

Nuclear, Missile & Space Digest

Volume 11, Number 21

A Fortnightly Newsletter from the Indian Pugwash Society

November 15, 2019

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A. India

Isro's Space Shuttle-Like Reusable Launch Vehicle Will Attempt Its First Landing In Karnataka

First Post, October 16, 2019

The Indian Space Research Organisation (ISRO) is finally following in the footsteps of NASA and SpaceX by developing a space program for Reusable Launch Vehicles (RLV) which it has been testing since 2016. The RLV program aims to cut down on launch costs by, well, reusing the spacecraft. ISRO's current project appears to be using a hybrid design that sits somewhere between NASA's now-shuttered Space Shuttle program and SpaceX's reusable rockets.

India's RLV includes a Space Shuttle-like craft that could feature an air-breathing ramjet engine. This craft will take a payload to space and then glide back to Earth, landing like a normal aircraft, much like the Space Shuttle. The rocket that will take this shuttle to orbit will return to Earth much like Musk's Falcon 9 rockets. It will return under its own power and make a landing on a floating platform out at sea.

<https://www.firstpost.com/tech/science/isro-space-shuttle-like-reusable-launch-vehicle-will-attempt-its-first-landing-in-karnataka-7506051.html>

Second nuclear plant at TN's Kudankulam stops operation

Economic Times, October 18, 2019

The second 1,000 MW nuclear power unit at Kudankulam, owned by the Nuclear Power Corporation of India Ltd (NSE -0.71% (NPCIL) stopped power generation on Saturday, said Power System Operation Corporation Ltd (POSOCO).

The atomic power plant stopped generation about 12.30 a.m. on Saturday owing to "SG level low", the company added. The expected date of the unit's revival is not known. The NPCIL has two 1,000 MW nuclear power plants at Kudankulam

Nuclear Power Project (KNPP) built with Russian equipment.

<https://economictimes.indiatimes.com/industry/energy/power/second-nuclear-plant-at-tns-kudankulam-stops-operation/articleshow/71661290.cms>

India to add 20,000 MW of nuclear power generation capacity over next decade: DAE Secy

Anshul Joshi, Economic Times, October 18, 2019

India is set to add around 20,000 Megawatt (Mw) of nuclear power generation capacity over the next decade, K N Vyas, Secretary at the the Department of Atomic Energy (DAE) and the Chairman of Atomic Energy Commission (AEC) said today.

Speaking at an industry event here, he said steady and un-interrupted power supply by nuclear power plants gives it an edge over solar and wind power. "There would always exist a requirement for steady and un-interrupted power supply represented by nuclear energy, especially since storage technology required to compensate for the lean period when wind does not blow or sun does not shine is currently rather expensive," he said.

<https://energy.economictimes.indiatimes.com/news/power/india-to-add-20000-mw-of-nuclear-power-generation-capacity-over-next-decade-dae-secy/71652199>

Department of Atomic Energy organizes a Curtain Raiser programme to mark the Centenary Celebrations of Dr Vikram Sarabhai

Indian Education Dairy, October 17, 2019

As a part of the year-long Birth Centenary celebrations of Dr. Vikram Sarabhai, the Department of Atomic Energy and Department of Space have organized a two day programme in Mumbai beginning from today. The programme

was a curtain raiser to commemorate Dr. Vikram Sarabhai's contribution towards DAE.

A number of contemporaries of Dr. Sarabhai participated in the event. Luminaries like Dr. Kasturirangan, (former Chairman, ISRO) Dr. M.R. Srinivasan, (former Chairman, Atomic Energy Commission & Secretary Department of Atomic Energy), Shri Surendar Sharma (former Chief Executive, Heavy Water Board) were present and contributions of Dr. Sarabhai for various activities of DAE like establishment of Indira Gandhi Centre for Atomic Research, giving a boost to nuclear power stations, establishment of important organisations in DAE like Heavy Water Board, Electronics Corporation of India Limited, Nuclear Fuel Complex and Variable Energy Cyclotron Centre were highlighted. Dignitaries, who had close association with Dr. Sarabhai, reminisced their association with him.

<https://indiaeducationdiary.in/department-of-atomic-energy-organizes-a-curtain-raiser-programme-to-mark-the-centenary-celebrations-of-dr-vikram-sarabhai/>

Chandrayaan-2: Nasa Moon orbiter photographs Vikram landing site, images being analysed

India Today, October 17, 2019

We might soon have some new information on what happened to the Chandrayaan-2 lander Vikram, communication with which was lost during its landing attempt on the Moon. A lunar orbiter operated by the US space agency National Aeronautics and Space Administration (Nasa) has managed to snap photos of the area where Vikram attempted landing. Unlike photos shot before, the new images of Vikram's landing site were taken during good lightning conditions, raising hopes of spotting the Chandryaaan-2 lander.

The Vikram lander went silent in the early hours of September 7 when it attempt landing in the south polar region of the Moon. Despite multiple attempts by the Indian Space Research Organisation (Isro), communications could not be re-established

with Vikram before a cold lunar night enveloped its landing site. Vikram did not have any heating apparatus onboard, meaning that its instruments will likely have perished during the lunar night when temperatures dip to less than minus 200 degree Celsius.

<https://www.indiatoday.in/science/story/chandrayaan-2-nasa-orbiter-new-pictures-vikram-pragyaan-landing-site-1610304-2019-10-17>

India plans expansion of nuclear fleet, says DEA chairman

World Nuclear News, October 21, 2019

India is aiming for "fleet mode construction" for future nuclear power plant projects in order to reduce costs and construction times, according to Kamlesh Vyas, chairman of the country's Department of Atomic Energy (DAE). Speaking at the India Energy Forum's 11th Nuclear Energy Conclave in New Delhi on 18 October, he said 17 nuclear power reactors are planned in addition to those already under construction.

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<https://www.world-nuclear-news.org/Articles/India-plans-expansion-of-nuclear-fleet-says-DEA-c>

This is how Indian astronauts will be trained for Gaganyaan in Russia

Jatan Mehta, The Print, October 23, 2019

Preparations are on for India's Yuri Gagarin moment, with astronauts undergoing training in Russia for ISRO's indigenous Gaganyaan mission set for December 2021.

ISRO is gearing up for the first full test flight of Gaganyaan in December 2020, without any crew. Another test flight is expected to follow in July 2021. If all goes well, India will launch its first astronauts into space in December 2021. They will orbit the Earth for seven days, carry out experiments and then come back. A successful execution of the Gaganyaan mission will open up doors to more complex human spaceflight missions, including building a space station around Earth by 2030.

<https://theprint.in/science/this-is-how-indian-astronauts-will-be-trained-for-gaganyaan-in-russia/309050/>

Delay impact: Gujarat seeks tariff cut for power from Kakrapar N-units

Anupam Chatterjee, Financial Express, October 24, 2019

With delays in project construction raising the tariff of electricity generated from the upcoming nuclear power generation units in Kakrapar, the Gujarat government has sought the Union power ministry's intervention to reduce its cost burden. The Nuclear Power Corporation of India (NPCIL), which is developing the units, recently communicated to the state that the project's cost overrun had increased the estimated tariff for the power station to around Rs 5.31/unit, up from the Rs 3.34/unit rate when the host state had sought power allocation.

According to sources, Saurabh Patel, Gujarat energy minister, has requested power minister R K Singh to take up this matter with the department of atomic energy and restructure the tariff to around Rs 3.34/unit. The average price at which the state bought non-renewable based power in FY19 was Rs 3.98/unit. Since NPCIL projects have the 'must run' status, the landed cost of around Rs 6/unit looks unsustainable for the state, state officials pointed.

<https://www.financialexpress.com/economy/delay-impact-gujarat-seeks-tariff-cut-for-power-from-kakrapar-n-units/1744478/>

Tarapur, India's 2nd most powerful nuclear plant built with US help, completes 50 yrs today

Revathi Krishnan, The Print, October 28, 2019

Monday marks the 50th anniversary of the Tarapur Atomic Power Station or TAPS as it is known. Located in the industrial area of Boisar in Maharashtra's Thane district, TAPS was India's first atomic power project when it began operations on 28 October, 1969. Launched under the Lal Bahadur Shastri government, TAPS relies on boiling water reactors (BWRs) for power generation. BWRs are nuclear reactors using water as a coolant and moderator, with steam being produced in the reactor that is then enriched with uranium oxide.

<https://theprint.in/india/tarapur-indias-2nd-most-powerful-nuclear-plant-built-with-us-help-completes-50-yrs-today/312366/>

No cyberattack on Kudankulam Nuclear Power Plant, say officials

P. Sudhakar, The Hindu, October 29, 2019

Officials deny that the site was hacked, hours after a cybersecurity expert claimed on Twitter that the Plant's domain controller-level access could have been compromised.

Hours after a cybersecurity expert claimed on Twitter that the Kudankulam Nuclear Power Plant's (KKNPP) domain controller-level access could have been compromised, officials categorically denied it on Tuesday. KKNPP Site Director Sanjay Kumar said the totally isolated network of KKNPP could not be accessed by any outside network from any part of the globe. Hence, there was no question of it being hacked.

<https://www.thehindu.com/news/national/tamil-nadu/kudankulam-nuclear-power-plant-says-network-is-safe/article29820186.ece>

NPCIL admits malware attack at Kudankulam Nuclear Power Plant

The Hindu, October 30, 2019

The infected computer belonged to a user who was connected “in the Internet connected network used for administrative purposes,” an NPCIL official said. “Investigation also confirms that the plant systems are not affected.” The Nuclear Power Corporation of India Ltd. (NPCIL) on Wednesday confirmed that a malware had indeed infected its system at the Kudankulam Nuclear Power Plant (KKNPP), a day after KKNPP officials had categorically asserted that the systems at the plant could not be accessed by anyone outside the network as they were all isolated.

“Identification of malware in NPCIL system is correct,” A.K. Nema, Associate Director and Appellate Authority, NPCIL, said in a statement. “The matter was conveyed by CERT-In [Indian Computer Emergency Response Team] when it was noticed by them on September 4, 2019. The matter was immediately investigated by DAE specialists,” he added.

<https://www.thehindu.com/news/national/npcil-acknowledges-computer-breach-at-kudankulam-nuclear-power-plant/article29834644.ece>

B. China

Initial research on rocket ends successfully

Zhao Lei, China Daily, October 15, 2019

Report says spacecraft carrier will be bigger, stronger than Long March 5 The preliminary research on China’s new generation of manned spacecraft-carrying rocket has concluded successfully, paving the way for the program’s next steps, according to China Space News, the flagship newspaper in the country’s space industry. The newspaper reported recently that the research results were reviewed and approved on Wednesday by the China Manned Space Agency, which governs the nation’s manned space activities. Experts from the agency said the results will be adopted in the

research and development of the new carrier rocket, which has yet to be named.

According to the report, the new rocket is being designed at the China Academy of Launch Vehicle Technology in Beijing. Its main body will be 87 meters tall, which means it will be almost twice as tall as the Long March 5, currently the biggest of China’s rockets. The gigantic craft will boast liftoff weight of about 2,200 metric tons, nearly triple that of the Long March 5. This will enable the rocket to place a 25-ton spacecraft in a lunar transfer trajectory, the newspaper said. Next, researchers and engineers will enter the detailed design phase and will continue to improve the rocket’s technical plan, it noted.

<https://www.chinadaily.com.cn/a/201910/15/WS5da51d41a310cf3e355707a9.html>

People hail “Two Bombs, One Satellite” founders for inspiring generations of Chinese scientists

Yang Sheng, Global Times, October 16, 2019

Chinese people saluted scientists on social media who had contributed to the development of nuclear weapons and missiles on Wednesday, as the day marked the 55th anniversary of China’s successful first nuclear test, or the explosion of first atomic bomb, on October 16, 1964. China developed nuclear bombs, an intercontinental ballistic missile (ICBM) and an artificial satellite in 1956 in a project called “Two Bombs, One Satellite.” “Two Bombs” refers to the atomic bomb (and later the hydrogen bomb) and the ICBM, while “One Satellite” refers to the artificial satellite. Observers noted that the “Two Bombs, One Satellite” was extremely crucial to China and its people since it laid the foundation for the nation to respond to nuclear blackmail from the US after the Korean War, and also freed itself from security reliance on the Soviet Union, which allowed the People’s Republic of China (PRC) to prevent direct wars with other major powers, realize true independence in the international arena

and become a major international influence.

China's most advanced ICBM, the DF-41, made its debut at the National Day parade in Beijing on October 1, which Yang Chengjun, a Chinese expert on missile technology and nuclear strategy and chief scientist of quantum defense, said is a message to the world that China has sufficient and reliable strategic nuclear power to respond to any "nuclear blackmail" from any country.

<http://www.globaltimes.cn/content/1167113.shtml>

China prepares for space station construction

Xinhua, October 17, 2019

China is preparing for the upcoming high-density space missions to construct China's space station, and the Long March-5B carrier rocket, set to launch capsules for the space station, is expected to make its maiden flight in 2020. Zhou Jianping, an academician of the Chinese Academy of Engineering, has been appointed the chief designer of China's manned space program, and Gu Yidong, an academician of the Chinese Academy of Sciences, has been appointed the chief space scientist of the program, according to the China Manned Space Agency. China's first astronaut Yang Liwei and seven other experts in the fields such as spacecraft, carrier rocket, space technology application, monitoring and communication systems have been appointed deputy chief designers of the program.

http://www.xinhuanet.com/english/2019-10/17/c_138479514.htm

J-20 jets showcase missiles

Xu Luming and Liu Xuanzun, Global Times, October 17, 2019

China's most advanced fighter jet, J-20, once again revealed its missiles at the Chinese Air Force's "open day" event on Thursday, which also showcased the outstanding flight performances of a number of the PLA's warplanes. The open day, which runs from Thursday to Monday in Changchun,

Northeast China's Jilin Province, is part of celebrations to commemorate the 70th anniversary of the founding of the Chinese People's Liberation Army (PLA) Air Force. A pair of J-20 stealth fighter jets flew during the event's flight performance on Thursday morning. Each of them showcased two short-range combat missiles, which rotated out from their side missile bays, where they were usually stored to maintain the aircraft's stealth capability.

<http://www.globaltimes.cn/content/1167239.shtml>

China launches new communication technology experiment satellite

Xinhua, October 18, 2019

China sent a new communication technology experiment satellite into planned orbit from the Xichang Satellite Launch Center in southwest China's Sichuan Province late Thursday. The satellite, launched by a Long March-3B carrier rocket at 23:21 (Beijing Time), will be mainly used for multi-band and high-speed communication technology experiments. The satellite and the carrier rocket were respectively developed by the China Academy of Space Technology and the China Academy of Launch Vehicle Technology under the China Aerospace Science and Technology Corporation. Thursday's launch was the 315th mission of the Long March rocket series.

http://www.xinhuanet.com/english/2019-10/18/c_138480279.htm

China and South Korea to work together for denuclearisation of Korean Peninsula

South China Morning Post, October 21, 2019

China and South Korea agreed on Monday to make a joint effort to denuclearise the Korean Peninsula as they resumed bilateral high-level defence talks – suspended since 2014 when tensions emerged over Seoul's plans to allow

deployment of a US anti-missile system, Yonhap News Agency said. Lieutenant General Shao Yuanming, deputy chief of the Joint Staff Department of the Central Military Commission, met South Korean defence vice-minister Park Jae-min in Beijing and both sides agreed to deepen bilateral ties, Yonhap said. The dialogue took place on the sidelines of the Xiangshan Forum, a three-day gathering on Asia-Pacific security and defence which started on Sunday.

<https://www.scmp.com/news/china/diplomacy/article/3033877/china-and-south-korea-set-restart-annual-defence-talks-after>

Nation makes breakthrough in space plane project

Global Times, October 23, 2019

China recently made an important breakthrough in developing its own space plane, a genre of aircraft that is expected to become a crucial weapon in the future, a state-owned research institute said. The First Research Institute of the Chinese Academy of Aerospace and Aerodynamics successfully conducted a wind tunnel experiment, in which the second-stage aircraft freely detached from the first-stage aircraft of a two-stage-to-orbit (TSTO) space plane, according to a statement the academy released on its WeChat account on Monday.

Space plane is a crucial weapon of the future and represents the trend of integrating aviation and space technologies, the academy said. Many countries have been developing space planes, including the US with its X-37B, which many military observers claim is a prototype space fighter. A space plane can be used for reconnaissance, anti-satellite, anti-ballistic missile and ground attacks if used as a weapon, the military expert said, noting that it can also send satellites and astronauts into space at a lower cost than rockets, because it is reusable and uses standard airports. China unveiled the Tengyun Project in 2016, which is planning the first test flight for the Chinese space plane in 2030, Beijing-based Science and Technology Daily reported in December 2016.

<http://www.globaltimes.cn/content/1167650.shtml>

China's Chang'e-4 probe resumes work for 11th lunar day

Xinhua, October 23, 2019

The lander and the rover of the Chang'e-4 probe have resumed work for the 11th lunar day on the far side of the moon after "sleeping" during the extremely cold night. The lander woke up at 5:11 a.m. Wednesday (Beijing Time), and the rover, Yutu-2 (Jade Rabbit-2), awoke at 11:45 a.m. Tuesday. Both are in normal working conditions, according to the Lunar Exploration and Space Program Center of the China National Space Administration.

The rover has traveled about 290 meters on the moon to conduct scientific exploration on the virgin territory. The Chang'e-4 probe, launched on Dec. 8, 2018, made the first-ever soft landing on the Von Karman Crater in the South Pole-Aitken Basin on the far side of the moon on Jan. 3, 2019. A lunar day equals 14 days on Earth, and a lunar night is the same length. The Chang'e-4 probe switched to a dormant mode during the lunar night due to the lack of solar power.

http://www.xinhuanet.com/english/2019-10/23/c_138495848.htm

Experts call on China to deepen investments in nuclear technology for people's wellbeing

Hu Yuwei, Global Times, October 23, 2019

Over the past few years, nuclear technology has been used for livelihood projects, from the enhancement of material properties and nuclear medicine to food and agricultural products radiation processing. It has been a very important part of China's economic construction since the reform and opening-up, said the experts. Boron Neutron Capture Therapy (BNCT), Zhou's project that progresses toward clinical cancer treatments, is a microcosm of such extension. "I believe that with enough investment, China will lead the world in the application of nuclear energy in medical care, just like the progress of our nuclear submarines and nuclear power plants," Zhou told the

Global Times. "The market for nuclear technology in medical programs is much larger than the market for nuclear power today."

<http://www.globaltimes.cn/content/1167753.shtml>

Regretting China's absence at key space forum in US

Zhao Huanxin, China Daily, October 24, 2019

China's absence from an important global space conference was a missed opportunity for collaboration, an American scientist said at the 2019 International Astronautical Congress (IAC) on Wednesday. The Chinese space delegation, whose members include Wu Yanhua, vice-administrator of the China National Space Administration, was absent from the weeklong 70th IAC, scheduled to conclude Friday in Washington.

A moderator of an opening plenary panel where Wu was expected to speak on Monday said Wu's absence was because of a "scheduling conflict". But China's Foreign Ministry confirmed early Wednesday that it was due to a visa issue and it urged Washington not to "weaponize" visas and hinder normal international cooperation. "I think it was hoped that China would be present so that multilateral talks could be undertaken," said Notre Dame planetary scientist Clive R. Neal. "Everyone was disappointed! I am saddened that the political situation between our two countries gives the perception that we are in opposition."

<https://www.chinadaily.com.cn/a/201910/24/WS5db1118ba310cf3e3557247e.html>

China takes step forward with plans for aerospace plane that could outdo the space shuttle Liu Zhen

South China Morning Post, October 25, 2019

Successful wind tunnel test could pave way for two-part hypersonic vessel that will take off like a normal plane but can deliver heavy payloads into space. The vessel could also

have military uses such as acting as a platform for launching weapons. China announced that it has taken an important step forward in its plans to develop a two-part aerospace plane that could one day deliver much heavier payloads into space than the space shuttle. According to the plan, the larger space plane will be launched from an airport like a conventional aircraft – a method that is thought to be much safer than a rocket launch – before the smaller vessel it carries on its back separates to launch the payload into space. Both parts of the vessel will be able to return to earth to be reused.

