

# Nuclear, Missile & Space Digest

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- North Korea leaning toward China and Russia as it defies U.S.
- New construction seen at missile-related site in North Korea
- NK may consider timing of nuclear talks amid uncertainty in US politics: source
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## **A. India**

### **IAF Phase of Indo - Russian Tri-Services Exercise Indra 2019 in Pune, Gwalior, Babina and Goa**

*PIB Delhi, December 16, 2019*

Exercise INDRA - 2019 is the second edition of Joint Tri Services Exercise between Indian and Russian Armed Forces which is being conducted from 10-20 December 2019 simultaneously at Pune and Gwalior for Air Force elements.

IAF is undertaking service specific and joint missions during the exercise. Russian Federation Air Force (RFAF) element is participating in the exercise along with IAF counterparts.

The broad theme for the exercise is to organise a Joint Task Force for undertaking planning and execution of air operations for eliminating terrorists at the request of the third country under UN mandate. However, combined missions between IAF and RFAF would also be undertaken for enriching experience and maximising training value in terms of interoperability.

<https://pib.gov.in/newsite/PrintRelease.aspx?relid=195922>

### **Year End Review: Department of Atomic Energy**

*PIB Delhi, December 24, 2019*

The major policies and programmes by the Department of Atomic Energy (DAE) during the year 2019 are given below:

- i. Nuclear Power Programme:**
  - Kaiga Atomic Power Station (KGS-1) has set the world record of 962 days of continuous operation.
  - Tarapur Atomic Power Station Units (TAPS 1 & 2), connected to the grid in April and May 1969, have completed 50 years of safe operation. TAPS- 1&2 are currently the oldest operating power reactors in the world, producing reliable power at about two rupees per unit.

- At present there are 22 reactors with installed capacity of 6780 MWe operating above 80% plant load factor in the country.
- Six Pressurised Heavy Water Reactors (PHWRs) of 700 MWe capacity each are at different stages of construction which would add 4200 MWe.
- Four VVER reactors (KKNPP-3 to 6), each with 1000 MWe capacity are under construction.
- Nuclear Fuel Complex (NFC), has completed supply of 37 element fuel bundles to Kakrapar Atomic Power Plant (KAPP3), first 700MWe PHWR, towards initial core requirement by establishing fabrication facility for 37 element fuel bundle manufacture.

<https://pib.gov.in/newsite/erelease.aspx>

### **Year End Review: Department of Space**

*PIB Delhi, December 30, 2019*

Following are the initiatives of Department of Space during the year 2019:

#### **Missions and Project Related Activities**

- ISRO has successfully accomplished 13missionsincluding06 launch vehicle missions and07 satellite missions during the year 2019.
- 50 foreign satellites from 07countries were launched on commercial basis during this period.
- PSLV-C44 successfully launched Microsat-R and Kalamsat-V2 on January 24, 2019 from Sriharikota.
- On February 06, 2019GSAT 31 communication satellite was successfully launched from Kourou, French Guiana onboard Arianespace rocket.
- EMISAT was successfully launched onboard PSLV-C45 on April 01, 2019 from Sriharikota. The launch viewing

gallery was inaugurated and opened to the public for viewing launches live from Sriharikota.

- On May 22, 2019 RISAT-2B radar imaging earth observation satellite was successfully launched onboard PSLV-C46 from Sriharikota.
- The successful launch of GSLV-MK III M1, India's most powerful launch vehicle, was accomplished in July 22, 2019. This launch vehicle is capable of launching 04 ton of satellites into Geosynchronous Transfer Orbit (GTO). The mission carried Chandrayaan-2 Orbiter spacecraft to its intended orbit. The instruments are continuously providing very useful science data.
- On November 27, 2019 Cartosat-3, a third-generation agile advanced satellite having high resolution imaging capability was successfully launched by PSLV-C47 from Sriharikota.
- On December 11, 2019, PSLV-C48 successfully launched RISAT-2BR1 radar imaging earth observation satellite from Sriharikota.
- India's first inter-planetary mission "Mars Orbiter Mission (MOM)" completed five years in Martian orbit in September 2019.
- Astrosat, the first Indian multi-wavelength space observatory, completed four years in orbit in Sept 2019. The data has been made open to public. Astrosat has more than 900 registered users from 24 countries.
- Global Standards body 3rd Generation Partnership Project (3GPP), which develops protocols for mobile telephony, has approved India's regional navigation system NAVIC.
- Qualcomm Technologies Inc. in collaboration with the Indian Space Research Organization (ISRO), has developed & tested chipset platform across their portfolio which can support the Indian Regional Navigation satellite system, NavIC.
- The first-ever NavIC demonstration using the Snapdragon Mobile Platforms was showcased by Qualcomm during the India Mobile Congress at New Delhi on October 14-16, 2019
- A new center namely Human Space Flight Centre (HSFC) is created within ISRO/DOS with the responsibility to act as the lead center for Human Space Flight Program, Gaganyaan. The Gaganyaan project has the objective of demonstrating human space flight capability to Low Earth Orbit (LEO) with 3 crew members for 5-7 days in orbit and to safely recover them after the mission.
- Overall configuration of GSLV-MK III, crew escape system, crew module and service module for Gaganyaan have been finalized. An MoU is executed with Indian Air force for crew selection and training. Institute of Aerospace Medicine is identified for crew selection and screening criteria. This process is in progress.
- NewSpace India Limited (NSIL), Bengaluru, a wholly owned Government of India Company under Department of Space, was incorporated on 6th March 2019. The business activities of NSIL is mainly driven towards enabling Indian industries to productionise space systems and to exploit the commercial opportunities emanating from the Indian space programme.
- Commissioning of the Second Vehicle Assembly Building at Sriharikota to improve the frequency of launch.
- The notable development of the year was technology transfer of Li-ion to Indian industries. 10 industries were selected for the transfer of the Li-ion cell technology from ISRO.

