

Nuclear, Missile & Space Digest

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- Russia says U.S. remains isolated at IAEA meeting on Iran
- Europe should pay price to salvage JCPOA: envoy
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- North Korea says will not offer anything to Trump without receiving in return: KCNA
- KAPPC chief warns US against anti-DPRK hostility
- North Korea says it's gained nothing from US but 'betrayal'
- N. Korea, Russia discuss 'strategic communications, cooperation
- North Korea appears to have launched a missile, Japan's coastguard says
- North Korea test fires rockets in Thanksgiving reminder of year-end deadline for U.S.
- N. Korea hails 'successful test of super-large multiple rocket launcher'
- North Korea threatens Japan with 'real ballistic missile'

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- 'Third US-North Korea summit to surely produce results': Moon
- Ruling, main opposition parties welcome gov't's decision to postpone GSOMIA termination
- South Korea decides to renew GSOMIA
- Ambassador hopes GSOMIA decision helps strengthen S. Korea-US ties
- NK's latest weapons test intended to warn it can return to past behavior: Seoul
- Top nuclear envoys of S. Korea, US, Japan hold phone talks on NK firing

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- Pope Francis to take anti-nuclear mission to Japan's ground zeros
- China warns Japan, S. Korea over deployment of U.S. missiles
- Pope calls use of nuclear weapons immoral in video post to Japan

- Rich in dramatic Catholic history, Nagasaki awaits the pope
- Pope in Hiroshima: Use and possession of atom bomb 'immoral'
- Pope urges abolition of nuclear weapons at Japan's ground zeros
- In Japan, Pope Francis urges rethink of reliance on nuclear energy
- Pope urges world leaders to renounce nuclear weapons
- Pope Francis leaves Japan after trip centred on anti-nuclear message
- Tohoku reactor close to 2011 quake epicenter OK'd to restart

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- Are India and China Drifting into War?
- U.S.-India Defense Ties Grow Closer as Shared Concerns in Asia Loom
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- Rising irrationality in India's nuclear thinking

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- Nuclear is a necessary part of our clean-energy future
- Trump official who suggested dropping nuclear bombs on Afghanistan now responsible for arms control issues

Russia

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- Why Did Russia Launch 8 Submarines All at Once?
- World War III? In 1956, Russia Almost Fought Britain, France, and Israel With Nuclear Weapons
- NATO Nukes Can't Save the Baltic States From a Russian Invasion
- Nuclear reactors with a newly proposed barrier could've withstood Chernobyl and Fukushima
- Meet the Terrifying Russian 'Stealth' Submarine That Scares the U.S. Navy
- Russia set to dominate the Arctic unless Canada acts quickly to address shipping concerns
- Russia, China, Arms Control, and the Value of New START

West Asia

Iran

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- US cancels civil nuclear cooperation waiver for Iran
- Inside Iran's plot to attack Saudi Arabia - analysis
- The missile and nuclear threat from Iran

East Asia

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- N. Korea's ultimatum
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- North Korea Test Fires Rockets Ahead Of Nuclear Talks Deadline
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- Is Nuclear Power a Solution for Climate Change?
- Nuclear Power Does Slow Climate Change
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- In Japan, Pope Francis denounces nuclear weapons and questions nuclear power
- What happened after an explosion at a Russian disease research lab called VECTOR?

P. Original Reports and Documents

- India's Thorium (Nuclear Fuel) Market Outlook to 2023 - India is Set to Become a
- Global Manufacturing Hub, Increasing the Demand for Nuclear Power in the Future
- Update to OFAC's list of Specially Designated Nationals (SDN) and Blocked Persons
- Issuance of New and Amended Iran-related Frequently Asked Questions

A. India

India: Parliament in session, ministry's answers to question session

Launch of Chandrayaan-II

PIB Delhi, November 20, 2019

The approved cost of Chandrayaan-II Project is Rs. 603 Crore (excluding launch cost). Chandrayaan-II was launched on-board the GSLV MK III M1. The cost of GSLV MK III M1 vehicle is Rs. 367 Crore. Chandrayaan-II Spacecraft was successfully launched. The objectives of Chandrayaan-II Mission were: 1. Scientific studies through payloads on-board the orbiter, 2. Technology demonstration of soft landing and roving on the lunar surface. The indigenously developed Chandrayaan-2 spacecraft comprising of Orbiter, Lander and Rover was successfully launched on-board indigenous GSLV MK III-M1 Mission on 22nd July 2019. After accomplishing four earth bound maneuvers and Trans Lunar Injection, the spacecraft was successfully inserted into the Lunar orbit on 20th August 2019. A series of moon bound maneuvers were then carried out to achieve a Lunar orbit of 119x127 km. The Lander 'Vikram' was separated, as planned, from the Orbiter on 2nd September 2019. After two successful de-orbiting maneuvers, powered descent of the Lander was initiated on 7th September 2019 to achieve soft landing on the moon surface.

Most of the components of Technology demonstration, including the launch, orbital critical maneuvers, lander separation, de-boost and rough braking phase were successfully accomplished. With regards to the scientific objectives, all the 8 state of the art scientific instruments of the Orbiter are performing as per the design and providing valuable scientific data. Due to the precise launch and orbital maneuvers, the mission life of the Orbiter is increased to 7 years. The data received from the Orbiter is being provided continuously to the scientific

community. The same was recently reviewed in an all India user meet organized at New Delhi.

<https://pib.gov.in/PressReleseDetailm.aspx?PRID=1592495>

Progress of IRNSS

PIB Delhi, November 20, 2019

India's indigenous navigation satellite system termed as Navigation with Indian Constellation (NavIC) is already established by ISRO and is functional since April 2018. NavIC consists of Space Segment (constellation of seven IRNSS satellites) and Ground Segment (spread across India). The system is providing Positioning, Navigation and Timing (PNT) service and one satellite (IRNSS-1A) is providing messaging service.

Use of AIS-140 compliant NavIC-based vehicle trackers system has been made compulsory to all commercial vehicles. More than 75 companies are now manufacturing NavIC based vehicle trackers, and several thousand vehicles are now plying on the roads equipped with these devices. The updated version of new mobile models will be having NavIC based positioning systems. NavIC has been accepted by 3GPP (Third Generation Project Partnership) thereby enabling incorporation of NavIC as part of assisted GNSS. NavIC is also useful for applications like timing solution, drones, surveying, weather radiosondes, forestry, precision agriculture, etc.

<https://pib.gov.in/PressReleseDetailm.aspx?PRID=1592496>

Satellites to Assess Pollution Status

PIB Delhi, November 20, 2019

The Imager payload on-board ISRO's INSAT-3D & 3DR satellites is used to monitor Aerosol Optical Depth (AOD), which is indicator of particles and smoke from biomass burning affecting visibility

and increase of PM2.5 and PM10 concentration in the atmosphere. It is found that AOD, PM2.5 and PM10 concentrations are higher over Indo-Gangetic Plain covering parts of Delhi, Uttar Pradesh and Bihar during October and November. High concentration of these pollutants is seen originating from parts of Punjab and Haryana during stubble burning.

INSAT 3D & 3DR Imager based AOD, PM2.5 and PM10 spatial maps are made available on web portals viz airquality.iirs.gov.in and www.mosdac.gov.in along with other ancillary parameters for visualization. Using medium resolution Indian Remote Sensing (IRS) satellite data, stubble burned area maps are generated at the end of stubble burning activity in Kharif season. ISRO has been carrying out monitoring of stubble burning since 2015. The products generated are comparable to the NASA products.

<https://pib.gov.in/PressReleaseDetailm.aspx?PRID=1592494>

Cyber attack on KKNPP

PIB Delhi, November 20, 2019

A malware infection was identified in NPCIL KKNPP Internet connected system. There was an identification of a malware infection on KKNPP administrative network used for day to day administrative activities. The affected system contains data related to administrative function. Plant control and instrumentation system is not connected to any external network such as Intranet, Internet and administrative system. The malware infection was not able to get access to the controls of the Nuclear Power Plant. Investigations have been carried out by the Computer & Information Security Advisory Group (CISAG) – DAE along with the national agency, Indian Computer Emergency Response Team (CERT-In). The investigation concluded that the malware infection was limited to the administrative network of KKNPP.

<https://pib.gov.in/PressReleaseDetailm.aspx?PRID=1592498>

Preparations for Chandrayaan-3 Mission

PIB Delhi, November 20, 2019

ISRO has drawn out a roadmap of lunar exploration missions to master the technologies required. This roadmap has been presented to the space commission. Based on the final analysis and recommendations of the expert committee, work on future lunar missions is progressing.

The expert committee has analyzed the flight data and extensive simulations were carried out to re-construct the flight behavior. The recommendations of the expert committee will be implemented in future lunar missions.

<https://pib.gov.in/PressReleaseDetailm.aspx?PRID=1592835>

Commercial Exploitation of Space Research and Development

PIB Delhi, November 21, 2019

A new company by name, "New Space India Limited (NSIL)", has been incorporated on 06th March 2019, as a wholly owned Government of India Undertaking / Central Public Sector Enterprise (CPSE), under the administrative control of Department of Space (DOS) to commercially exploit the research and development work of Indian Space Research Organisation (ISRO).

Mandate of NSIL includes viz. (i) Small Satellite technology transfer to industry wherein NSIL will obtain license from DOS/ISRO and sub-license it to industries; (ii) Manufacture of Small Satellite Launch Vehicle (SSLV) in collaboration with Private Sector; (iii) Productionisation of Polar Satellite Launch Vehicle (PSLV) through Indian Industry; (iv) Productionisation and marketing of Space based services, including launch and application; (v) Transfer of technology developed by ISRO Centres and constituent institutions of DOS; and (vi)

Marketing of spin-off technologies and products, both in India and abroad and (vii) any other subject which Government of India deems fit.

All the involved technologies related to ISRO's small satellite and its sub-systems that could be transferred to Indian industries for productionisation which eventually would cater to national demand as well as commercial needs of domestic and global market. This activity is also likely to give rise to several spin-off technologies that could be marketed nationally and globally.

Through the sale of products related to small satellite, sub-system technology and the spin off products in domestic and global market, foreign exchange revenue will be generated.

<https://pib.gov.in/PressReleaseDetailm.aspx?PRID=1592832>

Nuclear Power Plants for Electricity Generation

PIB Delhi, November 21, 2019

The present installed nuclear power capacity in the country comprises of 22 reactors with a total capacity of 6780 MW. Of these one reactor, RAPS-1 (100 MW) is under extended shutdown for techno-economic assessment. The nuclear power plants contribute about 3% of the total electricity generated in the country. The electrical energy requirement of the country for year 2018-19 is 1274595 MUs whereas projected energy requirement for year 2021-22 is 1566023 MUs. The percentage increase in energy requirement for the country till 2021-2022 w.r.t. energy requirement of 2018-19 is 22.86%

<https://pib.gov.in/PressReleaseDetailm.aspx?PRID=1592807>

Functioning of Kudankulam Nuclear Power Plant

PIB Delhi, November 27, 2019

The second unit of Kudankulam Nuclear Power Plant (KKNPP) -2 is operating at about 65% power. KKNPP-2 is presently

being operated at about 65% power as increased vibration in generator stator is observed at higher power levels. The generator stator is planned to be replaced during the next refueling outage planned from December 2019, following which the unit is expected to be operated at full power.

<https://pib.gov.in/PressReleaseDetailm.aspx?PRID=1593772>

India's Nuclear Energy Target

PIB Delhi, November 27, 2019

Seven (07) reactor units with a capacity of 5300 MW are under construction and excavation is in progress for start of construction of four (04) more units having a capacity of 3400 MW. The Government has accorded administrative approval and financial sanction of ten (10) more reactor units of 700 MW each. Additionally, the Government has accorded 'in-principle' approval to five (05) sites of which four (04) sites are earmarked for housing six large size reactor units at each site in cooperation with foreign technology partners and one site for housing four reactor units based on indigenous technology.

The Government has taken several measures for augmenting nuclear power capacity. These include:

- i. Accord of administrative approval and financial sanction of - ten (10) indigenous 700 MW Pressurized Heavy Water Reactors (PHWRs) to be set up in fleet mode & two (02) units of Light Water Reactors (LWRs) to be set up in cooperation with Russian Federation.
- ii. Creation of Indian Nuclear Insurance Pool (INIP) in the context of Civil Liability for Nuclear Damage (CLND) Act 2010.
- iii. Amendment of the Atomic Energy Act to enable Joint Ventures of Public Sector Companies to set up nuclear power projects.

- iv. Entering into enabling agreements with foreign countries for nuclear power cooperation.

<https://pib.gov.in/PressReleaseDetailm.aspx?PRID=1593770>

Cyber Security Audit Kknpp

PIB Delhi, November 27, 2019

Complete check of the administrative network of Kudankulam Nuclear Power Plant (KKNPP) was done by Indian Computer Emergency Response Team (CERT-In) along with Computer & Information Security Advisory Group (CISAG) of Department of Atomic Energy (DAE). Certain measures for immediate and short term implementation has been recommended. Several measures have been taken for further strengthening of Information Security in administrative networks viz. hardening of internet and administrative intranet connectivity, restriction on removable media, blocking of websites & IPs which have been identified with malicious activity etc.

<https://pib.gov.in/PressReleaseDetailm.aspx?PRID=1593768>

Proposal of ISRO to transfer space-grade Li-Ion cell technology to BHEL

PIB Delhi, November 28, 2019

ISRO has transferred its indigenous technology to produce space-grade Li-Ion cells to BHEL.

In March 2018, BHEL signed the Technology Transfer Agreement with ISRO for acquiring the Li-Ion Cell production technology. This production facility is primarily targeting to meet Li-Ion Cell requirements for ISRO and other strategic sectors. However, BHEL can also produce and sell Li-Ion cells for meeting other national/commercial applications by suitably modifying the space-grade cell which can lead to cost reduction.

BHEL is in the process of establishing the Li-Ion production facility near Bangalore in Karnataka. Various equipments (both

indigenous and imported) for establishing this facility are procured and being commissioned. ISRO has already provided all technical documentation for establishing the production plant as well as hands-on training in various production activities for BHEL staff at ISRO's facilities.

As per the Technology Transfer Agreement, space-grade Li-Ion cells manufactured by BHEL are meant for meeting the national requirements only. However, BHEL can also sell the space-grade Li-Ion cells to parties outside India after obtaining prior written consent from ISRO.

<https://pib.gov.in/PressReleaseDetailm.aspx?PRID=1594002>

Setting Up of Rocket Launching Pad in Tamil Nadu

PIB Delhi, November 28, 2019

Government has proposal to set up rocket launching pad near Kulasekarapattinam in the State of Tamil Nadu.

<https://pib.gov.in/PressReleaseDetailm.aspx?PRID=1594001>

Contract to Supply Uranium Ore Concentrates

PIB Delhi, November 28, 2019

India has signed a long term contract with Uzbekistan on 18.01.2019 for supply of 1100 MTU of natural uranium ore concentrates during the years 2022 to 2026. India has entered into similar agreements with overseas suppliers from various countries like Canada, Kazakhstan and France for the supply of Uranium Ore.

<https://pib.gov.in/PressReleaseDetailm.aspx?PRID=1594022>

CHANDRAYAAN-III

PIB Delhi, November 27, 2019

ISRO has drawn out a roadmap of lunar exploration missions to master the technologies required. This roadmap has

been presented to the space commission. Based on the final analysis and recommendations of the expert committee, works on future lunar missions are progressing.

<https://pib.gov.in/PressReleaseDetailm.aspx?PRID=1593795>

PSLV-C47 successfully launches Cartosat-3 and 13 Commercial nanosatellites into Sun Synchronous Polar Orbit

PIB Delhi, November 27, 2019

India's Polar Satellite Launch Vehicle, in its forty ninth flight (PSLV-C47), successfully launched Cartosat-3 along with 13 Nanosatellites of USA from Satish Dhawan Space Centre (SDSC) SHAR, Sriharikota today. PSLV-C47 lifted-off at 0928 Hrs (IST) from the Second Launch Pad. After 17 minutes and 38 seconds, Cartosat-3 was successfully injected into a sun synchronous orbit of 509 km. Subsequently, the 13 nanosatellites were injected into their intended orbits. After separation, solar arrays of Cartosat-3 were deployed automatically and the ISRO Telemetry Tracking and Command Network at Bengaluru assumed control of the satellite. In the coming days, the satellite will be brought to its final operational configuration.

"Cartosat-3 is the most complex and advanced earth observation satellite built by ISRO." Dr Sivan said. He further added that it was a third generation agile advanced satellite having high resolution imaging capability.

The mission life of the Cartosat-3 is 5 years. Cartosat-3 will address the increased user's demands for large scale urban planning, rural resource and infrastructure development, coastal land use and land cover, etc. ISRO Chairman Dr K Sivan congratulated and complimented the launch vehicle and satellite teams involved in the mission. He also acknowledged the support from Indian Industry. PSLV-C47 was the 21st flight of PSLV in 'XL' configuration (with 6 solid strap-on motors).

This was the 74th launch vehicle mission from SDSC SHAR, Sriharikota and 9th satellite of Cartosat series. About 5000 visitors witnessed the launch live from the Viewer's Gallery in Sriharikota

<https://pib.gov.in/PressReleaseDetailm.aspx?PRID=1593673>

Dr Jitendra Singh calls for wider applications of nuclear technology in everyday life

PIB Delhi, November 29, 2019

The Minister of State (Independent charge) of the Ministry of DONER, Minister of State for PMO, Personnel, Public Grievances & Pensions; Atomic Energy & Space, DrJitendra Singh has called for wider applications of nuclear technology in everyday life. He said the vision of the founding father of India's nuclear programme, Dr. HomiBhabhawas not to limit the nuclear research to the confines of the laboratory, but to take the technology to the outside world for the benefit of mankind. He was addressing at a roadshow on Advances in Nuclear Food and Agriculture, organised by the Bhabha Atomic Research Centre (BARC), Department of Atomic Energy (DAE), here today. The Secretary, DAE, Shri K N Vyas and other senior officers were also present on the occasion.

DrJitendra Singh said way back in the Fifties, when Dr Homi Bhabhasaid our nuclear programme is based on the peaceful use of atomic energy, the world did not believe us. But today we are running a successful and safe nuclear energy programme.

<https://pib.gov.in/PressReleaseDetailm.aspx?PRID=1594303>

India conducts first night trial of Agni-II missile

India Today, November 16, 2019

India on Saturday successfully conducted the first night trial of nuclear-capable intermediate range ballistic missile Agni-

II from the Abdul Kalam Island off the Odisha coast.

The Strategic Forces Command of the Indian Army test-fired the versatile surface-to-surface medium-range nuclear-capable missile from launching complex IV of the Integrated Test Range on Saturday evening, defence sources said. Developed by the Defence Research and Development Organisation (DRDO), the missile has already been inducted into the armed forces.

The 20-metre-long, two-stage ballistic missile has a strike range of 2,000 km. It has a launch weight of 17 tonnes and can carry a payload of 1,000 kg, the sources said.

<https://www.indiatoday.in/india/story/india-conducts-first-night-trial-of-agni-ii-missile-1619704-2019-11-16>

Nuclear-capable Prithvi-II Missile successfully testfired off Odisha coast

Mohammad Suffian, India Today, November 21, 2019

India on Wednesday successfully test-fired two rounds of its indigenously developed nuclear-capable Prithvi-II missile back-to-back at night as part of a user trial by the Army from a mobile launcher from Launch Complex-3 of Chandipur Integrated Test Range (ITR) in Balasore district.

It is capable of carrying 500 to 1,000 kg of warheads and is powered by liquid propulsion twin engines. The state-of-the-art missile uses an advanced inertial guidance system with maneuvering orbit to hit its target.

<https://www.indiatoday.in/india/story/nuclear-capable-prithvi-ii-missile-successfully-testfired-off-odisha-coast-1621012-2019-11-21>

Tamil Nadu, Karnataka to soon have 440-MW of Nuclear power plants

IBT Times, November 25, 2019

A total of 440-megawatt (MW) of Nuclear Power generation is expected to begin

in Tamil Nadu and Karnataka between November 27 and December 1 this year, as per Power System Operation Corporation Ltd (POSOCO). The two units of 220 MW each belongs to India's nuclear power operator Nuclear Power Corporation of India Ltd (NPCIL). The first nuclear power unit that is expected to restart generation is the third unit 220 MW unit at Kaiga Generating Station in Karnataka that stopped generation on November 5, 2019 for 'Generator Protection Operated' said POSOCO.

<https://www.ibtimes.co.in/440-mw-nuclear-power-plants-tn-karnataka-soon-809301>

Make in India: Plans to build light water reactors in atomic power plants

C Shivakumar, The New Indian Express, November 30, 2019

Is India looking at building light water reactors (LWRs) under 'Make in India' programme? According to Russia's Rosatom State Atomic Energy Corporation, India is looking at possibilities of localisation of LWR systems manufacturing within the framework of the programme. It is learnt that during the international conference organised by Bhabha Atomic Research Centre (BARC) and Nuclear Power Corporation of India Limited (NPCIL), under the aegis of Homi Bhabha National Institute (HBNI) in Mumbai earlier this month, discussions were held over future utilisation of LWRs in India to supplement existing plans of construction of heavy water pressurised reactors. Rosatom said participants at the event discussed issues and possibilities of localisation of LWR systems manufacturing within the framework of the "Make in India" program. It said Business to Business meetings were held.

<https://www.newindianexpress.com/nation/2019/nov/30/make-in-india-plans-to-build-light-water-reactors-in-atomic-power-plants-2069178.html>

B. China

Mars mission test opened to foreigners

Zhao Lei, China Daily, November 15, 2019

China carried out a key experiment for its coming Mars mission in Huailai, Hebei province, on Thursday in front of dozens of foreign diplomats and journalists. The experiment aimed to verify the design and capability of the lander of China's robotic Mars probe, the first of its kind in China, according to Zhang Kejian, director of the China National Space Administration, who oversaw the test. It also was the first time China had opened its Mars mission, which is expected to be launched into space next year, to foreign visitors, he said, adding that it was a practical step in the nation's exchange and cooperation with the international space community.

http://www.chinadaily.com.cn/cndy/2019-11/15/content_37523079.htm

Will hypersonic DF-17 missile transform Beijing's Taiwan strategy?

Minnie Chan, South China Morning Post, November 16, 2019

China's DF-17 hypersonic boost-glide missile may be powerful enough to penetrate US missile shields in the region, transforming Beijing's previously defensive strategy of containing independence-leaning forces in the Taiwan Strait.

Zhou Chenming, a Beijing-based military expert, said the DF-17 missile had extended China's range from the Taiwan Strait to the US military base in Yokosuka, Japan. While the primary aim was to deter an independence movement taking hold in the self-ruled island, China was now in a position to prevent a possible intervention by the US aircraft carrier strike group, should Beijing decide to take back the island by force.

<https://www.scmp.com/news/china/military/article/3037972/will-hypersonic-df-17-missile-transform-beijings-taiwan>

China Ripped Off the M16A1 Rifle. The Only Question We Have Is Why?

Kyle Mizokami, National Interest Blog, November 16, 2019

Key Point: The gun is mysterious; why'd the Chinese manufacture it, why was it not given to their security services, and why has it been able to make its way across the world?

Some weapons are so ubiquitous they are manufactured even in countries one might not associate them with. One example of this is the M16 rifle series. In service with the U.S. Military for more than fifty years, it has fallen into the hands of many groups that were not originally issued them, such as the Viet Cong, communist guerrillas in the Philippines, and now the Islamic State. Only one of America's potential adversaries took the step of making their own M16s, however: that distinction belongs to China with the production of the CQ rifle.

The Cold War saw large numbers of M16 style rifles issued to America's allies worldwide, from the South Vietnamese Army to the Israeli Defense Forces. Lightweight and reasonably effective once a series of embarrassing—and deadly—kinks were ironed out, the M16A1 rifle was also a visual symbol of a country's alliance with the United States, just as the AK-47/M assault rifle was a symbol of support by the Soviet Union.

<https://nationalinterest.org/blog/buzz/china-ripped-m16a1-rifle-only-question-we-have-why-96501>

China plans to complete space station construction around 2022: expert

Xinhua, November 17, 2019

China plans to complete the construction of a space station and have it put into operation around 2022, said Zhou Jianping, the chief designer of China's manned space program, at a forum held in south China's Guangdong Province.