<https://www.scmp.com/news/china/military/article/3034465/china-takes-step-forward-plans-aerospace-plane-could-outdo>

Brazil narrows field to China, Russia, France for Angra 3 nuclear partner

Anthony Boadle, Reuters, October 24, 2019

Brazil's state nuclear power company Eletronuclear plans to complete its long-delayed Angra 3 plant by partnering with either China's National Nuclear Corporation (CNNC), France's EDF or Russia's Rosatom, its president Leonam Guimaraes told Reuters. Eletronuclear will decide by the end of the year whether to create a subsidiary joint venture or if the foreign partner will become a minority shareholder in the state company, which would entitle it to a stake in its existing Angra 1 and 2 nuclear power plants, Guimaraes said.

Speaking in an interview on Tuesday, he said the partner would require deep pockets, as completion of Angra 3 will require 15 billion reais (\$3.7 billion) on top of the 9 billion reais already invested. "We are looking for an international partnership to invest in the completion of Angra 3 and that partner would own part of the plant until the end of its life," he said. The plant was first planned in the 1980s but dropped due to lack of finance. Building restarted in 2010, but Eletronuclear was hit by a corruption

scandal in 2015 and stopped paying contractors such as French company Areva, which was installing the Siemens-designed reactor technology now owned by Framatome.

<https://in.reuters.com/article/brazil-nuclear/corrected-brazil-narrows-field-to-china-russia-france-for-angra-3-nuclear-partner-idINL2N2771L9>

Chinese scientists' pursuit of cosmic rays opens windows on universe

Xinhua, October 24, 2019

In the wilderness of Daocheng, southwest China's Sichuan Province, 4,400 meters above sea level, Chinese scientists are constructing a cosmic ray observation station on an area equivalent to 200 soccer fields. Huge rocks left from the Ice Age have been blasted. Different detectors are being installed to form a huge "net" to catch the particles generated by cosmic rays in the atmosphere, to help scientists study both the micro and the macro worlds in the universe.

Three huge underground pools, more than triple the size of the Water Cube (National Aquatic Center) in Beijing, will hold detectors to collect high-energy photons generated by remote celestial bodies. Beside the pools, 12 telescopes will be erected to conduct high-precision measurement of cosmic rays with the highest energy. Construction of the first half of the observation station, known as Large High-Altitude Air Shower Observatory (LHAASO), is due to be finished at the end of this year, and the whole project completed at the end of 2020, said Cao Zhen, chief scientist of LHAASO and a researcher at the Institute of High Energy Physics (IHEP) of the Chinese Academy of Sciences.

http://www.xinhuanet.com/english/2019-10/23/c_138496267.htm

China to launch Chang'e-5 lunar probe in 2020

Xinhua, October 26, 2019

China plans to launch the Chang'e-5 probe in 2020 to bring moon samples back to

Earth, according to Wu Weiren, chief designer of China's lunar exploration program. The Long March-5 carrier rocket, China's current largest launch vehicle, will be used to send the probe into space. The third Long March-5 rocket is being transported to the Wenchang Space Launch Center for a new flight, according to Wu. The success of the flight will be the key for China's future space missions including the Chang'e-5 probe. Wu said the Chang'e-5 probe includes a lander, an orbiter, an ascender and a returner.

The key of the mission will be lunar sample collection, takeoff from the moon, rendezvous and docking on lunar orbit and high-speed reentry into Earth's atmosphere. China's current lunar program includes three phases: orbiting, landing, and returning. The first two phases have been accomplished, and the next step is to launch the Chang'e-5 probe to collect 2 kg of moon samples and bring them back to the earth. China is also drawing up the plan for the fourth phase of the lunar exploration program. In the fourth phase of the program, China will conduct scientific detection in the south polar region of the moon by mainly using high intelligent robots, and realize long-term exploration in the complicated lunar environment, Wu said.

http://www.xinhuanet.com/english/2019-10/26/c_138505684.htm

China shores up recovery of reusable rockets

Global Times, October 27, 2019

Private company firm realizes breakthrough in thrust regulation technique. Chinese private rocket firm LandSpace conducts a long-range trial run of its reusable liquid oxygen methane engine TQ-12 on Saturday, laying foundation for the recovery of reusable rockets. The engine named TQ-12, which was independently developed by LandSpace, completed its 200-second test that covered the entire flight time of the rocket. A major focus was on the feasibility of the engine thrust regulation and

preliminary examination of the reliability of the engine itself, according to a statement sent to the Global Times by LandSpace.

The highlights of the TQ-12 rocket engine include being non-toxic, highly reliable, highly performing, low cost, easy to operate and reusable, which is the evolutionary direction of the main rocket engine. It is designed with a sea level thrust of 67 tons and a sea level vacuum thrust of 76 tons as well as a vacuum thrust of 80 tons, according to the company. "China has been playing a leading role in the private rocket field in the world, and there are several companies in China doing research into reusable launch vehicles, including iSpace," Huang said, adding that the industry has a prosperous outlook.

<http://www.globaltimes.cn/content/1168115.shtml>

Third Long March-5 rocket transported to Hainan

Xinhua, October 27, 2019

The third Long March-5 rocket, China's largest carrier rocket, was transported to Qinglan Port in Wenchang in south China's Hainan Province Sunday, according to the China National Space Administration. China will choose an ideal time to launch the rocket after it completes assembly and a series of tests. Two rocket-carrying ships, Yuanwang-21 and Yuanwang-22, departed north China's Tianjin Port on Oct. 22. Successfully navigating complex sea conditions, they arrived at Qinglan Port after a five-day journey.

The third rocket will be transported by road to the Wenchang Space Launch Center, and the preparations for the launch mission will be carried out as planned. The success of the flight is key to China's future space missions including the Chang'e-5 probe and China's first Mars probe.

http://www.xinhuanet.com/english/2019-10/27/c_138507391.htm

China builds world's largest manned submersible

China Daily, October 29, 2019

China has developed and completed the manned cabin for a new deep-sea manned submersible capable of carrying three people deeper than 10,000 meters, according to media reports. Researchers from the Institute of Metal Research at the Chinese Academy of Sciences said Monday that the manned cabin has the largest space and carrying capacity among myriameter (10,000 meters) manned cabins worldwide. The manned cabin, made of titanium alloy, is the core component of the deep-sea manned submersible, and has recently passed through hydrostatic pressure-test assessments and obtained approvals for the vehicle's integration unit. On completion the submersible will be able to plunge deep down into the Mariana Trench in the Pacific Ocean, the deepest trench in the world, and allow China to carry out scientific research in the deepest sea areas. This, however, is not the first time that China's self-developed submersibles have dived into the deepest trench.

<https://www.chinadaily.com.cn/a/201910/29/WS5db7f4d6a310cf3e35574421.html>

China plans more space science satellites

Xinhua, October 29, 2019

China plans to launch four new science satellite missions by 2023, and scientists have completed concept research on another five to be launched in the next 10 years. Successful Chinese science satellites launched since 2015 include the Dark Matter Particle Explorer (DAMPE), the Quantum Experiments at Space Scale (QUESS) and the Hard X-ray Modulation Telescope (HXMT). These were under a space science program of the Chinese Academy of Sciences (CAS). The second phase of the program has now started, Wang Chi, director of the National Space Science Center under the CAS, recently

told the first China Space Science Assembly in Xiamen, east China's Fujian Province. The four new missions include the Gravitational Wave Electromagnetic Counterpart All-sky Monitor (GECAM), expected to be launched at the end of 2020, which will search for electromagnetic signals associated with gravitational waves, Wang said.

The Advanced Space-borne Solar Observatory (ASO-S), expected to be launched at the end of 2021, will help scientists understand the solar magnetic fields, flares and coronal mass ejections. A satellite named Einstein-Probe (EP), tasked with discovering celestial bodies that emit X-rays during fierce changes as well as quiescent black holes with transient high-energy radiation, is expected to be launched at the end of 2022. The Solar Wind Magnetosphere Ionosphere Link Explorer, or SMILE, is a Sino-European joint mission expected to be launched at the end of 2023. It will focus on the interaction between the solar wind and the earth's magnetosphere.

http://www.xinhuanet.com/english/2019-10/29/c_138512550.htm

China's Shandong Province aims to build key nuclear power base

Global Times, October 31, 2019

With the ambitious goal of building an important nuclear power base along China's east coast, Shandong Province is expediting construction of several nuclear power plant projects including China General Nuclear Power Group (CGN)'s Hualong One Shandong project which has entered preliminary testing, media reported on Thursday. Yantai city in Shandong Province, has ramped up efforts to build a 100-billion-yuan-class (\$14.2-billion-class) nuclear power equipment industry there, business news website jiemian.com reported.

The Haiyang Nuclear Power Plant, which was the first nuclear power project in Shandong, has been completed and was put into use in 2018. It has generated 20 billion kilowatt hours of electricity, according to the report. The Shidao Bay Nuclear Power Plant in Rongcheng, in eastern Shandong, is scheduled for completion in 2020, and the

CNNC's offshore floating reactor project is also undergoing preparation work.

<http://www.globaltimes.cn/content/1168549.shtml>

China criticizes US decision to deploy missiles in Asia-Pacific

Zhang Zhihao, China Daily, November 1, 2019

Land-based medium range weapons threaten security of region, experts warn. The Chinese military will not sit idly and allow the United States to deploy land-based medium range missiles in Asia-Pacific countries, and the Ministry of National Defense urged relevant nations to act cautiously and responsively to avoid unwise actions, its spokesman said on Thursday. In August, US Defense Secretary Mark Esper said the US plans to deploy land-based, medium-range weapons in the Asia-Pacific region in the future. In the same month, the US officially pulled out of the Intermediate-range Nuclear Forces Treaty, a landmark arms control deal signed in 1987 between the US and the former Soviet Union to eliminate the two sides' land-based ballistic missiles with ranges between 500 kilometers and 5,500 km.

http://www.chinadaily.com.cn/cndy/2019-11/01/content_37519970.htm

C. Pakistan

Pakistan playing pivotal role in region's peace, security: Foreign Minister

The News International, October 17, 2019

Foreign Minister Shah Mehmood Qureshi on Thursday said in pursuit of its foreign policy objectives, Pakistan was playing a pivotal role in promoting peace, security and stability in the region and beyond. "We will continue to stand by Kashmiris in their just struggle for realization of the right to self-determination," he said, pointing out that India was also pursuing a massive build-up of its nuclear and conventional military forces and acquiring destabilising capabilities.

"This country resorts to war-mongering and issues nuclear threats including for short term domestic electoral gains. It has repeatedly signalled changes to its declaratory nuclear posture while flirting with pre-emptive and counter-force tendencies," he said.

<https://www.thenews.com.pk/latest/542436-pakistan-playing-pivotal-role-in-region-s-peace-security-fn>

Global watchdog keeps Pakistan on terrorism financing 'gray list'

Reuters, October 18, 2019

A global finance watchdog kept Pakistan off its terrorism financing blacklist on Friday but warned Islamabad it only had until February to improve or face international action. The Paris-based Financial Action Task Force, which tackles money laundering, said it was concerned that Pakistan had failed to complete the action plan first by a January deadline, then a May deadline and now October. "The FATF strongly urges Pakistan to swiftly complete its full action plan by February 2020," it said in a statement.

<https://www.reuters.com/article/us-fatf-pakistan/global-watchdog-keeps-pakistan-on-terrorism-financing-gray-list-idUSKBN1WX16K>

Pakistan Minister Warns Of Nuclear War With India To Stifle Opposition

News Nation, October 23, 2019

Sheikh Rasheed Ahmed, Pakistan's railways minister, warned political rivals not to oppose the government as, in his opinion, there is a real threat of war with India at this juncture, which he said would inevitable culminate into a nuclear war. The trigger for Ahmed's latest N-salvo was a call by Maulana Fazlur Rehman for a march on Islamabad in a bid to pile pressure on Prime Minister Imran Khan to resign. Ahmed has spoken far more than the country's defence, home, and foreign ministers put together on issues of national security, defence, and foreign policy since India nullified the special status of Jammu and Kashmir on August 5.

<https://www.newsnation.in/videos/world/pakistan-minister-warns-of-nuclear-war-with-india-to-stifle-opposition-14/53709>

Countries backing India will be hit by missile: Nuclear war threat by Pakistani minister

Gulf news, October 30, 2019

A Pakistan minister has courted controversy by saying that any country that will support India over the Kashmir issue will be hit by a missile by Pakistan and considered as an "enemy" of Islamabad.

"If tensions with India rises on Kashmir, Pakistan will be compelled to go to war. Hence, those countries backing India and not Pakistan (over Kashmir) will be considered as our enemy and a missile will be fired at India and those nations supporting it," Minister for Kashmir Affairs and Gilgit Baltistan, Ali Amin Gandapur said at an event on Tuesday. Pakistan-based journalist Naila Inayat tweeted a part of the video in which the minister is seen making the inflammatory remarks.

<https://gulfnews.com/world/asia/pakistan/countries-backing-india-will-be-hit-by-missile-nuclear-war-threat-by-pakistani-minister-1.1572408842525>

D. USA

Exclusive: U.S. carried out secret cyber strike on Iran in wake of Saudi oil attack: officials

Idrees Ali and Phil Stewart, Reuters, October 16, 2019

The United States carried out a secret cyber operation against Iran in the wake of the Sept. 14 attacks on Saudi Arabia's oil facilities, which Washington and Riyadh blame on Tehran, two U.S. officials have told Reuters.

The officials, who spoke on condition of anonymity, said the operation took place in late September and took aim at Tehran's ability to spread "propaganda." One of the officials said the strike affected physical hardware, but did not provide further details. The attack highlights how President Donald Trump's administration has been trying to counter what it sees as

Iranian aggression without spiraling into a broader conflict.

<https://www.reuters.com/article/us-usa-iran-military-cyber-exclusive/exclusive-u-s-carried-out-secret-cyber-strike-on-iran-in-wake-of-saudi-oil-attack-officials-idUSKBN1WV0EK>

EnergySolutions adds TMI-2 to decommissioning projects

World Nuclear News, October 16, 2019

All licences and assets of unit 2 of the Three Mile Island nuclear power plant in Pennsylvania will be transferred to a subsidiary of EnergySolutions under an agreement signed yesterday by US utility FirstEnergy and EnergySolutions. The reactor, which suffered a partial meltdown in 1979 and never reopened, will then be decommissioned.

The contract was signed between EnergySolutions and FirstEnergy subsidiaries GPU Nuclear Inc, Metropolitan Edison Company, Jersey Central Power & Light Company, and Pennsylvania Electric Company. Under the agreement, the plant, property, nuclear decommissioning trust fund, plant licences and responsibility for decommissioning Three Mile Island 2 (TMI-2) will be transferred to EnergySolutions subsidiary TMI-2 Solutions LLC.

<https://www.world-nuclear-news.org/Articles/EnergySolutions-takes-on-TMI-2-for-decommissioning>

US regulator accepts SHINE's radioisotope operating licence application

World Nuclear News, October 16, 2019

The US Nuclear Regulatory Commission (NRC) has accepted SHINE Medical Technologies' operating licence application for its medical isotope production facility in Janesville, Wisconsin. SHINE said the NRC's acceptance confirms that its application was "complete and of sufficient quality" for the NRC to start its detailed technical review of the application.

SHINE's application seeks regulatory approval to operate its transformational non-

reactor technology that will produce medical isotopes, including molybdenum-99 (Mo-99), which the company says is used in more than 40 million medical procedures every year. The facility will be capable of supplying two-thirds of US patient demand for the isotope. SHINE expects to begin production of Mo-99 in 2021, with commercial production starting in 2022.

<https://www.world-nuclear-news.org/Articles/US-regulator-accepts-SHINEs-radioisotope-operating>

U.S. energy secretary says cabinet-level group will boost domestic uranium mining

Timothy Gardner, Reuters, October 17, 2019

U.S. Energy Secretary Rick Perry said on Wednesday he believes a cabinet-level working group set up by President Donald Trump will make recommendations that will revive domestic mining of uranium for nuclear power plants. Separately, Perry declined to say, through a spokeswoman, if he would cooperate with three U.S. House committees that asked him to turn over documents by Friday in their impeachment probe of Trump.

<https://www.reuters.com/article/us-usa-uranium-perry/u-s-energy-secretary-says-cabinet-level-group-will-boost-domestic-uranium-mining-idUSKBN1WV2IC>

3D printing is helping to tackle nuclear waste

Darren Allan, Tech Radar, October 17, 2019

3D printing is finding more and more innovative applications – from printing meat in space to using giant printers to fashion entire boats – and the latest intriguing development is using the technology to help recycle more nuclear waste.

Currently, nuclear engineers can recycle 95% of spent fuel from a nuclear reactor, with the remaining 5% having to be stored as 'long-term' waste. The aforementioned 3D-printed equipment can be used to sort

and recycle some of the latter, meaning that an extra 2% of nuclear waste can be recycled. The benefits of using parts from a 3D printer for this recycling process include offering “inherent safeguards against nuclear proliferation”, as well as the flexibility they bring to the process. As Argonne engineer Peter Kozak explains: “If a part did fail, it would be easy to reprint and replace it. We could easily add or remove steps.”

<https://www.techradar.com/news/3d-printing-is-helping-to-tackle-nuclear-waste>

Trump says U.S. Energy Secretary Perry to step down at end of the year

Steve Holland and Timothy Gardner, Reuters, October 18, 2019

U.S. Energy Secretary Rick Perry will step down by the end of the year, President Donald Trump said on Thursday, a day before a deadline set by congressional Democrats for Perry to turn over documents in the impeachment probe. Trump told an event in Texas that he had known for months that Perry would resign.

“Rick and I have been talking for six months. In fact, I thought he might go a bit sooner,” Trump said. “But he’s got some very big plans. He’s going to be very successful. We have his successor. We’ll announce it pretty soon.”

<https://www.reuters.com/article/us-usa-trump-perry/trump-says-u-s-energy-secretary-perry-to-step-down-at-end-of-the-year-idUSKBN1WW2VN>

U.S. Military To Replace 1970s Floppy Disks Controlling Nuclear Missiles

Zak Doffman, Forbes, October 19, 2019

Oftentimes in the military, the adage “if it ain’t broke, don’t fix it,” becomes hard to argue. And in a world where threat actors from enemy nation states probe for any and every weakness, replacing a system that has been glitch and breach free for decades is a

tough ask. So it is with the U.S. military’s decision to shift its Strategic Automated Command and Control System (SACCS) from 1970s tech to something more contemporary. The highly secure U.S. military messaging services has finally “dumped the floppy disk,” reported defense news site C4isrnet.

The SACCS messaging system has been used with the Minuteman intercontinental ballistic missile (ICBM) system, the land-based nuclear option operated by the U.S. Air Force Global Strike Command. It is a network of hidden underground missile silos connected by endless secure cabling. All of which has been controlled by a 1970s computer system and those disks. “This is how we would conduct nuclear war,” one senior USAF operator explains, “on eight-inch floppy disks.”

<https://www.forbes.com/sites/zakdoffman/2019/10/19/us-military-to-replace-1970s-floppy-disks-controlling-nuclear-missiles/#10c69aed81b>

Permit issued for San Onofre decommissioning

World Nuclear News, October 21, 2019

The California Coastal Commission has approved a coastal development permit for Southern California Edison’s San Onofre nuclear power plant, enabling decommissioning of the plant to begin. The utility said it expects the dismantling of major structures at the two-unit plant to begin next year.

“We appreciate the commissioners for their diligence in understanding the issues involved and Coastal Commission staff for their efforts in making sure all voices were heard in the process,” said Doug Bauder, SCE vice president and chief nuclear officer. “I also want to thank the members of the public who spoke in favour of the permit for their support in helping get this project under way.”

<https://www.world-nuclear-news.org/Articles/Permit-issued-for-San-Onofre-decommissioning>

SMRs expand energy choice, says Perry

World Nuclear News, October 24, 2019

“By sharing our nuclear energy technologies, we are breathing new life into that great and noble vision first unveiled to the world by President Eisenhower. A vision to convert nuclear power into peaceful energy for the whole of humanity,” Perry said in a keynote address to the first US-EU High-Level Industrial Forum on SMRs which was held in Brussels on 21 October. “We are reaffirming nuclear energy as an indispensable source of energy for the world,” he added.

The USA is supporting this vision by efforts to increase the longevity and performance of today’s nuclear reactors, developments including accident tolerant fuels and other technologies, and programmes such as the Department of Energy’s (DOE) Gateway for Accelerated Innovation in Nuclear (GAIN) initiative to bring new reactor technologies to market. The DOE has long been involved in the development of small modular reactor (SMR) technology, Perry said, citing joint research between the Idaho National Laboratory and Oregon State University which ultimately led to the development of SMR company NuScale.