<https://pib.gov.in/newsite//erelease.aspx>

## **A look at data breaches, cyberattacks India saw in 2019**

*Deccan Herald, December 16, 2019*

A CIO survey found that 69 per cent of Indian organisations are at risk of data breaches. Data breaches cost Indian organisations an average of around Rs 12.8 crore, from July 2018 to April 2019, as per an IBM report. India ranked 15th in terms of 'total cost of breach', as mentioned in the 2019 Cost of a Data Breach Report.

[www.deccanherald.com/national/a-look-at-data-breaches-cyberattacks-india-saw-in-2019-785987.html](http://www.deccanherald.com/national/a-look-at-data-breaches-cyberattacks-india-saw-in-2019-785987.html)

## **Blow to NASA ISS mission: what happened?**

*Indian Express, December 21, 2019*

A space capsule built to ferry astronauts to the International Space Station (ISS) has failed its first test flight, and will now return to Earth without completing its mission. The capsule, named Starliner, has been built by Boeing, and was successfully launched by NASA from Cape Canaveral, Florida, on Friday morning (evening in India).

What went wrong?

The United Launch Alliance (ULA) Atlas V rocket lifted off successfully, and Boeing's CST-100 Starliner separated as expected. Updates on the flight tracker on the NASA website said it was "flying on its own, embarking on its inaugural flight to the International Space Station". The rocket was supposed to fall in the Pacific Ocean near Australia, while Starliner, "after a series of orbital adjustments", was to be "on course for rendezvous and docking with the space station at 5 am on Saturday, December 21".

<https://indianexpress.com/article/explained/blow-to-nasa-iss-mission-what-happened-6177521/>

## **RPV and core catcher shipped to Kudankulam 4**

*World Nuclear News, December 23, 2019*

The reactor pressure vessel and the core catcher for Kudankulam unit 4 under

construction in India have been loaded on to a cargo ship in the port of Saint Petersburg, Russia. The shipment of equipment - 9000 cubic metres in total - is the thirteenth for unit 4, Rosatom said, on a route spanning 15,000 kilometres.

Units 3 and 4 are AES-92 design VVER-1000 units under construction as the second phase of the Kudankulam plant in Tamil Nadu. Kudankulam 1 and 2, both VVER-1000 units, have been in operation since 2014 and 2017, respectively. A third phase using the AES-92 design is also planned.

"Despite the objective difficulties arising from the increased load at the port due to the approaching end of the year, we've fulfilled our obligations to the customer and shipped the necessary equipment," Rosatom's first deputy director for projects in India, Alexander Kvasha, said. Rosatom subsidiary and general contractor for the Kudankulam project, AtomStroyExport, announced earlier this month that the core catcher for unit 3 had been installed. A core catcher - also referred to as a core melt localisation device, or core trap - is designed to catch the molten core of a reactor in the unlikely event of a meltdown, preventing it from escaping the containment building.

<http://world-nuclear-news.org/Articles/RPV-and-core-catcher-shipped-to-Kudankulam-4>

## **'Pokhran tests, Kargil War made India stronger': Amit Shah hails Vajpayee on birth anniversary**

*The New Indian Express, December 25, 2019*

Home Minister Amit Shah on Wednesday paid tributes to former Prime Minister Atal Bihari Vajpayee on his 95th birth anniversary and said the Pokhran nuclear tests and Kargil War in the late 1990s created a strong image of India in the world. "Former Prime Minister Atal Bihari Vajpayee Ji left an indelible mark in Indian politics with his nationalistic thinking, impeccable image and dedicated his life to the nation. In the life of Atal Ji, based

on ideology and principles, there was no mere fascination of power. Under his leadership, the country saw good governance," Shah tweeted in Hindi.