"The main goal of the construction of the space station is to enable China to become a country independently mastering the technology for long-term manned flight in near-Earth space, and having the capability to carry out long-term manned scientific experiments in near-Earth space and comprehensive development and utilization of space resources," said Zhou at the 4th China Summit Forum on Human Factors Engineering, which was held at Sun Yat-sen University from Saturday to Sunday.

http://www.xinhuanet.com/english/2019-11/17/c_138562388.htm

China sends two global multimedia satellites into planned orbit

Xinhua, November 17, 2019

Two global multimedia satellites were sent into planned orbit from the Jiuquan Satellite Launch Center in northwest China on Sunday. The two global multimedia satellites, KL-a-A and KL-a-B, was launched by Kuaizhou-1A (KZ-1A), a carrier rocket.

The two satellites are international cooperative commercial projects delivered by the Innovation Academy for Microsatellites of the Chinese Academy of Sciences. They are mainly used for the Ka-band communication technology test, and the user is a German company. KZ-1A is a low-cost solid-fuel carrier rocket with high reliability and a short preparation period. The rocket, developed by a company under the China Aerospace Science and Industry Corporation, is mainly used to launch low-orbit microsatellites. Sunday's launch was the third mission for KZ-1A this year.

http://www.xinhuanet.com/english/2019-11/17/c_138562304.htm

China's homemade carrier sails through Taiwan Straits, commissioning imminent

Guo Yuandan and Liu Xuanzun, Global Times, November 17, 2019

China's first domestically built aircraft carrier, the second in total, sailed through the Taiwan Straits and headed from north

to south on Saturday, media reported on Sunday, with experts saying the warship is now technically mature and could be commissioned into military service soon, as a base in Sanya, South China's Hainan Province, could host large naval vessels.

Accompanied by an escort fleet, the aircraft carrier entered the Taiwan Straits from its north on Saturday evening, Taipei-based China Times reported on Sunday, citing information released by the defense authority in the island of Taiwan.

China's Ministry of National Defense or the Chinese People's Liberation Army (PLA) did not release any information on the warship's activity as of press time. The domestically developed carrier is believed to be on its ninth sea trial since its departure from the Dalian Shipyard in Northeast China's Liaoning Province since Thursday, Hong Kong-based wenweipo.com reported on Thursday.

<http://www.globaltimes.cn/content/1170339.shtml>

China to build space station accommodating 3 astronauts

Global Times, November 18, 2019

China is scheduled to build and operate a space station in 2022, which will accommodate three astronauts, and space would be reserved for enlargement. The station will last at least 10 years and could be extended through in-orbit maintenance.

A total of 16 experiment racks will be installed to support hundreds of space research projects, the report said. "The main goal of the station construction is to realize China a country capable of independently mastering the long-term manned flight technology, carrying out long-term manned experiments in near-earth space, and comprehensively developing and utilizing space resources." Zhou said in the report.

<http://www.globaltimes.cn/content/1170347.shtml>

China says aircraft carrier on way to S.China Sea after Taiwan passage

Reuters, November 18, 2019

China's first domestically-built aircraft carrier is on its way to the South China Sea for tests and to take part in exercises, the Chinese navy said on Monday, after sailing through the Taiwan Strait in a mission denounced by Taipei as intimidation. Taiwan's defence ministry said on Sunday a Chinese carrier group led by the ship passed through the sensitive strait with U.S. and Japanese vessels tailing it. Self-ruled Taiwan, regarded by China as a wayward province, said Beijing was trying to intimidate the island ahead of a presidential election in January. In a statement, the Chinese Navy said the carrier passed through the Taiwan Strait on Sunday night, going to the South China Sea for "scientific tests and routine drills".

China's still-unnamed carrier, the first to be built domestically, began sea trials last year. Chinese military experts have told state media it is not expected to enter service until 2020, once it has been kitted out and armed. The ship has been undergoing sea trials from its base in the northern port city of Dalian, where it was built. Little is known about China's carrier programme, which is a state secret. The government has said the new vessel's design draws on experiences with its first carrier, the Liaoning, which was bought second-hand from Ukraine in 1998 and refitted in China.

<https://in.reuters.com/article/china-taiwan-military/update-1-china-says-aircraft-carrier-on-way-to-schina-sea-after-taiwan-passage-idINL4N27Y130>

Successful satellite tests to allow 'Hongyun speed' by 2020

Deng Xiaoci, Global Times, November 19, 2019

The demonstration system for China's Hongyun Project, a low-orbit broadband communication satellite system, will become operational at the beginning of 2020, making substantial progress toward the eventual

goal of providing internet connectivity to users around the world, developers told the Global Times on Tuesday. The project, also known as the H-cloud, was developed by CASIC. The first tech-experimental satellite for the project was launched on December 22, 2018 from the Jiuquan Satellite Launch Center in Northwest China's Gansu Province. CASIC said in a statement it sent to the Global Times on Tuesday that all satellite performance and function tests have been completed. The testing included under different weather conditions, and for different business scenarios such as website browsing, video chats and high-resolution streaming services. During the tests, there was no frame loss or buffering, and all functions and indicators met the design requirements, it said.

By the beginning of 2020, users across China will be able access the demonstration system of the Hongyun Project, and they will be able to take advantage of what it described as "Hongyun speed," CASIC said. The Hongyun Project, which was announced in 2017, is expected to launch four more satellites to gain preliminary experience by 2020. CASIC expects to have a total of 156 satellites in operation by the middle of the 14th Five-Year Plan (2021-25).

The project can offer communication and internet services for China and less-developed countries with reduced latency.

<http://www.globaltimes.cn/content/1170542.shtml>

Pentagon fears new airborne ship killer missile

Dave Makichuk, Asia Times, November 20, 2019

The US Navy has a new weapon to fear — and this one could change the entire game. The Chinese air force has modified a small number of H-6 bombers apparently to carry a very large new anti-ship missile, The National Interest reported. The new munition, possibly a variant of the DF-21D ballistic anti-ship

missile, could pose a serious danger to US Navy vessels operating in the western Pacific. Aircraft carriers, in particular, could be at risk. The new H-6N variant of the venerable Chinese bomber — itself a clone of the Soviet Tu-16 — first appeared over Beijing during preparations for celebrations marking the 70th anniversary of the founding of the People's Republic of China.

The H-6Ns feature an under-fuselage recess that could accommodate a single, very large missile. The DF-21D is more than 30 feet long and weighs around 32,000 pounds. It can travel as far as 1,300 miles with a 1,200-pound warhead, the National Interest reported. "Experts say that there at least four of these aircraft presently assigned to a People's Liberation Army Air Force bomber brigade in China's Central Theater Command region," Joseph Trevithick wrote at The War Zone. In recent years China has dredged several reefs in the Paracels and built military outposts on them.

<https://www.asiatimes.com/2019/11/article/pentagon-fears-new-airborne-ship-killer-missile/>

Taikonaut, scientists mull space and future humanity

China Daily, November 20, 2019

More than 800 astronauts, scientists, experts, and business bellwethers from eight countries including the US, UK, Russia, France, and Germany are gathered at the Zhuhai International Convention & Exhibition Center in Shizimen from Nov 17 to 20 to explore space technology and humanity's future. Themed "The Same Home Under the Same Sky," the 2019 International Symposium on the Peaceful Uses of Space Technology (Health) consists of 50 keynote speeches on space economy, space medical technology, remote-sensing technology application, aerospace breeding and space carrying technology, as well as space education.

The event exhibits medical robots, precision medical treatment, medical diagnosis, artificial intelligence, and other technologies related to space medical technology and

human health. Aerospace breeding and space carrying technology are showcased from the aspects of rice breeding, biotechnological experiments on the space stations, and commercial recoverable satellite carrying technology.

http://www.cityofzhuhai.com/2019-11/20/c_425740.htm

Nato set to keep close eye on China's growing military might

South China Morning Post, November 20, 2019

Foreign ministers to meet in London to discuss plans to monitor the build-up of Beijing's armed forces as the bloc tries to show that it is rising to today's challenges. Nato foreign ministers are set on Wednesday to make space a domain of warfare and agree to closely monitor China's growing military might in decisions that many allies say show the alliance is not dying, as France has suggested. Envoys hope that two major policies – on space as a new frontier in defence and on China – will show that Nato is not a cold war relic but a shield against threats, including Russia's decision to develop missiles capable of hitting Europe at short notice. The space policy, which has been months in negotiation, will mean that battles can be waged not only on land, in the air, at sea and on computer networks, but also in space.

Nato will not deploy weapons to space. It will begin work on protecting satellites crucial for modern communications. Nato diplomats denied that the alliance would be on a war footing in space, but said that declaring it a domain would begin a debate over whether Nato should eventually use space weapons that could shut down enemy missiles and air defences or destroy satellites. China and Russia are also active in space.

<https://www.scmp.com/news/china/diplomacy/article/3038644/nato-set-keep-close-eye-chinas-growing-military-might>

China's new commercial rocket to debut in 2020

Deng Xiaoci, Global Times, November 20, 2019

China's new carrier rocket the Long March-8 has entered final assembly and test stages and is expected to make its maiden flight in 2020, the Global Times has learned from the developer - China Academy of Launch Vehicle Technology under the China Aerospace Science and Technology Corporation (CASC). The new carrier rocket will fill a void in the Chinese space landscape in terms of sending payloads weighing between 3 and 4.5 tons to the Sun's synchronous orbit, as well as its capability to send cargo into low-earth orbit and geosynchronous orbit, which promises a bright future for the commercial launch market of the Long March-8.

It will take around 12 months from when a client signs a contract with the company to when the rocket is prepared for a mission. The launch window is around 10 days. Tang predicted the rocket, after entering the market, will primarily carry out more than 10 launch missions a year and later on it will be able to undertake such missions more than 20 times per year.

<http://www.globaltimes.cn/content/1170694.shtml>

Wuhan industry park aims to manufacture 120 satellites a year

Deng Xiaoci, Global Times, November 20, 2019

China plans to build a satellite industry park in Wuhan, capital of Central China's Hubei Province that can make as many as 120 satellites a year, the Global Times learned from the project contractor. According to China Aerospace Science and Industry Corporation (CASIC), the Wuhan satellite industry park, a new addition to the city's national space industrial base, will become operational in 2020 and will manufacture 120 satellites for general use, each weighing less than a ton. A rocket assembly plant is also scheduled to start operation by the end

of 2019, which will enable the country to manufacture 20 more rockets a year.

<http://www.globaltimes.cn/content/1170687.shtml>

China's Chang'e-4 probe resumes work for 12th lunar day

Xinhua, November 22, 2019

The lander and rover of the Chang'e-4 probe have resumed work for the 12th lunar day on the far side of the moon after "sleeping" during the extremely cold night. The lander woke up at 5:03 p.m. Thursday (Beijing Time), and the rover, Yutu-2 (Jade Rabbit-2), awoke at 0:51 a.m. the same day. Both are in normal working order, according to the Lunar Exploration and Space Program Center of the China National Space Administration.

The rover has traveled about 319 meters on the moon to conduct scientific exploration of 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 dormant mode during the lunar night due to the lack of solar power.

http://www.xinhuanet.com/english/2019-11/22/c_138575230.htm

China's latest robots move so smoothly scientists dubbed them 'zero gravity'

Stephen Chen, South China Morning Post, November 25, 2019

China is developing robotic arms to help further its advances in space that operate so smoothly alongside humans that scientists have dubbed their movements "zero gravity". The technology uses artificial intelligence (AI) with cutting-edge sensors to help the "robot", essentially a giant arm, grip and lift heavy objects, according to scientists with China

Aerospace Science and Technology Corporation, the state-owned main contractor for the country's space programme. The sensors allow the arm to collaborate seamlessly with human technicians to perform tasks in a fraction of the time they took before – which is proving a particular advantage in China's endeavours in space.

<https://www.scmp.com/news/china/science/article/3038783/chinas-latest-robots-move-so-smoothly-scientists-dubbed-them>

China's "artificial sun" device set to be commissioned in 2020

Xinhua, November 26, 2019

The HL-2M Tokamak, China's next-generation "artificial sun," is expected to be operational in 2020 as installation work has gone smoothly since the delivery of the coil system in June. Designed to replicate the natural reactions that occur in the sun using hydrogen and deuterium gases as fuels, the device aims at providing clean energy through controlled nuclear fusion. The new apparatus, with a more advanced structure and control mode, is expected to generate plasmas hotter than 200 million degrees Celsius, said Duan Xuru, head of the Southwestern Institute of Physics under the China National Nuclear Corporation.

Duan was quoted at the ongoing 2019 China Fusion Energy Conference held in Leshan, southwest China's Sichuan Province. The artificial sun will provide key technical support for China's participation in the International Thermonuclear Experimental Reactor project, as well as the self-designing and building of fusion reactors, he noted.

http://www.xinhuanet.com/english/2019-11/26/c_138584676.htm

Chang'e 4 lunar mission team awarded gold medal

Zhao Lei, China Daily, November 26, 2019

Chinese scientists and engineers involved in the Chang'e 4 lunar exploration mission received the Royal Aeronautical Society's Team Gold Medal at a ceremony in London

on Monday, the China National Space Administration said. It is the first time the British institution, founded in 1866 and the oldest aerospace society in the world, has conferred a medal on a Chinese space program, the administration said in a statement issued on Tuesday. Wu Weiren, chief designer of China's Chang'e lunar programs and an academician of the Chinese Academy of Engineering, and representatives from the Chang'e 4 mission team took part in the award ceremony.

The Chang'e 4 robotic probe, which consists of a stationary lander and the Yutu 2 rover, was launched atop a Long March 3B rocket in early December from the Xichang Satellite Launch Center in Sichuan province, becoming the country's fourth lunar exploration mission and the world's first expedition to the moon's far side, which never faces the Earth.

<https://www.chinadaily.com.cn/a/201911/26/WS5ddcc651a310cf3e3557a176.html>

Odd galaxies found that contradict theories of formation

China Daily Global, November 27, 2019

Chinese astronomers have discovered a special population of dwarf galaxies that mainly consist of baryons with radii of up to tens of thousands of light-years, where they are expected to be dominated by dark matter. The discovery, made by researchers from the National Astronomical Observatories of the Chinese Academy of Sciences, Peking University and Tsinghua University, was published in the latest issue of the science journal *Nature Astronomy*.

The finding provides observational evidence that could challenge the formation theory of dwarf galaxies in the framework of standard cosmology, and may provide new clues to the nature of dark matter, said Guo Qi, a researcher from the NAOC and head of the research team. In standard cosmology, the universe is dominated by cold dark matter and dark energy, while baryons only occupy

4.6 percent of outer space. Galaxies form and evolve in systems dominated

http://www.chinadaily.com.cn/global/2019-11/27/content_37525679.htm

China tests killer drones for street-to-street urban warfare, plans sales overseas

Liu Zhen South China Morning Post, November 28, 2019

Tianyi quadcopter built by a subsidiary of a state aerospace corporation is designed to carry out ground-level reconnaissance and precision strikes in cities. A Chinese technology firm is testing a new attack drone specifically designed to help ground troops in street-level combat, in the hope that it can sell the unit abroad, reports say. The developer, Tianjin Zhongwei Aerospace Data System Technology, said the unmanned aerial vehicle had been designed to carry out both reconnaissance missions and close-range strikes against armoured vehicles or individuals in an urban environment.

Chinese drone manufacturers are also able to sell to markets that Western companies are barred from due to political concerns or other reasons. The country's main drone exports include the fixed-wing CH-4 and CH-5 drones, developed by the China Academy of Aerospace Aerodynamics, which have proved popular with buyers from central Asia and the Middle East due to their versatility, fire power and relatively low cost.

<https://www.scmp.com/news/china/military/article/3039827/chinese-tech-firm-testing-urban-attack-drone-designed-carry-out>

Chinese navy set to build fourth aircraft carrier, but plans for a more advanced ship are put on hold

Minnie Chan, South China Morning Post, November 28, 2019

The Chinese navy is moving ahead with plans to build another aircraft carrier, but plans for a fifth have been put on hold for now, according to military insiders. They

said that technical challenges and high costs had put the brakes on the programme and the recent merger of the country's two major shipbuilders was unlikely to have a significant short-term impact.

But plans for a next-generation carrier appear to be on hold for now as engineers struggle to overcome technical problems. "There is no plan to build more aircraft carriers," said one military source.

"The third and fourth Chinese aircraft carriers on the agenda are both Type 002s, the country's next generation warship equipped with electromagnetic catapults [for launching jets]."

The new conglomerate – which retains the name CSIC name – has a total of 147 research institutes, business enterprises and listed companies with a combined asset value of 790 billion yuan (US\$112 billion). It also employs 310,000 people, according to the official news agency Xinhua.

<https://www.scmp.com/news/china/military/article/3039653/chinese-navy-set-build-fourth-aircraft-carrier-plans-more>

Chinese Military Sets Up Think Tank to Guide Reform, Could Feature Top Weapon Makers: Analysts

Defence-aerospace, November 28, 2019

The Central Military Committee (CMC) on Monday announced a new think tank consisting of military and civilian experts to evaluate drafts on military policies and institutional reform, with analysts saying on Tuesday that top weapon and equipment developers could be involved, potentially providing valuable opinions to deepen the comprehensive military reform. A meeting to assign tasks on the consultation and evaluation of military policies and institutional reform was held on Monday in Beijing, with Xu Qiliang, vice chairman of the CMC, delivering a speech, the People's Liberation Army (PLA) Daily reported on Tuesday.

Reform of policies and institutions is an important part of China's military reform, and the new think tank will help the reform to become more comprehensive, Li Daguang, a professor at the National Defense University of the PLA, told the Global Times on Tuesday. Li pointed out that having experts within the military in the think tank is natural since they are the ones who truly understand whether the reform is working, but appointing civilian experts is a measure that can provide new and constructive perspectives.

Under the reform, military policies and institutions should be adjusted in accordance with the changing times as socialism with Chinese characteristics and national defense have entered a new era, said defense ministry spokesperson Wu Qian at a November 2018 press conference, the Xinhua News Agency reported. The system, which is scheduled to be completely formed before 2022, will feature distinct guidance, full coverage, a rigorous structure and sound coordination, the spokesperson said.

<https://www.defense-aerospace.com/articles-view/release/3/207828/chinese-military-sets-up-think-tank-to-guide-reform.html>

Chinese warship showcases vertical launch missile system

China Mail, November 28, 2019

After returning from a major refit, the People's Liberation Army (PLA) Navy destroyer Shenzhen showcased its air defense firepower by displaying its new missile vertical launch system on Monday. The Navy's sole Type 051B destroyer has gained very powerful combat capability after the modernization, said Weihutang, a column on military affairs affiliated with China Central Television (CCTV) on Monday.

The Shenzhen is now equipped with a vertical launch system, which consists of four sets of eight units, allowing it to host 32 ship-to-air missiles that can shoot down incoming

hostile aircraft and missiles, Tong Zhenrong, deputy captain of the Shenzhen, said on CCTV on Sunday. Joining military service as a fleet flagship in 1998, the Shenzhen participated in many operations and visited many countries, making it a star in naval diplomacy, China Youth Daily reported, noting that the warship undertook the refit in 2017 that saw its capabilities significantly upgraded, allowing it to become a guided missile destroyer with the capability to command a joint operation fleet. This capability allows the Shenzhen to integrate information gathered by every unit and distribute it to other units that need it, Weihutang said.

http://eng.chinamil.com.cn/view/2019-11/28/content_9685050.htm

Biggest stellar-mass black hole discovered

Zhang Zhihao China Daily, November 29, 2019

An international team of scientists led by China has discovered a king-size, stellar-mass black hole in Earth's "cosmic backyard" containing the mass of 70 suns. It is the biggest known of its kind and roughly three times bigger than what scientists previously thought was possible, researchers said. The black hole, named LB-1, was found slowly devouring gas from a nearby star more than 13,800 light-years from Earth - relatively nearby, considering the estimated 105,700 light-year diameter of Earth's galaxy.

Scientists believed that stellar-mass black holes were created when massive stars died and collapsed, but current theoretical calculations show that no matter how big the star initially was, the mass of the final black hole cannot exceed 25 solar masses if the star is rich in metals like the one discovered in the new research

http://www.chinadaily.com.cn/global/2019-11/29/content_37526501.htm

China's first electromagnetic satellite bears fruitful results

Xinhua, November 30, 2019

China's first seismo-electromagnetic satellite Zhangheng 1 has obtained fruitful electromagnetic data, according to the China Aerospace Science and Technology Corporation (CASC). The satellite has enabled China to obtain a global geomagnetic map and an ionospheric map with its own intellectual property rights. It has obtained information about global ground artificial sources, magnetic storms and signals of earthquakes above 7 magnitude.

It also helps with understanding the coupling mechanisms of the lithosphere, atmosphere and ionosphere. Shen Xuhui, the chief scientist of the satellite, said China is expected to have three electromagnetic satellites in orbit by 2022, offering support for earthquake forecasting as well as space weather monitoring and warning. Developed by DFH Satellite Co., Ltd. under the CASC.

http://www.xinhuanet.com/english/2019-11/30/c_138596011.htm

DF-17 may not sole hypersonic missile program: media

Liu Xuanzun Global Times, December 1, 2019

The DF-17, China's hypersonic missile that was first revealed at the National Day military parade on October 1, might not be the only hypersonic aircraft program China possesses, a report by the state broadcaster suggested. Analysts stressed that China will not fall behind in related technologies compared with the US and Russia. "From the test subjects that were made available to the public, the Xingkong-2 (Starry Sky-2) might use a different flight pattern to the DF-17," said military expert Ma Jun on Military Time, a China Central Television (CCTV) program on military affairs, on Saturday, without further elaboration.

When the DF-17 missile made its debut at the National Day parade this year, some

thought it might be the final product of the Xingkong-2 project. One distinctive difference between the Xingkong-2 and the DF-17 is that the former has a fairing and the latter does not, making the two very different in appearance alone, analysts pointed out. They noted that the time does not match either, as the Xingkong-2 was only tested in 2018 and is not likely to enter Chinese military service as early as 2019. The CCTV program introduced two genres of hypersonic aircraft: one is a glide-boost, meaning the aircraft is propelled into the sky via a rocket and glides in the air using shock waves generated by its own hypersonic flight, while the other is air-breathing, meaning the aircraft uses a scramjet engine to provide thrust.

The DF-17 is said to be a glide-boost vehicle, but it is not known what type the Xingkong-2 might be, other than it could be different from the DF-17, although it was also propelled by a rocket, according to Ma. The US and Russia are striving to develop hypersonic weapons with both glide-boost and air-breathing technologies, as the two have different strengths and shortcomings, a military expert who asked not to be named told the Global Times. China will not fall behind and could develop multiple types of hypersonic weapons using different technologies in the future, the expert predicted.

<http://www.globaltimes.cn/content/1171896.shtml>

C. Pakistan

Shaheen-I ballistic missile training launch successful

Pakistan Today, November 18, 2019

Two days after India conducted the first night trial of nuclear-capable ballistic missile Agni-II, Pakistan on Monday conducted a successful training launch of Shaheen-I, a surface-to-surface ballistic missile.

According to an Inter-Services Public Relations (ISPR) press release, the launch

was conducted as part of a training exercise "aimed at testing the operational readiness of Army Strategic Forces Command".

Shaheen-I is a short-range solid-propellant ballistic missile with a range of 650km (404 miles) which has been in the national arsenal since 2003. It can carry either a conventional or a nuclear warhead and usually uses a mobile launcher as a platform.

<https://www.pakistantoday.com.pk/2019/11/18/shaheen-i-ballistic-missile-training-launch-successful-ispr/>

'Pak's nuke threat is to avoid bashing in war'

Sanjeev k. Sharma, Daily Excelsior, November 18, 2019

Pakistan's bid to counter every Indian warning, by the rhetoric of nuke use against us, in response to India's constant thrust on it to end support to terrorism, have lost its relevance and significance. These were the views expressed by former Defence Research and Development Organization (DRDO) Director General, Dr. Sudershan Kumar in an exclusive interaction with the Excelsior.