<https://www.world-nuclear-news.org/Articles/Perry-SMRs-expand-energy-choice>

U.S. gives firms time to wind down deals with COSCO unit hit by Iran sanctions

Reuters, October 24, 2019

The U.S. Treasury Department on Thursday issued a nearly two-month waiver for companies to wind down transactions with a Chinese tanker company it sanctioned last month for allegedly transporting Iranian oil.

The waiver, good through Dec. 20, allows “maintenance or wind down of transactions” including offloading non-Iranian crude oil involving COSCO Shipping Tanker (Dalian) Co. Ltd, according to a notice from the department’s Office of Foreign Assets Control.

The Trump administration imposed sanctions in late September on four Chinese shipping companies including COSCO Shipping Tanker (Dalian) for allegedly transporting oil from Iran.

<https://www.reuters.com/article/us-iran-nuclear-usa-cosco/us-gives-firms-time-to-wind-down-deals-with-cosco-unit-hit-by-iran-sanctions-idUSKBN1X324O>

Tankers sail after U.S. allows sanctions-hit COSCO unit to wind down oil deals

Jonathan Saul and Collin Eaton, Reuters, October 25, 2019

At least three tankers are on their way to Asia with U.S. oil cargoes after Washington gave temporary approval to wind down transactions with a Chinese shipping company that it sanctioned last month, according to data and shipping sources.

In one of the biggest sanctions actions taken by the U.S. government since its crackdown on Iranian oil exports, Washington on Sept. 25 announced sanctions on Chinese tanker companies, including COSCO Shipping Tanker (Dalian), a subsidiary of China’s state-owned shipping group COSCO.

<https://www.reuters.com/article/us-iran-nuclear-usa-cosco/tankers-sail-after-u-s-allows-sanctions-hit-cosco-unit-to-wind-down-oil-deals-idUSKBN1X421D>

U.S. says talks progressing with Saudi on possible nuclear program

Reuters, October 26, 2019

U.S. Energy Secretary Rick Perry said on Saturday that conversations with Saudi Arabia on a nuclear program are going forward. The world’s top oil exporter had said it wanted to use nuclear power to diversify its energy mix. It wants to go ahead with a full-cycle nuclear program, including the production and enrichment of uranium for atomic fuel.

In order for U.S. companies to compete for Saudi Arabia’s project, Riyadh would normally need to sign an accord on the

peaceful use of nuclear technology with Washington.

<https://www.reuters.com/article/us-uae-us-energy/us-says-talks-progressing-with-saudi-on-possible-nuclear-program-idUSKBN1X509E>

U.S. Treasury's Mnuchin says U.S. will ramp up pressure on Iran

Reuters, October 28, 2019

Treasury Secretary Steven Mnuchin said on Monday the United States would increase economic pressure on Iran over its nuclear program, making the pledge during a Middle East trip that includes visits to U.S. allies Israel and Saudi Arabia. Sanctions reimposed on Tehran by President Donald Trump after he withdrew the United States from world powers' 2015 nuclear pact with Tehran have dried up Iranian oil revenues and cut Iranian banks' ties to the financial world.

Mnuchin, speaking in Jerusalem to reporters alongside Israeli Prime Minister Benjamin Netanyahu, who urged him to crank up pressure on Iran, offered no details on what new moves were in store.

<https://www.reuters.com/article/us-israel-mnuchin/us-treasurys-mnuchin-says-us-will-ramp-up-pressure-on-iran-idUSKBN1X7149>

US confirms nuclear energy talks with Saudi Arabia

Meed, Power Technology, October 30, 2019

Riyadh will have to sign an accord with Washington on the peaceful use of nuclear technology for US firms to participate in the project. A senior US official has confirmed that Washington is in talks with Riyadh about supporting Saudi Arabia's planned nuclear programme. Speaking in Abu Dhabi on 26 October, US Energy Secretary Rick Perry confirmed that talks were ongoing. Perry told the forum that Saudi Arabia's leadership in Riyadh wanted to sign a '123 Agreement' with the United States. A 123 Agreement is a section of the US' Atomic Energy Act of 1954 that sets out rules governing US nuclear cooperation with other nations.

<https://www.power-technology.com/comment/us-confirms-nuclear-energy-talks-with-saudi-arabia/>

U.S., Gulf countries impose joint Iran-related sanctions on 25 targets

Doina Chiacu and Daphne Psaledakis, Reuters, October 30, 2019

The United States and six Gulf countries agreed to jointly impose sanctions on 25 corporations, banks and individuals linked to Iran's support for militant networks including Hezbollah, the U.S. Treasury Department said on Wednesday. The blacklisted targets were announced by the Terrorist Financing Targeting Center (TFTC) nations - which also include Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates.

<https://www.reuters.com/article/us-usa-iran-sanctions/seven-countries-issue-iran-related-sanctions-on-25-targets-idUSKBN1X91PO>

U.S. monitoring reports of North Korean missile launch: State Department

Reuters, October 31, 2019

The U.S. State Department is monitoring reports of a North Korean missile launch after Japan and South Korea said the reclusive country had fired two projectiles on Thursday. "We are aware of reports of a North Korean missile launch," a State Department spokesman said on Thursday. "We are continuing to monitor the situation and consulting closely with our allies in Japan and South Korea."

<https://www.reuters.com/article/us-northkorea-missiles-usa/u-s-monitoring-reports-of-north-korean-missile-launch-state-department-idUSKBN1XA1TG>

Exclusive: U.S. to renew waivers allowing non-proliferation work with Iran - sources

Arshad Mohammed, Reuters, October 31, 2019

The United States plans to allow Russian, Chinese and European companies to continue work at Iranian nuclear facilities to make it harder for Iran to develop a nuclear weapon, two sources familiar

with the matter said on Wednesday. The Trump administration, which last year pulled out of the 2015 Iran nuclear deal and re-imposed sanctions on Iran, will let the work go forward by issuing waivers to sanctions that bar non-U.S. firms from dealing with the Atomic Energy Organization of Iran (AEOI), said the sources on condition of anonymity.

While the waivers' renewal would allow non-proliferation work to continue at the Arak heavy water research reactor and the Fordow fuel enrichment plant, which AEOI oversees, it may also signal that Washington is leaving the door open to diplomacy.

<https://www.reuters.com/article/us-iran-nuclear-usa-exclusive-idUSKBN1X92O2>

Europe

E. France

France worried by new phase in Iran's breaching of nuclear pact

John Irish, Reuters, 16 October, 2019

France urged Iran on Wednesday not to scale back further on its commitments to a 2015 nuclear deal, saying Tehran's new threat to speed up uranium enrichment next month was "especially worrying".

Iran is breaching restrictions of the pact with major powers step-by-step in response to tough sanctions imposed by the United States, which pulled out of the deal last year. Tehran has said its next move would be taken on Nov. 6 and diplomats fear this could force a response from European powers, who have been trying to salvage the accord. Britain, France and Germany, all signatories, have refrained from acting so far. "Iran must abstain from crossing an especially worrying new phase of new measures that could contribute to an escalation in tensions," French Foreign Ministry spokeswoman Agnès von der Muhll told reporters in a daily briefing. Iranian President Hassan Rouhani said on Monday that Tehran was working on advanced IR-9 centrifuges for uranium enrichment.

<https://www.reuters.com/article/us-mideast-iran-france/france-worried-by-new-phase-in-irans-breaching-of-nuclear-pact-idUSKBN1WV1HS>

The untapped potential of nuclear under the Paris Agreement

World Nuclear News, October 16, 2019

A policy and market environment that unlocks the mitigation potential of nuclear power will enable countries to adopt more ambitious targets in their Nationally Determined Contributions (NDCs) under the Paris Agreement, a paper prepared by Hal Turton, an energy economist in the Department of Nuclear Energy at the International Atomic Energy Agency shows. The paper, Nuclear Power and Climate Change: Scenario Perspectives to 2050, was presented last week at the Vienna-based agency's first international conference on climate change and the role of nuclear power.

"Leading global energy scenarios highlight the need for nuclear power to play a larger role in climate change mitigation to achieve the goals of the Paris Agreement," Turton said. "Together with other low-carbon technologies, nuclear energy can supply increasing demands for electricity and non-electric energy up to 2050 as part of a sustainable energy transition." All scenarios envisage a strong increase in electricity generation and demand by 2050, but this is especially evident in scenarios with CO2 emissions below 20 gigatonnes in 2050, according to the new paper. This increasing electricity demand is driven by economic and population growth and a continuation of long-term electrification trends, which are accelerated in mitigation scenarios in which electricity is used to decarbonise other energy uses.

<http://world-nuclear-news.org/Articles/The-untapped-potential-of-nuclear-under-the-Paris>

Why France is eyeing nuclear power again

James Temple, Technology Review, October 16, 2019

After years of backing away from nuclear power, France suddenly wants to build six huge reactors. Le Monde reported that the government asked EDF, the country's main state-controlled energy company, to work up plans to build three new nuclear

plants, each with a pair of its EPR reactors. The third-generation design produces enough electricity to supply 1.5 million people, and automatically shuts down and cools in the event of an accident.

It doesn't appear that any developments are final—or even funded—at this stage. But energy experts were surprised by the news because it seemed to suggest France is adjusting its stance on nuclear. Plus early efforts to build the same style of pressurized-water reactor have been plagued with cost overruns and repeated delays.

https://www.technologyreview.com/s/614579/why-france-is-eyeing-nuclear-power-again/?mkt_tok=e_yjpfjoiWkdSa09EZGINVFZdVmi1ReSlsnQiojOKZncFdl2IXVWtHVHhZNEs4XC9QakdyUllRqaiHRrVWJaeTJXVWdMOTBCXC9kamVDcXNOT3IrdVwoZlk0WDluXC9Hd1R6MWNrTzh0V0psaEVMMIJ5OEMyZWVzMTNLWDJUVnljUHVmdXBhRzE4OGZtMjhqjVHV5UGNZVnA5XC9GUzZRSWErYSJ9

F. UK

'Sinister yet pathetic': how the UK was primed for nuclear war

Sian Cain, Guardian, October 30, 2019

Even if you didn't buy a copy of *Protect and Survive* in 1980, you may still be familiar with the UK government's official guide to surviving nuclear war. The British public's reaction, when they learned that their government had been making preparations for a nuclear conflict for almost three decades, was both immediate and very British: they made fun of it. The 32-page booklet, which contained instructions for civilians on how to best prepare their homes – the contents for a good “survival kit”, how to build a toilet from a chair and a bucket, and what to do with your loved ones when they died – was a unique combination of sinister and silly; societal collapse and radiation poisoning don't really suit the bland language of bureaucrats. Previously only distributed to journalists and emergency planners, it had remained a badly kept secret until 1980, when *The Times* ran a campaign challenging Britain's preparedness should the cold war turn hot. Finally, the government published it.

<https://www.theguardian.com/books/2019/oct/30/uk-was-primed-for-nuclear-war-in-the-uk-taras-young-interview>

Way clear for geological disposal planning, British regulators say

World Nuclear News, October 31, 2019

British regulators see no fundamental issues that would prevent Radioactive Waste Management (RWM) from developing “a fully scoped safety case in the future” for a geological disposal facility (GDF), but have identified a number of areas that RWM will need to improve when it does.

Government policies in England and Wales state that higher activity radioactive waste (HAW) will be managed in the long term through geological disposal, which is being progressed alongside ongoing interim storage of waste and supporting research. RWM is responsible for implementing government policy on geological disposal of HAW and for providing advice on managing radioactive waste. It is carrying out ‘generic’ preparatory work for a geological disposal facility, as no sites have yet been identified. In a joint annual report published yesterday, the Office for Nuclear Regulation (ONR) and the Environment Agency said RWM has significantly improved its generic disposal system safety case and has taken their earlier advice into account in its preparation. RWM still has a significant amount of work to do to develop a comprehensive, site-specific safety case and many aspects can only be fully evaluated once a site has been selected and specific designs produced, they said.

<http://www.world-nuclear-news.org/Articles/Way-clear-for-geological-disposal-planning-British>

G. Germany

Germany shipping depleted uranium to Russia

DW, October 25, 2019

Depleted uranium from a German enrichment plant is being shipped to Russia for reprocessing. A local politician has sounded the alarm, calling for a halt to the shipments and saying the plant itself should be closed. “We thought the train

was heading for France, and were astonished to discover that the transport was going to Russia." This chance discovery by Udo Buchholz, an environmental activist who is a Green councilor in the North Rhine-Westphalia town of Gronau, is currently making headlines.

Depleted uranium – uranium hexafluoride – is a colorless radioactive powder that is a by-product of manufacturing fuel for nuclear power plants. URENCO, a partnership involving German, British and Dutch energy companies, has operated a uranium enrichment facility in Gronau since 1985. The depleted uranium is also stored there, in containers, out in the open. In the mid-1990s, Russia took on the processing of the uranium. Buchholz estimates that by 2010 around 30,000 tons had been sent to Russia, destined for processing plants in the Urals and Siberia.

<https://www.dw.com/en/germany-shipping-depleted-uranium-to-russia/a-50995522>

H. Russia

Russia removes U.S. diplomats from train near secret test site accident: Ifax

Reuters, October 16, 2019

Russia removed three U.S. diplomats from a train near the site of a mysterious military testing accident on Monday because they did not have special permits to be in the area, the Interfax news agency reported on Wednesday.

Russia's state nuclear agency, Rosatom, has acknowledged that five of its nuclear workers were killed in an Aug. 8 explosion during a rocket engine test near the White Sea in far northern Russia.

<https://www.reuters.com/article/us-russia-usa-diplomats/russia-removes-u-s-diplomats-from-train-near-secret-test-site-accident-ifax-idUSKBN1WV22K>

Russia, UAE extend MoU on cooperation

World Nuclear News, October 16, 2019

Emirates Nuclear Energy Corporation (ENEC) has renewed its 2017 Memorandum

of Understanding on cooperation in the field of peaceful uses of nuclear energy with Russian state nuclear corporation Rosatom. The document was signed by Mohamed Al Hammadi, CEO of ENEC, and Alexey Likhachov, Rosatom director general, in Abu Dhabi during Russian President Vladimir Putin's official visit to the United Arab Emirates.

The MoU establishes a general framework for possible cooperation between the parties in numerous spheres, ENEC and Rosatom said in identical statements. These include the creation of a nuclear science centre in the UAE, plant development and investment, nuclear fuel cycle management, training of UAE nationals, among others.

<https://www.world-nuclear-news.org/Articles/Russia,-UAE-extend-MoU-on-cooperation>

Nuclear deterrence ready: Putin presides over mega missile exercise involving submarines, bombers & ground launchers

Russian Times, October 17, 2019

Russia has tested all three components of its nuclear triad, making sure that if the worst comes to pass and its existence is under threat, it would have plenty of ways to respond to foreign aggression.

The simultaneous test of various tactical and strategic nuclear weapons in Russia's arsenal came as it wraps up a major military exercise called 'Grom-2019' ('Thunder' in English). It involved some 12,000 troops, hundreds of missile launchers and aircraft, and almost two dozen ships and submarines.

<https://www.rt.com/russia/471143-mega-missile-exercise-russia/>

Oil, diamonds and nuclear power: Russia eyes Africa business

France 24, October 18, 2019

While Russia has traditionally focused on arms and grain exports to Africa, it is now looking to broaden its activities and influence. Here are four sectors likely to

be discussed at the Russia-Africa Summit set for next Wednesday and Thursday in the Black Sea resort of Sochi.

<https://www.france24.com/en/20191018-oil-diamonds-and-nuclear-power-russia-eyes-africa-business>

Last Soviet leader Gorbachev urges Russia, U.S. to hold nuclear talks

Reuters, October 18, 2019

Mikhail Gorbachev, the last Soviet leader, warned on Friday that the world was drifting into a dangerous era of militarised politics and appealed to Moscow and Washington to sit down for urgent nuclear arms control talks. Gorbachev, whose 1980s arms control push and democracy-oriented reforms helped end the Cold War, made the comments to the daily newspaper Izvestia two months after the demise of a landmark nuclear pact he signed in 1987. "There are dangerous trends - they are all in plain sight. I would single out two. They are the disregard for international law and the militarization of world politics," Gorbachev said.

<https://www.reuters.com/article/us-russia-usa-gorbachev/last-soviet-leader-gorbachev-urges-russia-us-to-hold-nuclear-talks-idUSKBN1WX131>

Russian Subs Live-Fire Ballistic Missiles in Nuclear Combat Drill

Franz-Stefan Gady, The Diplomat, October 18, 2019

Russian boomers of the Northern and Pacific Fleets test fired submarine-launched ballistic missiles (SLBM) during the annual Russian nuclear forces readiness exercise, dubbed "Grom [Thunder] 2019," according to the Russian Ministry of Defense (MoD).

"The strategic missile-carrying submarines of the Northern and Pacific Fleets test-launched ballistic missiles from the Barents and Okhotsk Seas towards the Kura practice range in Kamchatka and the Chizha training ground in the Arkhangelsk Region," the MoD said in a statement.

<https://thediplomat.com/2019/10/russian-subs-live-fire-ballistic-missiles-in-nuclear-combat-drill/>

Russia, Serbia to build nuclear research centre

World Nuclear News, October 21, 2019

Russia and Serbia have signed an intergovernmental agreement on cooperation in the construction of a Centre for Nuclear Science, Technology and Innovation in Serbia.

The document was signed on 19 October in Belgrade by Alexey Likhachov, director general of Russian state nuclear corporation Rosatom, and Nenad Popovich, Serbian minister of innovation and technological development, which was witnessed by Russian Prime Minister Dmitry Medvedev and Serbian President Alexander Vucic.

<https://www.world-nuclear-news.org/Articles/Russia-Serbia-to-build-nuclear-research-centre>

Russian nuclear submarine aborts ballistic missile test

Reuters, October 21, 2019

A Russian nuclear submarine aborted the test firing of an intercontinental ballistic missile during a military exercise overseen by President Vladimir Putin last week, the Ministry of Defence said on Monday.

The nuclear submarine, K-44 Ryazan, part of Russia's Pacific Fleet, was meant to launch two R-29R ballistic missiles from the Sea of Okhotsk on Oct. 17, but fired only one successfully with the other remaining in its tube onboard the submarine, the Vedomosti daily reported earlier on Monday. The incident occurred on the same day as Putin oversaw the drills from a command center at the Defence Ministry in Moscow.

<https://www.reuters.com/article/us-russia-missiles-drills/russian-nuclear-submarine-aborts-ballistic-missile-test-idUSKBN1X010P>

Problem For Russian Navy Missile Submarine

H Sutton, Forbes, October 22, 2019

On October 17 a Russian nuclear submarine launched an intercontinental

ballistic missile. It flew hundreds of miles before falling into the sea off Russia's Arctic coast. The high-profile tests, part of the nationwide Thunder-2019 nuclear drill, were watched over by President Putin. The problem? Two missiles were supposed to have been fired.

Problems during missile tests are not unknown, and can happen in any nation. Submarines are designed to carry several missiles to ensure that some get through. Current Russian submarines carry 16 missiles and the U.S. Navy's Ohio Class 'boomers' can carry 24. But every failure is closely monitored for any hints it provides to readiness levels and serviceability.

<https://www.forbes.com/sites/nisutton/2019/10/22/problem-for-russian-navy-ballistic-missile-submarine/#50cf054669cf>

Ethiopia, Russia extend cooperation in nuclear energy

World Nuclear News, October 23, 2019

Ethiopia and Russia today signed an intergovernmental agreement on cooperation in the peaceful uses of nuclear energy during the Russia-Africa Summit in Sochi. The document was signed by Rosatom Director General Alexey Likhachov and Ethiopian Minister of Innovation and Technology Getahun Mekuria.

It creates a legal basis for cooperation in a wide range of areas, such as: assistance in the development of Ethiopia's nuclear infrastructure in accordance with international standards; regulation in nuclear and radiation safety; supervision of the physical protection of nuclear materials, radiation sources, storage facilities for nuclear materials and radioactive substances, as well as for systems for accounting and control of nuclear materials, radioactive substances and radioactive waste; fundamental and applied research in the field of the peaceful uses of nuclear energy; production of radioisotopes and their use in industry, medicine and agriculture; and education, training and retraining of specialists for the nuclear industry.

<https://www.world-nuclear-news.org/Articles/Ethiopia,-Russia-extend-cooperation-in-nuclear-ene>

Russia lands nuclear bombers in Africa as Putin hosts continent's leaders

Darya Korsunskaya and Tom Balmforth, Reuters, October 23, 2019

Russia landed two nuclear-capable bombers in South Africa on a training mission on Wednesday, a flight apparently timed to coincide with President Vladimir Putin's opening of a flagship Russia-Africa summit designed to increase Russian influence.