<https://www.newindianexpress.com/nation/2019/dec/25/pokhran-tests-kargil-war-made-india-stronger-amit-shah-hails-vajpayee-on-birth-anniversary-2080816.html>

### **Chandrayaan 2 to all-women spacewalk: Top 5 exciting space moments of 2019**

*India Today, December 28, 2019*

From India's Chandrayaan 2 mission to the first all-women spacewalk and commercial crew milestones by US-based companies, 2019 offered several exciting moments for space enthusiasts. India's ambitious and keenly watched lunar mission, Chandrayaan 2, was expected to make its soft landing on the surface of the Moon on September 7. While the whole nation waited with bated breath, Chandrayaan 2's lander 'Vikram' lost communication with the ground stations. But the Orbiter component of Chandrayaan 2 spacecraft made it to the Moon without any glitch.

In a huge milestone for China, which is attempting to position itself as a leading space power, the country's Chang'e-4 lunar probe on January 3 became the first spacecraft to make a soft landing on the far side of the Moon. The probe, comprising a lander and a rover, touched down at the pre-selected landing area at 177.6 degrees east longitude and 45.5 degrees south latitude on the far side of the Moon. The programme Chang'e (named in honour of a goddess who, according to Chinese legend, lives on the Moon) intends to send a manned mission to the Moon in the long term and although no deadline has been set, some experts indicated it may be around 2036.

<https://www.indiatoday.in/science/story/chandrayaan-2-to-all-women-spacewalk-top-5-exciting-space-moments-of-2019-1632192-2019-12-28>

### **ISRO planning to launch satellite Aditya to study sun: PM Modi**

*India Today, December 29, 2019*

Prime Minister Narendra Modi in his last 'Mann ki Baat' programme of this year on Sunday said that the Indian Space Research Organisation (ISRO) is planning to launch a satellite called Aditya to study the sun. "India is quite advanced in the field of astronomy, and we have taken path-breaking initiatives in this field. ISRO has an astronomical satellite called ASTROSAT. Moreover, they are planning to launch a satellite called Aditya, to study the sun," said Modi.

The Prime Minister further said that India has many powerful telescopes around the country including a giant meter-wave telescope near Pune and other powerful telescopes located in Kodaikkaanal, Udagamandala, Guru Shikhar and Hanle Ladakh.

<https://www.indiatoday.in/india/story/isro-planning-launch-satellite-aditya-study-sun-pm-modi-1632362-2019-12-29>

### **B. China**

#### **US-China tech war's new battleground: undersea internet cables**

*Meaghan Tobin, South China Morning Post, December 14, 2019*

In the contest between the US and China for dominance over the world's technology infrastructure, the latest battle is taking place under the Pacific Ocean. While the US has been upping the pressure on its allies not to include equipment made by Chinese telecom giants like Huawei and ZTE in their 5G systems, Chinese companies have gained a foothold in some of the world's most essential communications infrastructure – undersea internet cables.

<https://www.scmp.com/week-asia/politics/article/3042058/us-china-tech-wars-new-battleground-undersea-internet-cables>

## Report shows China publishes the most AI research papers, but they lack impact

*South China Morning Post, December 16, 2019*

China published more AI journal and conference papers in 2018 than Europe, having passed the US in 2006. China narrowly edged out Europe, accounting for 28% of publications compared with Europe's 27%, according to Stanford University's newly published Artificial Intelligence Index Report 2019. However, China's research has about half the impact as US publications by number of citations. The report offers other interesting tidbits about AI in China. In 2018, China had the highest volume of AI journal papers, with papers from government institutions accounting for three times more than those from companies. Europe's situation is similar, but corporate-affiliated AI papers make up a higher proportion in the US. In all three regions, however, research papers overwhelmingly originated in academia.

<https://www.scmp.com/tech/article/3042264/report-shows-china-publishes-most-ai-research-papers-they-lack-impact>

## Japan's defence chief hits out at Beijing on South China Sea, military build-up

*Julian Ryall, South China Morning Post, December 16, 2019*

Japan's Defence Minister Taro Kono has criticised China for its actions in the contested South China Sea and waters close to Japan, days before visiting Beijing to meet his Chinese counterpart, Wei Fenghe. "China is engaging in unilateral and coercive attempts to alter the status quo based on its own assertions that are incompatible with the existing international order," Kono on Sunday at the Doha Forum, an international conference in Qatar.