"Using the pretext that both India and Pakistan are nuclear powers to avoid bashing in war and in the guise of this inflicting bloodshed in India through terrorists has become a habit of Pak leadership," he said. Presently a Defence Analyst, Dr. Kumar said, "It was only in World War-II when the atom bomb was used but afterwards no country of the world has found it as a viable option against adversary."

It is pertinent to mention here that in World War-II two nuclear weapons were detonated over Japanese cities Hiroshima and Nagasaki which brought an abrupt end to the war.

"If the insane leadership ever decided this option against India, it will have to pay a heavy cost which it will not be able to withstand because of the 'aggressive

retaliatory action' from Indian side," Dr. Kumar said obviously referring to India's belligerent neighbour Pakistan.

<https://www.dailyexcelsior.com/paks-nuke-threat-is-to-avoid-bashing-in-war/>

IOR stands as a potential nuclear flashpoint

M Waqas Jan, Pakistan Observer, November 19, 2019

This year has seen tension between nuclear armed Pakistan and India reach unprecedented levels with both countries flirting with a dangerous escalation spiral. February's aerial engagement between the two countries' air forces, sustained exchanges of small arms and artillery fire over the LOC, as well as the ongoing curfew and communications blackout (now over 100th days) have all left many to contemplate the long-term consequences of these altercations on the stability and overall security of the entire South Asian region.

These include consequences leading to as far as the Indian Ocean region (IOR), which despite being more than 1300kms away from the LoC, remains witness to a series of dangerous developments, especially within context of the current scenario. For instance, India's recently planned test of its K4 Submarine Launched Ballistic Missile (SLBM) represents a key part of India's long-held desires of developing a robust second-strike capability. While the test itself is meant to signal a major tipping point within the overall strategic balance of the region, the worsening situation in Kashmir carries the risk of unnecessarily heightening tension at a time when the regional situation is already quite complex. This is largely because the K4 with its purported range of 3500 kms is capable of targeting most of mainland China in addition to Pakistan from the relatively safer distance of India's coastal waters. Its value as a strategic deterrent is evident from its planned deployment on India's

nascent fleet of nuclear-powered ballistic missile submarines (SSBNs). These include the INS Arihant and the recently commissioned INS Arighant for which the K4 has been designed to spec. With the Indian navy planning to induct even more SSBNs over the next decade, there are soon likely to be dozens of K4 missiles deployed on these subs, which themselves are likely to remain scattered across the IOR.

While the planned deployment of these missiles was to supposedly herald India's coming of age as a major global power, the current context in which these actions are being taken presents a troubling scenario. Particularly keeping in mind the apparent shifts in India's nuclear doctrinal and policy framework, the very thought of such nuclear weapons being readily deployed across the Indian Ocean represents a major cause for concern the world over. Unlike India's land-based nuclear arsenal where its nuclear warheads are largely demated from the several delivery systems available to its military, India's seabased nuclear arsenal is likely to be deployed at a much more heightened state of alert. As a result, it is also likely to be subject to an altered or more sophisticated command and control structure which in itself requires seamless communications not only between the Indian State and military but also within the many arms of the Indian military itself. Such integration is further conditional on India acquiring highly robust intelligence, surveillance and reconnaissance (ISR) capabilities that leave absolutely no margin for error considering the immense risks at stake in one of the world's most volatile regions.

Add to that the Indian government's now institutionalized approach to nuclear brinkmanship and its steady revocation of its 'No First Use' policy, there exists a highly dangerous mix of hubris and recklessness where the entire human race risks being annihilated from even the smallest of missteps.

<https://pakobserver.net/ior-stands-as-a-potential-nuclear-flashpoint-2/>

Federal govt launches programme for business community

Mehtab Haider, The News International, November 23, 2019

Federal Government has launched first trade facilitation programme of its kind under the name and banner of "Authorised Economic Operators" (AEOs). The programme has been chalked out in line with best international practices and in accordance with WCO security standards. Under the said programme, the government will certify trustworthy business entities which could demonstrate that they are credible, secure and have a clean history of compliance with national laws and, in return, a policy of maximum facilitation will be adopted by all government departments towards such trusted entities so that they could concentrate on the growth of their businesses.

The representatives from government departments i.e., Ministry of Foreign Affairs, Anti-Narcotics Force (ANF), Engineering Development Board (EDB), Ministry of Industries, Home Department Sind & KP, Pakistan Nuclear Regulatory Authority, Pakistan Quality Standards & Quality Certification Authority (PSQCA), Climate Change and PEMRA appreciated the AEO initiative and agreed that it was the first initiative of its kind which aims at recognition of trusted business partners at federal government level and entails benefits from all government departments. Such unique initiative, the participants added, has great potential to boost businesses which are the backbone of national economy. Chairman FBR briefed the participants that initially, AEO Programme will be implemented on export stage that will not only boost national exports, but will also play vital role in jobs creation. Subsequently, ambit of AEO Programme will be extended to other sectors of the economy for maximum facilitation and priority treatment by all government departments.

<https://www.thenews.com.pk/print/572933-federal-govt-launches-programme-for-business-community>

D. USA

Conference: Advancing the rebirth of nuclear power

World Nuclear News, November 16, 2019

Innovation has always been at the heart of the nuclear power industry and its future depends on this commitment to technological advancement in both large and small reactor designs. This was the message of the International Framework for Nuclear Energy Cooperation (IFNEC) General Ministerial Conference held in Washington DC last week. Titled 'Bringing the world SMRs and advanced nuclear', the event included a session at the White House, in the Eisenhower Executive Office Building.

US Secretary of Energy Rick Perry reminded delegates of the former US president's 'Atoms for Peace' address to the United Nations in 1953, which had called for the expansion of nuclear power to enable world-wide prosperity. Sadly, that ambition still has relevance today, Perry said.

"If we look at a satellite image of the globe, we see vast tracts of land that are shrouded in darkness. Those images reveal a stark reality: More than a billion people are completely without electricity; they are trapped in energy poverty." To pursue a 'renewables-only' approach to climate change and sustainable development would "lock them into that state maybe for ever", he said. "What the world needs is 24/7 energy, energy that is on-site, energy that can be stockpiled, energy that powers the grid of nations regardless of the weather."

<https://www.world-nuclear-news.org/Articles/Conference-Advancing-the-rebirth-of-nuclear-power>

U.S. to no longer waive sanctions on Iranian nuclear site

Daphne Psaledakis, Reuters, November 19, 2019

The United States said on Monday it will no longer waive sanctions related to Iran's Fordow nuclear plant after Tehran resumed uranium enrichment at the underground site.

"The right amount of uranium enrichment for the world's largest state sponsor of terror is zero ... There is no legitimate reason for Iran to resume enrichment at this previously clandestine site," U.S. Secretary of State Mike Pompeo told reporters.

The U.N. atomic watchdog and Iran itself said this month Tehran is again enriching uranium at the sensitive site, which Iran hid from U.N. non-proliferation inspectors until its exposure in 2009. [nL8N27R5MN]

While European countries have tried to salvage the 2015 nuclear nonproliferation agreement, Iran has increasingly distanced itself from the accord since the United States withdrew last year.

<https://www.reuters.com/article/us-usa-iran/u-s-to-no-longer-waive-sanctions-on-iranian-nuclear-site-idUSKBN1XS2DG>

Framatome implements cavitation peening at Millstone

World Nuclear News, November 19, 2019

Framatome earlier this year applied its ultra-high pressure (UHP) cavitation peening process on reactor vessel primary nozzles at Dominion Energy's Millstone nuclear power plant in Waterford, Connecticut. This marked the first underwater application of this maintenance technique on reactor pressure vessel nozzles to primary pipe welds.

Reactor vessel head nozzle penetrations, bottom mounted nozzle instrumentation penetrations, and reactor vessel primary nozzles - comprised of Alloy 600 welded with Alloy 82/182 - are highly susceptible to primary water stress corrosion cracking (PWSCC).

Framatome's UHP cavitation peening process uses submerged, ultra-high-pressure water jets to work the surface of reactor vessel components. The high-pressure water flow creates vapour bubbles. As these vapour bubbles collapse on the component's surface, shock waves travel into the material and create

compressive residual stresses. Rather than allowing operational stresses to create multiple, random fractures on a component's surface, cavitation peening creates compressive stresses on the surface of the material in a controlled manner, preventing PWSCC initiation.

<https://www.world-nuclear-news.org/Articles/Framatome-implements-cavitation-peening-at-Millsto>

U.S. aircraft carrier strike group sails through Strait of Hormuz

Idrees Al, Reuters, November 19, 2019

The U.S. aircraft carrier strike group Abraham Lincoln sailed through the vital Strait of Hormuz on Tuesday, U.S. officials told Reuters, amid simmering tensions between Iran and the United States.

Tensions in the Gulf have risen since attacks on oil tankers this summer, including off the coast of the United Arab Emirates, and a major assault on energy facilities in Saudi Arabia. Washington has blamed Iran, which has denied being behind the attacks on global energy infrastructure.

The commander overseeing U.S. naval forces in the Middle East told Reuters in May that he would send an aircraft carrier through the Strait of Hormuz if needed.

<https://www.reuters.com/article/us-usa-military-carrier-iran/u-s-aircraft-carrier-strike-group-sails-through-strait-of-hormuz-idUSKBN1XT2EG>

EDF plans to sell stake in US joint venture

World Nuclear News, November 20, 2019

France's EDF said today it will exercise an option to sell its 49.99% stake in Constellation Energy Nuclear Group (CENG), its joint venture with US utility Exelon. CENG owns five nuclear power reactors at three sites in the USA.

In July 2013, EDF and Exelon agreed to transfer the operating licences of the reactors owned by CENG to Exelon. Under the terms of the agreement - announced on 1 April

2014 - Exelon paid EDF USD400 million in dividends and EDF had a put option to sell its CENG shares to Exelon between 2016 and 2022. EDF has today notified Exelon of the exercise of that option.

"The transaction price will follow from the determination of the fair market value of CENG shares pursuant to the contractual provisions of the put option agreement," EDF said, noting that closing of the transaction is conditional upon regulatory approvals. The disposal of CENG shares is part of the disposal plan of non-core assets announced by EDF Group, it added.

The plants concerned are the single-unit R E Ginna plant, Nine Mile Point units 1 and 2, and Calvert Cliffs units 1 and 2. In November 2009, EDF and Constellation Energy established Constellation Energy Nuclear Group, in which EDF and Constellation owned stakes of 49.99% and 50.01% respectively.

<https://www.world-nuclear-news.org/Articles/EDF-to-sell-its-stake-in-US-joint-venture>

OECD/NEA highlights challenges facing isotope supply chain

World Nuclear News, November 20, 2019

The structure of the medical radioisotope supply chain is impeding the provision of technetium-99m (Tc-99m), a new report by an OECD Nuclear Energy Agency (NEA) high-level group has found. Supplies of the world's most widely used medical radioisotope remain fragile.

No medical radioisotope is more important than Tc-99m, NEA Director General William Magwood said at the launch of *The Supply of Medical Radioisotopes: An Economic Diagnosis and Possible Solutions* on 18 November. The radioisotope is used some 30 million times each year around the world to diagnose cancer and other diseases, he said. However the properties of Tc-99m mean its supply chain is complicated and the isotope - and the molybdenum-99 (Mo-99) used to generate it in hospitals - cannot be stored.

Operation of the research reactors in which radioisotopes are produced is generally subsidised by the governments of the countries where they are based.

“As commercial companies come into this market they are finding it very difficult to make a profit and be successful, and to sustain operation, under the current circumstances,” Magwood said. “In order to make sure there is a stable supply, we have to ensure there is a stable market.”

<https://www.world-nuclear-news.org/Articles/NEA-publishes-isotope-supply-chain-report>

MOX Services gets settlement deal for shuttered facility at Savannah River

World Nuclear News, November 20, 2019

The Department of Energy's National Nuclear Security Administration (NNSA) has reached a settlement agreement with MOX Services and its parent companies to resolve all contract closeout matters pertaining to the Mixed Oxide Fuel Fabrication Facility (MFFF) project at the Savannah River Site in Aiken, South Carolina.

The agreement, announced yesterday, resolves all contract litigation and covers the cost of contract closeout. If it had continued, NNSA said the MFFF project would not have been completed until 2048, at a cost of USD17 billion.

Lisa Gordon-Hagerty, DOE under-secretary for nuclear security and NNSA administrator, said the agreement allows NNSA to move forward with its plan to repurpose MOX for plutonium pit production, while it remains committed to removing surplus plutonium from South Carolina “using the proven dilute and dispose method”.

<https://www.world-nuclear-news.org/Articles/MOX-Services-gets-settlement-deal-for-shuttered-fa>

US legislature considers waste management reforms

World Nuclear News, November 21, 2019

Draft legislation to update the US Department of Energy's (DOE) ability to manage nuclear waste - passed by the House Energy and Commerce Committee yesterday - would allow DOE to build and operate interim storage sites to consolidate used fuel from decommissioned reactors. Similar draft legislation has now been introduced in the US Senate.

The two versions of the draft legislation, HR 2699 and S 2197, which are both titled the Nuclear Waste Policy Amendments Act of 2019, seek to amend a 1982 act, under which the federal government - through the DOE - is responsible for all civil used nuclear fuel and its removal for disposal in a federal facility.

HR 2699 would prioritise the transfer of used fuel from seismically active areas, and permit DOE to undertake infrastructure activities to support the construction and operation of a repository at Yucca Mountain. The bill also includes reforms to the finance mechanism of the Nuclear Waste Fund and assures that DOE has adequate funding to construct and operate a repository.

<https://www.world-nuclear-news.org/Articles/US-legislature-considers-waste-management-reforms>

EDF Will Bail on Three Nuclear Plants, Exelon Holds the Bag

Aaron Larson, Power Mag, November 21, 2019

Exelon Generation said EDF Group—a French integrated electricity company—is exercising a put option to sell its 49.99% interest in the R.E. Ginna, Nine Mile Point, and Calvert Cliffs nuclear energy facilities. The two companies will now begin

negotiations for Exelon to acquire full ownership of the plants.

EDF's involvement in the facilities was through the Constellation Energy Nuclear Group (CENG), a joint venture between it and Constellation Energy, which was negotiated in 2009. Exelon acquired its majority stake in the plants as part of a merger with Constellation Energy, a deal that closed in March 2012.

EDF said the disposal of CENG shares is part of a previously announced non-core-asset disposal plan. The put option could have been exercised by EDF anytime between Jan. 1, 2016, and June 30, 2022. A transaction price will follow from the determination of the fair market value of CENG shares pursuant to the contractual provisions of the put option agreement, EDF said.

"Since Exelon Generation took over operations, we have created value for both Exelon and EDF by integrating the three plants into the nation's largest and best-run nuclear fleet. Leveraging the Exelon management model, we've improved overall fleet performance and efficiency while reducing costs in a challenging market environment," Chris Crane, Exelon president and CEO, said in a statement. "We have worked collaboratively with EDF leadership as co-owners of these three nuclear plants and look forward to partnering with them in a productive process to purchase their ownership stake."

<https://www.powermag.com/edf-will-bail-on-three-nuclear-plants-exelon-holds-the-bag/>

Partnership to produce medical isotope from legacy waste

World Nuclear News, November 25, 2019

Isotek Systems, TerraPower and the US Department of Energy (DOE) have signed a public-private partnership agreement to use material recovered from a legacy uranium-233 (U-233) inventory to increase the supply of the medical radioisotope actinium-225 (Ac-225).

Isotek is responsible for the removal of the inventory of U-233 currently stored at the

Oak Ridge National Laboratory as a DOE contractor under Atkins Nuclear Secured. Under the new agreement, which was signed at a ceremony on 22 November, Isotek will extract thorium-229 (Th-229) from the U-233, which TerraPower will then use for the production of Ac-225. This arrangement will give TerraPower the capacity to produce 100 times more cancer treatment doses per year of Ac-225 than the 4000 doses currently available, the partners said. Ac-225, a short-lived alpha-emitting isotope that can be used in a form of treatment known as targeted alpha therapy, has previously been described as one of the world's rarest medical radioisotopes.

Jay Mullis, manager of DOE's Oak Ridge Office of Environmental Management, said the partnership was a "success" for all involved. "Through Isotek's innovative approach, we are able to accelerate one of our highest priority projects, spend less taxpayer dollars to complete the project, and provide material that will greatly benefit the public in the future," he said.

<https://www.world-nuclear-news.org/Articles/Partnership-to-produce-medical-isotope-from-legacy>

Bulgaria and USA to explore nuclear energy cooperation

World Nuclear News, November 26, 2019

The USA intends to send a technical team to Bulgaria to explore the possibilities for further cooperation in different areas of energy, including nuclear, President Donald Trump said yesterday in a joint statement issued with Prime Minister Boyko Borissov of Bulgaria. The two leaders also expressed support for the licensing and use of US nuclear fuel for Bulgaria's Kozloduy nuclear power plant.

They set out a number of measures intended to strengthen the strategic partnership between the two countries, following their meeting at the White House.

"The United States and Bulgaria understand that energy security is national

security. We underline our common understanding that the diversification of energy sources is a guarantee of energy security, independence, and competitiveness for our economies," they said.

<https://www.world-nuclear-news.org/Articles/Bulgaria-and-USA-to-explore-nuclear-energy-coopera>

U.S. assures banks on dollar dealings with China's COSCO hit by Iran sanctions

Timothy Gardner, Reuters, November 28, 2019

The Trump administration assured U.S. banks on Wednesday that they can temporarily process U.S. dollar transactions on a Dalian unit of China's biggest shipping company COSCO that Washington had imposed sanctions on over suspicions it transported oil from Iran.

The United States' sanctions on Sept. 25 pushed global freight costs to record highs and added millions of dollars in costs to many voyages.

David Peyman, a U.S. State Department official on sanctions, said this month that the ships were the "key artery" for evading U.S. sanctions on Iran's oil exports and that if the behavior did not change the administration would look to aggressively and fully enforce U.S. sanctions.

<https://www.reuters.com/article/us-usa-iran-china-tankers/u-s-assures-banks-on-dollar-dealings-with-chinas-cosco-hit-by-iran-sanctions-idUSKBN1Y12B5>

Frazer-Nash to support IMSR graphite moderator fabrication

World Nuclear News, November 28, 2019

Frazer-Nash is to provide engineering services related to the fabrication of the graphite moderator for Terrestrial Energy's Integrated Molten Salt Reactor (IMSR) under a newly announced contract between the two companies.

UK- and Australia-based systems and engineering technology company Frazer-

Nash has provided consulting services to the UK government and the operators of the country's current fleet of 14 advanced gas-cooled reactors (AGRs), which use graphite moderators. Terrestrial Energy said it would draw on this "world-leading graphite knowledge and nuclear engineering experience" as it proceeds with engineering programmes for deployment of the first IMSR plant. "Graphite moderator engineering for fabrication is a key element in our IMSR development programme," Terrestrial Energy CEO Simon Irish said.

The UK has operated graphite-moderated nuclear reactors - Magnox and AGRs - for electricity generation since 1956, during which extensive studies on the performance of reactor graphite have been conducted, the companies said.

<https://www.world-nuclear-news.org/Articles/Frazer-Nash-to-support-IMSR-graphite-moderator-fab>

E. Europe

France regrets U.S. decision on Fordow, rebukes Iran

Reuters, November 19, 2019

France lamented on Tuesday a U.S. decision to end a sanctions waiver related to Iran's Fordow nuclear facility, but also said it feared Tehran's latest violations of a 2015 deal could lead to serious nuclear proliferation. "We regret the decision of the United States, following Iran's resumption of enrichment on the Fordow site, to terminate an exemption that would facilitate the conduct of civilian projects on this site," foreign ministry spokeswoman Agnes von der Muhll told reporters in an online briefing.

The Trump administration, which last year pulled out of the Iran nuclear deal and re-imposed sanctions on Tehran, had until Monday let the work go forward at the Fordow fuel enrichment plant by issuing waivers to sanctions that bar non-U.S. firms from dealing with the Atomic Energy Organization of Iran (AEOI). The U.N.

atomic watchdog and Iran itself said this month Tehran is again enriching uranium at the sensitive site, which Iran hid from U.N. non-proliferation inspectors until its exposure in 2009.

<https://www.reuters.com/article/us-iran-nuclear-france/france-regrets-u-s-decision-on-fordow-rebuked-iran-idUSKBN1XT2CE>

Hungary aims to reach NATO defense spending goal in 2023

Robin Emmott, Reuters, November 21, 2019

Hungary hopes to reach a NATO defense spending target in 2023, a year ahead of the deadline agreed by allies who are facing strong pressure from U.S. President Donald Trump to invest more in European security. Hungarian Foreign Minister Peter Szijjarto told Reuters that Budapest would spend 2% of economic output on its military ahead of the NATO target date of 2024, up from less than 1% just a few years ago, buying weaponry and equipment from Turkey, France, Germany and the Czech Republic.

"I really understood the position of President Trump because he wanted Europeans to spend more, to put more emphasis on their security," Szijjarto said in the margins of a NATO foreign ministers meeting. "We have been implementing a very significant and robust modernization strategy of our armed forces, which will last until 2026. We will hit the 2% (level) in 2023," he said.

<https://www.reuters.com/article/us-hungary-nato/hungary-aims-to-reach-nato-defense-spending-goal-in-2023-idUSKBN1XU2HF>

Exclusive: Hungary makes EU bid to soften nuclear licensing rules to ease Paks expansion

Marton Dunai, Reuters, November 26, 2019

Hungary has submitted draft legislation to the European Commission to amend the country's nuclear safety protocols to custom-fit a 12 billion euro Russian-led nuclear plant expansion project that it wants to speed up, eight sources told Reuters. The draft legislation was detailed to Reuters by the Hungarian Atomic Energy Agency (HAEA), and corroborated by several

sources with knowledge of the matter who wanted to remain unidentified.

The EU review was confirmed by an EU official requesting anonymity, as well as several Hungarian government sources. Eight sources, including high-ranking government officials, confirmed the plan. Hungary wants to expand its 2-gigawatt Paks nuclear power plant with two Russian-made VVER reactors, each with a capacity of 1.2 gigawatts. The project, awarded in 2014 without a tender to nuclear giant Rosatom, an arm of the Russian government, is often cited as a sign of exceptionally warm ties between Hungarian premier Viktor Orban and Russian President Vladimir Putin, a connection that has unnerved Western allies.

<https://www.reuters.com/article/us-hungary-nuclearpower-exclusive/exclusive-hungary-makes-eu-bid-to-soften-nuclear-licensing-rules-to-ease-paks-expansion-idUSKBN1Y01WQ>

France warns Iran over nuclear deal dispute mechanism

John Irish, Reuters, November 28, 2019

France's foreign minister suggested on Wednesday that Paris was seriously considering triggering a mechanism within the Iran nuclear deal that could lead to U.N. sanctions, given Tehran's repeated breach of parts of the 2015 accord with world powers. "Every two months, there is another dent (in the deal by Iran) to the point where today we ask ourselves, and I'm saying this very clearly, about the implementation of the dispute resolution mechanism that exists in the deal," Jean-Yves Le Drian told a parliamentary hearing.

Britain, France and Germany have sought to salvage the pact, under which Iran undertook to curtail its uranium enrichment program in return for relief from sanctions crippling its economy, since the United States withdrew last year.

<https://www.reuters.com/article/us-iran-nuclear-france/france-warns-iran-over-nuclear-deal-dispute-mechanism-idUSKBN1Y12AI>

France's Macron denies accepting Putin's missile proposal

Reuters, November 28, 2019

French President Emmanuel Macron on Thursday denied having accepted a Russian proposal to impose a moratorium on missile deployments in Europe, but said it was important the Kremlin initiative not be simply dismissed. Russia has called on the United States and other countries to declare a moratorium on the deployment of short- and intermediate-range nuclear missiles in Europe after a treaty banning such a move formally ended in August.

Macron, who met transatlantic alliance NATO's Secretary-General Jens Stoltenberg in Paris for talks on Thursday, said France had "absolutely not accepted" the proposal, as suggested in leaks in the German press earlier this week.