The two Tupolev Tu-160 strategic bombers touched down at Waterkloof air force base in Tshwane on Wednesday, the South African National Defense Force said. Russia's Ministry of Defense has said the mission is designed to nurture military ties with South Africa.

<https://www.reuters.com/article/us-russia-africa/russia-lands-nuclear-bombers-in-africa-as-putin-hosts-continents-leaders-idUSKBN1X21NS>

Russia Is Importing Toxic Nuclear Waste From Germany, Greenpeace Warns

The Moscow Times, October 23, 2019

A European uranium enrichment firm has resumed shipments of a highly toxic and radioactive waste product from Germany to Russia, Greenpeace Russia warned Wednesday.

The enrichment firm Urenco and Russia's state nuclear company Rosatom halted the radioactive waste imports from Germany in 2009 over revelations that the waste was stored in the open. German media reported Tuesday that Urenco had resumed exports of the toxic compound used to enrich uranium, sending up to 3,600 metric tons to central Russia in May-October 2019.

<https://www.themoscowtimes.com/2019/10/23/russia-is-importing-toxic-nuclear-waste-from-germany-greenpeace-warns-a67873>

Russia's Rosatom, Rwanda sign deal to build nuclear science center

Reuters, October 24, 2019

Russian state atomic company Rosatom has signed a deal with Rwanda to build a center of nuclear science and technologies, the Russian company said on Thursday, as it seeks to expand in Africa.

The center would carry out scientific research and 'practical application' of nuclear technologies, allowing production of radioisotopes for wider use in agriculture and other areas, Rosatom said in a statement.

The center will also have a research water-cooled reactor with up to 10 MW capacity, Rosatom said. The deal, as Rosatom hopes, would allow in the future to supply Rwanda with small modular reactors for power generation, a Rosatom official said.

<https://www.reuters.com/article/us-russia-rwanda-nuclear/russias-rosatom-rwanda-sign-deal-to-build-nuclear-science-center-idUSKBN1X32DV>

Kursk II-2 core catcher arrives on site

World Nuclear News, October 25, 2019

The core catcher for the second unit at Kursk II in Russia has been delivered to the construction site in Western Russia. Kursk II will be the first nuclear power plant to use the VVER-TOI (typical optimised, with enhanced information) reactor design.

A core catcher, or core melt trap, is a device provided to catch the molten core material - corium - of a reactor in case of a meltdown and prevent it from escaping the containment building. Rosatom said the equipment is "a unique development by Russian nuclear scientists and one of the most important nuclear safety systems".

<https://www.world-nuclear-news.org/Articles/Kursk-II-2-core-catcher-arrives-on-site>

Inside Rwanda, Russia nuclear deal

Collins Mwai, The News Times, October 25, 2019

Rwanda's ambitions to adopt nuclear technology inched closer to realisation Thursday following the signing of an agreement with Russia for the establishment of a Centre for Nuclear Science and Technology in the country. The pact was signed on the sidelines of the just-concluded Russia-Africa Summit in Sochi, Russia. The agreement was signed by Minister for Infrastructure Claver Gatete on behalf of Rwanda and the Director General of Russian State-owned nuclear group Rosatom Alexey Likhachev.

<https://www.newtimes.co.rw/news/inside-rwanda-russia-nuclear-deal>

Russian Nuclear Scientist Jailed for Mining Bitcoins at Secret Lab

The Moscow Times, October 25, 2019

An engineer accused of using one of Russia's most powerful supercomputers at a secret nuclear laboratory to mine Bitcoins has been sentenced to three years and three months in prison.

Andrei Rybkin is one of three scientists to be convicted of using a workplace supercomputer to mine the cryptocurrency in the closed city of Sarov. The Sarov institute, where the first Soviet nuclear weapon was made in 1949, is home to some of Russia's most powerful supercomputers.

<https://www.themoscowtimes.com/2019/10/25/russian-nuclear-scientist-jailed-for-mining-bitcoins-at-secret-lab-a67897>

Russia's Putin, Hungary's Orban to discuss TurkStream pipeline, nuclear energy

Krisztina Than and Vladimir Soldatkin, Reuters, October 30, 2019

The TurkStream pipeline that would bring gas to Central Europe bypassing Ukraine and nuclear energy issues are expected to

feature high on the agenda at a meeting between Hungarian Prime Minister Viktor Orban and Russian President Vladimir Putin on Wednesday. Right-wing conservative leader Orban, in power since 2010, has pursued what he has hailed as good pragmatic relations with Russia. Some analysts, however, say the relationship is lop-sided, with Russian interests dominating.

<https://www.reuters.com/article/us-russia-hungary-putin/russias-putin-hungarys-orban-to-discuss-turkstream-pipeline-nuclear-energy-idUSKBN1X904N>

Russian Nuclear Sub Test-Fires New ICBM

The Moscow Times, October 30, 2019

Russia's newest nuclear-powered submarine has for the first time test-fired an intercontinental ballistic missile ahead of the vessel's delivery into service this year, the Defense Ministry announced Wednesday.

The Knyaz Vladimir, which is expected to join the Russian Navy's Northern Fleet in December 2019, was floated out in 2017 and embarked on its first sea trials a year later. Nighttime footage published by the Russian Defense Ministry showed the Knyaz Vladimir launching the Bulava, Russia's newest solid-fueled ballistic missile, from an underwater position.

<https://www.themoscowtimes.com/2019/10/30/new-russian-nuclear-sub-test-fires-icbm-a67966>

Russia plans next two nuclear icebreakers

World Nuclear News, October 30, 2019

Atomenergomash, the engineering division of Russia's Rosatom, has signed a contract for the supply of RITM-200 reactor units for two more nuclear icebreakers in Project 22220. The contract was signed between Atomenergomash subsidiary OKBM Afrikantov and the Baltic Shipyard.

The new vessels will join the LK-60 icebreakers Arktika, Sibir and Ural, which are dual-draught (8.55 or 10.5m) wide-beam (34m) ships of 25,450 dwt or 33,540 dwt with ballast, able to handle 3m of ice. They

each have two RITM-200 reactors of 175 MWt each, delivering 60 MW at the propellers via twin turbine-generators and three motors. Arktika is expected to enter operation in 2020, Sibir in 2021 and Ural in 2022.

<https://www.world-nuclear-news.org/Articles/Russia-plans-next-two-nuclear-icebreakers>

Russian Submarines Hone Stealth Skills in Major North Atlantic Drill - Norwegian Intel

The Moscow Times, October 30, 2019

At least eight Russian nuclear-powered submarines sailed out from their homeports on the Kola Peninsula last week, Norwegian military intelligence told the country's National Public Broadcasting Organization (NRK). The aim of the massive operation is to get as far out to the North Atlantic as possible without being discovered by NATO, the intelligence service said. Such maneuvers from the Northern Fleet haven't been seen since the days of the Cold War.

<https://www.themoscowtimes.com/2019/10/30/russian-submarines-hone-stealth-skills-in-major-north-atlantic-drill-norwegian-intel-a67978>

Russian accident-tolerant fuel completes first tests

World Nuclear News, October 31, 2019

TVEL, the nuclear fuel manufacturer subsidiary of Russia's Rosatom, has completed the first phase of testing its accident-tolerant fuel (ATF) in a reactor, at the State Research Institute of Atomic Reactors in Dimitrovgrad.

In January, two experimental ATF fuel assemblies with Russian VVER and Western PWR fuel rods were loaded into the water loops with the relevant water-chemical modes of the MIR research reactor. Each fuel assembly contains 24 fuel elements with four various combinations of cladding and fuel matrix materials. The fuel pellets were made of traditional uranium dioxide, as well as uranium-molybdenum alloy with increased density

and thermal conductivity. Zirconium alloy with a chromium coating and chromium-nickel alloy was used as the rod cladding material.

<https://www.world-nuclear-news.org/Articles/Russian-accident-tolerant-fuel-completes-first-tes>

West Asia

I. Iran

Iran has acted prudently by reducing nuclear commitments: Kamalvandi

Tehran Times, October 15, 2019

Behrooz Kamalvandi, spokesman for the Atomic Energy Organization of Iran (AEOI), has said that Iran has been acting prudently by reducing its commitments under the 2015 nuclear deal, formally known as the JCPOA.

“We have lost nothing in nuclear industry. We had not closed the path of return wherever we accepted a restriction. We have also been prudent in reducing our [nuclear] commitments,” he said during a meeting with a group of highly talented Iranians who reside in foreign countries. He noted that Westerners seek to undermine Iran’s nuclear program as an element of power.

In the first stage, Iran announced that it will not limit its stockpile of the nuclear fuel to 300 kilograms allowed under the deal. However, on that date (May 8) Iran’s Supreme National Security Council (SNSC) said if the remaining parties to the JCPOA, especially Europeans, devise a mechanism to protect Iran from the sanctions effect in the two-month deadline it will reverse its decision.

<https://www.tehrantimes.com/news/441201/Iran-has-acted-prudently-by-reducing-nuclear-commitments-Kamalvandi>

Russia: Revocation of Iran nuclear deal to fuel regional tensions

Tehran Times, October 15, 2019

Valentina Ivanovna Matviyenko, the chairwoman of Russia’s Federation Council, said on Monday that destruction of the 2015

nuclear deal will intensify security tensions in the region. Matviyenko made the remarks in a meeting with Iranian Parliament Speaker Ali Larijani on the margins of the 141st Assembly of Inter-Parliamentary Union (IPU) in Belgrade, Serbia. Tensions mounted between Tehran and Washington when President Donald Trump pulled the United States out of the 2015 nuclear deal with Iran in May 2018 and re-imposed harsh sanctions against the Islamic Republic in defiance of global criticism.

Matviyenko said, “There is no reason to withdraw from the nuclear deal because Iran has fulfilled the entire obligations under the deal well. Tehran’s measures have also been verified by the International Atomic Energy Agency’s experts who are in Iran on verification mission.” “Destruction of the JCPOA will intensify tensions in the region. Russia firmly opposes killing of the nuclear deal with Iran,” she said, according to the Persian website of Sputnik. Matviyenko further said Russian President Vladimir Putin, in his phone calls, has invited the U.S. president and the European leaders to help maintain nuclear deal with Iran and solve the differences via dialogue.

<https://www.tehrantimes.com/news/441169/Russia-Revocation-of-Iran-nuclear-deal-to-fuel-regional-tensions>

William Burns and Jake Sullivan call Trump’s decision to quit nuclear deal ‘foolish’

Tehran Times, October 15, 2019

William J. Burns, a former U.S. deputy secretary of state, and Jake Sullivan, the national security adviser to former vice president Joe Biden, have said that the Trump administration’s decision to quit the 2015 nuclear deal, officially known as the Joint Comprehensive Plan of Action, was “foolish”. “The consequences of the Trump administration’s foolish decision to abandon that nuclear deal last year, with no evidence of Iranian noncompliance, were predictable – and predicted,” they wrote in an article published by The New

York Times on Monday. It is also said in the article that the U.S. should remove sanctions against Iran and abandon its 12 preconditions to start talks with Tehran.

“The United States won’t get Iran to the table without some economic relief — either directly or through the European Union, as President Emmanuel Macron of France has suggested. The United States will also need to abandon as a precondition for progress the 12 demands that Secretary of State Mike Pompeo laid out publicly last year,” they wrote. It is also said, “The nuclear deal agreed to in 2015 was meant to be the beginning, not the end, of diplomacy with Iran.”

<https://www.tehrantimes.com/news/441200/William-Burns-and-Jake-Sullivan-call-Trump-s-decision-to-quit>

Zarif: EU has so far been unable to fulfill JCPOA commitments

Tehran Times, October 17, 2019

Iranian Foreign Minister Mohammad Javad Zarif underlined on Wednesday that the European signatories of the 2015 nuclear deal have thus far been unable to fulfill their obligations under the pact, officially known as the Joint Comprehensive Plan of Action (JCPOA). Zarif’s remarks came in a meeting with Grace Naledi Mandisa Pandor, the South African minister of international relations and cooperation, as Tehran hosted the 14th session of Iran-South Africa Joint Economic Cooperation Commission in Tehran. Zarif said Iran will take new steps to reduce its nuclear commitments.

Under the JCPOA, Iran agreed to put limits on its nuclear program in exchange for termination of financial and economic sanctions. “In case of lack of balance in fulfilment of obligations of both sides of the nuclear deal, Iran will embark on materializing necessary measures within the framework of next steps,” Zarif stated.

<https://www.tehrantimes.com/news/441253/Zarif-EU-has-so-far-been-unable-to-fulfill-JCPOA-commitments>

IAEA mum on Iran’s Illicit Nuclear Activities in Germany

Benjamin Weinthal, Jerusalem Post, October 17, 2019

Material in a batch of German intelligence documents on Tehran’s illegal nuclear conduct in the federal republic as late as 2018 necessitate “confronting Iran with the intelligence and asking hard questions,” according to one of the leading international authorities on arms control. Emily B. Landau, director of the Arms Control and Regional Security Project at the Institute for National Security Studies in Tel Aviv, told The Jerusalem Post that the documents prove that Iran has not kept to its commitment outlined in the 2015 nuclear deal.

First, it is important that this intel be widely published and that it become part of the public debate over Iran, as it indicates that Iran has not complied with its commitment not to work on military nuclear capability,” she said. “From my perspective, [the] most important thing at this point is to have it widely known that Iran did not stop everything in 2015 [when the nuclear deal was reached], because the debate in Europe ignores this,” she said, adding, “The point is that it [Iran] has continued these efforts well after the JCPOA [(Joint Comprehensive Plan of Action) was reached].”

<https://www.jpost.com/Middle-East/IAEA-mum-on-Irans-illicit-nuclear-activities-in-Germany-604954>

Rezaee warns govt. against delay to take fourth nuclear step

Tehran Times, October 19, 2019

Mohsen Rezaee, secretary of the Expediency Council, has warned the Rouhani administration against delaying to take the fourth step in scaling down Iran’s commitments to the 2015 nuclear agreement, also known as the Joint Comprehensive Plan of Action (JCPOA). “The administration’s delay in taking the fourth nuclear step due to pinning hopes on the irresolute and incapable Europe is

a total loss," Rezaee said in a tweet on Thursday.

Washington withdrew from the internationally-endorsed JCPOA with Iran on May 8, 2018, reimposed the toughest-ever sanctions against the country and started a plan to zero down Tehran's oil sales. Under the nuclear agreement, Tehran undertook to put limits on its nuclear program in exchange for the removal of economic and financial sanctions. Following the U.S. withdrawal, Iran remained fully committed to the JCPOA for a year, but announced on the anniversary of Washington's bellicose move that its "strategic patience" is over and would gradually reduce its commitments to the deal at 60-day intervals, which were designed as deadlines for Europe to protect Tehran's interests under the deal.

Tehran has repeatedly said its measures will be reversed as soon as Europe finds practical ways to shield the Iranian economy from unilateral U.S. sanctions.

<https://www.tehrantimes.com/news/441283/Rezaee-warns-govt-against-delay-to-take-fourth-nuclear-step>

U.S. extends sanction waiver for Iraq to continue gas, electricity imports from Iran

Tehran Times, October 19, 2019

The U.S. has extended a waiver on Iran sanctions, granted to Iraq first in November, to let the Arab country continue gas and electricity imports from Iran for another four-month period, Press TV reported on Thursday, quoting a senior U.S. official. "The waiver ensures that Iraq is able to meet its short-term energy needs while it takes steps to reduce its dependence on Iranian energy imports," a State Department spokesman said Wednesday.

Washington has for the third time extended a 90-day waiver that lets Iraq continue energy imports from Iran. Gas imports from Iran generate as much as 45 percent of Iraq's 14,000 megawatts of electricity consumed daily. Iran transmits another 1,000 megawatts directly, making itself an

indispensable energy source for its Arab neighbor.

<https://www.tehrantimes.com/news/441269/U-S-extends-sanction-waiver-for-Iraq-to-continue-gas-electricity>

Advisor says EU-planned INSTEX lacks locomotive engine

Tehran Times, October 19, 2019

Hossein Amir Abdollahian, a senior advisor to the Iranian Parliament speaker, has said that INSTEX proposed by the European signatories of the 2015 nuclear deal to help reduce the impact of Washington's sanctions on Iran lacks locomotive engine to start working.

"There is no hope for implementation of the JCPOA by the Europeans. In fact, the U.S., Britain, France and Germany have agreed on partitioning mission of weakening the Islamic Republic. INSTEX lacks locomotive engine too," Amir Abdollahian wrote on his Twitter account, the Persian language website of Sputnik reported on Saturday.

He added "Iran needs an act to conduct fundamental reform" in view of "sanctions and economic terrorism atmosphere."

INSTEX - Instrument in Support of Trade Exchanges - is supposed to be a financial channel and a special mechanism for transferring money in spite of U.S. sanctions on Iran. Its objective is to facilitate Iran's transactions with European companies.

<https://www.tehrantimes.com/news/441298/Advisor-says-EU-planned-INSTEX-lacks-locomotive-engine>

Rouhani: Iran to continue resisting against foes' plots, pressures

Tehran Times, October 20, 2019

Iranian President Hassan Rouhani said on Saturday night that the only way to foil enemies' plots is to resist against their pressures. "Leaders of the Zionist regime

and Saudi Arabia along with extremists in the U.S. are after imposing pressures on the Iranian nation who have no way out but resisting against the foes," Rouhani said in a friendly meeting with a war-time disabled veteran.

"Fortunately, our people who enjoy correct understanding from the current situation and the enemies' plans have thus far resisted well. The government, for its part, has been doing its best to provide tranquility for the people's life," the president went on to say. Rouhani said, "Those who have had grudge and anger against Iran for long years are now ruling the U.S. government. They embarked on withdrawing Washington from the nuclear pact that was affirmed by the UN and re-imposed sanctions against Tehran to put our nation under pressure."

<https://www.tehrantimes.com/news/441319/Rouhani-Iran-to-continue-resisting-against-foes-plots-pressures>

Iran ready to take fourth nuclear step: MP

Tehran Times, October 21, 2019

A top lawmaker says the Islamic Republic is ready to take the fourth step of scaling back its commitments to the Joint Comprehensive Plan of Action (JCPOA), commonly known as the Iran nuclear deal.

"Given the lack of commitment by the European side and failure to fulfil their commitments until now, the Islamic Republic of Iran definitely has the fourth step of reducing its Barjam (JCPOA) commitments on the agenda, unless the Europeans take practical measures to fulfil their duties before the fourth step," Hossein Naghavi Hosseini, the spokesman for the Majlis National Security and Foreign Policy Committee, tweeted on Sunday evening. Washington withdrew from the internationally-endorsed JCPOA with Iran on May 8, 2018, reimposed the toughest-ever sanctions against the country and started a plan to zero down Tehran's oil sales.

Under the nuclear agreement, Tehran undertook to put limits on its nuclear program in exchange for the removal of

economic and financial sanctions. In another tweet on Monday, Naghavi Hosseini explained that in the first, second and third steps, Iran ended restrictions regarding research, uranium enrichment capacity and uranium enrichment stockpile. He then suggested that in the fourth step, Iran will reduce the level of supervision of its nuclear activities by the International Atomic Energy Agency (IAEA).

<https://www.tehrantimes.com/news/441360/Iran-ready-to-take-fourth-nuclear-step-MP>

Iran to operate new part of Arak reactor within next 2 weeks

Tehran Times, October 21, 2019

The special aide for the head of the Atomic Energy Organization of Iran (AEOI) announced on Sunday that the secondary part of the Arak heavy water reactor will become operational within the next two weeks.

Seyed Ali Asqar Zare'an made the announcement in his visit to the 48th exhibition on nuclear industry achievements in Kerman city in southern Iran.

Touching upon implementation of new projects as Iran is re-planning the Arak heavy water reactor, he said, "We will make the second part of the Arak heavy water reactor facility operational within the next two weeks. The secondary part includes 50 percent of the whole reactor."

He added, "Iran has nothing to hide and its nuclear activities and achievements are entirely peaceful." Zare'an said that enmity by certain countries against Iran will never end and the country's atomic energy program is only a pretext for them to put Tehran under pressure. The special aide added, "Our nuclear industry is indigenized. We have attained self-sufficiency in planning and building various models of centrifuges in the country."

<https://www.tehrantimes.com/news/441343/Iran-to-operate-new-part-of-Arak-reactor-within-next-2-weeks>

Iran says to take next nuclear step if remaining parties fail to honor obligations

Tehran Times, October 21, 2019

Foreign Ministry spokesman Abbas Mousavi on Monday reiterated Iran's position that Tehran is ready to take the next step to reduce commitments to the 2015 nuclear deal, formally known as the JCPOA, if the remaining parties to the agreement fail to take action to shield the Islamic Republic from sanctions effects. Under the nuclear agreement struck in July 2015, Iran agreed to put limits on its nuclear program in exchange for the termination of economic and financial sanctions.

