, as with much of the renewable generation so far this year, was driven by hydroelectric, which accounted for nearly 17% of all electricity generated in the month.

However, while hydro has had a consistent hold on the top renewable generation source, that hold is loosening by the month. The amount of solar energy generated from January-May, when compared to the same period in 2019 and including distributed solar, is up roughly 21%, with solar now accounting for 3.3% of the nation's total power generation.

https://pv-magazine-usa.com/2020/07/27/renewables-have-outpaced-nuclear-and-coal-to-start-2020/

Spent Fuel & Nuclear Waste Management Market, 2020 - Growth, Trends & Forecast

Businesswire, July 27, 2020

The nuclear power plant has the ability to generate electricity with lower carbon emissions, as compared to that of fossil fuels. Although the amount of waste generated by nuclear power is very small relative to other thermal electricity generation technologies, proper and safe management of nuclear waste is of utmost importance for the nuclear power plant

operators. Further, the global spent fuel and nuclear waste management market demand is increasing primarily due to the uptake in the nuclear power plant decommissioning projects from 2020. However, the high initial cost and has a high payback period is likely to hinder the global spent fuel and nuclear waste management market during the forecast period.

Various ongoing and upcoming nuclear power plant clean-up activities across the globe along with numerous nuclear power reactor decommissioning activities are some major drivers for this market. Major countries in the Middle East & Africa accompanied by a few major companies are investing in the non-fossil fuel-based power generation technologies, especially in a small nuclear reactor. Saudi Arabia plans to achieve 30-50% of local content for its nuclear program before 2030. Similarly, Jordan and a few more countries are in the initial phase of nuclear power plant construction which is likely to provide an opportunity to grow the global spent fuel and nuclear waste management market in the coming future. Asia-Pacific is expected to be the fastest-growing region in the global spent fuel and nuclear waste management market, owing to the presence of several major developing nations such as China, India, etc.

https://www.businesswire.com/news/home/20200727005614/en/Spent-Fuel-Nuclear-Waste-Management-Market-2020

M. Op-Ed

Pakistan

Nuclear security

The Express Tribune, July 25, 2020

A study by the US-based Nuclear Threat Initiative has found that Pakistan is the "most improved country" in terms of nuclear security. Pakistan is ranked 19th overall with 47 points on its grading scale, up seven points since last year, primarily due to stricter new regulations. India was ranked 20th, with 41 points. Pakistan is also ranked slightly higher than last year for its compliance with global norms. The report notes the significance of this for the world, and while the underlying implication may offend some, it does offer proof of Pakistan's efforts to be a responsible member of the comity of nations. "Strengthened laws and regulations result in durable boosts in Pakistan's score as well as provide sustainable security benefits," the report says. It also notes that Pakistan has shown consistent improvements in most categories over the years thanks to better regulations, increased internal threat protection, and improvements in related areas such as cybersecurity.

In fact, the only significant critique in the report was that Pakistan is increasing its supplies of weapons-usable nuclear materials. The report does suggest places where improvement is possible, including even more stringent control and accounting measures and insider threat prevention. Other suggestions are mostly symbolic, such as ratifying the International Convention for the Suppression of Nuclear Terrorism and voluntarily supporting the IAEA. Away from Pakistan, the list also includes a few countries that do not publically acknowledge having nuclear weapons. Most notable is Australia, which is ranked first in some safety categories.

https://tribune.com.pk/story/2256511/nuclear-security

India Nuclear posture, Policy Shift from No First use to First Use

Abdul Haseeb

Modern Diplomacy, July 28, 2020

Nuclear weapons have revolutionized the strategic affairs, but the threat of unbearable destruction caused by these weapons persuaded strategic scholars to think about using these weapons for deterrent purposes and prevent their further proliferation. Every Nuclear Weapon State formulates a Policy according to its threatperception. The creation of the Nuclear Weapon and the consequent nuclear capabilitiespositioned at the behest of Nuclear states has

produced a significant dilemma for theinternational community. Harnessing nuclear energy has provided acquirers with a destructive force so devastating, that it has alarmed the global intellectual circles. India's obscure nuclear Doctrine of no first use in its declaratory form has changed partially if not majorly after it was first announced by Nuclear Security Advisory Board (NSAB), a group of non-governmental experts, in 1999.

Later on, though the Indian government claimed that it is not an official paper but what was written in the text of (NSAB), much of it was already being stated within various official statements. The 1999 document was based on minimum deterrent force but which would also be credible and survivable according to the changing strategic environment. The 1999 doctrine emphasized the need for reliable nuclear power, which would be able to survive the first strike against it and as well as underlined the need for strict political control over nuclear forces. NSAB document also emphasized India's Nuclear disarmament objectives, but with this, it also discussedthe nuclear triad. However, when details of the official Nuclear Doctrine released in 2003, it was the same as the document published in 1999. Still, there were changes also in this new officially crafted document statement. The Indian Nuclear Doctrine asserts that nuclear weapons are only for Deterrence, and Retaliation is a policy which India will pursue in case of any threat. The NFU policy manifests that India will not be the first country to use nuclear weapons, but if attacked by nuclear weapons, it will retaliate massively.The DND clearly announced its NFU posture, whereby nuclear weapons only used as the retaliatory option against nuclear, chemical, or biological weapons. The No Frist use policy is effectively cashed by Indian diplomats, government spokespeople, and various other groups as proof to show the world their commitments as a responsible nuclear state.

https://moderndiplomacy.eu/2020/07/28/india-nuclear-posture-policy-shift-from-no-first-use-to-first-use/

USA

Trump ignores the history of nuclear weapons at our peril

William Lambers

Washington Post, July 16, 2020

As we mark the 75th anniversary of the atomic bomb, we may be headed into a new arms race with Russia and China following President Trump's plans to resume nuclear testing. According to a Washington Post report, the Trump administration has been holding discussions on carrying out nuclear test explosions for the first time since 1992. This news alarmed presumptive Democratic presidential nominee Joe Biden, who stated, "The possibility that the Trump administration may resume nuclear explosive weapons testing in Nevada is as reckless as it is dangerous."