<https://www.reuters.com/article/us-usa-russia-missiles-france/frances-macron-denies-accepting-putins-missile-proposal-idUSKBN1Y21E4>

Nuclear Deal Requires More European Efforts to Survive

Financial Tribune, November 28, 2019

A senior Iranian diplomat said the 2015 nuclear deal with major powers is under "intensive care", requiring the European signatories to the deal to intensify efforts to save the accord. Talking to the Dutch NRC website, Deputy Foreign Minister for Political Affairs Abbas Araqchi said Iran has done its part as per the agreement, officially known as the Joint Comprehensive Plan of Action. "Now, it is the other JCPOA parties' turn to do the same. We accepted to limit our nuclear program [under the deal], but were made a target of the United States' maximum pressure [campaign] in return. Under such circumstances, JCPOA's other partners are bound to think up practical approaches to extricate Iran from the sanctions," he said.

"European countries claim they seek to save the agreement, but so far, they have actually shown that they are either incapable or reluctant to resist the US dominance over Europe's financial system to protect it." The

deal between Iran and the P5+1 group—the United States, the UK, France, Russia and China, plus Germany—lifted nuclear-related sanctions against Iran, which voluntarily curbed some aspects of its nuclear energy program.

<https://financialtribune.com/articles/national/100973/nuclear-deal-requires-more-european-efforts-to-survive>

European countries join INSTEX exchange to preserve Iran nuclear deal

Zane Wolfgang, Reuters, November 30, 2019

Six major European countries announced on Friday that they would join a special trade exchange designed to alleviate the impact of the US sanctions on Iran. Belgium, Denmark, Finland, the Netherlands, Norway, and Sweden will all join INSTEX, a trade mechanism that allows Iranian and European companies to circumvent severe US sanctions against Iran. The six European countries made a joint statement announcing their decision to become shareholders in the exchange and stressed their commitment to the Joint Comprehensive Plan of Action (JCPOA), the nuclear nonproliferation agreement reached with Iran in 2015. The statement comes ahead of talks between all parties of the JCPOA, due to be held in Vienna next Wednesday.

The JCPOA was originally brokered by US president Barack Obama, and signed by Iran, China, France, Germany, Russia, UK, US, Germany, and the EU. The deal demanded that Iran make major concessions in its nuclear enrichment program, forfeit a stockpile of highly enriched uranium and allow International Atomic Energy Agency (IAEA) inspectors unprecedented access to its nuclear facilities to ensure compliance. In exchange, Iran was offered relief for longstanding economic sanctions and the ability to trade with the rest of the international community.

<https://www.rudaw.net/english/middleeast/iran/30112019>

Germany is closing all its nuclear power plants. Now it must find a place to bury the deadly waste for 1 million years

Sheena McKenzie, CNN, November 30, 2019

Germany decided to phase out all its nuclear power plants in the wake of the Fukushima disaster in 2011, amid increasing safety concerns. The seven power stations still in operation today are due to close by 2022. With their closure comes a new challenge — finding a permanent nuclear graveyard by the government's 2031 deadline. Germany's Ministry for Economic Affairs and Energy says it aims to find a final repository for highly radioactive waste "which offers the best possible safety and security for a period of a million years."

Where do you safely bury more than 28,000 cubic meters — roughly six Big Ben clock towers — of deadly radioactive waste for the next million years? This is the "wicked problem" facing Germany as it closes all of its nuclear power plants in the coming years, according to Professor Miranda Schreurs, part of the team searching for a storage site. Experts are now hunting for somewhere to bury almost 2,000 containers of high-level radioactive waste. The site must be beyond rock-solid, with no groundwater or earthquakes that could cause a leakage.

<https://edition.cnn.com/2019/11/30/europe/germany-nuclear-waste-grm-intl/index.html>

EU Committed to Finding Diplomatic Resolution to Nuclear Dispute

Financial Tribune, December 1, 2019

The three European parties to the 2015 nuclear deal have reaffirmed their commitment to pursue efforts for a diplomatic resolution to ensure the full implementation of the accord by all parties. In a statement published by the British government's website, France, Britain and Germany said, "We remain fully committed to pursuing our efforts toward a diplomatic resolution within the framework of JCPOA." They used the abbreviation of the

deal's formal name, the Joint Comprehensive Plan of Action.

As evidence for their efforts, the three countries cited the decision by six European Union states to join their financial system to facilitate trade with Iran in the face of sweeping sanctions that the United States reimposed on Tehran after unilaterally exiting the agreement last year. Their mechanism, known as INSTEX (Instrument in Support of Trade Exchanges), is among Europe's solutions to salvage the deal by protecting Iranian interests. It was established by France, Germany and Britain in January 2019 and aims to keep the country's trade afloat by circumventing US sanctions through a non-dollar system. However, it has not yet practically mitigated Iran's economic situation.

<https://financialtribune.com/articles/national/101001/eu-committed-to-finding-diplomatic-resolution-to-nuclear-dispute>

F. Russia

Russia ponders a floating nuclear plant for India

Charles Digges, Bellona, November 18, 2019

Rosatom, Russia's nuclear corporation, has publicly expressed interest in jointly developing a floating nuclear power plant with India, alongside other small and medium sized reactors, The Times of India has reported.

Nikita Mazein, vice president of Rusatom Overseas, Rosatom's international branch, told a nuclear conference in New Delhi earlier this month that remote coastal areas of South Asia could be served by small-scale reactors like the ones Rosatom is currently developing, as well as by a floating nuclear plant.

The 140-meter floating plant, which was more than a decade in the making, is equipped with two KLT-40 reactors that provide a combined 70 megawatts of power. The operational staff of about 70

can also make use of the plant's gym, swimming pool and bar.

Rosatom has estimated that the Akademik Lomonosov can power a city of 100,000 residents. Pevek's population, however, is a mere 4,700, so the bulk of the plant's electricity will power local mining operations and offshore oil drilling rigs. It can operate for 12 years before it needs to be refueled.

The company has billed the plant, which is the only one of its kind currently operating in the world, as a prototype for future floating plants, though has admitted that the cost of the Akademik Lomomosov was prohibitive for serial production.

<https://bellona.org/news/nuclear-issues/2019-11-russia-ponders-a-floating-nuclear-plant-for-india>

Moscow condemns US plans to end sanctions waiver over Iran's Fordow nuclear site

Russian Times, November 19, 2019

The Russian Foreign Ministry on Tuesday resolutely condemned the statement of Secretary of State Mike Pompeo the previous day that the US is terminating the sanctions waiver related to Iran's Fordow nuclear plant. "There is no legitimate reason for Iran to resume enrichment at this previously clandestine site," Pompeo said.

Washington's intentions are a blatant violation of international obligations, the Russian ministry said. Taking into account the US statements, a substantial reaction from the Commission on the Joint Comprehensive Plan of Action (JCPOA) will be required, according to the statement.

Moscow hopes that European colleagues "will find the strength to go beyond the duty regrets about the US actions and together with us and China to defend the JCPOA," the ministry said. It added that the Fordow project, as well as others important elements of the Iran nuclear deal, should be protected "from US sanctions attacks."

<https://www.rt.com/newsline/473819-russia-us-iran-fordow/>

Russia condemns U.S. decision to end sanctions waiver on Iran's Fordow

Reuters, November 19, 2019

Russia strongly condemns the U.S. decision to drop a sanctions waiver related to Iran's Fordow nuclear facility and believes the decision violates U.S. international commitments, Russia's foreign ministry said in a statement on Tuesday.

Moscow is continuing its close cooperation with Iran on the Fordow reconfiguration, it said. The United States said on Monday it will no longer waive sanctions related to Iran's Fordow nuclear plant after Tehran resumed uranium enrichment at the underground site.

<https://www.reuters.com/article/us-usa-iran-russia/russia-condemns-u-s-decision-to-end-sanctions-waiver-on-irans-fordow-idUSKBN1XT28J>

Putin Says 'Unparalleled' Weapons Tested at Deadly Nuclear Accident Site

The Moscow Times, November 22, 2019

President Vladimir Putin said Thursday that the scientists killed in a mysterious nuclear explosion in northwestern Russia this summer had been testing an "unparalleled" weapon.

A liquid propulsion system blast on Aug. 8 at a naval missile test facility in Nyonoksa in Arkhangelsk region killed five people and led to a brief radiation spike nearby. Putin said at the time the accident occurred during testing of what he called promising new weapons systems.

"We're talking about the most advanced and unparalleled technical ideas and solutions, about weapons designed to ensure Russia's sovereignty and security for decades to come," Putin told the victims' relatives at a televised state awards ceremony in the Kremlin.

<https://www.themoscowtimes.com/2019/11/22/putin-says-unparalleled-weapons-tested-at-deadly-nuclear-accident-site-a68274>

Rosatom Plans Multi-Billion-Dollar Expansion into Ocean Freight

The Maritime Executive, November 22, 2019

Russian state nuclear power company Rosatom, the operator of Russia's nuclear icebreaker fleet and the designated manager for the development of Russia's Northern Sea Route, is reportedly planning to plow billions of dollars into a fleet of container ships in order to make Asia-to-Europe cargo runs through Arctic waters.

Unlike CMA CGM, Hapag-Lloyd, MSC, Nike, H&M and other Western companies that have pledged to avoid the Northern Sea Route due to environmental concerns, Rosatom is officially tasked with maximizing the Arctic region's economic potential. Russian outlet Vedomosti reports that based on information from sources close to the company, Rosatom plans to become a shipping giant: it wants to capture about seven percent of the containerized cargo that currently transits the Malacca-Suez-Gibraltar route to and from Europe.

The NSR would offer shippers a faster alternative to transport containerized goods between Asian and European markets - not as fast as air freight, nor as quick as the Silk Road rail line, but still considerably faster than the standard ocean freight route. Under legislation passed by the state Duma last year, Rosatom has authority over shipping, access, security and infrastructure on the Northern Sea Route, with the Ministry of Transport playing a subordinate role.

<https://www.maritime-executive.com/article/rosatom-plans-multi-billion-dollar-expansion-into-ocean-freight>

Russian Watchdog Detects 'Radiation Incident' in South China Sea

The Moscow Times, November 22, 2019

The Russian government's consumer protection watchdog Rospotrebnadzor said Friday it has detected a "radiation incident" in the South China Sea.

"Based on data received from the Global Environmental Monitoring System, there's an increase in background radiation in the South China Sea in connection with a radiation incident," Rospotrebnadzor said in an online statement.

A website run by far-right U.S. talk show radio host Hal Turner claimed Wednesday that unidentified military sources had allegedly detected an underwater nuclear explosion in the area that caused powerful shockwaves. The U.S. tech news website Gizmodo cited two scientists who dismissed the report as fake.

Gizmodo reported that uRADMonitor Global Environmental Monitoring Network data used in the initial report registered "negligible" radiation and noted that two other agencies in the region showed normal radiation readings.

<https://www.themoscowtimes.com/2019/11/22/russian-watchdog-detects-radiation-incident-in-south-china-sea-a68287>

Russia's Avangard hypersonic missile system to go on combat alert in December — top brass

TASS News Agency, November 26, 2019

Russia's breakthrough Avangard missile system with the hypersonic boost-glide vehicle will assume combat duty in December this year, the Defense Ministry of Russia reported on Tuesday.

"This missile system is set to go on combat alert in December 2019," the ministry said in a statement.

A source in the defense industry told TASS on November 13 that the first two UR-100N UTKh intercontinental ballistic missiles (ICBMs) outfitted with the Avangard nuclear boost-glide vehicle would go on experimental combat duty in late November - early December in the Dombarovsky division of the Strategic Missile Force.

As another source in the defense industry told TASS in October last year, two

Avangard regiments with six silo-based missiles each were due to assume combat duty in Russia.

<https://tass.com/defense/1092905>

Russia Shows Off Hypersonic Nuclear Missile to U.S. Inspectors

The Moscow Times, November 26, 2019

Russia said it has showed its new hypersonic nuclear missile system to U.S. inspectors as part of a bilateral arms control treaty ahead of the missile's deployment, Interfax reported Tuesday.

President Vladimir Putin said late last year that Russia would be ready to deploy the Avangard missile system in one year's time. One of several new weapons announced in 2018, the Avangard was touted as a highly maneuverable weapon able to evade the United States' missile defense systems.

"The Russian side held a demonstration to help ensure the viability and effectiveness of the [New] START Treaty," the Russian military was quoted as saying, adding that it plans to put Avangard into combat duty before the end of the year.

<https://www.themoscowtimes.com/2019/11/26/russia-shows-off-hypersonic-nuclear-missile-to-us-inspectors-a68329>

Russia says it showed hypersonic nuclear missile system to U.S. inspectors

Reuters, November 26, 2019

Russia's Ministry of Defence said on Tuesday it had shown the country's new Avangard nuclear missile system to U.S. inspectors for the first time, a move Moscow said showed a key arms control treaty was still effective.

Russia is due to deploy next month the Avangard system, a hypersonic glide vehicle designed to sit atop an intercontinental ballistic missile, one of several new types of weapons touted by President Vladimir Putin as ahead of their time.

The Defence Ministry said a group of visiting

U.S. arms inspectors had been shown the Avangard system from Nov. 24-26 under the auspices of the New START treaty, which came into effect in 2011.

The treaty limits the number of strategic nuclear warheads the world's two biggest nuclear powers can deploy to no more than 1,550 each.

<https://www.reuters.com/article/us-russia-usa-missiles/russia-says-it-showed-hypersonic-nuclear-missile-system-to-u-s-inspectors-idUSKBN1Y01Z0>

Russia urges U.S. to extend nuclear pact due to expire in 2021

Reuters, November 27, 2019

Russia has formally proposed to the United States that the two nuclear superpowers extend their New START arms control treaty by five years, though Moscow would also settle for a shorter extension, a senior Russian official said on Wednesday.

The New START accord, which is due to expire in February 2021, is the last major nuclear arms control treaty between Moscow and Washington. It limits the number of strategic nuclear warheads they can deploy to 1,550 each.

<https://www.reuters.com/article/us-russia-usa-missiles/russia-urges-u-s-to-extend-nuclear-pact-due-to-expire-in-2021-idUSKBN1Y123W>

Kingdom in talks with Russia for nuclear science

Taing Vida, Khmer Times, November 27, 2019

Cambodian and Russian experts yesterday concluded discussions on the possibility of constructing and establishing a Nuclear Science and Technology Centre in the Kingdom.

The discussion, which was held in Siem Reap province over two days, took place at the 3rd meeting of a Cambodia-Russia joint working group on cooperation in the use of nuclear energy for peaceful purposes.

The meeting was chaired by Sok Kean, an undersecretary of state at the Environment Ministry, and Russian Ambassador Dmitry Tsvetkov.

<https://www.khmertimeskh.com/50664303/kingdom-in-talks-with-russia-for-nuclear-science/>

EBRD announces breakthrough in clean-up of Andreeva Bay

World Nuclear News, November 28, 2019

The European Bank for Reconstruction and Development (EBRD) has announced the retrieval of abandoned, highly radioactive used nuclear fuel assemblies from the bottom of Building 5 at Andreeva Bay in north-western Russian. Following the successful operation, radiation levels at the facility have fallen by over 40%, enabling further decommissioning work and removing "one of the most significant radiological risks to the Barent Sea region", the London-headquartered bank said.

The project is part of the EBRD-managed NDEP Nuclear Window funding programme to overcome the legacy of the former Soviet Northern Fleet. The fund is financed by contributions from Belgium, Canada, Denmark, the European Union, Finland, France, Germany, The Netherlands, Norway and the UK.

Simon Evans, EBRD associate director for nuclear safety, said: "This is a major step towards making Andreeva Bay environmentally safe and secure and testimony to what can be achieved through international cooperation. This successful operation follows other milestones, like the recent first shipment of spent nuclear fuel from the former service ship Lepse."

<https://www.world-nuclear-news.org/Articles/EBRD-announces-breakthrough-in-clean-up-of-Andreeva>

Russian strategic nuclear forces test-launch Topol ICBM

Russian Times, November 28, 2019

The Russian military has test-fired a nuclear-capable RS-12M Topol, capturing a chilling view of an intercontinental ballistic missile

ascending into the night sky in a captivating video.

The test launch was performed from the Kapustin Yar military range in Russia's southern Astrakhan Region, the Defense Ministry said, revealing little detail besides that the test warhead "successfully hit its designated target" some 2,100km away at the Sary-Shagan range in Kazakhstan.

<https://www.rt.com/russia/474600-topol-missile-test-video/>

Moscow May Stop Using Nukes as Deterrent Force, Commander of Russian Strategic Missile Forces Says

Sputnik, November 29, 2019

Earlier, Sergei Karakaev said that Russia's strategic missile forces have more than 200 mobile and stationary missile systems. Speaking with the Russian Armed Forces' official newspaper, Krasnaya Zvezda, Karakaev said that Russia's military is now replacing the last missile systems that were made in the Soviet Union.

Commander of Russia's Strategic Missile Forces Colonel-General Sergei Karakaev said that Moscow could stop using nuclear weapons as a deterrent force in the future. Speaking to Krasnaya Zvezda newspaper, Karakaev said that nuclear weapons could also stop playing the most important role in defending Russia from external threats. Russia's strategic missile forces will remain the guarantor of Russia's security until scientists come up with new type of weapons or until the situation on the political arena changes.

Previously, high-ranking Russian military officials and politicians, including President Putin, have highlighted the importance of Russia's nuclear triad. President Putin noted that the country's strategic missile forces play a crucial role in deterring aggressors and maintaining the balance of power on the international arena.

<https://sputniknews.com/military/201911291077437004-moscow-may-stop->

using-nukes-as-deterrent-force-commander-of-russian-strategic-missile-forces-says/

Russia tests hypersonic missile in Arctic - TASS cites sources

Reuters, November 30, 2019

Russia's MiG-31K interceptor jet carried out a test of the Kinjal (Dagger) hypersonic missile in Russia's part of Arctic earlier this month, TASS new agency reported on Saturday, citing two military sources.

The report came a day after Danish intelligence service warned of intensifying geopolitical rivalry in the Earth's freezing North, and said that China's military was increasingly using scientific research in the Arctic as a way into the region.

"The tests took place in mid-November," TASS quoted one of its sources as saying.

<https://www.reuters.com/article/us-russia-arctic-missiles/russia-tests-hypersonic-missile-in-arctic-tass-cites-sources-idUSKBN1Y40BB>

West Asia

G. Israel

Ex-security chief: Israel needs to attack Iran to stop nukes, 'ring of fire'

Yonah Jeremy Bob, Jerusalem Post, November 19, 2019

Amidror said, "there might come a situation where we will have to act directly in Iran to stop the Iranians. The world is not ready to act...not NATO, not the US...they prefer to close their eyes."

Israel will likely need to attack Iran directly to stop it from developing nuclear weapons and a "ring of fire" around Israel, ex-national security council chief Maj. Gen. Yaakov Amidror of the Jerusalem Institute for Strategy and Security (JISS) said on Monday. Speaking at the INSS annual Arms Control conference in Tel Aviv, Amidror said, "there might come a situation where we will have to act directly in Iran to stop the Iranians. The world is not ready to act. It might be costly, it might be

problematic, it's not going to be easy," but when it comes to ensuring Israel's security, he said he did not see any alternative.

Amidror said that, "there is a strong connection between a nuclear Iran and the ring of fire around Israel. With a nuclear umbrella, Iran would be free to build a ring of fire around Israel" at which point, it would be too late for Jerusalem to stop either the nuclear program or Iran's destabilizing behavior in the region.

<https://www.jpost.com/Israel-News/Israel-will-need-to-attack-Iran-to-block-uke-umbrella-ring-of-fire-607533>

H. Saudi Arabia

Saudi Arabia: Iran misusing nuclear revenue to trigger unrest in region

Saudi Gazette, November 21, 2019

Saudi Arabia has emphasized that Iran has used its economic revenue from the nuclear deal to trigger unrest in the region. Addressing the session of the International Atomic Energy Agency (IAEA) here, Prince Abdullah Bin Khalid, Saudi Arabia's ambassador to Austria, said that Iran's enrichment at Fordow reactor is a form of blackmail and a threat to the international community. Heading the Saudi delegation to the IAEA meeting, Prince Abdullah said that reports released by the IAEA on Iran's violations of the nuclear agreement in terms of enrichment of uranium, the quantity produced from it, the installation of advanced centrifuges, halting all its obligations with regard to research and development, and its recent uranium enrichment at the Fordow facility, amount to blackmailing of and threats to the international community. "It also underlines the shortcomings of this agreement, and reinforces doubts about the intentions and peacefulness of Iran's nuclear program," he said. Prince Abdullah considered that Iran has misused the economic return from the nuclear agreement in provoking internal unrest in neighboring countries, in light of its insistence on the development of ballistic

missiles, supporting terrorist groups in the region, threatening international navigation and maritime straits and destabilizing the security and stability of the region in particular.

<http://saudigazette.com.sa/article/583141/SAUDI-ARABIA/Saudi-Arabia-Iran-misusing-nuclear-revenue-to-trigger-unrest-in-region>

Saudi Arabia decries Iran's nuclear breaches

Saudi Gazette, November 26, 2019

The Council of Ministers has condemned Iran's continued violations and breaches of international conventions and treaties pertaining to its nuclear program. The Cabinet session was chaired by Custodian of the Two Holy Mosques King Salman at Al-Yamamah Palace here on Tuesday. Minister of Media Turki Al-Shabanah told Saudi Press Agency (SPA) that the Cabinet welcomed the joint ministerial statement of the three European countries, which are parties to the agreement and the representative of the European Union, as well as the decision of the United States to end the exemption of Iran's Fordow nuclear plant from sanctions. The Cabinet stressed the need for the international community to take a firm position toward Iran's violations which are undermining global peace and security. Congratulating the Organization of Islamic Cooperation (OIC) on the 50th anniversary of its foundation, the Cabinet appreciated the pan-Islamic organization and its affiliated bodies and all their staff for their efforts in serving and defending the causes of the Islamic World and achieving the overall objectives of enhancing cooperation among the member states to become a model for joint Islamic action in various fields. Al-Shabanah said the Cabinet viewed that OIC, through its march all through these years, has turned to be the uniform voice of the Islamic World and sought to protect the interests of the Islamic World until it became the second-largest intergovernmental organization after the United Nations.

<http://saudigazette.com.sa/article/583508/SAUDI-ARABIA/Saudi-Arabia-decries-Iran-s-nuclear-breaches>

I. Iran

Reinvigorating Iran's defense power best way to counter sanctions: minister

Tehran Times, November 16, 2019

The Iranian defense minister announced on Saturday that the only way to counter the U.S. sanctions is to upgrade the country's competency regarding the entire vital components, especially in military sector. Addressing a professional meeting on reviewing ways to counter-sanctions on the country's defense field, Brigadier General Amir Hatami said, "The U.S. will not narrow down sanctions (on Iran) due to some reasons, so, the only way to face such sanctions is to strengthen the country's might in all vital arenas, especially in defense sector." "Today, the enemy has targeted our existence, so beyond embarking on hitting Iran, they are resolved to eliminate us," the minister opined. He further said that the hegemonic system has now applied its entire ability via using its agents to infiltrate into the country's infrastructure as well as cultural, political and economic programs to access information to hit the country.

"Therefore, access to the information in wars and confrontations can be among main elements in supremacy in battles," Hatami further explained. "Thank God, the U.S-led hegemonic system's plots against Iran have thus far been thwarted in various confrontations, but, (we must not ignore that) the enemy will not neglect any opportunity to harm our country," the brigadier general stressed. The United States has slapped the harshest ever sanctions against Iran in line with its "maximum pressure" strategy against Iran. This happened after the Trump administration exited the 2015 nuclear agreement, officially called the JCPOA, in May 2018 in violation of the resolution 2231 adopted by the UN Security Council confirming the JCPOA. The U.S. has introduced a total ban on Iran's oil export, which is the main source of Iran's income.

<https://www.tehrantimes.com/news/442050/Reinvigorating-Iran-s-defense-power-best-way-to-counter-sanctions>

'Exiting JCPOA would punish Washington'

Tehran Times, November 16, 2019

Abbasali Kadkhodaei, the spokesman for the Guardian Council, says pulling out of the 2015 nuclear pact would "punish" the United States. In an interview with The Associated Press on November 14, Kadkhodaei said the Islamic Republic should stop honoring all terms of the collapsing 2015 nuclear deal with world powers amid tensions with the United States.