The agreement, endorsed by the UN Security Council Resolution 2231, was signed between Iran, the United States, Britain, Germany, France, the European Union, Russia, and China. However, U.S. President Donald Trump abandoned the deal in May 2018 and returned sanctions and imposed new ones.

"We hope that we would witness special action by the remaining countries to the JCPOA, otherwise Iran is ready to take the fourth step," Mousavi said in a regular press briefing. Mousavi added that the mechanism for the next step (fourth step) has been devised. Reportedly, in the next step, Iran intends to limit nuclear inspections by the United Nations' International Atomic Energy Agency. Mousavi also said Iran's action in reducing its commitments is within the framework of the JCPOA and the Europeans have no right to complain about it. "If they are concerned, they must fulfill their commitments so that Iran returns to full implementation of its commitments," he suggested.

<https://www.tehrantimes.com/news/441374/Iran-says-to-take-next-nuclear-step-if-remaining-parties-fail>

Iran-EU joint training workshop on nuclear emergency cases kicks off in Luxemburg

Tehran Times, October 22, 2019

A joint training workshop named "Preparing for and Responding to a Nuclear

or Radiological Emergency" was inaugurated at the venue of the European Union (EU) in Luxemburg City on Monday.

According to the Atomic Energy Organization of Iran (AEOI), senior managers and relevant experts from the AEOI, Iran's Crisis Management Organization, the Iranian Red Crescent Society and the Health Ministry along with their European counterparts have partaken in the event. Michael Hubel, head of the Radiation Protection and Nuclear Safety Unit of the EU, delivered a speech at the opening ceremony of the workshop.

In the meantime, Estefan Clement, the official in charge of the joint EU-Iran project under appendix 3 of the Joint Comprehensive Plan of Action (JCPOA) described nuclear cooperation as a key element in promoting nuclear safety and security.

<https://www.tehrantimes.com/news/441400/Iran-EU-joint-training-workshop-on-nuclear-emergency-cases-kicks>

Jack Straw says U.S. must return to nuclear deal

Tehran Times, October 22, 2019

Former British Foreign Secretary Jack Straw has said that the United States must admit that it made a wrong decision to quit the 2015 nuclear deal, urging the White House to return to the pact, officially known as the Joint Comprehensive Plan of Action.

In an interview with IRNA published on Tuesday, Straw said that the United States' withdrawal from the JCPOA had "no logic".

He also said that U.S. President Donald Trump quit the nuclear deal because Barack Obama, the former U.S. president, signed it. Ben Rhodes, former Obama's adviser, said in July that Trump quit the JCPOA, because Obama negotiated it. "Did anyone really need a leaked document from the UK Ambassador to

know that Trump pulled out of the Iran Deal because Obama negotiated it?" Rhodes tweeted.

Kim Darroch, the former British ambassador to the U.S., has said Trump seemed to be discarding the Iran nuclear deal for "personality reasons," as the deal had been agreed to by Obama, the Daily Mail reported in July.

<https://www.tehrantimes.com/news/441422/Jack-Straw-says-U-S-must-return-to-nuclear-deal>

Europeans, others talking to Tehran on a mechanism to save JCPOA, Iran says

Tehran Times, October 23, 2019

Iran reiterated on Wednesday that it will take the next step to reduce commitments to the 2015 nuclear deal, officially known as the Joint Comprehensive Plan of Action (JCPOA), if no concrete action is taken by the remaining parties to protect Iran from the U.S. sanctions.

"Europeans and others constantly send us messages and talk about reaching a common framework before end of two-month deadline," presidential chief of staff Mahmoud Vaezi told reporters on the sidelines of a cabinet meeting.

He added, "Negotiations are being held. However, Mr. President [Hassan Rouhani] has formed a committee for taking the fourth step. Definitely, we will take the fourth step if we do not reach a common framework."

<https://www.tehrantimes.com/news/441446/Europeans-others-talking-to-Tehran-on-a-mechanism-to-save-JCPOA>

Iranian MP: Talks over FATF meaningless under sanctions

Tehran Times, October 23, 2019

The rapporteur for the Iranian Parliament's National Security and Foreign Policy Committee said on Wednesday that talking about ratifying a bill related to the Financial Action Task Force (FATF) is not logical when the country is under sanctions. "When a part of financial and monetary

mechanism worldwide is not capable of working with Iran due to the U.S. sanctions, talking about the FATF is meaningless and ratification of FATF-related bills is model of self-sanctioning, Seyed Hossein Naqavi Hosseini said.

At the time the JCPOA (the official name for the 2015 nuclear deal) went into force, the signatories were claiming that they had been facing some FATF-related restrictions to fulfill their obligations, the MP said.

"They claimed that FATF's regulations were preventing them from complying with their JCPOA's obligations." The MP further said, "The point is here, when the U.S. quit the JCPOA and re-imposed sanctions on Iran and the European signatories of the pact did not fulfill their obligations... and are not still willing to fulfill them, talking about the FATF and the Palermo bill has no logical justification in the country."

<https://www.tehrantimes.com/news/441469/Iranian-MP-Talks-over-FATF-meaningless-under-sanctions>

Poll: Majority of voters are deeply concerned about Iran obtaining nuclear weapons

The Hill, October 28, 2019

A large majority of voters – 84 percent – are concerned about the prospect of Iran obtaining nuclear weapons, according to a Hill-HarrisX poll released on Monday. That's more than those who expressed concern over other foreign policy issues, including North Korea's use of ballistic missiles, U.S. election security, Turkey's military action in Syria and President Trump's ongoing trade war with China. Voters across party lines expressed concern over Iran's nuclear capabilities.

Of those polled, 89 percent of Democratic voters said they were either very or somewhat concerned about the Middle East country developing weapons of mass destruction, compared to 85 percent of Republican and 79 percent of independents who said the same.

Tensions between the U.S. and Iran escalated over the summer after the U.S. military confirmed that Iran shot down a Navy drone. Trump also accused Tehran of being behind attacks on two oil tankers, which prompted the administration to deploy an additional 1,000 troops to the Middle East. Tehran responded by announcing that it would surpass the limit for uranium enrichment as agreed to in the nuclear deal that was created under the Obama administration. Trump withdrew the U.S. from the deal last year, but Iran had agreed to abide by the agreement's terms until earlier this year. The Hill-HarrisX poll was conducted online between Oct. 21 and Oct. 22 among 1,001 registered voters. The margin of error for the full sampling is plus or minus 3.1 percentage points.

<https://thehill.com/hillto/rising/467759-poll-voters-say-iran-is-top-foreign-policy-concern>

J. Turkey

Turkey holding 50 US nuclear bombs 'hostage' at air base, report says

Melissa Leon, Fox News, October 15, 2019

Officials are reviewing plans to evacuate up to 50 U.S. nuclear bombs that have long been stored at Incirlik Air Base in Turkey in the wake of Ankara's military offensive in northern Syria, according to a report. The weapons are now essentially being held "hostage" by Turkish President Recep Tayyip Erdogan, a senior official told The New York Times on Monday. The Cold War-era B61 nuclear bombs are said to be located 100-250 miles from the Syrian border, according to The Guardian. A former U.S. official told the outlet that Turkish diplomats responded to suggestions about moving the bombs by saying Turkey would start to develop its own. "The potential problems have been discussed for over a decade," the former official said. "And now we've finally gotten to a point where this is a problem that we can't ignore anymore." Erdogan has previously expressed a desire to boost Turkey's nuclear arsenal. "Some nations have missiles with nuclear warheads — not

just one or two. But [they say] I should not have missiles with nuclear warheads.

<https://www.foxnews.com/world/turkey-nuclear-bombs-hostage-syria>

No longer the obedient NATO ally, Erdogan floats nuclear option

Tim Lister, CNN, October 21, 2019

It's no secret that Turkish President Recep Tayyip Erdogan sees his country as the pre-eminent Muslim power in the Middle East. He regards his vision of political Islam as competing with that of Saudi Arabia and the United Arab Emirates. He frequently accuses the United States of trying to belittle his country, and ruminates about a "greater Turkey." But does Erdogan believe that Turkey has the right or need to acquire nuclear weapons to cement its status? Last month the Turkish leader suggested as much, saying that "some countries have missiles with nuclear warheads, not one or two. But we can't have them. This, I cannot accept." He went on to single out Israel, saying: "We have Israel nearby, almost as neighbors. They scare others by possessing these. No one can touch them." It was the first time Erdogan, who was speaking at a provincial rally of his governing AKP party, had raised the subject. It may have been the Turkish leader riling up his nationalist base. It may also have been a warning that, should Iran and Saudi Arabia move toward becoming nuclear-armed states, Turkey would not stand idly by.

<https://edition.cnn.com/2019/10/21/middleeast/turkey-erdogan-nuclear-weapons-intl/index.html>

K. Saudi Arabia

Saudi Arabia: Iran exploited nuclear deal revenue for terror funding

Saudi Gazette, October 16, 2019

Saudi Arabia emphasized that Tehran has used the economic revenue from the nuclear deal to finance its terrorist

activities. He made the remarks on Tuesday while addressing the First Committee meeting in the 74th session of the UN General Assembly, the Saudi Press Agency reported.

“The Kingdom noted with concern the recent reports of the International Atomic Energy Agency (IAEA) including Iran’s breaches of its nuclear obligations, both in the level of enrichment of uranium and the level of production of uranium, in addition to the installation and development of advanced centrifuges, and cessation of all its research and development obligations, as well as recent statements by Iranian officials in this regard,” he said.

<http://saudigazette.com.sa/article/580021/SAUDI-ARABIA/Saudi-Arabia-Iran-exploited-nuclear-deal-revenue-for-terror-funding>

Saudi Arabia in talks with 5 vendors to build its first nuclear power reactors

Claudia Carpenter, S&P Global Platts, October 30, 2019

Saudi Arabia is in talks with five vendors, including US-based Westinghouse, to build its first nuclear power plant with two reactors, according to an energy ministry presentation. The other companies in the discussions are France’s EDF, Russia’s Rosatom, South Korea’s KEPCO and China National Nuclear Corp, according to the presentation, shown Wednesday at the Future Investment Initiative conference taking place in Riyadh. Saudi Arabia wants to develop a civil nuclear industry and renewable energy to free up oil burned to produce power for export.

Saudi Energy Minister Abdulaziz bin Salman has previously said the kingdom would like to enrich its own uranium resources to produce nuclear energy. However, outgoing US Secretary of Energy Rick Perry cast doubt last week on the kingdom’s ability to process that uranium because of its quality and quantity. Saudi Arabia will be the second Persian Gulf state

to build nuclear plants after neighboring UAE, which is building four nuclear reactors that will collectively produce 1,400 MW of electricity. Kepco won the \$20 billion contract to construct the UAE reactors, whose start-up has been delayed.

<https://www.spglobal.com/platts/en/market-insights/latest-news/electric-power/103019-saudi-arabia-in-talks-with-5-vendors-to-build-its-first-nuclear-power-reactors>

L. Israel

Former PM Olmert Slams Netanyahu for Strategic Failure on Iran

Seth J. Frantzman, Jerusalem Post, October 15, 2019

Under Prime Minister Benjamin Netanyahu, Israel focused on Iran’s nuclear threat at the expense of ignoring Iran’s penetration into Syria, former Prime Minister Ehud Olmert said in an interview on Saturday. “Israel’s greatest security defense failure – the greatest in the last 50 years, since the Yom Kippur War – is that we allowed Iran to penetrate into Syria,” he said, slamming Netanyahu for playing on the politics of fear and misreading US President Donald Trump’s policies.

Olmert was attending the Rhodes Forum of the Dialogue of Civilizations over the weekend, when he spoke about Israel’s current political challenges and his own experience as prime minister. In an interview with The Jerusalem Post, he discussed Israel’s current dilemmas in Syria, the Trump administration and Netanyahu’s failures. Noting that Netanyahu “laid the foundations of strategic policy” in the region, he recalled that “Netanyahu was obsessed with trying to fight Iran in Iran and destroy the atomic, or what he considered the nuclear installations.”

<https://www.jpost.com/Arab-Israeli-Conflict/Former-PM-Olmert-slams-Netanyahu-for-strategic-failure-on-Iran-604699>

East Asia

M. North Korea

Denuclearization dialogue leads to more North Korean warheads

Yi Whan-woo, Kim Yoo-chul, Korea Times, October 16, 2019

As nuclear negotiations between North Korea and the United States remain in a stalemate after no “substantial outcome” from their recent encounter in Sweden, the lack of visible progress in the denuclearization dialogue is raising concerns that the North is “buying time” for its military and nuclear advancement. During an Asan Institute for Policy Studies security forum held in Seoul, Tuesday, Bruce Bennett, a senior defense analyst at the Washington-based RAND Corporation, claimed that despite North Korean leader Kim Jong-un’s promise to end his nuclear program, Pyongyang has not taken any meaningful measures toward this. Instead, the North has increased its capability since the failure of the summit between Kim and President Donald Trump in Hanoi, he said. Bennett estimated that North Korea now has about 45 nuclear weapons, something the Asan Institute confirmed.

“Has Kim given up one nuclear weapon yet? Has he shut off production at one production facility, let alone taking it down? No, he hasn’t done that. Quite the opposite. According to my estimates, since March of last year, Kim Jong-un has increased his nuclear destructive potential about 50 percent.” “It’s an irony that denuclearization talks are extending time for the North’s nuclear advancement,” said Shin Yul, a political science professor at Myongji University. “The North has pursued nukes for decades. The North’s nuclear ambitions have continued through three generations of the North Korean leadership lineage. This is not something that can be resolved within a year or two.” Bennett also added the North is unlikely to unilaterally dismantle a single weapon if Kim doesn’t have the support of Pyongyang’s military elite. “I would not say the North deliberately delayed the nuclear negotiations to test its new weapon, because

this would only put off its economic development,” he said.

http://www.koreatimes.co.kr/www/nation/2019/10/103_277207.html

‘N. Korea wants innovative approach from US for nuke talks’

Park Han-na, Korea Herald, October 17, 2019

Unification Minister Kim Yeon-chul said Thursday that North Korea may be seeking an epoch-making approach from the US for a breakthrough in their deadlocked nuclear talks. Nuclear negotiators from Washington and Pyongyang resumed stalled working-level talks in Stockholm, Sweden, Oct. 5, seven months after a disappointing summit between US President Donald Trump and North Korean leader Kim Jong-un. But the two countries failed to make tangible progress in their recent meeting.

“The US and North Korea have slightly different views (on their working-level talks). The US would like to continue to have a dialogue while North Korea wants to change (the approach) dramatically,” Kim said during a parliamentary audit.

http://www.koreaherald.com/view.php?ud=20191017000718&ACE_SEARCH=1

NK media slams S. Korea over missile tests, weapons development plans

Yonhap, Korea Herald, October 22, 2019

North Korean propaganda outlets slammed South Korea on Tuesday over its plans to conduct missile tests and develop new weapons, calling such moves “outright provocations” that will have consequences. The criticism came after a top South Korean military officer said earlier this month that the military has conducted test-firings of some of its Hyunmoo missiles this year and plans to routinely conduct such live drills. South Korea’s Navy said recently that it is operating a task force on the potential construction of nuclear-powered

submarines as part of efforts to bolster its nuclear deterrent and boost defense capabilities.

"The warmongers of South Korea has revealed their outright intention to regularize missile test-firing in order to enhance its preemptive attack capability against the North, which is aimed at keeping tensions on the Korean Peninsula always high," Uriminzokkiri, one of the North's propaganda websites, said. "Reckless military schemes will not go unnoticed. (We) will make them regret to the backbone," the website added.

http://www.koreaherald.com/view.php?ud=20191022000078&ACE_SEARCH=1

'Act wisely': North Korea warns US of tough talks as year-end deadline nears

Korea Times, October 24, 2019

North Korea on Thursday accused U.S. officials of maintaining hostility against Pyongyang despite a "special" relationship between leader Kim Jong Un and President Donald Trump and urged Washington to act "wisely" through the end of the year. The statement issued by Foreign Ministry adviser Kim Kye Gwan was clearly referring to an end-of-year deadline set by Kim Jong Un for the Trump administration to offer mutually acceptable terms for a deal to salvage their diplomacy.

"Contrary to the political judgment and intention of President Trump, Washington political circles and DPRK policy makers of the U.S. administration are hostile to the DPRK for no reason, preoccupied with the Cold War mentality and ideological prejudice. Nuclear negotiations between Washington and Pyongyang have faltered after the collapse of a February summit between Kim Jong Un and Trump where the U.S. side rejected North Korean demands for broad sanctions relief in exchange for a piecemeal deal toward partially surrendering its nuclear capabilities.

The North made a series of short-range missile tests while Kim Jong Un said he would "wait with patience until the end of

the year for the United States to come up with a courageous decision." Washington and Pyongyang resumed working-level discussion in Sweden earlier this month, but the meeting broke down amid acrimony with the North Koreans calling the talks "sickening" and accusing the Americans of maintaining an "old stance and attitude." The North has since threatened to resume nuclear and long-range missile tests it suspended last year while pursuing diplomacy with the United States, while Kim Jong Un vowed to overcome U.S.-led international sanctions he said has both pained and infuriated his people.

http://www.koreatimes.co.kr/www/nation/2019/10/103_277614.html

'Kim Jong-un was told by father to never give up nukes'

Kim So-hyun, Korea Herald, October 24, 2019

North Korean leader Kim Jong-un was told by his father to never give up nuclear weapons, US President Donald Trump's son-in-law and senior adviser Jared Kushner reportedly told a Trump biographer. According to Doug Wead's book "Inside Trump's White House," Kushner discussed with Wead the letters that Kim and Trump wrote to each other, the Washington Times reported Tuesday. "You can see from these letters that Kim wants to be friends with Trump, but his father told him never to give up the weapons. That's his only security," Kushner was quoted as saying in the book, excerpts of which were obtained by the US daily. "Trump is like a new father figure. So, it is not an easy transition."

Kim Jong-un has officially said on several occasions that the denuclearization of the Korean Peninsula was a deathbed injunction from his grandfather Kim Il-sung and father Kim Jong-il. Wead, who served as a senior White House staffer for two presidents, was given exclusive access to Trump, his family and senior staff for the book to be published next month, the Washington Times said.

http://www.koreaherald.com/view.php?ud=20191024000617&ACE_SEARCH=1

S. Korean authorities warned against military buildup

Pyongyang Times, October 26, 2019

The south Korean military authorities have become keen on introducing ultra-modern military hardware targeting the DPRK. At the recent “parliamentary inspection of the administration”, the military warmongers called for developing and updating lots of military hardware such as laser-guided anti-air weaponry, cyber and electronic warfare equipment, nuclear-powered sub, large transport ship and coastal detector and bringing in various sorts of sophisticated arms and weapons including stealth fighters, air tanker and drone allegedly to cope with threats from the DPRK.

The arms and weapons which the south Korean military is going to develop and bring are all aggression means evidently targeting the DPRK and dangerous elements bringing serious harm to the stability of the region in the light of the purpose of their introduction and their strategic usage and capabilities in the sky, land and sea. This reveals the hypocritical and sinister aim sought by the south Korean authorities who never open their mouth without the call for detente of military tension, building of confidence and improvement of ties.

The south Korean authorities are obliged to reflect on their dirty act of treachery and perfidy of renegeing on the historic north-south agreement, before talking about the threats from someone. We have warned more than once the south Korean authorities against their act of undermining trust, backtracking on the commitments and getting engrossed in the reckless arms buildup. They should exercise prudence, clearly foreseeing what catastrophic fate they will meet for their continued military frenzy in defiance of the censure inside and outside.

<http://www.pyongyangtimes.com.kp/?bbs=31866>

North Korea tells U.S. not to ignore year-end deadline on Trump-Kim friendship - KCNA

Heekyong Yang, Reuters, October 27, 2019

North Korea said on Sunday there has been no progress in the North Korea-United States relations, and hostilities that could lead to an exchange of fire have continued, according to North Korea’s state news agency KCNA. In a statement under the name of Chairman of the Korea-Asia Pacific Peace Committee Kim Yong Chol, KCNA said that it would be mistaken for the United States to ignore a year-end deadline on U.S. President Donald Trump’s and North Korean leader Kim Jong Un’s “close personal relations.”