It's vital that we remember our responsibility as the first nation to test a nuclear weapon to lead the world in controlling and ultimately eliminating them. In fact, this idea has been embedded in nuclear policy since the beginning. There was a real fear that Nazi Germany would develop an atomic bomb first, and the Manhattan Project began a race during the war to make sure that did not happen. There was also increasing alarm about the potential of a postwar world with nuclear weapons in the hands of many, recognizing the inevitability of this dangerous technology eventually reaching the Soviet Union and others. Secretary of War Henry Stimson warned President Harry Truman about the danger of other nations and even rogue groups developing an atomic bomb. They knew they could not keep the knowledge of how to build the bomb a secret forever.

https://www.washingtonpost.com/outlook/2020/07/16/president-trump-ignores-history-nuclear-weapons-our-peril/

Europe

INSTEX: Europe's fragile muscle flexing

Salman Parviz

Tehran Times, July 29, 0220

After months of delay the E3 group of Germany, France, and UK finally set up a company called Instrument in Support of Trade Exchanges (INSTEX) in January 2019. With headquarters in Paris, the company was supposed to enable non-U.S. dollar and non-SWIFT barter trade between the European Union and Iran in defiance of U.S. sanctions.

By late November 2019, Belgium, Denmark, Finland, the Netherlands, Norway and Sweden issued a joint statement announcing becoming shareholders of INSTEX. More than one year after the mechanism was founded, amid Covid-19 pandemic in Iran taking its toll, INSTEX conducted its first transaction in March which entailed trade of $539,667 (500,000 Euros) of medicine by a private Germany company to its Iranian counterpart. The names of the parties were not revealed nor how the financial transaction was completed, i.e. barter or euros or other means.

The special purpose vehicle (SPV) was established to be a prime example of EU's strategic autonomy from U.S. After the U.S. exited the Iran nuclear deal (also called JCPOA), EU declared its sovereignty regarding both commercial and political relations with Iran, insisting that it could continue trade under the framework of JCPOA. And so INSTEX was designed. So far this vehicle has proven to be without an engine or driver and doesn't conform to the trade and investment promises made in return for dramatic reduction in Iran's nuclear program.

https://www.tehrantimes.com/news/450640/INSTEX-Europe-s-fragile-muscle-flexing

Russia

The Russian missile and nuclear system

Giancarlo Elia Valori

Modern Diplonacy July 16, 2020

The new Russian nuclear threat/deterrence policy is defined in the Executive Order No. 355, called "Basic Principles of State Policy of the Russian Federation on Nuclear Deterrence", which came into effect on June 2, 2020. Firstly, Russian nuclear weapons are defined "only as means of deterrence", while their use is always and anyway an "extreme and compulsory" measure.

Moreover, retaliation is "inevitable" especially in the case there is a direct nuclear attack against the Russian Federation, while Russia also wants to keep for itself the possibility of inflicting "a guaranteed and unacceptable damage" on any kind of opponent, i.e. its quasi-destruction as a society and as a productive system. The military dangers that the Russian Federation could incur in the future could be the creation of a wide conventional force by a Russian opponent-which, however, also has a nuclear arsenal, especially on the borders of the Russian Federation – or the deployment of missile defence systems, but also of non-nuclear, hypersonic, UAV and direct energy weapons, by States that consider Russia a potential enemy.

https://moderndiplomacy.eu/2020/07/16/the-russian-missile-and-nuclear-system/

Relevancy of Russian Non-Strategic Nuclear Weapons in current NATO-Russian threat environment

Asima Ashraf

Modern Diplomacy, July 29, 2020

Non-strategic nuclear or tactical nuclear (NSNWs) weapons are basically battlefield

weapons and used to hit counterforce (Command and control, nuclear facilities etc.) target of enemy and they are used for limited purpose. NSNWs include Artillery, mines, SRM (small range missile), bombers, ships and submarines etc. There is no exact definition of range and yield of tactical nuclear weapons but just that tactical weapons have smaller yield than strategic weapons During cold war era there was clear distinction between strategic and non-strategic nuclear weapons in term of range and yield. Non-strategic nuclear weapons had low yield and range and were used to target any specific area. But after cold war there is blur line or we can say now there is no more clear distinction between both strategic and non-strategic nuclear weapons as their delivery system, range and yield have been improved. Now they have same capability as strategic weapons and can create huge destruction on large scale.

Russia use term 'Non-strategic nuclear weapons for its tactical or conventional nuclear weapons. It is clear indication that Russian perspective on Tactical nuclear weapons is far different from American perspective. What is the definition of non-strategic nuclear weapons still there is no common consent on it. But it is the fact that Russian tactical weapons are strategic as they have same capability or yield as one strategic weapon has and some weapons have more destructive capability than the bombs which were released on Hiroshima and Nagasaki. Basically these non-strategic nuclear weapons were not covered in strategic Arms Reduction Treaty START and Intermediate nuclear force INF. Russia justify its non-strategic nuclear weapons in this way that its survival is under threat due to European countries whom US has provided extended deterrence and there is huge conventional asymmetry vis-a-vis US and NATO countries. Due to this reason Russia wants to keep NSNWs. There is a ratio of almost 3,000-6,000 NSNWs which can be delivered in counter response to NATO or European theatre. Russian stance towards non-strategic nuclear weapons is that she is relying on these weapons to make deterrence effective and to give message to US and its NATO allies that in case of any armed aggression, Russia will use nuclear strike against them.

https://moderndiplomacy.eu/2020/07/29/relevancy-of-russian-non-strategic-nuclear-weapons-in-current-nato-russian-threat-environment/

Is Putin on a new mission to save the Iran nuclear deal?

Tehran Times, July 26, 2020

Russian President Vladimir Putin famously said on May 15, 2019 that he was no longer willing to play the role of firefighter to extinguish the fire the Americans lit by withdrawing from the 2015 nuclear deal between Iran and world powers. But now he is "very likely" to be on a new, firefighting mission to save the deal, a university lecturer tells the Tehran Times. "We regret that the deal is falling apart… After the signing of the agreement Iran was and still is the world's most verifiable and transparent country in this sense… Iran is fulfilling all of its obligations… Russia is not a fire brigade. We cannot rescue everything that does not fully depend on us. We've played our part," Putin said at the time.