"I think those who disrupted the game should be punished since they damaged other parties' interests," he asserted. U.S. President Donald Trump withdrew from the nuclear accord, officially known as the JCPOA, in May 2018, and imposed economic and financial sanctions against the Islamic Republic.

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.

So far, Iran has taken four steps in that regard. In the first step, Iran removed cap on its nuclear deal stockpile which was limited to 300 kilograms enriched to purity of 3.67 percent. In the second step, which started in July 7, Iran started enriching nuclear fuel to more than 3.67 percent.

<https://www.tehrantimes.com/news/442057/Exiting-JCPOA-would-punish-Washington>

Book recounting Leader's criticism of JCPOA published

Tehran Times, November 17, 2019

A book recounting Leader of the Islamic Revolution Ayatollah Seyyed Ali

Khamenei's criticism of the 2015 nuclear deal (JCPOA) has recently been published in Tehran. Entitled "I Told You Not to Trust", the book has been compiled by Hossein Izadi at the Islamic Revolution Dialogue Study Office, and Shahid Kazmei Publications is the publisher of the collection. The criticisms have been compiled from the speeches the Leader delivered during the time when the deal was in process. The book actually aims to document the file of Iran's nuclear deal, and is a historiography of the nuclear deal in the Hassan Rouhani administration.

<https://www.tehrantimes.com/news/442090/Book-recounting-Leader-s-criticism-of-JCPOA-published>

Iran urges intl. community to make U.S., Israel to agree to nuclear free zone Middle East

Tehran Times, November 19, 2019

Majid Takht-Ravanchi, Iran's ambassador to the United Nations, said on Monday that the international community must compel the United States and the Zionist regime of Israel to fulfil their commitments in establishing a WMD-free zone in the Middle East.

"The international community must make the United States and Israel behave responsibly and fulfil nuclear commitments," Takht-Ravanchi said in a statement read at the Conference on the Establishment of a Middle East Zone Free of Nuclear Weapons and Other Weapons of Mass Destruction. The conference, underway in New York, began on November 18 and will last until November 22.

The president-designate of the first session is Ambassador Sima Bahous of Jordan. Israel is the only country in the Middle East which has nuclear weapons. Being supported by the United States, it has been blocking all efforts by the United Nations and the international community to make the region a WMD-free zone. Takht-Ravanchi said that the main obstacles are the weapons of mass destruction held by Israel, which is supported by the U.S., and

the unwillingness of the U.S. to engage in the conference.

<https://www.tehrantimes.com/news/442155/Iran-urges-intl-community-to-make-U-S-Israel-to-agree-to-nuclear>

Rouhani: JCPOA collapse will harm the entire world

Tehran Times, November 19, 2019

Iranian President Hassan Rouhani on Tuesday called on the entire world nations to pay due attention to key international agreements, including the JCPOA whose collapse he warned will harm the whole world. In a meeting with the newly-appointed Australian Ambassador to Tehran, Rouhani said, "The U.S. decision to reimpose illegal sanctions on Iran was a great political and economic mistake and in the meantime, it was against international resolutions and regulations."

By abandoning the 2015 nuclear agreement, officially called the JCPOA, the U.S. not only returned previous sanctions it also added new harsh ones. Under the JCPOA, Iran agreed to curbs on its nuclear program in exchange for the termination of economic and financial sanctions.

Rouhani went on to say that Tehran will not allow the sanctions to block the way to expand its ties with the outside world. The president suggested that independent countries should stand up against the U.S. illegal measures and force the White House officials to understand that everybody should obey international law.

The United States violated UN Security Council Resolution 2231 which endorsed the nuclear deal. Rouhani said the U.S. has done an unprecedented act in the history of the world by punishing those nations that have complied with the UN resolution, reiterating, "We must not let the U.S. be successful in face of international obligations." "The U.S. must understand that it is not the leader of the entire world, but only a country similar to others," Rouhani remarked.

<https://www.tehrantimes.com/news/442165/>

[Rouhani-JCPOA-collapse-will-harm-the-entire-world](#)

Russia to continue cooperation with Iran on Fordow reconfiguration

Tehran Times, November 20, 2019

The statement also strongly condemned the United States' decision to drop a sanctions waiver related to Iran's Fordow nuclear facility and believes the decision violates U.S. international commitments. U.S. Secretary of State Mike Pompeo announced on Monday that the U.S. will no longer waive sanctions related to the Fordow nuclear plant after Tehran resumed uranium enrichment at the site more than a year after Washington withdrew from the 2015 nuclear agreement.

"The right amount of uranium enrichment for the world's largest state sponsor of terror is zero ... There is no legitimate reason for Iran to resume enrichment at this previously clandestine site," Reuters quoted Pompeo as saying. Earlier this month, Iran started to inject uranium gas into centrifuges at Fordow under the supervision of inspectors from the UN nuclear watchdog, officially going on with the fourth step since it began responding to Washington's abandonment of the nuclear deal and an inaction by the remaining parties, including Europeans, to shield Iran from sanctions.

Iran took the first step to scale down nuclear commitments on May 8. The other two steps were taken two months later each. In the first step, Iran removed cap on its stockpile of nuclear enrichment which had been limited to 300 kilograms. In the second, Iran started enriching uranium beyond 3.67 percent. And in the third, Iran removed ban on nuclear research and development.

<https://www.tehrantimes.com/news/442197/Russia-to-continue-cooperation-with-Iran-on-Fordow-reconfiguration>

Russia says U.S. remains isolated at IAEA meeting on Iran

Tehran Times, November 22, 2019

Almost all parties are fully committed to the 2015 nuclear deal, formally known as the JCPOA, and the U.S. remains isolated, Ulyanov said in a tweet. "Debates on #Iran in #IAEA Board of Governors today were tough. 3 main observations: 1) many expressed disappointment at US policy on #JCPOA, 2) even more speakers were concerned over reductions of Iranian commitments, 3) almost all are fully committed to JCPOA. US remain isolated," he tweeted.

In an exclusive interview with IRNA published on Sunday, Ulyanov said Moscow is concerned about the fate of the nuclear deal. Ulyanov said the deal is very important and the parties have been working for more than 10 years to achieve it.

Iran has started to gradually reduce its commitments to the JCPOA in response to the United States which abandoned the landmark deal in May 2018 and reinstated sanctions. So far, the Atomic Energy Organization of Iran (AEOI) has taken four steps to cut back commitments in accordance to paragraph 36 of the JCPOA which "allows one side, under certain circumstances, to stop complying with the deal if the other side is out of compliance."

<https://www.tehrantimes.com/news/442243/Russia-says-U-S-remains-isolated-at-IAEA-meeting-on-Iran>

Europe should pay price to salvage JCPOA: envoy

Tehran Times, November 22, 2019

Kazem Gharibabadi, Iran's ambassador and permanent representative to the Vienna-based international organizations, says Europe should be ready to pay the price if it wants to preserve the nuclear deal. "It is completely visible that turning a blind eye to the current state of the affairs shows that Europeans are not ready yet to pay the necessary price for maintaining the most

important diplomatic achievement and as they call it one of the most important foundations of non-proliferation architecture," Gharibabadi said while addressing the IAEA's board of governors on Thursday, Mehr reported.

Pointing to Iran's reduction of its commitments to the nuclear agreement, also known as the Joint Comprehensive Plan of Action (JCPOA), in the past months, the envoy said the only way to keep the historic pact alive is that all sides live up to their commitments. "Europe needs to define the U.S. destructive role as the main reason for the current state of the affairs instead of criticizing Iran," he added. Gharibabadi also dismissed as "baseless" claims of nuclear proliferation by Western countries as Iran has removed some limits on nuclear energy program, stressing that such baseless remarks will not stop Iran from continuing its national plans.

Iran still faithful to all its JCPOA obligations, envoy tells IAEA

Tehran Times, November 22, 2019

"Iran has shown its good will by implementing all of its commitments under the deal wholeheartedly, and as the world witnessed, the Agency has continuously reported the full compliance of Iran with the JCPOA," said Kazem Gharibabadi, the Iranian envoy to the IAEA.

"Iran tries to protect its national interest in accordance with international rules, regulations and negotiated agreements, and even the recent steps taken by Iran to cease the implementation of some of its commitments under the JCPOA not only are the continuation of its full compliance with the provisions of the deal consistent with its paragraph 36, but also do not break any of its international obligations, and Iran still is acting within the nuclear deal," he added.

"However, if it [Iran] is to be the only, and I stress, the only participant who bears the burden and implements the deal

unilaterally, such a lopsided implementation, naturally, would not last long, and gradual cessation of implementation of commitments would be the first step for Iran to take to bring back the lost balance in the deal," he warned. He made the remarks in a statement on Thursday before the IAEA Board of Governors which met on Verification and Monitoring of Iran in Light of United Nations Security Council Resolution 2231 passed in 2015.

During the meeting, IAEA Acting Director-General Cornel Feruta claimed the Agency has "detected natural uranium particles of anthropogenic origin at a location in Iran not declared to the agency" and said the issue has remained "unresolved". "A meeting between the Agency and Iran is scheduled next week in Tehran to discuss the matter," he said.

<https://www.tehrantimes.com/news/442220/Iran-still-faithful-to-all-its-JCPOA-obligations-envoy-tells>

Iran voices serious concern over UAE nuclear safety

Tehran Times, November 23, 2019

Iran's permanent representative to the United Nations Office and other International Organizations in Vienna has voiced Tehran's deep concern over the safety of the United Arab Emirates' nuclear program. Kazem Gharib Abadi's remarks came in his address on Thursday to the International Atomic Energy Agency's Board of Governors on Verification and Monitoring in the Islamic Republic of Iran in Light of the United Nations Security Council resolution 2231.

Gharib Abadi said, "The UAE's nuclear program is a full-scale imported program. It does not rely on domestic capacities and knowledge, therefore we are seriously concerned about the program's security and safety."

He said that according to the IAEA's regulations, the host country must accept responsibility of the nuclear sites' safety and security. "Safety and security cannot be

provided from overseas," Ambassador Gharib Abadi added.

<https://www.tehrantimes.com/news/442285/Iran-voices-serious-concern-over-UAE-nuclear-safety>

Sanctions on Fordow is a blow to nuclear deal: Russian CENESS director

Tehran Times, November 24, 2019

Director of the Russian Center for Energy and Security Studies (CENESS) Anton Khlopkov has said that the United States' sanctions on the Fordow nuclear plant is a blow to the 2015 nuclear deal, formally known as the JCPOA. In an interview with IRNA published on Saturday, he said the U.S. action in dropping sanctions waiver for Fordow is a violation of international law.

"In the past year and a half, the United States has taken various actions against the JCPOA which are contrary to Resolution 2231 of the United Nations Security Council, while the United States was among the initiators of this resolution and the JCPOA," he said.

Resolution 2231 endorsed the nuclear deal and annulled all the previous sanctions resolutions against Iran. U.S. Secretary of State Mike Pompeo announced on November 18 that the U.S. will no longer waive sanctions related to the Fordow nuclear plant after Tehran resumed uranium enrichment work at the site more than a year after Washington withdrew from the nuclear pact and imposed sanctions on Iran.

<https://www.tehrantimes.com/news/442312/Sanctions-on-Fordow-is-a-blow-to-nuclear-deal-Russian-CENESS>

Iran, IAEA sign new projects for technical cooperation

Tehran Times, November 25, 2019

Kazem Gharibabadi, Iran's ambassador to the Vienna-based international organizations, has said that Iran and the

International Atomic Energy Agency (IAEA) have signed new projects for technical cooperation in nuclear industry. "Our country's Atomic Energy Organization and the Agency [IAEA] held technical talks and are supposed to continue implementing two projects of technical cooperation in areas of power plants and cancer treatment in 2020 and 2021," IRNA reported Gharibabadi as saying on Monday. "In addition to that, four new projects for technical cooperation have been signed," the ambassador said.

He added, "These projects, whose implementation requires over one million euro and are financed by the Agency, are in areas of promoting safety in exploiting nuclear research reactors, promoting human capacities in area of nuclear fuel and also promoting capacity of producers in area of main grains and also managing waste."

<https://www.tehrantimes.com/news/442334/Iran-IAEA-sign-new-projects-for-technical-cooperation>

JCPOA joint commission to convene on December 6

Tehran Times, November 25, 2019

Foreign Ministry spokesman Abbas Mousavi said on Monday that the Joint Commission of the Joint Comprehensive Plan of Action (JCPOA) may convene on December 6 at the level of deputy foreign ministers. The latest developments in implementing the JCPOA will be discussed in the meeting, he said during a press conference. Iran has started to gradually reduce its commitments to the JCPOA in response to the United States which abandoned the landmark deal in May 2018 and reinstated sanctions.

So far, the Atomic Energy Organization of Iran (AEOI) has taken four steps to cut back commitments in accordance with paragraph 36 of the JCPOA which "allows one side, under certain circumstances, to stop complying with the deal if the other side is out of compliance."

On May 8, exactly one year after the U.S. abandoned the deal, Tehran announced that its "strategic patience" is over and began to

partially reduce its commitments to the agreement at bi-monthly intervals.

In the first stage, Iran announced that it will not limit its stockpile of the nuclear fuel to 300 kilograms allowed under the deal. 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/442351/JCPOA-joint-commission-to-convene-on-December-6>

Iran dismisses French comments about nuclear deal's dispute mechanism

Reuters, November 28, 2019

Iran rejects as "irresponsible" comments by France that it is seriously considering triggering a mechanism within the Iran nuclear deal that could lead to U.N. sanctions, Iranian Foreign Ministry spokesman Abbas Mousavi said on Thursday. "Iran's scaling back of its nuclear commitments was implementation of its legal rights to react to America's illegal and unilateral exit of the deal and the European parties' failure to fulfill their obligations," Mousavi said in remarks quoted by state television. "Under these circumstances, the deal does not allow triggering of the mechanism by the European parties to the deal ... such remarks by the French official are irresponsible and not constructive." The mechanism involves a party referring a dispute to a Joint Commission comprising Iran, Russia, China, the three European powers, and the European Union and then on to the U.N. Security Council if that commission cannot resolve it.

<https://www.reuters.com/article/us-iran-nuclear-eu/iran-dismisses-french-comments-about-nuclear-deals-dispute-mechanism-idUSKBN1Y216Z>

Iran : Invoking nuclear deal's dispute resolution mechanism impossible – TV

Reuters, November 28, 2019

Iran rejected as “irresponsible” France’s comments that Paris was seriously considering triggering a mechanism within the Iran nuclear deal that could lead to U.N. sanctions, Iranian Foreign Ministry spokesman Abbas Mousavi said on Thursday, state TV reported. “Iran’s scaling back of its nuclear commitments was implementation of its legal rights to react to America’s illegal and unilateral exit of the deal and the European parties’ failure to fulfil their obligations,” Mousavi said. “Under these circumstances, the deal does not allow triggering of the mechanism by the European parties to the deal ... such remarks by the French official are irresponsible and not constructive.”

<https://in.reuters.com/article/iran-nuclear-eu/iran-invoking-nuclear-deals-dispute-resolution-mechanism-impossible-tv-idINL1N288058>

Six European countries to join INSTEX

Tehran Times, November 29, 2019

“In light of the continuous European support for the agreement and the ongoing efforts to implement the economic part of it and to facilitate legitimate trade between Europe and Iran, we are now in the process of becoming shareholders of the Instrument in Support of Trade Exchanges (INSTEX) subject to completion of national procedures. INSTEX was established by France, Germany and the United Kingdom in January 2019,” read the statement, published by the Foreign Ministry of Finland.

It added, “The nuclear agreement was unanimously endorsed by the UN Security Council and is as a key instrument for the global non-proliferation regime and a major contribution to stability in the region.”

INSTEX has been designed by the European Union to facilitate legitimate trade with Tehran. It was introduced on January 31 by France, Germany and Britain, the three

countries party to the 2015 nuclear deal. It was introduced long after the U.S. imposed sanctions on Iran and threatened to punish any country or company that does business with Iran. INSTEX 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. On March 20, Iran’s central bank governor Abdolnaser Hemmati announced that a mechanism similar to INSTEX has been registered in Iran, officially called the Special Trade and Finance Institute (STFI).

<https://www.tehrantimes.com/news/442470/Six-European-countries-to-join-INSTEX>

New IAEA chief says he wants ‘constructive’ relation with Iran

Tehran Times, November 30, 2019

In an interview with NHK published on Saturday, he said he will take a fair stance on Iran. Rafael Grossi is set to take office as director general of the UN nuclear watchdog on Tuesday. The agency’s board appointed him to the post in October, following the death of the previous chief Yukiya Amano in July. Foreign Ministry spokesman Abbas Mousavi said on October 31 that Iran is ready to expand cooperation with the IAEA based on “mutual trust” and adoption of a professional approach by the UN nuclear body.

“The Islamic Republic of Iran is ready to maintain and expand constructive interaction and cooperation with the agency based on mutual respect and professional precision and neutrality of this institution,” he said in a message, congratulating appointment of Grossi as the director general of the IAEA. Mousavi expressed hope that Grossi would fulfil his international duties professionally and with adopting an independent position.

<https://www.tehrantimes.com/news/442521/New-IAEA-chief-says-he-wants-constructive-relation-with-Iran>

France welcomes six European countries' decision to join INSTEX

Tehran Times, November 30, 2019

French Foreign Minister Jean-Yves Le Drian has welcomed six European countries' decision to join the Instrument in Support of Trade Exchanges (INSTEX). Belgium, Denmark, Finland, the Netherlands, Norway, and Sweden issued a joint statement on Friday announcing becoming shareholders of INSTEX. In a tweet on Friday, Le Drian said that the six European countries made an important decision to join INSTEX.

He also said that the Europeans are strongly committed to support the 2015 nuclear deal, officially known as the Joint Comprehensive Plan of Action. The statement issued by the six European countries says, "In light of the continuous European support for the agreement and the ongoing efforts to implement the economic part of it and to facilitate legitimate trade between Europe and Iran, we are now in the process of becoming shareholders of the Instrument in Support of Trade Exchanges (INSTEX) subject to completion of national procedures. INSTEX was established by France, Germany and the United Kingdom in January 2019."

It added, "The nuclear agreement was unanimously endorsed by the UN Security Council and is as a key instrument for the global non-proliferation regime and a major contribution to stability in the region." INSTEX has been designed by the European Union to facilitate legitimate trade with Tehran. It was introduced on January 31 by France, Germany, and Britain, the three countries party to the nuclear deal. It was introduced long after the U.S. imposed sanctions on Iran and threatened to punish any country or company that does business with Iran.

<https://www.tehrantimes.com/news/442515/France-welcomes-six-European-countries-decision-to-join-INSTEX>

Diplomat hopes INSTEX would be implemented as six more countries join in

Tehran Times, November 30, 2019

Iranian Deputy Foreign Minister for Political Affairs Abbas Araghchi said on Saturday that he hopes the Instrument in Support of Trade Exchanges (INSTEX) would become operational as six more European countries join the financial mechanism. His comments came as Belgium, Denmark, Finland, the Netherlands, Norway, and Sweden issued a joint statement on Friday announcing becoming shareholders of INSTEX.

In an interview with IRNA correspondent in Beijing on Saturday, Araghchi said the European countries' action in joining INSTEX is "valuable". INSTEX has been designed by the European Union to facilitate legitimate trade with Tehran. It was introduced on January 31 by France, Germany, and Britain, the three countries party to the 2015 nuclear deal. It was introduced long after the U.S. imposed sanctions on Iran and threatened to punish any country or company that does business with Iran. It 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.

"The fact that the European countries are serious about having INSTEX as a business mechanism to keep economic relations with Iran and finding a way in order for Iran to have economic interaction with Europeans despite the United States' sanctions is very valuable," said Araqchi.

Araqchi served as a senior negotiator in crafting the 2015 nuclear deal, officially known as the JCPOA, with the other parties, which includes the five permanent members of the UN Security Council (China, Russia, Britain, France, and the

U.S.) Germany and the European Union. However, the U.S., under President Donald Trump, abandoned the deal and reinstated sanctions on Iran.

<https://www.tehrantimes.com/news/442518/Diplomat-hopes-INSTEX-would-be-implemented-as-six-more-countries>

Salehi: Iran views IAEA inspector's act as 'industrial sabotage'

Tehran Times, November 30, 2019

Nuclear chief Ali Akbar Salehi has said Iran views the conduct of an IAEA inspector who was carrying suspicious material while entering the Natanz nuclear enrichment site as an "industrial sabotage". In early November Iran confirmed that it had prevented an inspector from the International Atomic Energy Agency from accessing the site because she was carrying suspicious material.

"The Agency's inspectors must be checked while entering Iran's sites and in this check the devices showed that one of the inspectors was carrying suspicious material," Salehi told the Youth Journalists Club in interview published on Saturday. Salehi said when the inspector was asked about the issue "her answers were not convincing and not acceptable."

Salehi, a nuclear scientist, said some other things happened that "I cannot reveal their details."

All these events were "documented" and "filmed" but since the inspector enjoyed diplomatic immunity "we could not hold her," director of the Atomic Energy Organization of Iran explained. Referring to the history of malicious moves against Iran's nuclear work in the past, he said the West used Stuxnet virus against the Iranian nuclear industry, committed industrial sabotage, and sold faulty equipment to Iran. "We see the recent act by the Agency's inspector is in line with those measures."

<https://www.tehrantimes.com/news/442524/Salehi-Iran-views-IAEA-inspector-s-act-as-industrial-sabotage>

East Asia

J. North Korea

North Korea says nuclear issues will not be on agenda unless U.S. 'hostile policy' discussed: KCNA

Reuters, November 17, 2019

North Korea said on Sunday nuclear issues will not be discussed when talks with the United States restart unless the withdrawal of U.S. "hostile policy" was put on the agenda, state media reported. The North's foreign ministry said in a statement carried by the official KCNA news agency that the recent passage of a United Nations resolution on Pyongyang's human rights was a U.S.-led "political provocation." North Korea has previously described the U.N. criticism as a product of U.S. "hostile policy".

https://www.reuters.com/article/us-northkorea-usa/north-korea-says-nuclear-issues-will-not-be-on-agenda-unless-u-s-hostile-policy-discussed-kcna-idUSKBN1XR081_

North Korea says will not offer anything to Trump without receiving in return: KCNA

Reuters, November 18, 2019

North Korea will not offer anything for U.S. President Donald Trump to brag about without receiving anything in return, a statement on its state news agency KCNA said on Monday. North Korea was not interested in a summit that was "useless to itself", said the statement, under the name of Foreign Ministry adviser Kim Kye Gwan, referring to Trump's message on Sunday to North Korean leader Kim Jong Un on Twitter. "If the U.S. does not really want to let go of its dialogue with us, it should make a decision to withdraw its hostile policy of viewing us as an enemy," the KCNA statement said.

https://www.reuters.com/article/us-northkorea-usa-trump/north-korea-says-will-not-offer-anything-to-trump-without-receiving-in-return-kcna-idUSKBN1XS0WF_

KAPPC chief warns US against anti-DPRK hostility

Pyongyang Times, November 19, 2019

The US secretary of Defense said on Nov 17 that the US decided to suspend the joint aerial drill with south Korea, adding that north Korea should make a "good response" to the US "measure of good will" and come back to the negotiating table without any condition. The US tries to make a good impression as if it contributes to peace and stability on the Korean peninsula, describing the suspension as "consideration for and concession" to someone. But, we demand that the US quit the drill or stop it once and for all.

The suspension of the drill does not mean ensuring peace and security on the Korean peninsula and is not helpful to the diplomatic efforts for the settlement of issues. If the US is concerned about the DPRK-US dialogue, the question is why it persistently depends on "human rights" racket, sanctions and pressure aiming at defaming and stifling the DPRK, its dialogue partner. From the viewpoint of the international community, such behavior of the US may be seen vague as the one confused and contradictory, but the DPRK clearly see it.

The US is resorting to every crafty artifice, obsessed with hostility towards the DPRK, seeking to earn time to get out of the critical situation in the run-up to the year in and year out. The US always calls for negotiation for denuclearization, but there is no room to say about the negotiation before the complete and irrevocable withdrawal of its hostile policy toward the DPRK, the root cause of the nuclear issue of the Korean peninsula. We have nothing pressing and have no intention to sit on the table with the tricky US.