Kim Jong Un has set an end-of-the-year deadline for denuclearisation talks with Washington. Kim Yong Chol was the nuclear talks envoy to the United States for the discussions between the two countries before the second summit between Trump and Kim Jong Un in Vietnam in February ended in failure.

<https://in.reuters.com/article/north-korea-usa/north-korea-tells-u-s-not-to-ignore-year-end-deadline-on-trump-kim-friendship-kcna-idINKBN1X601E>

KAPPC chief warns against US’ anti-DPRK moves

Pyongyang Times, October 27, 2019

The US is more desperately resorting to the hostile approach towards the DPRK, misjudging its patience and tolerance, said Kim Yong Chol, chairman of the Korea Asia-Pacific Peace Committee, on Sunday. Such remarks came after the US ambassador to the UN accused the DPRK of its self-defensive military buildup measures at the recent meeting of the First Committee of the 74th Session of the United Nations General Assembly, saying that the US would not blindly enter the negotiations with the DPRK and the latter should come up with a new approach for its final and fully verifiable denuclearization.

The US is persistently pressurizing other countries into implementing the UN's "sanctions resolutions" and is leaving no stone unturned to get the anti-DPRK resolutions passed through the UN General Assembly, using its satellite countries, Kim Yong Chol said. The US strategic forces commander nominee, speaking at the Senate, called the DPRK "a rogue state", and the hawkish US military reportedly plans exercises to deal a nuclear strike to the DPRK, he added. This shows the US is intent on isolating and stifling the DPRK in a more crafty and vicious manner, far from responding to the latter's call for a change in its calculation method, he noted.

DPRK-US relations could have been almost derailed or twisted several times due to such hostile acts and wrong practices on the part of the US, he said, attributing the current maintenance of bilateral ties to the rapport between Chairman Kim Jong Un and President Trump. But there is always a bottom line, he noted, and the rapport is neither immune to the public mindset nor be a guarantee of preventing or offsetting the deterioration of the bilateral relationship.

<http://www.pyongyangtimes.com.kp/?bbs=31885>

North Korea fires unidentified projectile: South Korea military

Reuters, October 31, 2019

North Korea fired an unidentified projectile towards the sea to its east on Thursday afternoon, South Korea's Joint Chiefs of Staff (JSC) said. The South Korean military is maintaining readiness while monitoring the situation, the JSC said in a statement. North Korea said on Oct 3 that it had successfully test-fired a new submarine-launched ballistic missile from the sea to contain external threats and bolster self-defense.

<https://www.reuters.com/article/us-northkorea-missiles-southkorea/north-korea-fires-unidentified-projectile-south-korea-military-idUSKBN1XA0WA>

North Korea projectiles were short-range, South Korean military says

Reuters, October 31, 2019

The two projectiles fired by North Korea on Thursday were "short range", South Korea's military said in a statement. The projectiles, which Japanese authorities said appeared to be ballistic missiles, traveled an estimated 370 kilometers (230 miles) and reached an altitude of 90 kilometers (56 miles), South Korea's Joint Chiefs of Staff said. The South Korean and American militaries are conducting a detailed analysis of the launches, the statement said.

<https://www.reuters.com/article/us-northkorea-missiles-southkorea-range/north-korea-projectiles-were-short-range-south-korean-military-says-idUSKBN1XA1CW>

North Korea launches two suspected missiles after warnings to Washington

Josh Smith, Reuters, October 31, 2019

North Korea fired two suspected missiles into the sea between the Korean peninsula and Japan on Thursday, according to military officials in Japan and South Korea, ending nearly a month-long lull in testing after denuclearization talks stalled. The launches, which Japanese authorities identified as likely ballistic missiles, were the first since one day of talks between the United States and North Korea ended without an agreement on Oct. 5 in Sweden. American officials have played down previous missile launches this year, saying they were short-range weapons.

<https://www.reuters.com/article/us-northkorea-missiles/north-korea-launches-two-suspected-missiles-after-warnings-to-washington-idUSKBN1XA0W0>

North Korea says it conducted successful test of multiple rocket launchers

Joyce Lee, Reuters, November 1, 2019

North Korean state news agency KCNA said on Friday another test of super-large

multiple rocket launchers a day earlier had been a success, but the test drew protests from neighboring Japan and South Korea. KCNA said the latest test of the “super-large multiple rocket launchers”, following two tests of the same weapon in August and September overseen by North Korean leader Kim Jong Un, indicated the progress of Pyongyang’s weapons development while talks with the United States remain in limbo. The success of the tests was reported immediately and Kim expressed satisfaction and congratulated the scientists who had developed the weapon, KCNA said, suggesting that Kim was not at the site for Thursday afternoon’s test.

North Korea’s state newspaper, Rodong Sinmun, showed a photo of the multiple rocket launcher surrounded by yellow flames and smoke. Thursday’s test verified that the “continuous fire system” of the multiple rocket launchers was able to “totally destroy” a group target of the enemy by a surprise strike, KCNA said.

However, South Korea’s national security adviser Chung Eui-yong said the North’s missile launches do not pose “very grave threats”. “We’re also test-firing missiles, no less than North Korea does,” he told a parliamentary session. “Our missile defense and intercept capabilities are absolutely superior to theirs.” The weapons test was the first since one day of talks between the United States and North Korea in Sweden ended without an agreement on Oct. 5. It came as North Korea repeatedly emphasizes an end-of-the-year deadline that Kim set for denuclearization talks with Washington. KCNA said last month that while Kim and U.S. President Donald Trump have a “special” relationship, policymakers in Washington were “hostile to the DPRK for no reason”. North Korea’s official name is the Democratic People’s Republic of Korea.

<https://www.reuters.com/article/us-northkorea-missiles-launch/north-korea-says-it-conducted-successful-test-of-multiple-rocket-launchers-idUSKBN1XA2OC>

N. South Korea

New ambassador vows to seek ‘constructive role’ from US in resolving tensions with Japan

Yonhap, Korea Herald, October 17, 2019

South Korea’s new ambassador to the United States said Thursday that he will encourage Washington to play a “constructive role” in resolving tensions between Seoul and Tokyo that led to the South’s decision to end a military information-sharing pact with Japan. Lee Soo-hyuck, who was formally appointed this week, made the remark as concerns have grown over trilateral cooperation between the US and its two Asian allies after Seoul decided in August to withdraw from the General Security of Military Information Agreement (GSOMIA). “Since the US has said it will play a constructive role, I will continue to call for its constructive role. I see that as an important task for me in the short term,” he told reporters.

Washington has publicly expressed disappointment over Seoul’s decision to pull out of the pact, seen as a rare platform for trilateral security cooperation. Yet it has also indicated willingness to help the two sides find ways to resolve their differences. “I intend to find out what exactly the US meant when it said mediation would be difficult but they will play a positive role. I believe they are working on it, given that the time is coming,” Lee said. GSOMIA is set to expire on Nov. 22.

http://www.koreaherald.com/view.php?ud=20191017000847&ACE_SEARCH=1

NK leader’s idea of denuclearization matches that of US: Moon

Choi He-suk, Korea Herald, October 25, 2019

President Moon Jae-in said Friday that North Korean leader Kim Jong-un’s idea of denuclearization matches that of the

US and Seoul. Speaking at a meeting with the Cheong Wa Dae press corps, Moon said Kim has made it clear that his idea of denuclearization is the same, but that this outcome can only be achieved if the North's conditions are met. "Between the two Koreas, the term complete denuclearization is used, and what complete denuclearization means is the same as the denuclearization the US wants," Moon said.

Moon was responding to a question on whether Kim has stated that he is willing to give up North Korea's existing nuclear weapons during conversations with the South Korean president. Moon stressed that Kim has made those intentions clear to other world leaders, including US President Donald Trump and China's Xi Jinping. Moon added that Kim's intentions to denuclearize are conditional on North Korea being guaranteed "security and a bright future." "The issue is whether the conditions Kim Jong-un wants can be provided by the US through dialogue."

http://www.koreaherald.com/view.php?ud=20191025000735&ACE_SEARCH=1

Kori-1's dismantling to be litmus test of Moon's post-nuclear policy

Nam Hyun-woo, Korea Times, October 30, 2019

Korea's first nuclear reactor, Kori Unit 1 in Gijang County, Busan, has served the country for four decades and is now waiting for its finale – decommissioning. Nuclear decommissioning is one of the potential industries which the Moon Jae-in administration claims will fill the vacuum created by its drive to phase out nuclear power from the country. This reporter earned a chance to look into the restricted facility, which was operated and will be dismantled by Korea Hydro & Nuclear Power (KHNP). KHNP officials met there and agreed that the decommissioning of Kori Unit 1 will sway the country's bid to industrialize nuclear decommissioning and enter overseas markets, and pledged to leave no stain on the project.

Kori Unit 1 is Korea's first nuclear reactor, which started operation in 1978. Its

construction was the country's biggest infrastructure project at the time, as its total cost of 156 billion won (\$133.45 million) accounted for nearly 30 percent of Korea's national budget in 1971 when it broke ground. Its completion made Korea the 21st country in the world to have a nuclear power plant, and the reactor served its role for 40 years until it came to its permanent shutdown on June 18, 2017. During the four decades, the reactor generated 156 billion kilowatt-hours of power, which is enough energy for the citizens of Busan, Korea's second-largest city, to use for eight years.

http://www.koreatimes.co.kr/www/tech/2019/10/129_277914.html

O. Japan

New missile deployment in Asia raised at Japan-U.S. talks

Taketsugu Sato, The Asahi Shimbun, October 22, 2019

U.S. officials raised the topic of deploying new ground-based missiles during talks with their Japanese counterparts, a military source said, but it was not clear if they suggested Japan as a possible deployment site. The U.S. missile deployment plans surfaced after the Intermediate-Range Nuclear Forces (INF) treaty ended in August. The Trump administration in February announced it was withdrawing from the INF, citing violations by Russia. U.S. Defense Secretary Mark Esper has indicated that the United States would seek to deploy the new missiles in the Asia-Pacific region over concerns about China's moves to develop and deploy intermediate-range missiles.

According to a high-ranking officer of the U.S. military, senior U.S. government officials visited Japan on Oct. 18 and met with their counterparts in the Defense Ministry, Foreign Ministry and National Security Secretariat to discuss various issues. The officer said deployment of the new intermediate-range missiles was one topic on the agenda. The U.S. military officer was also asked about Japan's recent decision not to join the U.S.-led alliance to

patrol waters in the vicinity of the Strait of Hormuz. Instead, Japan plans to dispatch a Maritime Self-Defense Force vessel to the Gulf of Oman for study and research purposes. The officer said he was confident Japan would contribute to peace and stability of dangerous areas in various parts of the world.

<http://www.asahi.com/ajw/articles/AJ201910220029.html>

TEPCO to pour 220 billion yen into Tokai No. 2 nuclear plant

The Asahi Shimbun, October 29, 2019

Tokyo Electric Power Co. Holdings Inc. decided on Oct. 28 to provide financial support to the aging Tokai No. 2 nuclear plant, which has been offline since the 2011 earthquake and tsunami disaster and faces an uncertain future. TEPCO'S board agreed on the assistance estimated at more than 220 billion yen (\$2 billion).

Japan Atomic Power Co., which owns the nuclear plant in Ibaraki Prefecture, will accelerate the construction of anti-tsunami embankments around the plant and other safeguards to full speed. But local municipalities have opposed the resumption of operations at the Tokai No. 2 plant, where safety upgrades are needed, and an agreement to gain their consent is nowhere in sight. TEPCO faces the serious risk of failing to recoup its enormous investment in the Tokai No. 2 plant.

"We have reached a conclusion that we can expect the Tokai No. 2 nuclear plant to be a source of power that helps provide inexpensive and stable electricity that emits less carbon dioxide to customers," Rikuo Ohtsuki, a managing executive officer at TEPCO, said at a news conference on first-half financial results. Ohtsuki, however, declined to offer specifics such as the amount of financial assistance and the purchase price of electricity from Japan Atomic Power.

TEPCO has been virtually nationalized with an injection of taxpayer money since the 2011 disaster at its Fukushima No. 1 nuclear power plant. For such an entity to spend a

vast sum to assist another nuclear plant operator has elicited criticism from the public and experts, who have urged TEPCO to be accountable and justify the decision. A framework of financial assistance is already in place for the Tokai No. 2 nuclear plant, in which TEPCO and Tohoku Electric Power Co., two recipients of power from the plant, have agreed to pay part of a total of 350 billion yen for construction of safety measures.

<http://www.asahi.com/ajw/articles/AJ201910290042.html>

P. Misc

These 3 Technologies Could Transform Nuclear Energy

Cbinsights, October 17, 2019

Bottom of Form

Nuclear power is at an inflection point. The atom-splitting technology can provide a reliable, abundant supply of low-carbon energy — a boon for combating global warming — powering everything from industrial processes to electricity for homes. But the tech is notoriously difficult to develop: the nuclear industry is hamstrung by high capital costs, public fears over safety, questions over long-term management of nuclear waste, and the potential for the proliferation of weapons-grade fissile material.

Molten salt reactors (MSR) have attracted the majority of VC funding invested in the space. There are 6 VC-backed MSR companies with a total of \$64M in funding — well below the typical multi-billion-dollar price tag associated with nuclear energy projects.

TerraPower is a startup building on designs pioneered in national labs. The startup, backed by Khosla Ventures and Bill Gates, raised \$35M in a 2010 Series B funding round. TerraPower's primary focus is the traveling wave reactor (TWR), a design that uses depleted uranium for fuel.

Small modular reactors (SMRs) are powered by traditional light water nuclear

reactor technology shrunk down to a far smaller scale than a typical nuclear power project – which today normally involves the construction of extensive infrastructure to power large geographic areas.

<https://www.cbinsights.com/research/nuclear-energy-startups-funding/>

Nuclear Power Plant Market Will Explore Robust Size And Global Trends By Forecast To 2029

Carl Whitman, Tech News Spy, October 17, 2019

Advance Report Nuclear Power Plant Market is inclusive of a detailed outline of this business in tandem with the market's current size and status. The main goal of the report is to provide updates, development status, and the latest trends inside the market. The estimates for CAGR (Compound Annual Growth Rate) is calculated by the Global Nuclear Power Plant Market 2020 report in terms of extent for the specific time length. Industry specialists analyzing the business environment also take a closer look at the organizational alignment as well as the business structure. The data has been collected that is dependent on market structures, high-quality insights, advertises models, and other such factors.

The aim of the report is to present a complete evaluation of the market and carries thoughtful insights, experiences, historical data, industry-validated market data and forecasts with a suitable set of theories and methodology. The report exhibits the market competitive landscape and a corresponding comprehensive analysis of the important key players in the market. The report contains a SWOT analysis of the market. This report for Nuclear Power Plant Market explores diverse topics such as regional market scope, product-market several applications, market size according to a particular product, sales and revenue by region, production cost analysis, manufacturing chain, business effect factors analysis, market size forecast, and more.

<https://thetechnewsspy.com/2019/10/17/nuclear-power-plant-market/>

IAEA fuel bank receives first delivery of uranium

World Nuclear News, October 18, 2019

The International Atomic Energy Agency (IAEA) yesterday took delivery of the first shipment of low-enriched uranium (LEU) at a purpose-built storage facility at the Ulba Metallurgical Plant in eastern Kazakhstan. The delivery marks the official start of operation of the IAEA LEU Bank, aimed at providing assurance to countries about the availability of nuclear fuel.

Last November the IAEA announced that, following an open tender, it had signed contracts to purchase LEU from Kazakhstan's NAC Kazatomprom and France's Orano Cycle. The IAEA noted the procurement was its largest since the Agency was founded in 1957.

<https://www.world-nuclear-news.org/Articles/IAEA-fuel-bank-receives-first-delivery-of-uranium>

A New Era of Arms Control: Myths, Realities and Options Nonproliferation Hybrid War: Russia vs. the West

Alexey Arbatov, Carnegie Endowment of International Peace, October 24, 2019

The United States' withdrawal from the 1987 Intermediate-Range Nuclear Forces Treaty (INF) threatens to dismantle the entire nuclear arms control system built over the last fifty years. It may lead to an uncontrolled multilateral arms race involving strategic, intermediate-range, and tactical nuclear and non-nuclear offensive and defensive weapons, as well as space and cyber warfare systems, laser weapons, and other arms innovations. As a consequence, international armed conflicts are more likely and may instantly escalate into a global nuclear war.

A Herostratic Nuclear Complex: This extremely dangerous turn of events has been long in the making and wasn't at all accidental. Military industrial complexes and nationalist factions dreaming of

revenge for concessions and real or imaginary losses in recent decades have been exerting a growing pressure. These processes have been facilitated by the military and political ideology that has recently gained popularity in some political and professional circles in the United States, Russia and a number of other countries. This ideology – like any other – is based on an agglomeration of different myths about the past, present, and future of strategic relations between the nuclear powers.

<https://carnegie.ru/commentary/80172>

IAEA Board Appoints Rafael Grossi as Director General, Starting in December

International Atomic Energy Agency, October 30, 2019

Ambassador Rafael Mariano Grossi is set to take office as Director General of the International Atomic Energy Agency (IAEA) in early December, following his appointment to the post by the Agency's Board of Governors today.

In a meeting open to representatives of all IAEA Member States, the 35-nation Board of Governors appointed by acclamation Mr Grossi as Director General, to serve for four years from 3 December.

<https://www.iaea.org/newscenter/news/iaea-board-appoints-rafael-grossi-as-director-general-starting-in-december>

Philippines progresses with plan for nuclear energy

World Nuclear News, October 30, 2019

The Philippines' Department of Energy (DOE) today received the International Atomic Energy Agency's (IAEA's) report on Phase 1 of its Integrated Nuclear Infrastructure Review (INIR) mission. Energy Secretary Alfonso Cusi said the country will now prepare a plan of action for the introduction of nuclear energy.

The IAEA concluded on 17 December 2018 an INIR in the Philippines at the request of the country's government. It reviewed the status of nuclear development using the

Phase 1 criteria of the IAEA's Milestones Approach, a phased comprehensive method to assist countries that are considering or planning their first nuclear power plant to follow a sound development process for a nuclear power programme. The end of Phase 1 marks the readiness of a country to make a "knowledgeable commitment" to a nuclear power programme.

<https://www.world-nuclear-news.org/Articles/Philippines-progresses-with-plan-for-nuclear-energy>

Q. Op-Ed

India

India needs to amend its nuclear doctrine

Lt Gen Harbhajan Singh (Retd), The Tribune, October 23, 2019

Our nuclear doctrine suffers from serious infirmities. It only deals with a nuclear conflict scenario. It does not get meshed with territorial security, which is the main Indian concern vis-a-vis China and due to which India went nuclear. India's strategy has to be to deter/dissuade China from embarking on any large-scale offensive.

India suffered a crushing defeat at the hands of China in the short war of October-November 1962. On October 16, 1964, China carried out its first nuclear test. This added a new dimension to the threat to India's security and provided the impetus to India for developing nuclear weapons as a means of deterring Chinese aggression. Consequently, India tested its first nuclear device on May 18, 1974.

<https://www.tribuneindia.com/news/comment/india-needs-to-amend-its-nuclear-doctrine/850838.html>

Was Hack on Indian Nuclear Plant Used to Test Cyber Intrusion Abilities?

Sam Spencer, CCN, October 31, 2019

The Nuclear Power Corporation of India has confirmed the discovery of malware

on its network. According to a statement, the infection was found on a central computer that was not connected to the more sensitive internal systems.

Cybersecurity experts have linked the harmful code to North Korea's Lazarus Group. The hacker unit uses a spectrum of vector attacks to steal funds for the administration. Pukhraj Singh, a former researcher at India's National Technical Research Organization (NTRO), indicated via social media that the malware could be traced back to a recent VirusTotal finding.

<https://www.ccn.com/was-hack-on-indian-nuclear-plant-used-to-test-cyber-intrusion-abilities/>

Pakistan

Security at a glance

Dr N Elahi, Daily Times, October 17, 2019

Very often destabilizing factors surreptitiously come into play and silently start spoiling the security situation. Governments react when the situation snow-balls into something alarmingly ugly. Pakistan has to its credit the achievement of annihilating the most ferocious insurgents and terrorists in tribal areas and urban centers across the country during the last five years. But it seems that the security situation is once again turning sour. The Counter Terrorism Department (CTD) Karachi recently expressed apprehension that al-Qaida was regrouping in the city to carry out terrorist attacks. These activists had returned to Karachi from Afghanistan.