However, Putin seems to be assuming a new role in preventing a total collapse of the deal after he received an "important message" from Iranian President Hassan Rouhani on July 21. Last week, while Iraqi Prime Minister Mustafa al-Kadhimi was heading to Iran, Iranian Foreign Minister Mohammad Javad Zarif left Tehran for Moscow to hold talks with high-ranking Russian officials. Heading a big politico-economic delegation, al-Kadhimi visited Tehran on Tuesday and Wednesday to discuss a variety of bilateral issues such as expanding the volume of border trade and deepening political and security ties. Rouhani called the prime minister's visit a "turning point" in Iran-Iraq ties. Zarif was remarkably absent from the Tehran talks.

https://www.tehrantimes.com/news/450522/Is-Putin-on-a-new-mission-to-save-the-Iran-nuclear-deal

West Asia

Iran

It is better for Pompeo to admit defeat: Shamkhani

Tehran Times, July 18, 2020

Ali Shamkhani, secretary of Iran's Supreme National Security Council (SNSC), on Saturday advised the U.S. secretary of state that it is better for Washington to admit defeat in the face of Iran instead of making "stupid bluffing". "Mike Pompeo, the United States' secretary of state, has said they have changed behavior towards Iran, because only strength works on it and not appeasement. It has been for more than 40 years that you have used your strength to defeat Iran, however you have failed. It is better to admit defeat towards Iran instead of stupid bluffing," Shamkhani tweeted.

Pompeo said during a speech at the Ron Pearson Center in Iowa on Friday, "We've also fundamentally changed the way America treats the Islamic Republic of Iran." He claimed that the 2015 nuclear deal gave Iran more money, presenting risk to the United States and others in West Asia. He claimed that the Iranian government only responds to strength, not to appeasement. "So we flipped what the previous administration was doing. We ditched the deal and implemented a brand new Iran policy," he said. Gen. Kenneth "Frank" McKenzie, the commander of the U.S. Central Command (CENTCOM), has said that Iran is under great diplomatic and economic pressure, however, he does not consider Iran any less threatening against the U.S.

https://www.tehrantimes.com/news/450176/It-is-better-for-Pompeo-to-admit-defeat-Shamkhani

Iran Could Join US, Russia, Turkey To Deploy Air Defense Systems Outside Its Borders

Eurasian Times, July 18, 2020

Israel has repeatedly targeted Iranian interests in the Middle East which includes their proxies – Hamas and Hezbollah. Iran is now keen to protect its proxies and bolster the defences of their allies – Iraq and Syria and build up their air defence capabilities to deter Israel. An agreement signed in July to boost Syrian air defences capabilities enables Iran to station two of its air defence missile systems on Syrian soil, according to a report by Tehran Times. According to Paul Iddon writing for the Forbes, Iran could deploy Bavar-373 and 3rd Khordad missiles, which are comparable to the Russian S-300 systems. Iddon quoting the Tehran Times writes "the two countries have decided to change the rules of engagement in Syrian airspace and to respond to the repeated Israeli raids on Syrian soil." Israel could preempt the deployment of Iranian air defence missiles in Syria.

Iran has much to achieve if it is able to overcome the odds and manages to station these air defence systems in Iraq and Syria. I would give Iran an imposing Anti-Access/Area Denial (A2/AD) air defence "bubbles" covering strategically vital regions of Iraq and Levant. While the air defences that Iran deploys would ostensibly be Iraqi and Syrian, Tehran would most likely have its engineers operating the systems. Russian technicians are believed to be in full control of Syria's S-300s, the most advanced in Syrian' armoury. Iranian engineers would more likely than not have similar control over any systems it manages to deploy in either country.

https://eurasiantimes.com/iran-could-join-us-russia-turkey-to-deploy-air-defense-systems-outside-its-borders/

Iran has managed to prove peaceful nature of its nuclear program: Russian analyst

Tehran Times, July 20, 2020

Gennady Avdeev, the head of the international office of the Liberal Democratic Party of Russia, has said that Iran managed to fully implement the 2015 nuclear deal, known as the JCPOA, and proved the peaceful nature of its nuclear program. In an exclusive interview with

IRNA published on Sunday, he said that Iran fulfilled its commitments and gained international support, but the United States pulled out of the deal and proved that it is not trustworthy for negotiations.

Avdeev added that the U.S. showed that it does not respect even the UN Security Council's decisions. U.S. President Donald Trump quit the nuclear deal in May 2018 and introduced the harshest ever sanctions in history on Iran as part of his administration's "maximum pressure" campaign against Iran. The JCPOA is endorsed by the UNSC's 2231 resolution. On May 8, 2019, exactly one year after the U.S. withdrawal from the JCPOA, Tehran said its "strategic patience" is over and began to gradually reduce its commitments under the pact to both retaliate for Washington's departure and Europeans' failure to honor their commitments.

https://www.tehrantimes.com/news/450278/Iran-has-managed-to-prove-peaceful-nature-of-its-nuclear-program

Does Iran Really Want to Build Nuclear Weapons at Any Cost? Maybe Not

Yossi Melman

Haaretz, July 26, 2020

July 13 marked the fifth anniversary of the nuclear accord between Iran and the major powers, which remains in effect until 2025. At about the same time, Iran experienced explosions and fires at missile sites, power stations, industrial plants and, most significantly, at the uranium enrichment plant in Natanz. The blasts at several of the Natanz buildings were very powerful, badly damaging the advanced centrifuges. The sabotage has been attributed to a secret operation by Israeli intelligence, perhaps in tandem with American intelligence. Various reports say the damage to the centrifuges will delay their development and set back Iran's nuclear program by about a year.