From now on, the DPRK will get due compensation for every administrative achievement the US president has talked too much about for over a year. It will be possible to consult the denuclearization only when confidence-building between the DPRK and the US goes first and all the

threats to the security and development of the DPRK are removed, rather than discuss the issues for the improvement of DPRK-US relations and establishment of peace mechanism within the framework of negotiation for denuclearization. The US should not dream of the negotiations for denuclearization before dropping its hostile policy toward the DPRK.

http://www.pyongyangtimes.com.kp/?bbs=32157_

North Korea says it's gained nothing from US but 'betrayal'

Korea Times, November 23, 2019

North Korea's U.N. Mission says the country has gained "nothing but a sense of betrayal" since its leader Kim Jong Un and U.S. President Donald Trump committed to establishing a new relationship. The mission said in a summary of its assessment of North Korea-U.S. relations on Friday that "the currently imbalanced situation can no longer be allowed." It said that since the U.S. has failed to take reciprocal measures to its suspension of "a number of actions," there is no reason for further restraint and "it is quite natural for us to bolster our capabilities." Kim Jong Un has demanded the U.S. come up with new, acceptable measures to salvage nuclear talks by year's end. And Pyongyang has been stepping up its pressures on Washington to make bigger concessions. (AP)

http://www.koreatimes.co.kr/www/nation/2019/11/103_279203.html

N. Korea, Russia discuss 'strategic communications, cooperation'

Korea Times, November 23, 2019

North Korean First Vice Foreign Minister Choe Son-hui, considered a key nuclear strategist of leader Kim Jong-un, has met with a senior Russian diplomat and discussed the need for "strategic communications and cooperation" between the two countries, the North's state media said Saturday. Choe met with Russian Vice Foreign Minister Igor

Morgulov in Moscow on Friday and exchanged views on the situation on the Korean Peninsula and in the region, according to the Korean Central News Agency. "(They) mentioned the need for the DPRK and Russia to intensify strategic communications and cooperation," the report said. DPRK stands for the North's official name, the Democratic People's Republic of Korea.

On Thursday, Choe also met with Russian Vice Defense Minister Alexander Fomin, according to the report. Choe arrived in Moscow on Tuesday for the first round of strategic dialogue between North Korea and Russia, which was launched after the first summit between Kim and Russian President Vladimir Putin in April.

http://www.koreatimes.co.kr/www/nation/2019/11/103_279197.html

North Korea appears to have launched a missile, Japan's coastguard says

Reuters, November 28, 2019

Japan's coastguard on Thursday said that North Korea had launched what appeared to be a missile, adding that it was monitoring where the projectile would land. The coastguard offered no further details. The incident follows the launch of two short-range projectiles by Pyongyang in late October, which landed in waters between North Korea and Japan.

https://www.reuters.com/article/us-northkorea-missiles-japan/north-korea-appears-to-have-launched-a-missile-japans-coastguard-says-idUSKBN1Y20RE_

North Korea test fires rockets in Thanksgiving reminder of year-end deadline for U.S.

Hyonhee Shin, Jack Kim, Reuters, November 28, 2019

Breaking a month-long lull in missile tests, North Korea fired two short range projectiles into the sea off its east coast on Thursday in what appeared to be the latest try out of its new multiple rocket launchers,

South Korea's military said. The test-firing came as the clock ticks down on the year-end deadline that Pyongyang had given the United States to show flexibility in their stalled denuclearization talks. It also coincided with the U.S. Thanksgiving holiday, and took place one day before the second anniversary of the North's test of an intercontinental ballistic missile (ICBM) capable of hitting the U.S. mainland.

South Korea's Joint Chiefs of Staff (JCS) said the North fired the two projectiles into the sea from launchers in the eastern coastal town of Yonpo at around 5 p.m. (0800 GMT). The rockets traveled up to 380 km (236 miles) and reached an altitude of 97 km (60 miles), the JCS said.

https://www.reuters.com/article/us-northkorea-missiles/north-korea-test-fires-rockets-in-thanksgiving-reminder-of-year-end-deadline-for-u-s-idUSKBN1Y20QX_

N. Korea hails 'successful test of super-large multiple rocket launcher'

Korea Times, November 29, 2019

North Korea said Friday it successfully tested a super-large multiple rocket launcher's successive firing system under leader Kim Jong-un's guidance in the launch of two projectiles the previous day. On Thursday, South Korea's military said the North fired two projectiles from what is presumed to be a super-large multiple rocket launcher from Yeonpo in the country's eastern South Hamgyong Province toward the East Sea. The North's official Korean Central News Agency said the Academy of Defence Science conducted the drill to "finally examine the combat applicability" of the launcher. Kim expressed "great satisfaction" over the test results.

The test-fire "proved the military and technical superiority of the weapon system and its firm reliability," the report said. The commanders of the North's military expressed gratitude to the leader "who saw to it that lots of arms and equipment of powerful performance were developed

and perfected this year for the military and technical strengthening of the Korean People's Army," it said. Thursday's firings marked the 13th major weapons test North Korea conducted this year, and the fourth test of its super-large rocket launcher system, which is presumed to be a 600-millimeter diameter one. The North previously tested the weapon on Aug. 24, Sept. 10 and Oct. 31. The latest projectiles were fired within a 30-second interval and flew around 380 kilometers, reaching a maximum altitude of around 97 km, according to the Joint Chiefs of Staff (JCS). The JCS has expressed "strong regret" about the launches, saying they will not help efforts to ease tensions on the Korean Peninsula.

The unification ministry also urged Pyongyang to stop acts that escalate tensions and stressed the need to improve inter-Korean relations through dialogue and cooperation. North Korea resumed its major weapons tests in May after an 18-month hiatus. In previous tests, it launched new types of short-range missiles, including its version of Russia's Iskander, as well as an upgraded version of a submarine-launched ballistic missile, the Pukguksong-3.

https://www.reuters.com/article/us-northkorea-missiles-kim/north-koreas-thanksgiving-day-test-shows-improving-speed-for-missile-crews-idUSKBN1Y229Z_

North Korea threatens Japan with 'real ballistic missile'

BBC November 30, 2019

North Korea has branded Japan's PM Shinzo Abe an "imbecile" and "political dwarf", accusing him of mislabelling its latest weapons test. Mr Abe condemned the North for "repeated launches of ballistic missiles" after two projectiles were fired on Thursday. But the North insisted it was testing a "super-large multiple-rocket launcher". On Saturday, state media said Japan "may see what a real ballistic missile is in the not distant future". North Korea is banned from firing ballistic missiles under UN Security Council resolutions.

The country is under various sets of sanctions over its missile and nuclear programmes. Lifting the sanctions has been a key aim of the North in talks with the US - Japan's ally - but these have stalled since a summit between its leader Kim Jong-un and President Donald Trump broke down in February.

<https://www.bbc.com/news/world-asia-50613051>

K. South Korea

S. Korea, US hold annual defense ministers' talks

Yonhap, Korea Herald, November 15, 2019

South Korea and the United States held annual defense ministers' talks in Seoul on Friday as the allies face tricky issues such as a soon-to-expire intelligence-sharing pact between Seoul and Tokyo and defense cost-sharing negotiations. Defense Minister Jeong Kyeong-doo and US Secretary of Defense Mark Esper held the 51st Security Consultative Meeting for "in-depth discussions on various pending security issues," the defense ministry said. Key agenda items included the security situation on the Korean Peninsula and the conditions-based transfer of wartime operational control of South Korean forces from Washington to Seoul, the ministry said in a release. Later in the day, the two ministers plan to hold a joint press conference.

This year's meeting is the subject of particular attention as it takes place just a week before South Korea's earlier decision to end the General Security of Military Information Agreement between Seoul and Tokyo takes effect on Nov. 23. Seoul made the decision in August after Japan imposed export curbs in a row over wartime forced labor. The US has called for GSOMIA to be renewed as it sees the three-year-old pact as a key trilateral security mechanism to counter threats posed by North Korea and an assertive China that has deepened defense ties with Russia. Seoul says it can reconsider the

GSOMIA decision only if Japan first changes its course.

http://www.koreaherald.com/view.php?ud=20191115000254&ACE_SEARCH=1_

'Third US-North Korea summit to surely produce results': Moon

Kim Yoo-chul, Korea Times, November 19, 2019

If a third summit between U.S. President Donald Trump and North Korean leader Kim Jong-un takes place, then that will "surely produce results," President Moon Jae-in said, Tuesday night. Speaking in a nationally-televised question-and-answer session with 300 selected South Korean citizens at MBC news center in Mapo, northern Seoul, the President said efforts were already underway to make the third summit North Korea happens. "Just as the United States and North Korea have announced publicly, I think efforts via working-level discussions are already underway for another Trump and Kim summit within this year," Moon said; but declined to elaborate further. He remained positive with regard to the outcomes of such a meeting. "I am sure results will be generated if the third summit between Trump and Kim actually happens," the President said.

http://www.koreatimes.co.kr/www/nation/2019/11/113_279004.html

Ruling, main opposition parties welcome gov't's decision to postpone GSOMIA termination

Yonhap, Korea Herald, November 22, 2019

The ruling and the main opposition parties both welcomed the government's decision Friday to conditionally suspend the expiry of a military intelligence-sharing pact with Japan. South Korea's announcement came six hours before the expiration of the General Security of Military Information Agreement (GSOMIA) at midnight, amid deteriorating ties between Seoul and Tokyo over a trade spat. The decision could also be a relief to

the United States, which had pleaded with its two Asian allies not to let their worsening relations to affect GSOMIA. The pact was signed in 2016 to better counter nuclear and missile threats from North Korea.

http://www.koreaherald.com/view.php?ud=20191122000607&ACE_SEARCH=1_

South Korea decides to renew GSOMIA

Kim Yoo-chul, Jhoo Dong-chan, Korea Times, November 22, 2019

South Korea decided to renew a military intelligence-sharing pact with Japan, Japanese media reports said, Friday afternoon. According to NHK in Japan, South Korea notified Japan of its decision to renew the General Security of Military Information Agreement (GSOMIA). NHK didn't elaborate. First and second deputies of the presidential National Security Office Kim You-geun and Kim Hyun-chong are expected to announce Seoul's final decision regarding GSOMIA around 6 p.m. at the earliest, according to officials familiar with the issue. The foreign ministry is set to hold a briefing session right after the Cheong Wa Dae announcement.

Forecasts earlier in the day were that Seoul will officially allow the General Security of Military Information Agreement (GSOMIA) to expire, with President Moon Jae-in and top South Korean government officials repeatedly reaffirming Seoul's stance not to reverse course unless Japan cancels its July move to restrict exports to South Korea. GSOMIA is aimed at countering North Korean nuclear and missile threats. It had been renewed automatically annually since it was signed on Nov. 23, 2016, and was due to be extended unless one of the countries decided to drop it 90 days prior to its extension deadline, said Cheong Wa Dae officials.

http://www.koreatimes.co.kr/www/nation/2019/11/113_279176.html

Ambassador hopes GSOMIA decision helps strengthen S. Korea-US ties

Yonhap, Korea Herald, November 26, 2019

South Korea's ambassador to the United States voiced hope Monday that Seoul's decision to tentatively extend a military information-sharing pact with Japan will bolster its ties with Washington. Ambassador Lee Soo-hyuck was referring to Seoul's decision last week to postpone the termination of the General Security of Military Information Agreement following Tokyo's willingness to hold working-level talks on each country's export control measures. Washington had pressed both of its allies to salvage the pact in the interest of trilateral cooperation against North Korea's nuclear threats and China's military rise. On Friday, the State Department welcomed Seoul's move.

http://www.koreaherald.com/view.php?ud=20191126000078&ACE_SEARCH=1

NK's latest weapons test intended to warn it can return to past behavior: Seoul

Yonhap, Korea Herald, November 29, 2019

North Korea appears to have tested a super-large multiple rocket launcher as a warning sign that it can return to its past behavior of resorting to provocations if it fails to get what it wants during talks with the United States, Seoul's spy agency said Friday. The National Intelligence Service also assessed as "premeditated" the North's recent artillery firing drills on an inter-Korean border island in the Yellow Sea. On Thursday, the North fired two short-range projectiles in a row from a super-large multiple rocket launcher from its eastern town of Yeonpo into the East Sea. It marked the 13th major weapons test by the North this year.

"North Korea apparently intended to give a warning message to the US and South Korea that it can return to the past (pattern of behavior) if it fails to achieve its goal from dialogue with Washington by the end of this

year," the NIS was quoted as saying by lawmakers.

http://www.koreaherald.com/view.php?ud=20191129000474&ACE_SEARCH=1

Top nuclear envoys of S. Korea, US, Japan hold phone talks on NK firing

Yonhap, Korea Herald, November 29, 2019

South Korea's chief nuclear envoy has held telephone talks with his counterparts of the United States and Japan and discussed North Korea's latest firing of projectiles, Seoul's foreign ministry said Friday. Lee Do-hoon, special representative for Korean Peninsula peace and security affairs, spoke by phone with Steven Biegun, special representative for North Korea, early Friday (Seoul time). He spoke to Shigeki Takizaki, head of the Japanese foreign ministry's Asian and Oceanian Affairs Bureau late Thursday. During the calls, Lee shared assessments with each side on North Korea's test-firing of two projectiles from a super-large multiple rocket launcher and discussed joint efforts for future coordination related to the issue.

On Thursday, the North conducted the test-firing from the country's eastern area into the East Sea, marking the fourth such test involving the super-large rocket launcher system and the 13th weapons test so far this year. The latest launch came amid a lack of progress in the denuclearization talks between Pyongyang and Washington, with the North demanding the US drop its "hostile" policy toward the regime.

http://www.koreaherald.com/view.php?ud=20191129000470&ACE_SEARCH=1

L .Japan

Pope Francis to take anti-nuclear mission to Japan's ground zeros

Philip Pullella, Reuters, November 18, 2019

Pope Francis takes his mission to ban nuclear weapons this week to the only places where they were used in war,

visiting the World War Two ground zeros of Hiroshima and Nagasaki as part of a tour of Japan and Thailand. The seven-day trip, one of his longest and most distant, gives Francis an opportunity to support and encourage the tiny but well respected Catholic communities, which make up less than 1% of the population in each country.

In fact, the Catholic populations of each country - 389,000 in Thailand and 536,000 in Japan - are smaller than crowds he has attracted at single events in other countries. Francis, making the 32nd trip since he became pope in 2013, leaves on Tuesday for Thailand, where he arrives on Wednesday afternoon after an 11-1/2 hour flight to Bangkok. In his three days there, he will meet the supreme patriarch of Thai Buddhists, Somdet Phra Maha Muniwong, who at 91 is nearly a decade older than the pope, and King Maha Vajiralongkorn, 67. After four days in Thailand, Francis moves on to Japan, where international and domestic politics will loom large, particularly on Nov. 24, when he visits Hiroshima and Nagasaki. Francis wants a total ban on nuclear weapons, going further than his predecessors when he said in 2017 that countries should not stockpile them even for the purpose of deterrence. This stance was criticized by conservatives within and outside the Catholic Church who say deterrence had worked for 75 years.

<https://in.reuters.com/article/pope-asia/pope-francis-to-take-anti-nuclear-mission-to-japans-ground-zeros-idINKBN1XR0D3>

China warns Japan, S. Korea over deployment of U.S. missiles

Yoshihiro Makino, The Asahi Shimbun, November 19, 2019 at 15:40 JST

Chinese officials have warned Japan and South Korea that their relations with Beijing will deteriorate if they allow the United States to base intermediate-range missiles on their soil, several sources said. One of the warnings came during Chinese Foreign Minister Wang Yi's separate meetings with his Japanese and South Korean counterparts in August, Japanese and U.S. government sources said.

With the INF now invalidated, Beijing is concerned that Washington plans to deploy intermediate-range missiles in Japan and South Korea where they would be capable of reaching China. According to the Japanese and U.S. government sources, China relayed its concerns in bilateral meetings held on the sidelines of the foreign ministers conference between Japan, China and South Korea in Beijing in August. "If the United States deploys intermediate-range missiles in Japan, that would have a major effect on Japan-China relations," Wang was quoted as telling then Foreign Minister Taro Kono.

A Japanese specialist on China said, "After Chinese President Xi Jinping visits Japan next spring, a major issue that will likely arise between Japan and China will be whether Japan allows the United States to base new missiles here." A Foreign Ministry source said the official ministry position was that no decision had been made about deploying U.S. intermediate-range missiles in Japan. The source added that it would likely take five years before U.S. missiles would be ready for an actual deployment.

<http://www.asahi.com/ajw/articles/AJ201911190037.html>

Pope calls use of nuclear weapons immoral in video post to Japan

Shinichi Kawarada, The Asahi Shimbun, November 19, 2019

Pope Francis posted a personal video message online to the people of Japan on Nov. 18, as part of preparations for his Nov. 23 visit to the country. Francis, who is scheduled to visit the atomic-bombed cities of Hiroshima and Nagasaki, offered words of solidarity with citizens opposed to nuclear weapons. The United States bombed the cities in August 1945 at the end of World War II, the only time nuclear weapons have been used in war.

"Together with all of you, I pray that the destructive power of nuclear weapons is never used again in human history," the pope said in the video. "It is immoral to use nuclear weapons." It is customary for

the pope to send out the message before he leaves on trips to other countries. In the three-minute message, the pope spoke of the need for humans to act to protect all life.

"This strong instinct that resonates in our heart, to defend the value and dignity of all human persons, it takes a special importance in front of the threats to the peaceful coexistence that in the present moment the world has to face, especially the armed conflicts."

<http://www.asahi.com/ajw/articles/AJ201911190047.html>

Rich in dramatic Catholic history, Nagasaki awaits the pope

Mari Yamaguchi, AP News, November 20, 2019

It's fitting that Pope Francis will start his first official visit to Japan in Nagasaki, the city where Christianity first took hold in the country and where nearly 500 years later it remains steeped in blood-soaked symbolism, both religious and political. It was here that a small group of beleaguered Catholic converts went deep underground during centuries of violent persecution. It was here that their descendants dramatically emerged from hiding in the 19th century, their faith unbroken. And it was here that a U.S. atom bomb brought death and destruction to the cathedral that community was finally able to build. As Francis makes the first papal visit to Japan in 38 years, he will likely look to the past by honoring the doggedness of those so-called Hidden Christians, while also laying out his vision for a future free from the threat of nuclear weapons.

<https://apnews.com/8d0e2f30a03245b5899cb3ba20566714>

Pope Francis arrives in Japan to promote anti-nuclear message

Reuters, November 23, 2019

Pope Francis arrived on Saturday in Japan, the second leg of a week-long Asian trip whose main aim is to bring an anti-nuclear message to Nagasaki and Hiroshima, the world's only cities to suffer atomic bombing

in wartime. Francis, a determined anti-nuclear campaigner who will read a message on nuclear weapons in Nagasaki, will also meet survivors of the March 11, 2011 nuclear meltdown at Fukushima, the world's worst nuclear disaster since Chernobyl in 1986. The pope touched down in Tokyo after flying from Thailand for a four-day visit that will be the first in 38 years and only the second in history. Another goal of his visit is to encourage the Catholic community in Japan, where just about 1 percent of the population identifies as Christian, about half of them Catholic. He will say two Masses, one in Nagasaki and one in Tokyo, as well as meeting Japanese officials and Emperor Naruhito.

<https://www.reuters.com/article/us-pope-japan-arrival/pope-francis-arrives-in-japan-to-promote-anti-nuclear-message-idUSKBN1XX063>

Pope in Hiroshima: Use and possession of atom bomb 'immoral'

Nicole Winfield And Kaori Hitomi, AP News, November 24, 2019

Pope Francis traveled to Hiroshima and Nagasaki on Sunday to demand that world powers renounce their nuclear arsenals, declaring the use and possession of atomic bombs an "immoral" crime and a dangerous waste. Standing before survivors of the 1945 U.S. atomic bombings, Francis denounced the steady erosion of arms control agreements and rejected the Cold War-era doctrine of deterrence that had been sanctioned by the Catholic Church for nearly three decades.

In the rain of Nagasaki and the silent darkness of Hiroshima, he urged political leaders to accept that true peace and international security cannot be built in a climate of distrust, but rather solidarity. "The use of atomic energy for purposes of war is immoral," the pope declared during a nighttime prayer at Hiroshima's peace memorial. He added off-the-cuff, "As is the possession of atomic weapons." "We will be judged for this," he warned.

<https://apnews.com/bc54b85007614cd283b3eb23f32ab6a0>

Pope urges abolition of nuclear weapons at Japan's ground zeros

Philip Pullella, Reuters, November 24, 2019

Pope Francis brought his campaign to abolish nuclear weapons to the only two cities ever hit by atomic bombs on Sunday, calling their possession indefensibly perverse and immoral and their use a crime against mankind and nature. Francis visited the ground zeros of Hiroshima and Nagasaki, both seared in the world's collective consciousness after the bombs dropped there by the United States three days apart in August 1945 in an effort to end World War Two. "Here, in an incandescent burst of lightning and fire, so many men and women, so many dreams and hopes, disappeared, leaving behind only shadows and silence," Francis said at Hiroshima's Peace Memorial after standing in silent prayer and listening to a harrowing account by a survivor.

Yoshiko Kajimoto, who was 14 at the time, recalled "people walking side by side like ghosts, people whose whole body was so burnt that I could not tell the difference between men and women, their hair standing on end, their faces swollen to double size, their lips hanging loose, with both hands held out with burnt skin hanging from them." "No one in this world can imagine such a scene of hell," she said. More than 100,000 people died instantly in the twin attacks and about 400,000 others died in subsequent months, years and decades of radiation sickness or illnesses.

<https://fr.reuters.com/article/ukall/idUKKBN1XX0PI>

In Japan, Pope Francis urges rethink of reliance on nuclear energy

Reiji Yoshida, Japan Times, November 25, 2019

Meeting survivors of the 2011 earthquake and tsunami disaster, which triggered meltdowns at the Fukushima No. 1 nuclear power plant, visiting Pope Francis urged caution in Tokyo on Monday regarding decisions that could affect future generations, particularly concerning the use

of energy. The pope did not directly call for the abolition of nuclear power plants, but he did note that Japanese bishops have called for the "immediate abolition" of such plants since the triple meltdowns in Fukushima. "Our age is tempted to make technological progress the measure of human progress," he said. "So it is important to pause and reflect on who we are ... and who we want to be. "Important decisions will have to be made about the use of natural resources, and future energy sources in particular," he stressed.

The pontiff, who arrived Saturday on a four-day tour in what is the first papal visit to Japan in 38 years, listened to kindergarten teacher Toshito Kato, Buddhist priest Tokuun Tanaka and Matsuki Kamoshita, who was eight years old when she and her family were evacuated to Tokyo following the Fukushima disaster. All three are survivors of the 2011 disasters.

The debate on nuclear plants still continues in Japan eight years after the Fukushima incident. Prime Minister Shinzo Abe has promoted the reactivation of dozens of commercial nuclear plants that were suspended after the accident. His government argues that it has implemented strict safety regulations, and that reactivation is necessary for Japan — which has few domestic energy sources. On Monday the pope also met about 900 young people who gathered at St. Mary's Cathedral in Bunkyo Ward in the capital.

<https://www.japantimes.co.jp/news/2019/11/25/national/pope-francis-nuclear-energy-japan/#.Xe9AA1QzblU>

Pope urges world leaders to renounce nuclear weapons

The Asahi Shimbun, November 26, 2019

Pope Francis appealed on Monday to world leaders to ensure that nuclear weapons are never used again, a day after he visited Hiroshima and Nagasaki, the only cities ever to be hit by atomic bombs. Nuclear disarmament has been a key theme of the pope's trip to Japan, a country not only haunted by the memory

of the two attacks that ended World War II but also alarmed by the nuclear program and missile tests of nearby North Korea.

“(I) invite all persons of good will to encourage and promote every necessary means of dissuasion so that the destruction generated by atomic bombs in Hiroshima and Nagasaki will never take place again in human history,” Francis told dignitaries including Prime Minister Shinzo Abe. Abe said Japan is committed to a world free of nuclear weapons but still depends on U.S. nuclear deterrence because of the worsening security environment in the region.