<https://dailytimes.com.pk/484511/security-at-a-glance/>

Getting nuclear-ready

Hussain Ahmad Siddiqui, The News International, October 28, 2019

The key message of the "International Conference on Climate Change and the Role of Nuclear Power" held during October 7-11 in Vienna was for major nuclear role as nuclear energy. An integral part of the world's clean energy future, nuclear power will help fight climate change as it has been

a consistent source of low carbon electricity for decades.

From this perspective, it is a landmark development that another two nuclear power plants of over two-thousand megawatt total capacity would come on stream in Karachi within a couple of years. This will result in enhancing three times the present nuclear energy capacity, achieving around eleven percent share in power generation using various energy resources. With this accomplishment, the policy goals of the government to optimise energy mix and low carbon development would be adequately met, which would also be in line with the international agenda for power sector.

The government aims at mitigating carbon dioxide emissions up to 20 percent by 2030. By then the installed capacity of nuclear power generation will reach the mark of 8,800MW, as planned, to generate 27,850GWh annually. Pakistan's total power generation capacity in 2030 is projected to be 46,683MW and envisaged to generate 191,781GWh, according to the SAARC Energy Outlook 2030. The government's recent plan for capacity addition of about 17,000MW by 2025 is unrealistic, and likely to be achieved by 2030.

<https://www.thenews.com.pk/magazine/money-matters/547070-getting-nuclear-ready>

Horrors of Nuclear War

Nusrat Ali, Daily Times, October 29, 2019

The tension between Pakistan and India over Kashmir's current predicament is still brewing, with no ending in sight. Tensions soared between the two as India revoked Kashmir's special status. Pakistan reprimanded, called for the return of Kashmir's previous status-quo, which India denied calling it an internal matter. The two came neck to neck in February as well.

Since then, rogue elements from both countries are talking about bombing the other side with nuclear weapons. This frequent careless talk begs the question as

if they consider nuclear weapons the same as 1980s Kalashnikov and nothing more. Nevertheless, their foul talk gained international eye because the two have fought wars on Kashmir. So threatening each other with A-bomb over Kashmir issue is a matter the international community cannot ignore. Surely, the world knows more about the catastrophic nuclear war brings than the two neighbours.

<https://dailytimes.com.pk/491386/horrors-of-nuclear-war/>

USA

Meet the Ohio-Class: America's Nuclear Doomsday Submarines

Sebastien Roblin, National Interest Blog, October 16, 2019

Nine years after the atomic bombings of Hiroshima and Nagasaki, Ishirō Honda's *Godzilla* depicted a monster awakened from the depths of the ocean to wreak havoc on Japanese cities. A giant fire-breathing reptile, however, was *less* horrifying than what was to come. In less than a decade's time, there would be dozens of *real* undersea beasts capable of destroying *multiple* cities at a time. I'm referring, of course, to ballistic-missile submarines, or "boomers" in U.S. Navy parlance.

The most deadly of the real-life kaiju prowling the oceans today are the fourteen Ohio-class ballistic-missile submarines, which carry upwards of half of the United States' nuclear arsenal onboard.

<https://nationalinterest.org/blog/buzz/meet-ohio-class-americas-nuclear-doomsday-submarines-88386>

Turkey's Victory Over Donald Trump

The New York Times, October 17, 2019

President Trump's decision to withdraw 1,000 American troops from Syria without consulting any aides, experts or allies, and without any warning to America's Kurdish comrades in arms, whom he placed in mortal danger, has provided chilling evidence of the danger posed by his chronic inability to appreciate a president's responsibilities.

Mr. Trump, as he always does, claimed a huge victory — "an amazing outcome" that saved "millions and millions of lives." That scores of Kurdish lives have already been lost, that thousands of people have fled their homes, that a swarm of Islamic State followers escaped from internment camps, that the Kurds themselves turned for help to the mass murderer Bashar al-Assad, that America's dwindling credibility in the world was further undermined, meant nothing to the president. "It's not our border," he said on Wednesday.

<https://www.nytimes.com/2019/10/17/opinion/trump-syria-turkey.html>

We Asked an Expert to Imagine a U.S.-China War. We Wish We Hadn't

Robert Farley, National Interest Blog, October 17, 2019

Avoiding nuclear use could be tricky, but conventional weapons would still kill thousands.

How does the unthinkable happen? What series of events could lead to war in East Asia, and how would that war play out?

The United States and China are inextricably locked in the Pacific Rim's system of international trade. Some argue that this makes war impossible, but then while some believed World War I inevitable, but others similarly thought it impossible.

In this article I concentrate less on the operational and tactical details of a US-China war, and more on the strategic objectives of the major combatants before, during, and after the conflict. A war between the United States and China would transform some aspects of the geopolitics of East Asia, but would also leave many crucial factors unchanged. Tragically, a conflict between China and the US might be remembered only as "The First Sino-American War."

<https://nationalinterest.org/blog/buzz/we-asked-expert-imagine-us-china-war-we-wish-we-hadnt-88636>

Can the U.S. protect its nuclear weapons in Turkey?

Matthew Fuhrmann and Todd S. Sechser, Washington Post, October 18, 2019

U.S. forces reportedly came under artillery fire from Turkish troops heading into northern Syria last week – another sign of the sudden plunge in U.S. relations with Turkey. On Monday, President Trump imposed economic sanctions against Turkey and threatened to “swiftly destroy Turkey’s economy.” Vice President Pence announced a cease-fire agreement with Turkey on Thursday, but this does not appear to fully address the underlying problems in the bilateral relationship. Over the summer, the Pentagon kicked Turkey out of the F-35 joint strike fighter program, marking U.S. displeasure that Turkey was buying advanced Russian military technology. This deteriorating relationship is troubling because Turkey is a long-standing NATO ally. But even more worrisome are the nuclear weapons – about 50 B61 gravity bombs – that the United States stores at Incirlik Air Base in Turkey, less than 100 miles from the Syrian border. On Wednesday, Trump appeared to confirm the existence of these weapons in a startling break with past practice, but over the weekend, U.S. officials reportedly were considering plans to withdraw them.

<https://www.washingtonpost.com/politics/2019/10/18/can-us-protect-its-nuclear-weapons-turkey/>

Some worries about nuclear weapons at Turkey base

Robert Burns, AP News, October 19, 2019

Frayed U.S. relations with Turkey over its incursion in Syria raise a sensitive question rarely discussed in public: Should the United States remove the nuclear bombs it has long stored at a Turkish air base? It’s a tricky matter for several reasons, including the fact that by longstanding policy, the U.S. government does not publicly acknowledge locations of nuclear weapons overseas. Still, it is almost an open secret that the U.S. has as many as 50 B-61 bombs stored under heavy guard at Incirlik air base in southern Turkey. President Donald Trump implicitly

acknowledged the stockpile this week when asked by a reporter how confident he was of the bombs’ security. “We’re confident,” he said. Turkey, a NATO ally, has reportedly hosted American nuclear weapons for 60 years. The bombs could be dropped by U.S. planes in a nuclear war.

The arrangement at Incirlik air base is part of NATO’s policy of linking Turkey and other member countries to the alliance’s aim of deterring war by having a relatively small number of nuclear weapons based in Europe. Removing them, therefore, would be a diplomatic complication. There is no known evidence that the nuclear weapons at Incirlik are at direct risk, but relations between Washington and Ankara are at perhaps a historic low and the war in Syria has grown more complex and unpredictable. Incirlik is about 150 miles from Syria by road. Thursday’s announced U.S. deal with Turkey to pause its offensive against Kurdish fighters in northern Syria may have slowed the deterioration of relations. But the overall direction has been decidedly and increasingly negative.

<https://apnews.com/182a2170a1d24ac6b4f0c7242d8ff514>

Cold War 2.0: Is a cyberwar between China and the US already underway?

Bertrand Venard, Scroll, October 20, 2019

As President Xi Jinping celebrated the 70th anniversary of the People’s Republic of China with a massive military parade, the United States president threatened to raise taxes on Chinese products.

In the meantime, belligerent cyber activity is ramping up, mirroring the trade war between China and the United States. Could this multiply and bring about our worst fear – a conventional war? Every day, statements from the US and Chinese leaders highlight just how far apart these two countries are ideologically and politically, and the extent of their economic and military rivalry.

History has taught us how this type of confrontation often ends. Speaking of the

rivalry between Sparta and Athens, the Athenian historian Thucydides predicted that a dominant nation, seeing its supremacy seemingly threatened by a rising power, would settle the question by war. Thucydides' escalation theory makes us fear the worst for the US-China cold war, a war currently being fought in cyberspace.

<https://scroll.in/article/940862/cold-war-2-0-is-a-cyberwar-between-china-and-the-us-already-underway>

The ultimate Middle East missile target: Nuclear reactors

Mark Dubowitz and Henry Sokolski, Washington Examiner, October 22, 2019

Bottom of Form

What if a nuclear reactor had been the target of last month's accurate missile attack on Saudi Arabian oil facilities? We might now be mopping up a Middle East Chernobyl. The lesson should be clear: Don't build more large reactors in the region. They're radioactive sitting ducks.

Saudi Arabia has plans to build an array of large nuclear power plants. Next door, the United Arab Emirates is spending \$20 billion to complete four commercial reactors at Barakah. Egypt and Turkey both have begun constructing two massive Russian-designed nuclear power plants. Meanwhile, Iran has two operating reactors and has begun constructing two more. After Iran's Sept. 14 missile attack against Saudi Arabia, though, all of these plants risk being wiped out.

Precision guided missiles are the reason why. Shortly after the Iranian attack on Saudi Arabia, pictures revealed each of the oil tanks struck at Abqaiq were hit in the exact same spot. The missiles's estimated accuracy was one meter. That makes even the hardest of large reactors easy marks. Rather than target the most protected part of the plant, the large concrete containment building covering the reactor's core, accurate missiles can put key auxiliary reactor facilities at risk. One such aim point is the power plant's emergency electrical diesel generator building. Knock

the generators out and you deprive the reactor of emergency backup power needed to keep its safety and coolant pump systems operating when external, grid-supplied electricity is cut off by blackouts, storms, or attacks.

<https://www.washingtonexaminer.com/opinion/the-ultimate-middle-east-missile-target-nuclear-reactors>

U.S. Nuclear Weapons in Turkey, pt. 2

Matthew Wills, Daily JSTOR, October 28, 2019

Fifty U.S. nuclear bombs are stored at Incirlik Air Base in southern Turkey. Tensions between the U.S. and Turkey over Syria are nearing a boiling point. What will now be done about these bombs? Is it time to take American nuclear weapons out of Turkey? What many people don't realize in approaching this question is that this is not the first time the presence of American nuclear weapons in Turkey has been part of a crisis. The first time was during the Cuban Missile Crisis of October 1962—only hardly anybody knew it at the time. For almost two weeks that October, the world was on the brink of nuclear war, until the Soviets caved to the threat of force... or so runs the American version of events.

The Cuban Missile Crisis, to summarize in brief, began when Americans realized that the U.S.S.R. had positioned ballistic missiles in Cuba, 90 miles from the U.S. mainland. This Soviet move was a response to the U.S.-sponsored Bay of Pigs invasion. Although a failure, the invasion convinced Fidel Castro of the existential threat to his government, and he turned to his allies for help in defending Cuba.

https://daily.jstor.org/us-nuclear-weapons-turkey-part-2/?utm_source=AM%20Nukes%20Roundup&utm_campaign=365bb5c528-EMAIL_CAMPAIGN_2018_07_25_12_19_COPY_01&utm_medium=email&utm_term=0_547ee518ec-365bb5c528-391858093

U.S. Nuclear Power: America's Brand Is at Risk

David Gattie, Morning Consult, October 29, 2019

In March 1955, the U.S. National Security Council issued a report, NSC 5507/2, entitled "Peaceful Uses of Atomic Energy," formally setting America's civilian nuclear power policy. The objectives, stated as being "in the interests of national security," can be summarized as follows:

- Maintain U.S. leadership in the field;
- Use such leadership to promote cohesion within the free world;
- Increase progress in development and application of peaceful uses of atomic energy in free nations abroad;
- Ensure continued U.S. access to foreign uranium and thorium supplies;
- And prevent diversion to non-peaceful uses of fissionable materials.

Early U.S. nuclear power policymakers comprehended their moment in history and were clear-eyed and realistic as to the strategic geopolitical importance of America remaining engaged in not only an advanced domestic nuclear enterprise but also in international nuclear collaborations. In their vision of America's role in the world, nuclear power wasn't just another energy commodity, the fate of which should be dictated by political calculus, popular opinion or market forces alone. Rather, they considered nuclear power as central to America's foreign policy, so their approach to nuclear policy was principled and strategic, not populist and transactional.

<https://morningconsult.com/opinions/us-nuclear-power-americas-brand-risk/>

Is the US Losing the Artificial Intelligence Arms Race?

James Johnson, The Diplomat, October 30, 2019

The U.S. government, long a proponent of advancing technology for military purposes, sees artificial intelligence as key to the next

generation of fighting tools. Several recent investments and Pentagon initiatives show that military leaders are concerned about keeping up with – and ahead of – China and Russia, two countries that have made big gains in developing artificial-intelligence systems. AI-powered weapons include target recognition systems, weapons guided by AI, and cyberattack and cyberdefense software that runs without human intervention.

The U.S. defense community is coming to understand that AI will significantly transform, if not completely reinvent, the world's military power balance. The concern is more than military. As Chinese and Russian technologies become more sophisticated, they threaten U.S. domination of technological innovation and development, as well as global economic power and influence. Military leaders see the threat to U.S. technological leadership coming from two main sources: a rising and ambitious China and a mischievous and declining Russia. Taken together, these forces challenge global stability.

<https://thediplomat.com/2019/10/is-the-us-losing-the-artificial-intelligence-arms-race/?amp=1>

Europe

Lost WW2 British submarine found sunk off the coast of Malta

Reuters, October 30, 2019

The wreck of a British submarine, which vanished at the height of World War Two, has been discovered lying at the bottom of the sea off Malta, university marine archaeologists said on Thursday. HMS Urge had been based with other submarines in Malta and had carried out several deadly missions when the British navy ordered it and rest of the flotilla to redeploy to Egypt because of a relentless German siege of the Mediterranean island. Urge set sail on April 27, 1942, carrying a 32-strong crew, 11 other naval personnel and a journalist. However, it failed to reach Alexandria on the agreed rendezvous date of May 6 and its fate has

always been a mystery - until now.

A team from the University of Malta, which has spent two decades surveying the local seas, said that at the request of the grandson of Urge's commander, they combed an area this summer that had once been heavily mined by Nazi forces. A sonar image revealed a submarine-like shape at a depth of 130 meters (425 ft) some two miles (3 km) off the coast and a subsequent search by an unmanned diving craft revealed the U-Class Submarine, with a large chunk of its bow missing.

<https://www.reuters.com/article/us-malta-britain-submarine/lost-ww2-british-submarine-found-sunk-off-the-coast-of-malta-idUSKBN1XA1OM>

Russia

Why Russia's New Anti-Satellite Plane Is Very Bad Idea

Michael Peck, National Interest Blog, October 20, 2019

Russia says it is developing a new aircraft that can disable the electronics on U.S. satellites.

The electronic warfare aircraft "will be capable of turning off the electronics installed on military satellites," according to Russia's Sputnik News. The conceptual work has been completed and design and development will begin soon.

"The work is currently underway to develop an aircraft equipped with jamming systems that will replace Il-22PP Porubshchik [electronic warfare aircraft], which are currently being delivered to the Russian Aerospace Forces," an unnamed Russian defense industry source told Sputnik News. "This machine will receive a fundamentally new on-board equipment, which will allow to conduct electronic suppression of any targets – ground, air, sea – and disable enemy satellites that provide navigation and radio communication on the ground."

<https://nationalinterest.org/blog/buzz/why-russias-new-anti-satellite-plane-very-bad-idea-89716>

Russia Has Thousands of Nuclear Weapons (And They Can Kill Billions)

Mark B. Schneider, National Interest Blog, October 26, 2019

Today, there is a debate over whether we should extend the New START Treaty, amend it to eliminate the loopholes, or try to negotiate an expanded agreement. As I detailed in my 2012 monograph, *The New START Treaty: Anatomy of a Failed Negotiation*, New START contains major loopholes and verification problems that fully negate the supposed limitations. Ironically, the 2002 Moscow Treaty limits, if the warheads are counted in the same way, required a much lower strategic nuclear warhead level that what is possible under New START.

<https://nationalinterest.org/blog/buzz/russia-has-thousands-nuclear-weapons-and-they-can-kill-billions-91136>

Russia Almost Built A Nuclear-Armed Supersonic Bomber That Could Float On Water

Micheal Peck, National Interest Blog, October 26, 2019

The rise of ballistic missiles put this idea to rest. With airline passengers crammed like sardines, it's hard to remember there was a time when airliners were more like ocean liners. In the 1930s, seaplanes were queens of the sky. Clipper seaplanes like the Boeing 314 were the 747s of the era, carrying passengers on long flights across the Atlantic and Pacific.

<https://nationalinterest.org/blog/buzz/russia-almost-built-nuclear-armed-supersonic-bomber-could-float-water-91296>

Russia And America Barely Avoided An Horrific Nuclear War In 1983

Richard Purcell, National Interest Blog, October 26, 2019

The scare did not lead to war, but the risk was real. In 1983, the United States and

the Soviet Union came dangerously close to nuclear war. That was the conclusion of a highly classified report issued in 1990 by the President's Foreign Intelligence Advisory Board, or PFIAB.

The board, which conducts oversight of the U.S. intelligence community for the White House, interviewed over 75 American and British officials and examined scads of intelligence assessments and other official documents from the early 1980s. The report it produced, entitled "The Soviet 'War Scare,'" served as a retrospective assessment of what many believe was the most dangerous period of the Cold War since the Cuban Missile Crisis.

<https://nationalinterest.org/blog/buzz/russia-and-america-barely-avoided-horrific-nuclear-war-1983-91451>

Russia's First Upgraded Borei-Class Submarine Test Fires Bulava Ballistic Missile

Franz-Stefan Gady, The Diplomat, October 30, 2019

Russia's First Upgraded Borei-Class Submarine Test Fires Bulava Ballistic Missile

The nuclear-powered ballistic missile submarine (SSBN) Knyaz Vladimir (Prince Vladimir), the Russian Navy's first upgraded Project 955A Borei II-class ("North Wind") or Dolgorukiy-class boomer, has for the first time fired a RSM-56 Bulava (NATO reporting name: SS-N-32) submarine-launched ballistic missile (SLBM) as part of its final certification tests, the Russian Ministry of Defense (MoD) said in an October 30 statement. The Knyaz Vladimir launched the Bulava SLBM from a submerged position in the White Sea, an inlet of the Barents Sea, off the northwest coast of Russia. The missile hits its designated target on the Kura missile test range on the Kamchatka peninsula in Russia's Far East, according to the MoD.

<https://thediplomat.com/2019/10/russias-first-upgraded-borei-class-submarine-test-fires-bulava-ballistic-missile/>

Russia, the Indispensable Nation in the Middle East

Eugene B. Rumer, Foreign Affairs, October 31, 2019

Russia is on a roll in the Middle East. Russian airpower saved the Assad regime from certain defeat. Turkey and Israel must now accept the presence of Russian troops on their borders. Saudi Arabia has given Russian President Vladimir Putin the red-carpet treatment. And U.S. President Donald Trump thanked Putin for facilitating the operation to kill Abu Bakr al-Baghdadi, the leader of the Islamic State (or ISIS). Throughout the Middle East, from North Africa to the Persian Gulf, Russia is ubiquitous, with its high-level visitors, its weapons, its mercenaries, and its deals to build nuclear power plants. Russia has gotten involved in this region as the United States pulls back from it—a trend that even the success of the Baghdadi raid can do little to conceal.

The reemergence of Russia as a major power broker in the Middle East is striking not only in contrast with the United States' erratic posture in the region but because for a quarter century after the Cold War, Russia had been absent from the region. But Russia's absence, and not its return, is the anomaly.

<https://www.foreignaffairs.com/articles/middle-east/2019-10-31/russia-indispensable-nation-middle-east>

U.S. Navy Beware! Russian Submarines Surge Into the Atlantic

David Axe, National Interest Blog, October 31, 2019

The Russian navy in mid-October 2019 sortied eight submarines in the country's biggest undersea exercise since the Cold War.

The eight submarines, including six nuclear-powered ships, sailed from their bases in northern Russia into the cold waters of the Barents and Norwegian Seas. At the same time, an additional two boats

– the nuclear-powered *Sierra*-class attack submarines Pskov and Nizhny Novgorod – sailed into roughly the same waters for tests and training.