If the Mossad and Israeli Military Intelligence are responsible for the explosion as well as for other acts of sabotage and fires that may have originated in operations by underground organizations working with them, it is definitely an accomplishment for Israel. But it is a tactical, not a strategic, accomplishment. Israel and the United States have been waging a covert and overt rearguard battle to disrupt and delay Iran's nuclear program for decades. The toolbox used in this war, according to different reports, has included blowing up facilities and equipment, assassinating scientists, cyberwarfare, diplomacy, and sanctions that are badly hurting the Iranian economy. Yet despite all the difficulties in its path, Iran has not really been deterred and has continued to pursue its nuclear program, adjusting its pace to the circumstances.

https://www.haaretz.com/middle-east-news/iran/.premium-does-iran-really-want-to-build-nuclear-weapons-at-any-cost-maybe-not-1.9022348

Saudi Arabia

Pressing issue of nuclear non-proliferation cannot be ignored

Alistair Burt

Arab News, July 29, 2020

Considering what we have already experienced in 2020, it seems almost too painful to raise a worry about nuclear weapons, but it is pertinent to do so. This week, senior officials from the US and Russia are meeting in Vienna — that old-world home of arms negotiations — to work on a series of interconnected security issues, from space to nuclear warheads. We should all hope that something positive emerges from their discussions. The background to the talks is the impending expiry, in February 2021, of the New START (Strategic Arms Reduction) treaty. Signed in 2010, it is now strikingly — following the US' withdrawal from the Intermediate-Range Nuclear Forces Treaty and Open Skies Treaty — the last remaining legally binding agreement limiting the holders of the world's two largest nuclear arsenals. It is a vital piece of world order architecture, supporting arguably one of the world's most improbable success stories of the last 50

years: That of preventing nuclear weapons proliferation.

From its origins in the early 1960s, when President John F. Kennedy, among others, predicted perhaps 20 nations would soon possess the power to destroy mankind, the Nuclear Weapons Non-Proliferation Treaty (NPT) signed in 1970 has helped limit that weaponry to perhaps just nine states, give or take public acknowledgement in some cases. The nuclear arsenals, which could still wipe out humanity, have been reduced to a fifth of what they were. The bargain — for non-weapons states to have access to peaceful nuclear energy in return for nuclear weapon states working to reduce and ultimately eliminate their stockpiles — has endured despite all the various conflicts the world has thrown up. The bargain has not been an easy one: The temptations to proceed covertly or demand access to nuclear weapons more openly are well-known throughout the Middle East and North Africa. There is little argument against the view that nothing would be improved if non-proliferation failed and that the risks of war and conflict would increase, as would the possibility of non-state actors benefiting from a looser arrangement.

https://www.arabnews.com/node/1711741

Israel

The whole Middle East is threatened by the Israeli occupation

Belal Alakhras

Middle East Monitor, July 21, 2020

Israel has been trying for years to normalise relations with its neighbours, especially in the Arab and Muslim countries. In doing so, the Israelis are trying to isolate the Palestinians and make the colonial settlement project something that the Middle East can live with. However, the Israeli plan to annex large areas in the occupied West Bank is a reminder of the expansionist and hostile nature of Zionism, which does not stop at the borders of Palestine. Indeed, its consequences extend to all neighbouring countries and beyond.

In fact, the Israelis want hegemony in the Middle East, despite them being of largely European and American backgrounds, and they want to deal with any independent influence in the region as a potential threat to the occupation. The Israeli government has always been aggressive towards other regional actors to create an imbalance in the balance of power in favour of its occupation. This trend is particularly prominent in the ring countries around Palestine. The occupation forces have targeted all of the surrounding countries at one time or another, and have actually occupied the Egyptian Sinai Peninsula twice. Moreover, Israel has occupied the Syrian Golan Heights since 1967, and launches air strikes against Damascus and other areas in attacks that are not even regarded as retaliation.

https://www.middleeastmonitor.com/20200721-the-whole-middle-east-is-threatened-by-the-israeli-occupation/

East Asia

Japan

Invasion of Japan would have cost more lives than nuclear bombs (Your letters)

Christopher A. Hayden

Syracuse, July 21, 2020

The common theme I speak of is an attempt to revise decisions made by those in power at a particular time in history as some type of racist act against nonwhite peoples. The truth can be painful to accept but here is the truth behind that decision.

Racism on both sides was as real as it gets in modern history. Both Japanese and allied propaganda painted awful pictures of the opposing forces. An argument can be made that the Empire of Japan was as racist, by word and deed, as any nation in history. Their treatment of the civilians in countries they occupied, of allied POWs and enemy combatants was beyond brutal. But the decision to use atomic weapons

on the Empire of Japan saved lives when compared to the consequences of an invasion of her homeland.

https://www.syracuse.com/opinion/2020/07/invasion-of-japan-would-have-cost-more-lives-than-nuclear-bombs-your-letters.html

How atomic bomb survivors have transformed our understanding of radiation's impacts

Dennis Normile

Science Mag, July 23, 2020

Kunihiko Iida wants the world to know that the atomic bombs the United States dropped on Hiroshima and Nagasaki 75 years ago next month are still claiming lives and causing suffering. Iida was 3 years old in August 1945. His father had died in battle; he was living with his mother and her parents in a house 900 meters from Hiroshima's hypocenter, the spot right beneath the detonation. The blast crumpled the house. The family fled the city, but Iida's mother and older sister soon died from their injuries, a fact the little boy didn't grasp. "Until I entered elementary school, I thought they were living and that we would meet someday," he says.

His injuries left him bedridden for years, and he has suffered debilitating illnesses ever since. Childhood anemia caused him to collapse at school. He's had ulcers and asthma, underwent two surgeries to remove brain tumors, and now has thyroid growths. "There has never been a break in these illnesses," he says.

https://www.sciencemag.org/news/2020/07/how-atomic-bomb-survivors-have-transformed-our-understanding-radiation-s-impacts

Rokkasho plant should be shut down in energy policy shift

The Asahi Shimbun, July 31, 2020

Japan's nuclear watchdog has effectively endorsed the safety of a controversial nuclear reprocessing plant being built in a village along the Pacific coast in northern Japan. The Nuclear Regulation Authority on July 29 approved an outline of safety measures for the trouble-plagued nuclear fuel reprocessing plant Japan Nuclear Fuel Ltd. is building in Rokkasho, Aomori Prefecture. The NRA said the outline meets the new safety standards introduced after the 2011 Fukushima nuclear disaster.