Chief Cabinet Secretary Yoshihide Suga said dependence on the U.S. nuclear umbrella, and even strengthening it, was “realistic and appropriate.” Abe’s conservative government, which is seeking to amend the postwar pacifist Constitution to allow a full-fledged military, has explained not signing the new U.N. treaty on the prohibition of nuclear weapons by saying it wants to be a “bridge” between nuclear and non-nuclear states.

Pyongyang has conducted seven missile tests since U.S. President Donald Trump met North Korean leader Kim Jong Un earlier this year. One of North Korea’s top nuclear negotiators said on Friday it would be the fault of the United States if diplomacy on the issue broke down. Francis backs a U.N. treaty aiming to ban nuclear weapons and says even their possession for the purpose of deterrence is immoral. Nuclear devastation was also a topic of the pope’s meeting on Monday with Emperor Naruhito.

<http://www.asahi.com/ajw/articles/AJ201911260021.html>

Pope Francis leaves Japan after trip centred on anti-nuclear message

Reuters, November 26, 2019

Pope Francis departed from Japan on Tuesday after a four-day visit highlighted by pleas to world leaders to abandon nuclear

weapons that were given extra weight because they were delivered from the only two cities to have suffered atomic bombings. Francis also met with survivors of the 2011 Fukushima nuclear accident, comforting one teenager who had to flee his home due to high radiation, and said two Masses packed with faithful who lined up before dawn for the chance to take part. It was the first visit to Japan by a pope in 38 years and only the second in history, after John Paul II.

<https://in.reuters.com/article/us-pope-japan-leave/pope-francis-leaves-japan-after-trip-centred-on-anti-nuclear-message-idINKBN1Y008C>

Tohoku reactor close to 2011 quake epicenter OK’d to restart

The Asahi Shimbun, November 27, 2019
Share

Japan’s Tohoku Electric Power said on Wednesday it has won initial regulatory approval to restart a reactor at its Onagawa nuclear power plant, more than 8 years after it was damaged in the earthquake and tsunami that caused the Fukushima disaster. Tohoku Electric said in a statement it has received a first green light from Japan’s Nuclear Regulation Authority to restart the No. 2 reactor at Onagawa, subject to a public consultation period.

Onagawa was the closest among Japan’s nuclear stations to the epicenter of the magnitude-9 quake in March 2011, which triggered a tsunami that killed nearly 20,000 people, as well as causing the worst atomic disaster since Chernobyl in 1986. The station was swamped by the tsunami, but survived with its cooling system intact, saving its reactors from the threat of meltdowns similar to those that occurred at Tokyo Electric Power’s Fukushima No. 1 nuclear power plant to the south.

<http://www.asahi.com/ajw/articles/AJ201911270077.html>

M. Op-Ed**India****Are India and China Drifting into War?**

Richard E. Carroll, India Policy Digest, November, 2019

Since the conclusion of the Indo-Chinese War in 1962, an uneasy peace has reigned over the "McMahon Line" as China now trumpets the discovery of an estimated \$60 billion gold find, and the beginning of mining operations in Arunachal Pradesh region on the Chinese side of the Himalayas, along with plans to dam the headwaters of the major rivers in South East Asia and the publishing of new maps which shows Arunachal Pradesh as "South Tibet." Tensions are rising. While China denies it will construct more dams affecting the Brahmaputra River, China also lied about the construction of the first dam that was constructed on the Brahmaputra, which was finished in 2015. With both nations becoming ever more nationalistic, the possibility has increased.

The Chinese government has also been encouraging the settlement of the Han Chinese in this area in order to strengthen its claim to the Himalayas, and what China claims is their rightful ownership of territory under dispute between China and India. Recently, the Chinese government has been referring to Arunachal Pradesh, which is currently under India's governance, as "Southern Tibet" or South Tibet. Since Tibet is under the military control of the Chinese in the Tibetan Plateau, China is following the same political formula which it followed when it seized the South China Sea via the military buildup of artificial islands in the Exclusive Economic Zone (EEZ) of the Philippines.

<https://intpolicydigest.org/2019/11/19/are-india-and-china-drifting-into-war/>

U.S.-India Defense Ties Grow Closer as Shared Concerns in Asia Loom

Zach Montague

New York Times, November 20, 2019

As Indian helicopters touched down this week on the deck of an American warship in the Bay of Bengal, what was billed as a modest military simulation became the latest sign of progress in a growing great power partnership in Asia.

The United States and India on Thursday will conclude the first land, sea and air exercise in their history of military exchanges, a step forward in White House efforts to deepen defense cooperation between the countries.

The exercise, Tiger Triumph, brought together 500 American Marines and sailors, and about 1,200 Indian soldiers, sailors and air force personnel to train side-by-side for nine days. While the official focus was to prepare for rescue operations and disaster response, it also included search-and-seizure training and live-fire drills.

<https://www.nytimes.com/2019/11/20/world/asia/india-military-exercises-trump.html>

Emerging nuclear crises that the world must brace for

Richard N. Haass, Livemint, November 26, 2019

Until just a few years ago, it looked as if the problem posed by nuclear weapons had been successfully managed, if not solved. American and Russian nuclear stockpiles had been reduced substantially from their Cold War highs, and arms-control agreements were in place that limited both intermediate- and long-range systems. But all of this now could come undone.

Progress over the last generation was not limited to the US and Russia. Libya was persuaded to abandon its nuclear ambitions, Israel thwarted Iraqi and Syrian nuclear development, and South Africa relinquished its small nuclear arsenal. Iran signed the Joint Comprehensive Plan of Action (JCPOA), which constrained its ability to acquire many of the essential prerequisites of nuclear weapons. Most recently, the United Nations Security Council imposed tough sanctions aimed at persuading North Korea to give up its still modest nuclear weapons programme, clearing the way for high-level talks between North Korean and US officials. And, of course, no nuclear weapon has been used in combat for three-quarters of a century, since the US dropped two nuclear bombs on Japan to hasten the end of World War II.

This past summer, however, the US withdrew from the 1987 Intermediate-Range Nuclear Forces Treaty after it concluded Russia had violated its terms. The treaty limiting longer-range US and Russian nuclear weapons will expire in 2021 unless it's extended, and it's not clear that it will be: both countries are committing resources to modernize their existing arsenals.

<https://www.livemint.com/opinion/columns/opinion-emerging-nuclear-crises-that-the-world-must-brace-for-11574788920248.html>

Pakistan

Structural Prejudice, Nuclear Technology and World Peace

Maria Malik, Daily Times, November 18, 2019

Recently, the news of Iran stepping further away from the nuclear pact has surfaced and ignited a debate of nuclear proliferation once again. Iran, the P5 (the US, Russia, China, France and UK) and EU made a "Nuclear Deal Framework" back in 2015, which the US had withdrawn from in 2018, and imposed economic sanctions on Iran. In response to the withdrawal and sanctions from the nuclear pact, Iran has also taken a detour from the pact. Earlier during Obama's administration, Iran had agreed to

put a stop to making any fissile material to be used to make bombs. The uranium enrichment at Iran's Fordow plant is being considered as a fourth step away from the agreement and has alarmed the Western states that were a party to the agreement back in 2015.

Iran, which has always denied the non-peaceful use of nuclear energy, is enriching the Uranium at Fordow to the level of 4.5 per cent. The 2015 pact set a limit of enrichment of uranium at 3.7 per cent at the time when Iran was doing it at 20 per cent level. However, a concentration of more than 90 per cent is required for both the Uranium's isotope 235 and Plutonium's isotope 239 for making nuclear weapons. These figures comply with Iran's claim of using nuclear energy for peaceful purposes as it cannot build a nuclear weapon program at this stage. Though the seven stages of Nuclear Fuel Cycle (NFC) are all peaceful elements yet Uranium enrichment and Plutonium's separation through reprocessing are the most crucial aspects of NFC. However, enrichment and reprocessing capabilities do not inherently signal the intent to develop nuclear weapons. Highly-enriched Uranium and Plutonium can also be used in the nuclear fuel reactor to generate electricity. Thus, it becomes difficult to judge the intent of a state at a stage as early as this.

<https://dailytimes.com.pk/501853/structural-prejudice-nuclear-technology-and-world-peace/>

Conventional balance of power between India and Pakistan

Ahmad Faruqi, Daily Times, November 23, 2019

A simple way to measure the conventional balance of power is to compare the size of the armed forces between the warring siblings. Currently, India's armed force is twice as large as Pakistan's; yielding a ratio of 2:1. The ratio has hovered at 2:1 for the past two decades. During the 1965 war, it was 4.2. During the 1971 war, it had dropped to 2.5:1. Of course, in 1971, the

ratio was heavily in India's favour in East Pakistan. The Pakistani forces were worn out after months of fighting a tenacious insurgency and the troops had been flown there without their full complement of armour or artillery. They were without any air cover once the Indian Air Force had put the Dacca runway out of commission.

The chart below shows the Indian and Pakistani forces from 1964 to 1999. The higher dots show the Indian forces and the lower dots show the Pakistan forces, measured in thousands of armed personnel.

<https://dailytimes.com.pk/505578/conventional-balance-of-power-between-india-and-pakistan/>

Rising irrationality in India's nuclear thinking

Tahir Nazir, Daily Times, November 30, 2019

Pinning high hopes on "nuclear weapons capability" and reducing the role of human agency is against the logic of "deterrence theory."

And we all know that deterrence work well when decision-makers behave in a "rational manner." Nonetheless, the deterrence theory is silent about the behaviour of "an irrational actor." According to the US Admiral, Arleigh Burke, the longest-serving Chief of Naval Operations in the US Navy's history, "The major deterrent to war, is in a man's mind."

And history has witnessed that technological transformation has had a little effect on the human inner self. Despite humans' tremendous progress, basic human instincts are the same. The "threat to survival" has been a central element in shaping human lives and their surroundings.

Famous architect of nuclear deterrence strategy, Bernard Brodie, once observed that "Thus far, the chief purpose of our military establishment has been to win wars. From now on its chief purpose must be to avert them. It can have almost no other useful purpose."

<https://dailytimes.com.pk/510012/rising-irrationality-in-indias-nuclear-thinking-dailytimes/>

USA

America's Iranian headache

Livemint, November 18, 2019

When US President George W. Bush decided to invade Iraq in response to the terror attacks of 11 September 2001, few had foreseen what a set of leaked documents appears to confirm: that Tehran now wields significant influence over Baghdad. According to a report in The New York Times, hundreds of secret intelligence reports have come to light that point to this.

Iranian domination of Iraq is hardly a big revelation, though. Like Iran, Iraq has a Shia Muslim majority. Saddam Hussein's regime, the one deposed by the US, was largely Sunni. A power shift in Baghdad was sure to empower followers of Islam's minority Shia sect in this war-ravaged country, and while Iraq's Arabic milieu is distinct from Iran's Persian culture, a sectarian affiliation has taken political precedence in the river basin of the Tigris and Euphrates.

<https://www.livemint.com/opinion/quick-edit/opinion-america-s-iranian-headache-11574070720640.html>

California's San Onofre nuclear plant is a Chernobyl waiting to happen

Kate Brown, LA Times, November 19, 2019

Nuclear accidents often aren't surprises. Whistleblowers had warned of the dangers before such disasters occurred in 1986 in Chernobyl, Ukraine, and 25 years later in Fukushima, Japan. As one of the world's wealthiest and most technologically advanced nations, the U.S. may be no better prepared.

Many U.S. states have aging nuclear power plants brimming with four decades of self-heating, highly corrosive and toxic radioactive waste. Last month, the California Coastal Commission gave Southern California Edison permission to dismantle the San Onofre Nuclear Generating Station and move its 3.55

million pounds of nuclear waste from wet to dry storage.

<https://www.latimes.com/opinion/story/2019-11-19/san-onofre-nuclear-plant-waste-radioactive>

How to advance nuclear energy in the US

Rita Baranwal; Washington Examiner, November 21, 2019

America is still a powerhouse in nuclear innovation, and it's time to show the rest of the world.

The United States was the first to harness the atom that is now used to power our Navy, fight cancer cells, protect our food, explore space, and even solve crimes. Much of the conversation today is about how we can meet our clean energy goals. What better way to do that than with the clean and reliable attributes of nuclear energy? Right now, more than 60 companies are working on new reactor designs that will be economically competitive, faster to build, more flexible to operate and generate less waste. This new generation of reactors is truly amazing. To use this powerful technology to enhance today's reactors and build the reactors of tomorrow, the country needs to reestablish infrastructure to test and qualify advanced materials that will make these designs a reality.

<https://www.washingtonexaminer.com/opinion/oped-eds/how-to-advance-nuclear-energy-in-the-us>

Nuclear is a necessary part of our clean-energy future

Rep. Rick Allen, Washington Examiner, November 22, 2019

Over the past year, clean energy has become a hot topic, dominating news cycles and conversations around the country. I welcome this conversation and believe the American people deserve to get all the facts. Liberals keep offering unrealistic and costly energy "solutions." Democratic Rep. Alexandria Ocasio-Cortez's socialist "Green New Deal" is a prime example. It's one of the worst pieces of legislation I've ever seen during my time in Congress. It would cost American

taxpayers upward of \$93 trillion and is a complete government takeover of energy, agriculture, and transportation. In the Senate, Sen. Elizabeth Warren's opposition to building new nuclear plants and her support for phasing out existing nuclear power is particularly alarming.

Nuclear energy fuels our nation while helping to provide America with environmental, economic, and national security. Anyone who wants to reduce carbon emissions should support protecting and expanding nuclear energy. It currently generates nearly 20% of our country's electricity without any carbon emissions. No other source contributes as much to our country's energy demands without emissions. According to the Energy Information Administration, nuclear energy produces more carbon-free electricity than all other sources combined.

<https://www.washingtonexaminer.com/opinion/oped-eds/nuclear-is-a-necessary-part-of-our-clean-energy-future>

Trump official who suggested dropping nuclear bombs on Afghanistan now responsible for arms control issues

John Hudson

Washington Post, November 28, 2019

A former conservative talk radio host and naval intelligence officer who suggested dropping nuclear bombs on Afghanistan after the 9/11 attacks now works on arms control issues at the State Department, according to two U.S. officials familiar with the matter. Frank Wuco, a senior adviser at the State Department's Bureau of Arms Control, Verification and Compliance, came under scrutiny last year when his past comments involving the promotion of far-right conspiracy theories surfaced. Some of those included debunked claims that former president Barack Obama was not born in the United States, former CIA director John Brennan converted to Islam, former attorney general Eric H. Holder Jr. had been a

member of the Black Panthers and former Hillary Clinton aide Huma Abedin had ties to the Muslim Brotherhood.

When a CNN investigation unearthed the remarks last year, Wuco was working at the Department of Homeland Security. A spokesman for the agency defended him at the time, saying the comments had “no bearing on his ability to perform his job for the American people.”

Now Wuco works at the State Department, though some arms control advocates have questioned his suitability for the area of arms control given his past remarks. The State Department declined to comment.

During an exchange on the Dougherty Report radio show in 2016, Wuco was asked why the United States doesn’t turn Syria and Iran “into glass already.” “I don’t think it’s been our policy really to just start nuking countries,” Wuco said. “I think if we were going to have done that, my preference would have been to have dropped a couple of low-yield tactical nuclear weapons over Afghanistan the day after 9/11 to send a definite message to the world that they had screwed up in a big way.”

https://www.washingtonpost.com/world/national-security/trump-official-who-suggested-dropping-nuclear-bombs-on-afghanistan-now-responsible-for-arms-control-issues/2019/11/27/235f2976-10af-11ea-a533-90a7becf7713_story.html

Russia

Back in 2017, Russian Nuclear Submarines Fired Torpedoes at Each Other

National Interest Blog, November 17, 2019

Russia still maintains a powerful submarine fleet. Back in May of 2017, the Russian nuclear-powered attack submarine Obninsk fired a torpedo against one of Moscow’s newest nuclear-powered ballistic missile submarines, Yuri Dolgoruky.

The massive Project 955 Borei missile boat in turn launched a torpedo back at Obninsk, a smaller Project 671RTMK Schuka-class

vessel more commonly known as a Victor III in NATO parlance. But unlike in the Tom Clancy’s classic novel *The Hunt for Red October*, Dolgoruky’s skipper was not planning to defect to the United States along with his crew; rather the torpedo duel was part of a Russian naval exercise.

<https://nationalinterest.org/blog/buzz/back-2017-russian-nuclear-submarines-fired-torpedoes-each-other-96496>

Why Did Russia Launch 8 Submarines All at Once?

David Axe, National Interest Blog, November 21, 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.

The 10 vessels represent around 20 percent of the Russian submarine force. For comparison, the U.S. Pacific Fleet with its roughly 30 subs as recently as 2013 reliably could deploy eight boats on short notice. The U.S. fleet in total operates more than 50 submarines split between the Pacific and Atlantic Fleets. This number is shrinking. The eight vessels in the planned, 60-day Russian exercise are practicing protecting a “bastion” of open ocean in which Russian ballistic-missile submarines can hide. “The aim of the massive operation is to get as far out to the North Atlantic as possible without being discovered by NATO,” Barents Observer noted, citing Norwegian intelligence sources speaking to news outlet NRK.

<https://nationalinterest.org/blog/buzz/why-did-russia-launch-8-submarines-all-once-97987>

World War III? In 1956, Russia Almost Fought Britain, France, and Israel With Nuclear Weapons

Michael Peck, National Interest Blog, November 22, 2019

The war began with an imperialist invasion to seize the Suez Canal. It ended with the Soviet Union threatening to nuke Britain, France and Israel. The 1956 British and French attack on Suez, and the parallel 1956 Israel-Egypt War, have to be among the strangest conflicts in history. The cast of characters includes two fading empires reluctant to admit their decline, a charismatic Arab dictator, a paranoid Jewish state, a semi-fake war and a superpower with nuclear weapons.

The crisis began over who just owned the Suez Canal, gateway between Europe and Asia. In July 1956, Egyptian president Gamal Abdel Nasser announced he would nationalize the canal, which was controlled still by European shareholders even after Egypt achieved independence from Britain (the same situation would later apply to the United States and the Panama Canal). Nasser's decision was prompted by the cutoff of American funding for the massive Aswan Dam, after Nasser had signed a huge arms deal with the Soviet bloc.

Nasser's response was simple: if the Americans and British wouldn't subsidize the Aswan Dam, then Egypt would nationalize the Suez Canal and use the toll revenues to build the dam itself. Unfortunately, he forgot a basic rule of history: there is nothing more dangerous than a declining empire.

<https://nationalinterest.org/blog/buzz/world-war-iii-1956-russia-almost-fought-britain-france-and-israel-nuclear-weapons-98927>

NATO Nukes Can't Save the Baltic States From a Russian Invasion

Michael Peck, National Interest Blog, November 23, 2019

Even if NATO resorts to tactical nuclear weapons, it still can't save the Baltic States from a Russian invasion. One reason? The

Warsaw Pact—the Eastern European satellites of the Soviet empire—can't be held hostage anymore. That's the conclusion of a wargame by the RAND Corporation. In RAND's view, NATO's nukes are not a deterrent to Russia because Europe would have far more to lose from a tactical nuclear exchange than Russia.

"The biggest takeaway from the wargame exercise is that NATO lacks escalation dominance, and Russia has the benefit of it," the study found. "In contemplating war in the Baltic states, once nuclear attacks commence, NATO would have much stronger military incentives to terminate nuclear operations, if not all of its operations, than Russia would."

<https://nationalinterest.org/blog/buzz/nato-nukes-can%E2%80%99t-save-baltic-states-russian-invasion-99222>

Nuclear reactors with a newly proposed barrier could've withstood Chernobyl and Fukushima

News Wise, November 26, 2019

In the aftermath of the notorious accidents in the history of nuclear energy at Three Mile Island (1979), Chernobyl (1986) and Fukushima (2011), where all three have turned into devastating disasters due to meltdown in the core of a reactor, leading in turn to the release of radiation into the environment, many countries around the world have already pledged to a nuclear power phase-out.

However, while actions towards the closure of all nuclear power plants in only a few decades' time are already well underway, the alternative energy sources currently in operation have some major drawbacks: they rely mainly on non-renewable resources, produce significantly less energy compared with nuclear power plants and, most importantly, are considered to be amongst the main contributors of carbon emissions and, thereby, the climate crisis which humanity is now set to battle.

Nevertheless, a future powered by nuclear energy might be neither a lost cause, nor a game of “Russian roulette”, according to the research team of Francesco D’Auria (University of Pisa, Italy), Nenad Debrešin (University of Zagreb, Croatia) and Horst Glaeser (Global Research for Safety, Germany). In a recent paper, published in the open-access peer-reviewed journal *Nuclear Energy and Technology* and the result of 30-40 years of collaboration, they propose a new safety barrier to be implemented in large Light Water Reactors around the world. Coming at a fraction of the cost of the already obsolete one that it is about to replace, this barrier is expected to reduce the probability of core melt to that of a large meteorite hitting the site.

<https://www.newswise.com/articles/nuclear-reactors-with-a-newly-proposed-barrier-could-ve-withstood-chernobyl-and-fukushima>

Meet the Terrifying Russian ‘Stealth’ Submarine That Scares the U.S. Navy

Sebastien Roblin, National Interest Blog, November 27, 2019

The Akula is old, but it still packs a dangerous—and secretive—punch. The Soviet Union produced hot-rod submarines that could swim faster, take more damage, and dive deeper than their American counterparts—but the U.S. Navy remained fairly confident it had the Soviet submarines outmatched because they were all extremely noisy. Should the superpowers clash, the quieter American subs had better odds of detecting their Soviet counterparts first, and greeting them with a homing torpedo. However, that confidence was dented in the mid-1980s, when the Soviet Navy launched its Akula-class nuclear-powered attack submarines. Thirty years later they remain the mainstay of the Russian nuclear attack submarine fleet—and are quieter than the majority of their American counterparts.

<https://nationalinterest.org/blog/buzz/meet-terrifying-russian-stealth-submarine-scaries-us-navy-100787>

Russia set to dominate the Arctic unless Canada acts quickly to address shipping concerns

David J. Bercuson, National Post, November 28, 2019

The Arctic Ocean is warming and with it maritime traffic on the Northwest and Northeast passages is increasing. The only Arctic nation that has the capacity to monitor and support such shipping is Russia. Neither Canada nor the United States have much to offer in the event of a maritime disaster in North American Arctic waters.

More famously the Franklin Expedition of 1845 under British captain Sir John Franklin brought two Royal Navy ships, HMS Terror and HMS Erebus, to an untimely end when both vessels became ice bound in Victoria Strait and all 129 men, including Franklin, perished.

The waters to the north of Siberia, Canada and Alaska are now open in limited periods each year as the ice retreats and limited shipping has started off both Arctic coasts. North of Russia shipping from Europe to Asia now takes place on an intermittent basis. In Canadian Arctic waters, cruise ships have sailed the Northwest Passage on occasion. In both northern sea routes, point-to-point shipping takes place regularly during the summer season.

<https://nationalpost.com/opinion/david-j-bercuson-russia-set-to-dominate-the-arctic-unless-canada-acts-quickly-to-address-shipping-concerns>

Russia, China, Arms Control, and the Value of New START

Thomas Countryman, Arms Control, November 2019

Until President Donald Trump took office in 2017, every U.S. president for the previous 50 years proposed and pursued negotiations with Moscow as a means to regulate destabilizing nuclear arms

competition and reduce the risk of the United States and its allies being destroyed in a nuclear war. They sought and concluded a series of treaties, with strong bipartisan support, that have made the United States and the world much safer.

Nearly exactly 50 years ago, for example, the United States and Russia opened the Strategic Arms Limitation Talks on Nov. 17, 1969. Lead U.S. negotiator Gerard Smith wrote that his opening message that day was that “[t]he limitation of strategic arms is in the mutual interests of our country and the Soviet Union.” What was true then is true now. Sadly, Trump has not continued the efforts of his predecessors. The United States abandoned the 1987 Intermediate-Range Nuclear Forces (INF) Treaty this year and appears ready to allow the 2010 New Strategic Arms Reduction Treaty (New START) to lapse in 2021. If New START expires, there will be no legally binding, verifiable limits on the world’s two largest nuclear arsenals for the first time in nearly half a century.