<https://nationalinterest.org/blog/buzz/us-navy-beware-russian-submarines-surge-atlantic-92336>

Russia and China: Dangerous Nuclear Strategies

Peter Huessy, The Epoch Times, October 31, 2019

Both Russia and China have adopted a strategy threatening the use of very limited nuclear strikes against the United States even against our mainland, most probably in the pursuit of regional security objectives such as a conventional conflict in Eastern Europe in the case of Russia or Taiwan in the case of China.

This is different than the most common nuclear threats we faced during the Cold War which was having to stop the use of large-scale nuclear weapons as part of, for example, a Soviet invasion of Western Europe.

https://www.theepochtimes.com/russia-and-china-dangerous-nuclear-strategies_3133495.html

West Asia

Iran

Will Iran Move From Small Nuke Violations to the Countdown to a Bomb?

Yonah Jeremy Bob, Jerusalem Post, October 25, 2019

The problem with deadlines is that they force you either to act or look weak due to inaction. Will Iran's expected November deadline and expected new violation of the 2015 nuclear deal finally lead to speeding up the countdown toward Tehran breaking out to a nuclear weapon and a possible Israeli or US preemptive strike?

Read More Related Articles Iran's three previous deadlines for the US to remove the sanctions against it and three recent minor violations of the deal have failed to pressure the US, Israel, the Saudis and most of the West into submitting to its positions.

The Islamic Republic wants the deal to remain as is. In contrast, the other parties want a combination of extending the nuclear limits beyond the mid-2020s, new limits on Iran's hegemonic ambitions in the Middle East and new limits on its ballistic missile program.

<https://www.jpost.com/Opinion/Security-and-Defense-From-rocky-to-explosive-605739>

Turkey

Erdogan's Ambitions Go Beyond Syria.

New York Times, October 20, 2019

A month before invading Kurdish areas in Syria, Turkey's president said he "cannot accept" the West's restrictions that keep him from a bomb. Turkey's president, Recep Tayyip Erdogan, wants more than control over a wide swath of Syria along his country's border. He says he wants the Bomb. In the weeks leading up to his order to launch the military across the border to clear Kurdish areas, Mr. Erdogan made no secret of his larger ambition. "Some countries have missiles with nuclear warheads," he told a meeting of his governing party in September. But the West insists "we can't have them," he said. "This, I cannot accept." With Turkey now in open confrontation with its NATO allies, having gambled and won a bet that it could conduct a military incursion into Syria and get away with it, Mr. Erdogan's threat takes on new meaning. If the United States could not prevent the Turkish leader from routing its Kurdish allies, how can it stop him from building a nuclear weapon or following Iran in gathering the technology to do so? It was not the first time Mr. Erdogan has spoken about breaking free of the restrictions on countries that have signed the Nuclear Nonproliferation Treaty, and no one is quite sure of his true intentions. The Turkish autocrat is a master of keeping allies and adversaries off balance, as President Trump discovered in the past two weeks.

<https://www.nytimes.com/2019/10/20/world/middleeast/erdogan-turkey-nuclear-weapons-trump.html>

Why the U.S. Has Nuclear Weapons in Turkey – And May Try to Put the Bombs Away

Miles A. Pomper, October 25, 2019

As the Syrian crisis pits Turkish troops against former U.S.-allied Kurdish forces, Pentagon officials have been reviewing plans to remove 50 nuclear bombs stored at a U.S. air base in Turkey. Recommended by a congressional directive to the Pentagon to quickly assess alternative homes for U.S. “personnel and assets” currently stationed at Incirlik Air Base is part of a broader bipartisan bill, still being debated, that proposes sanctions against Turkey. President Donald Trump has been forced to issue public reassurances that the weapons are secure. During the Cold War, the U.S. stationed B-61 nuclear bombs in Turkey, among other NATO countries. Formally, the U.S. controlled the weapons during peacetime, but the host countries’ forces trained and equipped planes so they could drop the bombs with U.S. support in the case of war. The idea was to deter Soviet ground forces and reassure U.S. allies by making clear that the U.S. would be willing to risk nuclear war to block a Soviet invasion of a country hosting the bombs. In addition, in the years before the U.S. developed intercontinental ballistic missiles, they presented a way for NATO to demonstrate it could act quickly to respond to a Soviet attack. The 50 bombs still at Incirlik Air Base, in southern Turkey – and others in Belgium, Germany, Italy and the Netherlands – are the last nuclear remnants of that Cold War strategy. The U.S. began pulling nuclear bombs out of NATO countries after the Cold War ended, and since 2000 has removed 40 bombs from Turkey.

<https://nationalinterest.org/blog/buzz/why-us-has-nuclear-weapons-turkey%E2%80%94and-may-try-put-bombs-away-90771>

It’s Time To Get U.S. Nukes Out Of Turkey

Steven Pifer, The National Interest, October 30, 2019

US.-Turkish relations have plunged to a new nadir. In the past month, a senior Republican

senator has suggested suspending Turkey’s membership in the NATO alliance, while the secretary of state implied a readiness to use military force against America’s wayward ally. Recommended by In these circumstances, U.S. nuclear weapons have no business in Turkey. It is time to bring them home. The signs of a strained and deteriorating relationship are hard to miss. President Recep Tayyip Erdogan, Turkey’s increasingly autocratic leader, has turned away from both Europe and the United States. He instead is actively cultivating a close relationship with fellow authoritarian Vladimir Putin, as evidenced by their eight meetings just this year. Erdogan rejected buying U.S. Patriot air defense missiles in favor of Russian S-400s – missiles that are incompatible with NATO’s integrated air defense system.

As a result, the United States excluded Turkey from taking part in the F-35 Joint Strike Fighter program, leaving the question of Turkey’s next-generation fighter literally up in the air. Following President Donald Trump’s rash decision to withdraw the small U.S. military contingent from eastern Syria, Erdogan launched the Turkish army on a major offensive. In doing so, he showed no regard for the Kurdish forces that did so much in collaboration with the U.S. military to destroy ISIS at great cost – some ten thousand Kurdish fighters killed.

<https://nationalinterest.org/blog/middle-east-watch/its-time-get-us-nukes-out-turkey-92081>

East Asia

North Korea

Why North Korea walked away from negotiations in Sweden

Jung H. Pak, Brookings October 18, 2019

sixteen months after the Singapore summit between President Trump and North Korean leader Kim Jong Un, nuclear negotiators finally met for eight hours in Stockholm earlier this month. The talks fell apart after just one day, with North Korea’s representative Kim Myong Gil

blaming the U.S. for its “failure to abandon its outdated viewpoint and attitude.” North Korea’s foreign ministry rejected the U.S. Department of State press release that described the conversations as “good discussions” and proposed resuming talks in two weeks. Instead, the foreign ministry stated that it has “no intention to hold such sickening negotiations...before the U.S. takes a substantial step to completely and irreversibly abandon the hostile policy” against North Korea.

North Korea’s blustery statements – and its reiteration of the year-end deadline for the U.S. to change its “attitude” – reflect the Kim regime’s confidence and its perceived position of strength vis-à-vis the Trump administration. Moreover, Kim Myong Gil’s vague warning about resumption of nuclear and long-range ballistic missile testing augur a tense autumn and a worrisome return to brinkmanship by Pyongyang. Kim Jong Un has several reasons for thinking his latest gamble to pressure Washington will pay off. First, Kim has been emboldened by the president’s comments since the two leaders’ first summit in Singapore. Trump has said, among other things, that he has fallen “in love” with Kim, admired Kim’s autocratic behavior, absolved Kim of his role in the torture and death of U.S. college student Otto Warmbier, agreed with the dictator that U.S.-South Korea military exercises are “ridiculous and expensive,” and dismissed the slew of short-range ballistic missiles as being “very standard” and “not a violation of our signed Singapore agreement.”

<https://www.brookings.edu/blog/order-from-chaos/2019/10/18/why-north-korea-walked-away-from-negotiations-in-sweden/>

Nearly 4,000 civilian deaths in North Korea tied to sanctions: report

Zack Budryk, The Hill, October 30, 2019

Sanctions against North Korea contributed to more than 4,000 civilian deaths last year due to a lack of access to humanitarian assistance, according to a new report commissioned by Korea Peace Now, an international group dedicated to permanently ending the Korean War. The assessment by an international and

multidisciplinary panel of independent experts found that 3,968 North Koreans died due to sanctions-related delays and funding deficits in 2018, including 3,193 children under the age of 5 and 72 pregnant women.

United Nations programs that address malnutrition, hygiene and sanitation issues, reproductive health and vitamin A deficiencies were hit especially hard, according to the report.

https://thehill.com/policy/international/asia-pacific/468146-nearly-4000-civilian-deaths-in-north-korea-tied-to-sanctions-report?utm_source=AM%20Nukes%20Roundup&utm_campaign=8a47799bc-EMAIL_CAMPAIGN_2018_07_25_12_19_COPY_01&utm_medium=email&utm_term=0_547ee518ec-8a4779f9bc-391858093

South Korea

The Remaking of South Korean Conservatism in the Age of Trump

Eun A Jo, National Interest, October 31, 2019

The chemistry between Donald Trump and Kim Jong-un has proved resilient to diplomatic doldrums. Trump has defended Kim against the revelations of another violent purge and applauded him for calling the Democratic frontrunner Joe Biden a “low IQ individual.” Not long after, they met for a widely featured handshake at the Korean border, making Trump the first sitting U.S. president to step on North Korean soil. Though little substantive progress was made in its aftermath, Trump has continued to excuse Kim’s missile launches as “standard” while deriding the U.S.-South Korea joint military exercises as “ridiculous and expensive.” Now with the timely exit of John Bolton, hopes of another Trump-Kim summit are on the rise again.

Among the biggest losers of this largely hollow diplomatic exercise are South Korea’s conservatives. For them, Trump’s adulation of Kim poses a threat that is more profound than their policy setback on North Korea—it challenges their identity, which for decades had been

defined by its anti-North Korean and pro-U.S. stance. One debate, in particular, lays bare this struggle: South Korea's nuclear armament.

<https://nationalinterest.org/blog/korea-watch/remaking-south-korean-conservatism-age-trump-92256>

North Korea's own goal

Park Moo-jong, Korea Times, October 17, 2019

There were no spectators, no live TV coverage, no reporters, no grass pitch and no goals for a bizarre South and North Korean football match to qualify for the 2022 Qatar World Cup in the entirely empty Kim Il-sung Stadium in Pyongyang, Tuesday. The strangest game (as described by BBC) was expected as the authoritative regime of Kim Jong-il, grandson of Kim Il-sung, flatly rejected global news coverage of the "historic" event.

What surprised people around the world, particularly South Koreans, was the vacant stands. The South had been much concerned about a unique home advantage and the unilateral cheering of the home crowd jam-packing the 50,000-capacity stadium devoid of South Korean supporters. Why did the North even deny its own people the right to attend the game, even giving up the certain home advantage? The answer is simple. Since the Korean War, provoked by Kim Il-sung June 25, 1950, ended July 27, 1953, with an armistice and not a peace treaty the two Koreas are still technically at war.

http://www.koreatimes.co.kr/www/opinion/2019/10/137_277251.html

Japan

Why Japan's Radioactive Water May End Up In the Ocean

Aaron Clark and Stephen Stapczynski, Washington Post, October 18, 2019

The Japanese utility giant Tepco is considering a plan to dump roughly 1 million cubic meters of treated radioactive water — enough to fill 400 Olympic-size swimming

pools — from the wrecked Fukushima Dai-Ichi nuclear power plant into the Pacific Ocean, part of its nearly \$200 billion effort to clean up the worst atomic accident since Chernobyl. Storage tanks at the site are forecast to be full by mid-2022, and space for building more is scarce. Scary as it sounds, discharges are common practice in the industry and would likely meet global guidelines. That hasn't assuaged angry locals or neighboring South Korea.

A 2011 earthquake, the strongest ever recorded in Japan, and ensuing tsunami caused structural damage to Fukushima's reactor buildings, about 220 kilometers (135 miles) north of Tokyo. About 100 cubic meters of groundwater flows in daily, where it mixes with melted fuel and becomes contaminated. The tainted water is pumped out and run through something called the Advanced Liquid Processing System, or ALPS, then stored in one of roughly 1,000 tanks at the site. The processing removes most of the radioactive elements except for tritium. Before being released, the so-called tritiated water would be reprocessed to ensure all of it meets safety standards, according to the Ministry of Economy, Trade and Industry.

https://www.washingtonpost.com/business/energy/why-japans-radioactive-water-may-end-up-in-the-ocean/2019/10/18/2f6cb4a0-f16e-11e9-bb7e-d2026ee0c199_story.html

SDF deployment to Middle East would put Japan in risky waters

The Asahi Shimbun, October 21, 2019

Japan's plan to deploy the Self-Defense Forces to areas near the Strait of Hormuz, if implemented, could gum up diplomatic efforts to ease tensions between the United States and Iran. We cannot support the envisioned SDF mission in the region that is at the heart of the acrimonious confrontation between Washington and Tehran at the moment. Prime Minister Shinzo Abe's administration is considering dispatching SDF troops to the volatile region to protect tankers and other vessels on its own instead of joining the international "coalition" to safeguard ships

being pushed by U.S. President Donald Trump.

It is obviously an idea the Abe administration has hammered out in desperate efforts to avoid upsetting the Trump administration without damaging Japan's traditionally good relationship with Iran. The plan on the table would exclude the Strait of Hormuz and the Persian Gulf from the areas where the SDF would operate in a clear sign that Tokyo wants to avoid straining its ties with Tehran. Abe has been making diplomatic efforts to mediate between the United States and Iran. He visited Iran in June and held talks with the leaders of both countries during his visit to New York to attend the U.N. General Assembly meeting. In its editorials, *The Asahi Shimbun* has expressed its support for his mediation diplomacy.

<http://www.asahi.com/ajw/articles/AJ201910210024.html>

TEPCO needs to make its case for bailing out aging nuclear plant

The Asahi Shimbun, October 31, 2019

Tokyo Electric Power Co. Holdings Inc. (TEPCO) decided on Oct. 28 to provide financial support to Japan Atomic Power Co., the operator of the aging Tokai No. 2 nuclear power plant. TEPCO will provide support to help Japan Atomic Power finance the work to implement legally required safety measures at the plant in the form of advance payments for the electricity it plans to buy from the company in the future. Japan Atomic Power is seeking to restart the currently offline plant in Ibaraki Prefecture.

TEPCO says it made the decision because the plant is expected to serve again as "a source of power that helps provide inexpensive and stable electricity that emits less carbon dioxide to customers." At a news conference to announce the decision, however, the utility did not disclose the amount it will provide, although it is estimated to exceed 220 billion yen (\$2.02 billion). The company also refused to reveal the price at which it will buy electricity generated at the plant, failing to back up its claim that the power will be "inexpensive."

TEPCO even kept mum about an outline of its planned financial aid that can be easily guessed by other electric utilities or experts, saying providing such information would "put us at a disadvantage in competition with other companies." TEPCO, the operator of the crippled Fukushima No. 1 nuclear power plant, has been put under effective state control so that it can pay huge amounts in compensation to victims of the 2011 nuclear disaster and also finance the colossal cost of decommissioning the reactors destroyed by the core meltdowns. TEPCO is coming to the rescue of another financially struggling company while being kept alive with taxpayer money. But it does not offer detailed information about its rescue plan or convincing reasons for the action. How can the utility expect to win public support for the plan?

<http://www.asahi.com/ajw/articles/AJ201910310032.html>

R. Reports

Nuclear Energy: A Glimpse into Tomorrow

Energy Industry Review, October 2019

Why nuclear? There is a clear need for new generating capacity around the world, both to replace old fossil fuel units, especially coal-fired ones, which emit a lot of carbon dioxide, and to meet increased demand for electricity in many countries. In 2016, 65.0% of electricity was generated from the burning of fossil fuels. Despite the strong support for, and growth in, intermittent renewable electricity sources in recent years, the fossil fuel contribution to power generation has remained virtually unchanged in the last 10 years or so.

In nuclear fusion, energy is released when atoms are combined or fused together to form a larger atom. This is how the sun produces energy. In nuclear fission, atoms are split apart to form smaller atoms, releasing energy. Nuclear power plants use nuclear fission to produce electricity. Nuclear reactions involve changes in an atom's nucleus and thus cause a change

in the atom itself. Unlike normal chemical reactions that form molecules, nuclear reactions result in the transmutation of one element into a different isotope or a different element altogether. There are two types of nuclear reactions. The first is the radioactive decay of bonds within the nucleus that emit radiation as it decays or transforms to a more stable state. The second is the 'billiard ball' type of reactions, where the nucleus or a nuclear particle (like a proton) is slammed into by another nucleus or nuclear particle.

<https://energyindustryreview.com/analysis/nuclear-energy-a-glimpse-into-tomorrow/>

Issuance of Iran-related General License K

US Department of the Treasury's Office of Foreign Assets Control, October 24, 2019

Except as provided in paragraph (b) of this general license, all transactions and activities prohibited pursuant to section 5 of Executive Order (E.O.) 13846 that are ordinarily incident and necessary to the maintenance or wind down of transactions involving, directly or indirectly, Cosco Shipping Tanker (Dalian) Co., Ltd., or any entity owned, directly or indirectly, 50 percent or more by Cosco Shipping Tanker (Dalian) Co., Ltd., including any transaction or dealing in property or interests in property of the foregoing, are authorized through 12:01 a.m. eastern standard time December 20, 2019. (b) This general license does not authorize: (1) Any transactions or activities with Cosco Shipping Tanker (Dalian) Seaman and Ship Management Co., Ltd., or any entity owned, directly or indirectly, 50 percent or more by Cosco Shipping Tanker (Dalian) Seaman and Ship Management Co., Ltd.;

<https://www.treasury.gov/resource-center/sanctions/OFAC-Enforcement/Pages/20191024.aspx>

S. Interviews

'The fear of escalation between India and Pakistan is very real'

Shazia Hasan, Dawn, October 19, 2019

"Today is the 75th day of the brutal curfew in India-held Kashmir invoking a nuclear

threat," said Dr Rabia Akhtar, director of a policy research centre and a member of the prime minister's advisory council on foreign affairs. She was speaking at a programme titled 'Kashmir: a Nuclear Flashpoint' at the Pakistan Institute of International Affairs on Friday. "Since February, when India attacked Pakistan in Balakot, people have been worried. But during the Balakot strikes, Prime Minister Imran Khan refrained from the 'N' word. Neither did the DG ISPR mention it," she continued.

<https://www.dawn.com/news/1511598>

Non-Proliferation and Emerging Technologies

Ulrich Kuhn, Carnegie Moscow Centre, October 23, 2019

The Institute For Peace Research And Security Policy At The University Of Hamburg (Ifsh) Has Recently Expanded Its Research On Arms Control And Emerging Technologies. What Are The Main Topics That You Are Exploring Within This New Program?

Ulrich Kuhn : IFSH Hamburg has a rich history of researching arms control and dual-use technologies – one that dates back to the early 1970s. Now, with the financial support of the German Foreign Office we are able to significantly expand our research and tackle such diverse topics as autonomous weapons, cyber security or artificial intelligence. We just hired eight senior researchers from three different continents. For me, the big question is how to steer the potential impact of those enabling technologies on peace and security in the 21st century, and to do so in a cooperative fashion. Aside from emerging technologies, we are trying to help overcome the deep crisis in arms control policies by developing new concepts for verification and negotiation. My goal is to establish a "Hamburg School" of thought on all these issues so that Hamburg becomes a leading hub for innovative and creative thinking on arms control and emerging technologies.

How would you describe the impact of “Emerging Technologies” on arms control and non-proliferation regimes?

Ulrich Kuhn : To be honest, we do not know yet. Some technologies, such as additive manufacturing might have a far-ranging impact on work procedures comparable to the assembly line but may also have only marginal ramifications in the realm of nonproliferation. Other technologies such as machine learning might provide the basis for fully autonomous weapons systems that could significantly change how humanity thinks about and conducts war. Then again, certain technologies such as hypersonic glide vehicles might only occupy a niche in military planning. What I do not like is the current hype around emerging tech. Technologies have always emerged and we have seen many technological leaps forward. We have also seen technologies stagnating for decades – AI being one example. Perhaps most importantly, policy-makers are under the false impression that they are coming too late and that there is no time for regulating new dual-use technologies. But that impression is misleading. It took states over 40 years to come up with a regulatory frame for missiles – the Missile Technology Control Regime. Sometimes political processes simply take time.

<https://carnegieendowment.org/2019/10/23/non-proliferation-and-emerging-technologies-pub-80165>

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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