The NRA's decision marks a major step forward in constructing the plant for recovering plutonium from spent nuclear reactor fuel, the core facility for the government's program to establish a nuclear fuel recycling system. NRA Chairman Toyoshi Fuketa, however, stressed that the body's decision does not mean an endorsement of the nuclear fuel recycling policy per se, saying in a news conference that it is a "policy issue" whether there is enough of a rationale for pursuing the policy. Prime Minister Shinzo Abe's administration should confront the reality that the catastrophic accident at the Fukushima No. 1 nuclear power plant has completely changed the environment surrounding nuclear power generation and make a fundamental review of the government's nuclear energy policy.

http://www.asahi.com/ajw/articles/13594167

North Korea

Expert: If You Want North Korea to Give Up Nuclear Weapons, Start by Ending the Korean War

Zack Brown

National Interest Blog, July 23, 2020

Korea expert and Women Cross DMZ founder Christine Ahn believes the United States needs to dramatically reshape its strategy on North Korea in order to rein in Pyongyang's nuclear weapons program. For the last thirty years, Washington orthodoxy has held that the Kim regime must first denuclearize for peace to emerge between the US and the DPRK. This order of events needs to be turned on its head, Ahn said in an interview with the Ploughshares Fund podcast, Press The Button.

"We're flipping that around and saying

you actually need to get to peace because North Korea is in a siege mentality," she explained. "And how do you do that? You negotiate a peace agreement. That begins the process of normalization. That begins the process of trust-building. And that, hopefully, will lead to the elimination of nuclear weapons on the Korean Peninsula." As Ahn points out, the Korean War never formally ended. While major fighting on the peninsula ceased after the 1953 armistice agreement, the accord was meant to be a temporary stopgap until both sides implemented a peace treaty. It was a process they thought would take months. Sixty-seven years later, it still hasn't happened.

https://nationalinterest.org/blog/korea-watch/expert-if-you-want-north-korea-give-nuclear-weapons-start-ending-korean-war-165406

South Korea

Moon's North Korea vision up in smoke? Not so fast …

Soo Kim

The Interpreter, July 20, 2020

North Korea's demolition of the inter-Korean liaison office in Kaesong on 16 June sent a powerful visual message to the world that North-South relations were degrading. But perhaps equally telling were South Korea's handling of the destruction and the subsequent personnel and policy decisions. North Korea's loud warning for South Korea to refrain from interference in the ongoing US–North Korea nuclear negotiations – which, from Pyongyang's perspective, has not been helpful in the way of delivering sanctions relief for the Kim regime – appears to have fallen on deaf ears in the Blue House, as President Moon Jae-in has placed greater emphasis on improving inter-Korean relations through progress in nuclear negotiations. Not only has Seoul's course of action been unwelcome in Pyongyang, but its greater desire for inter-Korean peace and reconciliation has also been at odds with Washington's goals of a complete, verifiable and irreversible denuclearisation of North Korea.

Ostensibly, the "terrific explosion" of the joint liaison office was the price Pyongyang had determined Seoul should pay for allowing anti–North Korea leaflets to fly over the border. More fundamentally, though, the Kim Jong-un regime was likely displeased with Seoul's inability to challenge the US position on sanctions relief to breathe life into inter-Korean economic projects that had been stalled due to Pyongyang's violation of both UN and US sanctions. That's not to say, however, that Seoul has not made efforts to pursue inter-Korean engagement. The Moon administration, for its part, had on several occasions tested the waters for Washington's openness to sanctions easing, and even obliquely criticised the US position on sanctions as fuelling North Korean ire towards Seoul.

https://www.lowyinstitute.org/the-interpreter/moon-s-north-korea-vision-smoke-not-so-fast

N. Reports/Interviews

Washington realizing unipolar world has ended: Russian academic

Mohammad Mazhari

Tehran Times, July 18, 2020

Washington has recognizes that the unipolar world has come to an end, although it does not yet know how to adjust to a multipolar world, says Glenn Diesen, an associate professor from the University of South-Eastern Norway. After U.S. withdrawal from international treaties such as the nuclear deal, some experts pointed out that the U.S. decline as a global power has expedited. "The more U.S. power decline, the more it will be prepared to use its administrative role in the international economic system to punish adversaries," Glenn Diesen tells the Tehran Times.

Following is the text of the interview:

Q: Do you believe that the 2015 nuclear deal was successful, or was it born dead?

A: The agreement reached a broad consensus in the international community, and Iran upheld its obligations. It would, therefore, be incorrect to say that it was born dead. The U.S. has only recently begun

pursuing the policies of withdrawing from and renegotiating international agreements. This is, to some extent, a unique feature of the Trump administration, although it can also be interpreted as the U.S. attempting to reposition itself due to its relative decline.

https://www.tehrantimes.com/news/450159/Washington-realizing-unipolar-world-has-ended-Russian-academic

'India's nuclear capabilities on way to bring all of China within reach'

Maneesh Pandeya

The Sunday Guardian, July 25, 2020

India's nuclear doctrine and its strategic force posture have been evolving with a rapidly changing threat environment as perceived by New Delhi. Questions of targeting and no-first-use policy are now being discussed more critically with rising belligerence from China. While Indian nuclear posture has traditionally been geared towards handling Pakistan, according to a new research, there are indications that India is now focusing more on managing threats from China and as such, strengthening its ability to bring entire Chinese territory within its nuclear strike range. Inducting deep strike capable fighters, longer-range ballistic missiles and sea-based ballistic missiles (SSBNs) are indicative of this trend. Such increased delivery capability, incidentally, also has implications for India's nuclear dynamics with Pakistan, by widening the nuclear power gap between New Delhi and Islamabad. Agni V missiles and Rafale jets will be game changer for India's new defence strength, hints a latest report authored by Hans M. Kristensen, Director of the Nuclear Information Project in the Federation of American Scientists. In an exclusive interview with The Sunday Guardian, the top nuclear scientist spoke at length on "India's Nuclear Forces 2020 and ahead".