<https://www.armscontrol.org/act/2019-11/features/russia-china-arms-control-value-new-start>

West Asia

Iran

U.N. nuclear watchdog presses Iran for answers on uranium traces

Francois Murphy, Reuters, November 21, 2019

The U.N. nuclear watchdog’s top inspector will travel to Tehran next week to press Iran to finally explain the origin of uranium traces found at an undeclared site, the agency’s acting chief said on Thursday. Reuters first reported in September that the International Atomic Energy Agency found the uranium traces at the site that Israeli Prime Minister Benjamin Netanyahu drew attention to in a speech last year, calling it a “secret atomic warehouse”. Tehran has said the site is a carpet-cleaning facility.

Two weeks ago the IAEA confirmed to member states that environmental samples taken at a still unspecified site had shown traces of uranium that was processed but not enriched.

“We have continued our interactions with Iran since then, but have not received any additional information and the matter remains unresolved,” acting IAEA Director General Cornel Feruta told a quarterly meeting of his agency’s 35-nation Board of Governors in Vienna.

<https://www.reuters.com/article/us-iran-nuclear-iaea/u-n-nuclear-watchdog-presses-iran-for-answers-on-uranium-traces-idUSKBN1XV18K>

US cancels civil nuclear cooperation waiver for Iran

Matthew Lee, Associated Press, November 19, 2019

Secretary of State Mike Pompeo said Monday he is canceling one of four sanctions waivers that had allowed foreign companies to work with Iran’s civilian nuclear program without U.S. penalties. Pompeo also warned Iran’s leadership not to crack down on protests that recent fuel price increases have sparked. The waivers are among the last remaining components of the 2015 nuclear deal the Trump administration withdrew from last year. Pompeo said the waiver for Iran’s once-secret Fordow site will be eliminated Dec. 15. Iran recently announced it would resume uranium enrichment at the fortified facility, which is built into a mountain.

“The right amount of uranium enrichment for the world’s largest state sponsor of terrorism is zero,” he said. “There is no legitimate reason for Iran to resume enrichment at this previously clandestine site. Iran should reverse its activity there immediately.” Iran hawks in Congress have been pressing Pompeo to eliminate all the waivers but have most strenuously objected to the one that allowed Russian,

Chinese and European companies to work at Fordow. The waivers for Fordow as well as the Bushehr nuclear power station, the Arak heavy water plant and the Tehran Research Reactor were last extended in late October.

<https://apnews.com/584e02d1e6d94cc2ae4c5038971d696c>

Inside Iran's plot to attack Saudi Arabia - analysis

Reuters, November 25, 2019

Four months before a swarm of drones and missiles crippled the world's biggest oil processing facility in Saudi Arabia, Iranian security officials gathered at a heavily fortified compound in Tehran. The group included the top echelons of the Islamic Revolutionary Guard Corps, an elite branch of the Iranian military whose portfolio includes missile development and covert operations. The main topic that day in May: How to punish the United States for pulling out of a landmark nuclear treaty and re-imposing economic sanctions on Iran, moves that have hit the Islamic Republic hard.

With Major General Hossein Salami, leader of the Revolutionary Guards, looking on, a senior commander took the floor. "It is time to take out our swords and teach them a lesson," the commander said, according to four people familiar with the meeting.

Hard-liners in the meeting talked of attacking high-value targets, including American military bases.

Yet, what ultimately emerged was a plan that stopped short of direct confrontation that could trigger a devastating U.S. response. Iran opted instead to target oil installations of America's ally, Saudi Arabia, a proposal discussed by top Iranian military officials in that May meeting and at least four that followed.

<https://www.reuters.com/article/us-saudi-aramco-attacks-iran-special-rep/special-report-time-to-take-out-our-swords-inside-irans-plot-to-attack-saudi-arabia-idUSKBN1XZ16H>

The missile and nuclear threat from Iran

Ephraim Asculai, Jerusalem Post, November 17, 2019

Two areas of Iranian activity in recent times can be seen both as provocative and as tests of the limits that can be reached without incurring serious penalties from the international community: missiles and nuclear.

Although UN Security Council Resolution 2231 dealt with Iranian nuclear-weapons capable ballistic missiles, it failed to deal with or even mention the issue of cruise missiles. While this failure had been mentioned in the past, nobody seemed to notice or attach much importance to it. The international community took notice of this lack only following the September 2019 Iranian attack on Saudi oil facilities, which employed both cruise missiles and UAVs (drones).

That attack not only proved the viability of these Iranian weapons, but showed their capabilities in pre-programmed defense-avoiding routes and their utilization as precise weapons. The known range of the cruise missiles is shorter than the distance from mainland Iran to Israel, and the range of Iranian UAVs is as yet unknown. However, with the emerging presence of Iranian forces in Syria and Iraq, the range issue could perhaps be solved for the Iranians, at the same time forcing Israel to take strong preventive actions, which it did. How long can this go on without causing a major crisis? This question cannot be answered at this time.

<https://www.jpost.com/Opinion/The-missile-and-nuclear-threat-from-Iran-608100>

East Asia

North Korea

N. Korea's ultimatum

Korea Times, November 15, 2019

North Korea said Friday it has sent an "ultimatum" to South Korea that it will

demolish all facilities owned by South Korean firms at its Mount Geumgang Resort. The Unification Ministry expressed concerns about the move, calling for negotiations in accordance with inter-Korean agreements. The North's announcement followed a report about three weeks ago that its leader Kim Jong-un had ordered the removal of the facilities from the resort, vowing to redevelop the area using the country's own resources. The North then asked the South to remove the assets from Geumgang, or it would demolish them.

Pyongyang's Korean Central News Agency (KCNA) said the ultimatum, sent Nov. 11 to the South, carried a warning that if the South persist in its "useless assertion," the North will tear down the facilities unilaterally.

"We will develop Mount Geumgang to be the world renowned tourist resort as its owner for the sake of the nation and posterity," KCNA said. "There is no room for South Korea to find its place there." The report said the "timetable" has been set, indicating that the North will keep ignoring dialogue offers from the South to go ahead with the redevelopment project without Seoul's participation. If the North destroys the facilities at the Geumgang resort, it will prove again that North Korea is a risky place for investment. Given the symbolic meaning of the Mount Geumgang Resort for inter-Korean peace, the unilateral move raises doubts over the North's commitment to improving relations with the South.

http://www.koreatimes.co.kr/www/opinion/2019/11/137_278789.html

Troops for Nukes: Should the US Trade Its Forces in South Korea for North Korean Denuclearization?

Daniel R. Depetris, 38 North, November 21, 2019

US-DPRK negotiations on denuclearization are on life support and there are bleak prospects for recovery before the end-of-the-year deadline for progress declared by North Korean leader Kim Jong Un. It is not

unimaginable that US President Donald Trump, as he did when he decided to deal directly with Kim, will go for a bold and unconventional move to break the impasse: a proposal to pull US forces out of South Korea in exchange for North Korea's final, complete and verifiable denuclearization. Such a last-gasp attempt to keep diplomacy alive may seem attractive to the impulsive and mercurial Trump, but it would inevitably confront a myriad of daunting negotiating, diplomatic, political and technical problems that would likely strangle the idea in its crib.

Will Trump Pull the Trigger on a US Force Withdrawal? For Trump, who has demonstrated a penchant for demanding an exorbitant increase in Seoul's contribution to US defense costs on the peninsula, the departure of US forces from South Korea would have significant personal and political appeal. As far back as his time as a private real estate developer, Trump has accused US allies and partners of ripping the American people off. The president has been most passionate when discussing South Korea and Japan, two wealthy countries he thinks are taking advantage of the United States' generosity.

<https://www.38north.org/2019/11/ddepetris112119/>

Time Is Running Out for Trump's North Korean Diplomacy, Analysts Say

Choe Sang-Hun, The New York Times, November 28, 2019

Kim Jong-un, North Korea's leader, has said that the United States has until the end of the year to make a new proposal to create a breakthrough in stalled negotiations on denuclearizing the Korean Peninsula. The looming deadline — which North Korea has issued repeated warnings about — carries the implicit threat that the country could return to its alarming behavior of the past by ending its self-imposed moratorium on nuclear tests and launching long-range missiles capable of

hitting American cities. On Thursday, it launched two short-range rockets, its 13th rocket or missile test since May.

"Today, we sit on top of a live volcano," said Robert L. Carlin, a former nuclear negotiator at the State Department and longtime North Korea observer, describing a rapidly deteriorating situation on the peninsula during a lecture this month at Yonsei University in Seoul, the South Korean capital. "We don't have a lot of time to back away." In the past month, North Korea has warned that the Trump administration should not even "dream of" discussing denuclearization without first ending its "hostile" policies, including smothering economic sanctions. It swore "shocking punishment" if Washington were to ignore the year-end deadline.

<https://www.nytimes.com/2019/11/28/world/asia/north-korea-trump-nuclear-talks-deadline.html>

North Korea Test Fires Rockets Ahead Of Nuclear Talks Deadline

Isabel Togoh, Forbes, November 28, 2019

North Korea broke a monthlong pause in missile tests with the launch of two rockets into the sea on Thursday morning, according to South Korea's military, as the clock ticks down on Kim Jong-un's year-end deadline for the restart of nuclear talks with the United States. South Korea's defense ministry said two unidentified projectiles were launched off the North's coast into the sea on Thursday afternoon local time, Reuters reported. Japan's coastguard said it was monitoring where the missile might land, but said it did not enter its airspace.

It is the first test launch since October 31, when the North fired two suspected missiles into the sea.

North Korean leader Kim Jong-un has set a deadline of December 31 for denuclearization talks with the U.S. after negotiations stalled in October. North Korea has pushed for a lifting of sanctions and pullback of U.S. military forces in South Korea in return for abandoning, or limiting, its nuclear weapons program, but

Pyongyang threatened to walk away from the talks earlier this month

<https://www.forbes.com/sites/isabeltogoh/2019/11/28/north-korea-test-fires-rockets-ahead-of-nuclear-talks-deadline/#573d3c0a55a3>

An Unexpected Way to Change North Korea's Nuclear Ambitions

Hun Park, National Interest, November 30, 2019

Given that air pollution doesn't recognise borders, there are already several emissions-reduction projects underway that will require cooperation between Asian nations. To meet its obligations, South Korea has pledged to buy emissions credits on the international market, offsetting 11.3% of its business-as-usual emissions in 2030. That is 96.1 million tonnes of carbon dioxide-equivalent emissions – already more than North Korea's total greenhouse gas emissions in 2013 (78 million tonnes). Because North Korea has its own obligations now, foreign countries including South Korea can no longer earn carbon credits from their carbon-offsetting projects in the country.

But if South Korea provides technical assistance such as satellite monitoring of North Korea's reforestation progression and then can obtain the country's "informed consent", a mutual effort to generate carbon credits could be discussed.

https://nationalinterest.org/blog/buzz/unexpected-way-change-north-koreas-nuclear-ambitions-100297_

South Korea

Suggesting plebiscite on energy denuclearization

Kim Myong-sik, Korea Herald, November 20, 2019

Passing the halfway point in his five-year tenure, President Moon Jae-in's approval rate hovers just above the 40 percent mark, half the level immediately after his election in May 2017. Woes grow among manufacturers, traders and consumers, security threats loom large and political

groups are sharpening hostility. Amid rising discontent, the energy denuclearization policy has emerged as a top destabilizing issue. University students at nuclear science departments see no future in their chosen careers, as the nation's nuclear power plants, operating 25 reactors, are all to be shut down by the target year of 2060. No new nuclear plants will be built except for the three already under construction. There will be no service extension, although renewal is easy and common, should leftist rule continue.

Local builders and parts suppliers are making layoffs while desperately seeking overseas contracts, yet few potential clients see strong reliability in firms that have all but lost local demand. The media incessantly reports scandals involving renewable energy businesses and people around power.

http://www.koreaherald.com/view.php?ud=20191119000891&ACE_SEARCH=1

Japan

Revisiting Japan's nuclear arms debate

Michael Macarthur Bosack, Japan Times, November 28, 2019

This week, Pope Francis made a historic visit to Hiroshima and Nagasaki. On Sunday, the pontiff was clear in his call for global nuclear disarmament, stating, "The use of atomic energy for purposes of war is immoral. ... As is the possession of atomic weapons." This message resonated with the large segment of the Japanese public who vehemently opposes nuclear weapons and prompted a question to Chief Cabinet Secretary Yoshihide Suga about Japan's own reliance on the U.S. nuclear umbrella. Suga responded that the long-standing policy is "realistic and appropriate."

Suga's response may have been concise and resolute, but we are likely to see a revisiting of the nuclear weapons debate in Japan. The region has witnessed North Korea's development of increasingly devastating nuclear technology and more sophisticated

delivery vehicles. Fears of U.S. abandonment will lead many to question whether Japan may indeed pursue its own nuclear arsenal — which is technically feasible given the country's technology and availability of nuclear material.

<https://www.japantimes.co.jp/opinion/2019/11/28/commentary/japan-commentary/revisiting-japans-nuclear-arms-debate/#.Xe9AEFQzblU>

N. Miscellaneous

Should the Government Subsidize Nuclear Power? Advocates Square Off

The Wall Street Journal, November 19, 2019

The U.S. has made a big bet on subsidizing nuclear power. But is it the right one? Nuclear-power proponents argue that the plants are the most reliable source of green power around. But critics say renewables are improving steadily, removing any need for nuclear

Some states have provided billions of dollars in aid packages to keep struggling nuclear plants operating. Meanwhile, the federal government offers a loan-guarantee program for nuclear plants, and the Energy Department plans to spend \$115 million to help develop advanced fuels for next-generation reactors, worried that the country may be falling behind overseas rivals in nuclear-power technology.

<https://www.wsj.com/articles/should-the-government-subsidize-nuclear-power-advocates-square-off-11574211794>

Is Nuclear Power a Solution for Climate Change?

Edis Osmanbasic, Engineering.com, November 22, 2019

Climate scientists have assessed that all coal-fired power plants should be phased out by 2030 in the Organization for Economic Co-operation and Development (OECD) countries and by 2050 in the rest

of the world. The logical question is, if climate scientists don't want us to use fossil fuels, which energy source should serve as the basis for electricity generation?

Although renewable energy is the go-to green energy solution, due to its unreliable nature—wind is not always blowing, the sun is not always shining, etc.—it likely cannot meet the requirements for the main electrical energy source. In this article, let's discuss nuclear energy as a best possible alternative to fossil fuels, despite its bad reputation in the environmental and human aspects. We'll also review the various nuclear energy technologies and examine the economics of nuclear sources.

In recent years, one of the world's loudest discussions is how to moderate the impacts of human activities on the environment—the energy as the most dominant factor affecting the environment. Consequently, the term “greenness of energy supply” has received the most attention in the effort to reduce environmental impacts.

<https://www.engineering.com/DesignerEdge/DesignerEdgeArticles/ArticleID/19734/Is-Nuclear-Power-a-Solution-for-Climate-Change.aspx>

Nuclear Power Does Slow Climate Change

James Conca, Forbes, November 25, 2019

Indeed it does. Contrary to claims by those who just don't like nuclear, every time nuclear plants close, carbon emissions go up. Using opaque financial jargon, grandiose claims for renewables, and political spin, doesn't change this. There a number of examples. The unnecessary closing of the Vermont Yankee Nuclear Power Station at the end of 2014 led to an increase in fossil fuel use, specifically natural gas, that completely filled the gap. Same with San Onofre in California.

In a report on the impact of shutting down Indian Point Nuclear Plant, the NYISO said three natural gas plants would replace the lost nuclear power when Indian Point completely shuts down in 2021. The

potential closing of a few more nuclear plants in the North East will increase gas use even more and its concomitant CO2 emissions.

<https://www.forbes.com/sites/jamesconca/2019/11/25/nuclear-power-does-slow-climate-change/#2e5ab1587202>

Cyber Battles, Nuclear Outcomes? Dangerous New Pathways to Escalation

Michael T. Klare, Arms Control, November 28, 2019

In January 2018, details of the Trump administration's Nuclear Posture Review (NPR) were posted online by the Huffington Post, provoking widespread alarm over what were viewed as dangerous shifts in U.S. nuclear policy. Arousing most concern was a call for the acquisition of several types of low-yield nuclear weapons, a proposal viewed by many analysts as increasing the risk of nuclear weapons use. Another initiative incorporated in the strategy document also aroused concern: the claim that an enemy cyberattack on U.S. nuclear command, control, and communications (NC3) facilities would constitute a “non-nuclear strategic attack” of sufficient magnitude to justify the use of nuclear weapons in response.

Under the Obama administration's NPR report, released in April 2010, the circumstances under which the United States would consider responding to non-nuclear attacks with nuclear weapons were said to be few. “The United States will continue to...reduce the role of nuclear weapons in deterring non-nuclear attacks,” the report stated. Although little was said about whatsort of non-nuclear attacks might be deemed severe enough to justify a nuclear response, cyberstrikes were not identified as one of these

<https://www.armscontrol.org/act/2019-11/features/cyber-battles-nuclear-outcomes-dangerous-new-pathways-escalation>

O. Think Tanks

Ditch the Bomb, not the NPT

Sergio Duarte, Bulletin of Atomic Science, November 18, 2019

At 2017's fiftieth anniversary celebration of the signing of the Nuclear Non-Proliferation Treaty (NPT) in Washington, DC, some participants enthused that the treaty should last for the next five decades and beyond.

On the contrary, however, a recent provocative and timely article in the *Bulletin of the Atomic Scientists* by Tom Sauer and Joeli Pretorius ("Is it time to ditch the NPT?") expressed serious doubts about the NPT's longevity and actual usefulness, in view of the disappointing implementation of some of its key provisions.

In response, Adam Scheinman, a recognized expert in arms control and nuclear non-proliferation matters, wrote "No, it is not time to ditch the NPT," which disagreed sharply the former's premise, and extolled the enduring value of the NPT—pointing out its contribution to world security and stability.

In my view, the perceived shortcomings of the NPT are not sufficient grounds to justify mass withdrawal.

<https://thebulletin.org/2019/11/ditch-the-bomb-not-the-npt/#>

In Japan, Pope Francis denounces nuclear weapons and questions nuclear power

Matt Field, Bulletin of Atomic Scientists, , November 26, 2019

Pope Francis moved past the position of his predecessors and denounced any use of nuclear weapons as a "crime against the dignity of human beings" during a visit to Japan this past week. Francis travelled to the atomic-bombed cities of Hiroshima and Nagasaki and subsequently met with victims of the 2011 earthquake and tsunami that crippled the Fukushima Daiichi Nuclear Plant.

In Tokyo, the pope met with survivors of the

so-called triple-disaster, the earthquake and tsunami that killed 18,000 people in 2011 and led to the nuclear meltdowns at Fukushima Daichi. After hearing from three survivors, Francis, a Vatican press release said, talked about the people "who lived in the affected areas" and who "now feel forgotten by others," and "must face ongoing problems: contaminated land and forests and the long-term effects of radiation." "In addition to scientific or medical concerns, there is also the immense challenge of restoring the fabric of society. Until social bonds in local communities are re-established, and people can once more enjoy safe and stable lives, the Fukushima accident will not be fully resolved," Francis said.

"In turn, this involves, as my brother bishops in Japan have emphasized, concern about the continuing use of nuclear power; for this reason, they have called for the abolition of nuclear power plants."

<https://thebulletin.org/2019/11/in-japan-pope-francis-denounces-nuclear-weapons-and-questions-nuclear-power/>

What happened after an explosion at a Russian disease research lab called VECTOR?

Filippa Lentzos, Bulletin of Atomic Scientist, November 27, 2019

At a huge Soviet-era virology campus in Siberia called VECTOR, a sudden, unexpected explosion in September blew out the windows and set parts of a building ablaze. Around the world, people sat up and took notice. Global public health and security officials were concerned the explosion might have affected labs holding dangerous viruses. Biosecurity experts questioned whether it was a deliberate attack, and international security analysts and biodefense experts deliberated how to read the situation—acutely aware that biosafety breaches in a similar facility 40 years ago had caused a large and deadly anthrax outbreak that eventually exposed the Soviet Union's prohibited biowarfare activities.

From media reports on the explosion, it was unclear exactly which parts of VECTOR, and which labs, had been affected by the explosion and fire. Of particular concern was the facility housing the unique smallpox-causing variola virus, one of just two such repositories in the world, both routinely monitored by the World Health Organization. Following the media reports, VECTOR management responded to queries from the World Health Organization with reassurance that the smallpox repository had not been affected, according to an organization spokesperson. From the organization's perspective, there was no need to follow up with a visit or ad hoc inspection.

<https://thebulletin.org/2019/11/what-happened-after-an-explosion-at-a-russian-disease-research-lab-called-vector/>

P. Reports and Original Documents

India's Thorium (Nuclear Fuel) Market Outlook to 2023 - India is Set to Become a Global Manufacturing Hub, Increasing the Demand for Nuclear Power in the Future

Research and Markets, November 26, 2019

The "Thorium (Nuclear Fuel) Market in India (2018-2023) Share based on Power Resources (Thermal, Renewable, Hydro, Nuclear) Trade Analysis (Export-Import Data) Drivers, Challenges and Competitive Landscape" report has been added to ResearchAndMarkets.com's offering.

The nuclear fuel market comprises of companies, industry associations, and governmental bodies which are involved in mining, refining, and storage of nuclear fuels and construction of nuclear reactors. The major application of nuclear fuels is in the nuclear reactor for sustaining a nuclear chain reaction required for generating electric energy. The nuclear fuels like uranium-235 and thorium-232 are radioactive metals which are fissile in nature.

<https://www.globenewswire.com/news-release/2019/11/26/1952543/0/en/India-s-Thorium-Nuclear-Fuel-Market-Outlook-to-2023-India-is->

[Set-to-Become-a-Global-Manufacturing-Hub-Increasing-the-Demand-for-Nuclear-Power-in-the-Future.html](#)

Update to OFAC's list of Specially Designated Nationals (SDN) and Blocked Persons

US Department of the Treasury, Office of Foreign Assets Control, November 22, 2019

The SDN list has recently been updated. The following individual has been added to OFAC's SDN List: AZARI JAHROMI, Mohammad Javad, Iran; DOB 16 Sep 1981; POB Jahrom, Iran; Additional Sanctions Information - Subject to Secondary Sanctions; Gender Male (individual) [IRAN] [IRAN-TRA].

<https://www.treasury.gov/resource-center/sanctions/OFAC-Enforcement/Pages/20191122.aspx>

Issuance of New and Amended Iran-related Frequently Asked Questions

US Department of the Treasury, Office of Foreign Assets Control, November 27, 2019

Today, the Department of the Treasury's Office of Foreign Assets Control (OFAC) is updating existing FAQ 303 and FAQ 804, and is publishing three new Iran-related FAQs. Frequently Asked Questions Related to the "Snap-back" of Iranian sanctions in November, 2018630. Is the provision or delivery of goods or services to an Iranian counterparty after November 4, 2018 allowed? The wind-down period has ended and the United States intends to fully enforce the sanctions that have come back into effect. The provision or delivery of goods or services and/or the extension of additional loans or credits to an Iranian counterparty after November 4, 2018 — even pursuant to written contracts or written agreements entered into prior to May 8, 2018 — may result in the imposition of U.S. sanctions unless such activities are exempt from regulation, authorized by OFAC, or

otherwise not sanctionable. The United States maintains authorizations and exceptions under U.S. sanctions that allow for the sale of agricultural commodities, food, medicine, and medical devices to Iran by U.S. persons and non-U.S. persons. However, these authorizations and exceptions do not apply to transactions involving persons on OFAC's List of Specially Designated Nationals and Blocked Persons (SDN List) that have been designated in connection with Iran's support for international terrorism or proliferation of weapons of mass destruction, including designated Iranian financial institutions or the Islamic Revolutionary Guard Corps (IRGC), or activity that is subject to other sanctions (see FAQ 637). [11-05-2018]

https://www.treasury.gov/resource-center/faqs/Sanctions/Pages/faq_iran.aspx#805

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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