https://www.sundayguardianlive.com/news/indias-nuclear-capabilities-way-bring-china-within-reach

Identity plays central role in Persian Gulf states' foreign policy: expert

Javad Heirannia

Tehran Times, July 25, 2020

Polina Aniftou, a Ph.D. candidate of Iranian foreign policy, says the identity is the label affixed to this territory and has played a central role both in attempting to understand Persian Gulf states' foreign policy and in the useful planning for national and international policies. She adds "The problem of the identities does not give us any hope for peace because there is cultural-historical and ideological antagonism between the successful multi-ethnic entity of Iran, with solid entities that do not produce any culture and have no real vision for its people as the Arab states." Following is the full text of the interview:

Q: Iran believes that the security order in the Persian Gulf must be achieved by the coastal states themselves. Based on this, Iran has proposed plans such as the "Regional Dialogue Forum" and the "Hormuz Peace Initiative". To what extent do you think these plans will be accepted by other countries in the region?

A: Iran through its history had always a pure and unique view about the region, its territory, its settlements, and the historical and regimental changes in the neighborhood. This is a result of Iran as a "product" state of the Persian Empire that left to Iran its heritage to know the map of Eurasia, Mesopotamia, and the Middle East (West Asia). Iran and its poets and historians described the populations of the region, their origins, and their traditions. For example, in our days Tajikistan and Turkmenistan receive historical details of their land and population by Shahnameh and Rumi's poems. This situation cannot be anticipated by the Arab neighbors, that even from the religious perspective they have to study Iran as a culture, politics, neuropsychology, and references to Quran. Arabs after their decision not to follow Imam Ali, under the today

challenge of Iran about the purity and authenticity of their religious existence, do feel competition with Iran from a security perspective. When I say security, I both mean realistically as states and ideologically as a massive population depended on its existence on Islam and Islamic laws as been interpreted not theologically but politically to serve interests as in the case of the House of Saud.

https://www.tehrantimes.com/news/450435/Identity-plays-central-role-in-Persian-Gulf-states-foreign-policy

China, Russia Nearing Status as U.S. Nuclear Peers, Stratcom Commander Says

David Vergun

US Dept of Defence, July 30, 2020

For the first time, the United States will face two peer competitors with nuclear capabilities — China and Russia — by the end of this decade, the commander of U.S. Strategic Command said. Speaking today at the Nuclear Deterrence Forum sponsored by the Air Force Association's Mitchell Institute, Navy Adm. Charles A. Richard discussed the rapid modernization and readiness improvements by Russia and China in both their strategic and conventional military capabilities — and the challenges those improvements pose for the United States.

"China is on a trajectory to be a strategic peer to us by the end of the decade. So for the first time ever, the U.S. is going to face two peer-capable nuclear competitors," Richard said, adding that Russia is the other peer. "We have never faced that situation before." China is in the process of completely building out its own nuclear triad, with the strategic bomber being the last part to be put into place, he said. The other two legs of the triad — intercontinental ballistic missiles and submarines — are already operational.

https://www.defense.gov/Explore/News/Article/Article/2294574/china-russia-nearing-status-as-us-nuclear-peers-stratcom-commander-says/

NTI Nuclear Security Index

July, 2020

Among countries with weapons-usable nuclear materials, Australia ranks first for the fifth time. It also ranks first in the sabotage ranking for the third time. Despite its repeated position at the top of the ranking, Australia continues to better its score, improving by +1 in both rankings. Among countries with weapons-usable nuclear materials, Canada and Switzerland tie for second, Germany is fourth, and the Netherlands and Norway tie for fifth. Among countries with nuclear facilities in the sabotage ranking, Canada, Finland, and the United Kingdom rank second, third, and fourth, respectively, and Germany and Hungary are tied for fifth.

New Zealand and Sweden tie for first in the theft ranking for countries without weapon-usable nuclear materials, followed by Finland (third), Denmark and South Korea(tied for fourth), and Hungary and Spain (tied for sixth).

https://www.ntiindex.org/news/australia-ranks-1st-pakistan-is-most-improved/

O. Think tanks

Thinking the Other Unthinkable: Disarmament in North Korea and Beyond

Toby Dalton and George Perkovich

Neither the governments attempting to negotiate with North Korea, nor the drafters of the UN Treaty on the Prohibition of Nuclear Weapons, define what verifiable elimination of nuclear weapons and associated infrastructure would entail, whether in one country or in all. What model for nuclear disarmament might a nuclear-armed state demand of its adversaries and accept for itself? If states were to commit to dismantle their nuclear arsenals, what would be the key benchmarks for assessing the progressive implementation of such a commitment?

Designing sustainable, effective nuclear disarmament—of North Korea or any other nuclear-armed state—requires much more than dismantling warheads and controlling fissile material stocks. Disarming states would need to collectively agree what types and numbers of delivery systems (especially missiles) would be permissible. Both nuclear-armed and non-nuclear-weapon states would need to determine what peaceful nuclear and space activities may remain during and after nuclear disarmament, and under what reassurance/monitoring conditions. At least some states would press for monitored limits on research and development activities vital to building or reconstituting nuclear arsenals. The paper starts from a logic that could inform a denuclearization agreement with North Korea and how to manage its retention of nuclear weapons-related capabilities, including nuclear energy production, conventionally armed ballistic missiles, and a space launch program, among others. The paper then explores comparable political and technical choices that would need to be made in the disarmament of other nuclear-armed states, focusing on six challenges that will shape negotiations on dual-use capabilities and activities that would remain during and after disarmament. Finally, the paper examines challenges in verifying compliance and surveys the often-avoided problem of enforcing disarmament agreements.

https://carnegieendowment.org/2020/07/16/thinking-other-unthinkable-disarmament-in-north-korea-and-beyond-pub-82313

A Pivotal Moment in US-Russian Arms Control

Daniel Puentes

Union of Concerned Scientist, July 17, 2020

Nuclear weapons have plagued the international security environment since the first atomic weapon was successfully detonated at the Trinity test site in July 1945. Today, the situation has grown more complicated as arms control agreements and treaties are dismantled in an "America First" attitude adopted by the current administration. In the last four years, the United States has pulled out of the Joint Comprehensive Plan of Action (the Iran Nuclear Deal) and the 1987 Intermediate-range Nuclear Forces Treaty. After multiple accusations by the US against Russia for non-compliance, the current administration has signaled its intention to exit the Open Skies Treaty this past May. Internal discussions about resuming nuclear weapons testing add to the ongoing tension.

These actions are worrisome for the future of the final bilateral nuclear arms control between the US and the Russian Federation: The New Strategic Arms Reduction Treaty (New START). New START will expire on February 5, 2021, unless President Trump and President Putin agree to extend it for up to five years. If New START expires, it will be the first time since 1972 that both the US and Russia will have no restrictions on expanding their nuclear arsenals. This means that Russia may increase the number of deployed nuclear warheads without any verifiable evidence. This will create pressure for the US to also increase its nuclear arsenal, spiraling up an unnecessary, hugely expensive arms race, and destabilizing international security as a whole, making nuclear war more likely.

https://blog.ucsusa.org/science-blogger/a-pivotal-moment-in-us-russian-arms-control

"What about China?" and the threat to US–Russian nuclear arms control

David M. Allison and Stephen Herzog

Bulletin of Atomic Scientists, July 20, 2020

The administration of President Donald J. Trump has consistently used fear of China to undermine nearly five decades of bipartisan consensus on US–Russian nuclear arms control. The negative consequences of these actions may last far beyond the Trump presidency. If generations of agreement between Democrats and Republicans on bilateral nuclear treaties with Russia erode, it will

pose a significant setback to US national security and global stability. Future leaders may ultimately need to consider new approaches to nuclear risk reduction that preserve the benefits of the arms control regime.

https://thebulletin.org/2020/07/what-about-china-and-the-threat-to-us-russian-nuclear-arms-control/

The future of transatlanticism is up to Europe

Sigmar Gabriel

Australian Strategic Policy Institute, July 20, 2020

Politicians who don't know what to do when confronted with new or difficult circumstances often resort to empty phrases. This certainly appears to be the case for Europe and its changing relations with the United States. For example, German Chancellor Angela Merkel now argues that transatlantic relations need a 'fundamental' reappraisal, and German Foreign Minister Heiko Maas insists that there is an 'urgent need for action'. But what does this mean? Where are the concrete proposals specifying what such action should entail?

The fact is that we Europeans—especially we Germans—long took comfort in the assumption that the post-war order would more or less maintain itself after the Soviet Union's disintegration. After all, the US was the only remaining superpower, and it happened to be our closest friend. While we looked after ourselves at home, the US (with a little help from its nuclear-armed French and British friends on the United Nations Security Council) would assume responsibility for the wider world. But since the geopolitical upheavals of the 1990s, the US—unlike most Europeans—has actually reflected on the changing world. It concluded that in the 21st century it would have to think more about Asia—namely China—which meant that there would be less focus on Europe and the transatlantic world. Hence, while seeking to curtail America's involvement in the Middle East and Europe, US President Barack Obama announced a 'pivot to Asia', which has since evolved into a loosely defined 'Indo-Pacific' strategy under Donald Trump.

https://www.aspistrategist.org.au/the-future-of-transatlanticism-is-up-to-europe/

U.S. Testing Interest Triggers Backlash

Shannon Bugos

Arms Control Association, July 2020

The Trump administration faces widespread opposition, including from members of Congress and nuclear weapons scientists, to the potential restarting of U.S. nuclear weapons testing. During a June 24 press briefing in Brussels, Marshall Billingslea, U.S. special envoy for arms control, said, "[W]e maintain and will maintain the ability to conduct nuclear tests if we see reason to do so," but that he is "not aware of any reason to test at this stage." Nevertheless, "I won't shut the door on it because why would we?"

The United States conducted a total of 1,030 nuclear tests, with more than 900 of them performed at the Nevada Nuclear Test Site, now known as the Nevada National Security Site, until President George H.W. Bush declared a moratorium on U.S. nuclear testing in 1992. According to U.S. nuclear test readiness guidelines, a "simple test" with limited instrumentation could be conducted at the former site within six to 10 months if the president decides to resume nuclear testing.

https://www.armscontrol.org/act/2020-07/news/us-testing-interest-triggers-backlash

Eliminating Israel's bomb with a nuclear-weapon-free zone?

Ramesh Thakur

Australian Strategic Policy Institute, July 29, 2020

Nuclear-weapon-free zones (NWFZs) deepen and extend the scope of the Nuclear Non-proliferation Treaty and embed the non-nuclear-weapon status of

NPT states parties in additional treaty-based arrangements. This is why several NPT review conferences have repeatedly affirmed support for existing NWFZs and encouraged the development of additional zones. There are currently five zones: in Latin America, the South Pacific, Southeast Asia, Africa and Central Asia. At a minimum, all NWFZs prohibit the acquisition, testing, stationing and use of nuclear weapons within the designated territory of the zone. They also include protocols for pledges by nuclear powers not to use or threaten to use nuclear weapons against members of the zone.

Israel has seemed more interested in implementing a military solution to its security challenges, including the threat of a preventive strike on Iran, than in exploring diplomatic options. But it's simply not credible that Israel can keep its unacknowledged nuclear arsenal indefinitely, while every other regional state can be stopped from getting the bomb in perpetuity. The alternatives for Israeli security planners are regional denuclearisation or proliferation. The latter would entail the further risks of heightened tension and increased instability. Moreover, a nuclear-weapon capability is of no use to Israel in deterring or managing the threat of terrorism. Because 'the logic of using force to secure a nuclear monopoly flies in the face of international norms', Israel could consider trading its nuclear weapons for a stop to Iran's development of a nuclear-weapon capability by agreeing to an NWFZ. Conversely, the confidence built among states through an NWFZ process can spill over into other areas of regional interactions. The experience of working together in negotiating a zonal arrangement, and then working together once the zone is operational, generates habits of cooperation and sustains mutual confidence, both of which are necessary conditions for resolving other regional security issues.

https://www.aspistrategist.org.au/eliminating-israels-bomb-with-a-nuclear-weapon-free-zone/

Russia Releases Nuclear Deterrence Policy

Arms Control Association, July 2020

Russia publicly expanded on the circumstances under which it might employ nuclear weapons in a policy document on nuclear deterrence signed by President Vladimir Putin on June 2. The 2020 document, called "Basic Principles of State Policy of the Russian Federation on Nuclear Deterrence," marks the first time Russia has consolidated and publicly released its nuclear deterrence policy, which previously was classified.

The document presents four scenarios that might warrant nuclear use, two of which did not appear in the 2014, 2010, and 2000 versions of Russia's military doctrine. (See ACT, March 2010; January/February 2000.) As stated in the two most recent versions of the military doctrine, two of the scenarios in which Russia "reserves the right to use nuclear weapons" include when Moscow is acting "in response to the use of nuclear and other types of weapons of mass destruction against it and/or its allies, as well as in the event of aggression against the Russian Federation with the use of conventional weapons when the very existence of the state is in jeopardy." The 2000 military doctrine differed slightly in its description of the latter scenario, as it instead allowed nuclear use in response to conventional attacks in "situations critical to the national security of the Russian Federation."

https://www.armscontrol.org/act/2020-07/news/russia-releases-nuclear-deterrence-policy

Critics Question U.S. Open Skies Complaints

Arms Control Association, July 2020

In the wake of the Trump administration's decision in May to abandon the Open Skies Treaty, and amid uncertainty about the future of the 34-nation accord, critics are disputing the administration's rationale for

withdrawal. U.S. Secretary of State Mike Pompeo said in a May 21 statement that "Russia's implementation and violation of Open Skies" has negated the "central confidence-building function of the treaty—and has, in fact, fueled distrust and threats to our national security—making continued U.S. participation untenable."

Specifically, Pompeo cited Russian restrictions on observation flights over Russian territory and alleged that Moscow "appears" to use treaty flights "in support of an aggressive new Russian doctrine of targeting critical infrastructure in the United States and Europe with precision-guided conventional munitions." Members of Congress, former government officials, U.S. allies, and Russia have said that these arguments are based on tendentious reasoning, beset by contradictions, and ignore positive benefits the treaty continues to provide.

https://www.armscontrol.org/act/2020-07/news/critics-question-us-open-skies-complaints

U.S., Russia Boost Shows of Force

Arms Control Association, July 2020

As tensions between the United States and Russia have intensified, both nations have engaged in airborne "show of force" operations intended to demonstrate their intent to resist intimidation and defend their territories. Such operations can prove hazardous when the aircraft of one antagonist come perilously close to those of another, a phenomenon that has occurred on numerous occasions over the past few years. The recent maneuvers, however, appear to have raised the stakes, as the two rivals have increased their use of nuclear-capable aircraft in such operations and have staged them in militarily sensitive areas.

The pace and extent of recent air operations have exceeded anything since the end of the Cold War. The United States has flown a number of missions near Russia, sometimes going places for the first time with strategic bombers. These include (1) two missions in March and June by U.S. B-2 stealth bombers above the Arctic Circle in exercises intended to demonstrate NATO's ability to attack Russian military forces located on the Kola Peninsula in Russia's far north; (2) a first-time U.S. B-1B bomber flight on May 21 over the Sea of Okhotsk, a bay-like body of water surrounded by Russia's far eastern territory on three sides; (3) a May 29 flight by two B-1B bombers across Ukrainian-controlled airspace for the first time, coming close to Russian-controlled airspace over Crimea; (4) a June 15 mission by two U.S. B-52 bombers over the Baltic Sea in support of a NATO exercise then under way, coming close to Russian airspace and prompting menacing flights by Russian interceptors in the area; and (5) a June 18 flight by two U.S. B-52 bombers over the Sea of Okhotsk, a first appearance there by that type of aircraft, again prompting Russia to scramble fighter aircraft to escort the U.S. bombers away from the area.

https://www.armscontrol.org/act/2020-07/news/us-russia-boost-shows-force

Getting Back on Track to Zero Nuclear Weapons

Arms Control Association, July 2020

If there ever has been a fantastical national security goal, ridding the world of all nuclear weapons would be near the top of the list. At the height of the Cold War, the United States and Russia possessed a combined total of 68,000 of these most deadly armaments and although there have been significant reductions over the years, the two countries still account for an estimated 91 percent of the world's nuclear weapons, which total more than 13,000 warheads.

Even now, both are continuing to pour billions of dollars into new systems and supporting bureaucracies and industrial bases to produce, manage, and operate their arsenals. They still assign the weapons a primary role in their national defense doctrines. Both adhere to nuclear doctrines that call for the use of nuclear weapons against certain non-nuclear threats, and they maintain Cold War-era

nuclear "launch under attack" policies that exacerbate the risk of catastrophic miscalculation. Meanwhile, a few other countries, notably North Korea, India, and Pakistan, are relentlessly advancing their own nuclear capabilities, proving that possessing the bomb and the means to deliver it against an enemy still has a darkly powerful appeal.

https://www.armscontrol.org/act/2020-07/features/getting-back-track-zero-nuclear-weapons

Contribute Articles

Indian Pugwash Society welcomes research articles from students, researchers and faculties on Space, Missile, nuclear technology, WMD proliferation, arms control, disarmament, export controls and other related issues. Articles should be crisply written and should address contemporary debates in the policy arena. Manuscripts submitted for the consideration of the Indian Pugwash Society should be original contributions and should not have been submitted for consideration anywhere else. For further assistance, please contact us at : indianpugwashsociety@gmail.com

The Indian Pugwash Society aims to promote the study, discussion, and knowledge of and to stimulate general interest in, and to diffuse knowledge in regards to problems relating on WMD proliferation, arms control, disarmament, space security, export controls, nuclear technology and other related issues. This newsletter is part of the project "Emerging Nuclear Order in Asia: Implications for India" sanctioned to us by Department of Atomic Energy-Board of Research in Nuclear Sciences (DAE-BRNS).

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