<https://www.scmp.com/news/asia/east-asia/article/3042306/japans-defence-chief-hits-out-beijing-south-china-sea-military>

## BeiDou Navigation Satellite System completes deployment

*Deng Xiaoci, Global Times, December 17, 2019*

China successfully sent the 52nd and 53rd satellites of its domestically developed BeiDou Navigation Satellite System (BDS) into space on Monday. The pair are the last two medium Earth orbit (MEO) satellites of their kind for the BDS-3 constellation, marking the completion of the global navigation system's core constellation deployment, according to officials on Monday. Launched from Xichang Satellite Launch Center, Southwest China's Sichuan Province, on board a Long March-3B carrier rocket with a Yuanzheng-1 (Expedition-1) upper stage, the two satellites were injected into designated orbits after more than three hours' flight.

<http://www.globaltimes.cn/content/1173712.shtml>

## China's supergun worries Pentagon watchers

*Dave Makichuk, Asia Times, December 17, 2019*

While the United States spent years dithering over the future of its much-hyped electromagnetic railgun project, China appears to be moving closer to hitting its operational target, sources say. The Chinese navy plans to field its own secretive version of the electromagnetic railgun on naval vessels as early as 2025, possibly sooner, according to a US intelligence assessment first reported by CNBC. China's interpretation of the long-theoretical supergun, which utilizes a massive amount of power to create electromagnetic fields to accelerate projectiles to hypersonic velocities, is reportedly capable of "striking a target 124 miles away at speeds of up to 1.6 miles per second," according to CNBC — fast enough to strike Philadelphia from New York in just under a minute.

<https://www.asiatimes.com/2019/12/article/chinas-supergun-worries-pentagon-watchers/>

## Chinese rocket sends Ethiopia's 1st satellite into space

*Zhao Lei, China Daily, December 20, 2019*

China has presented a space-based gift to Ethiopia – the African nation's first satellite that was designed and built by Chinese engineers was launched by a Chinese rocket on Friday. The Ethiopian Remote Sensing Satellite-1, or ETRSS-1, was sent into space by a Long March 4B carrier rocket from the Taiyuan Satellite Launch Center in North China's Shanxi province. Carrying a multispectral wide-field imager and some other scientific devices, the 65-kilogram spacecraft is expected to work at least two years at an altitude of around 600 kilometers to obtain multispectral remote-sensing data for Ethiopia's agriculture, water resource survey, disaster prevention and relief, and climate change research, according to the China National Space Administration.

<https://www.chinadaily.com.cn/a/201912/20/WS5dfc5d8ea310cf3e3557f874.html>

## China's lunar rover Jade Rabbit-2 breaks record of working time on Moon

*Xinhua, December 21, 2019*

China's Jade Rabbit-2, or Yutu-2, has become the longest-working lunar rover on the moon, as it started to work for the 13th lunar day on the far side of the moon. Previously the record was held by Lunokhod 1, the Soviet robotic rover that became the world's first to be sent to the moon in 1970, where it worked for about 10 months. China's Chang'e-4 probe including a lander and Jade Rabbit-2, 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.

Both the lander and rover have resumed work for the 13th lunar day after laying dormant during the extremely cold night, according to the Lunar Exploration and Space Program Center of the China National Space Administration. The lander woke up

at 5:14 a.m. Saturday (Beijing time), and the rover awoke at 6:43 p.m. Friday.

[http://www.xinhuanet.com/english/2019-12/21/c\\_138648446.htm](http://www.xinhuanet.com/english/2019-12/21/c_138648446.htm)

## China's 10,000 ton-class destroyer equipped with long-range land-attack missiles

*Liu Xuanzun, Global Times, December 22, 2019*

China's latest 10,000 ton-class guided missile destroyer, the Type 055, is capable of launching long-range land-attack cruise missiles, the People's Liberation Army (PLA) Navy revealed as experts said on Sunday the new weapon could let the destroyer launch more precise attacks against land targets at greater range. Introducing the vast and complicated arsenal at its disposal, the PLA Navy said on China's Twitter-like social platform Sina Weibo that the service operates not only vessels, but also submarine-launched intercontinental ballistic missiles with strategic missile submarines and long-range land-attack cruise missiles with 10,000 ton-class guided missile destroyer, despite them also being the main battle equipment of the PLA Rocket Force.

China displayed its first Type 055 destroyer, the Nanchang, in April at the fleet review of the PLA Navy's 70th anniversary celebration in Qingdao, East China's Shandong Province. As China's first type of 10,000 ton-class destroyer, the Type 055 has 112 vertical launch missile cells capable of launching a combination of surface-to-air missiles, anti-ship missiles and anti-submarine missiles, according to media reports. While military observers have been speculating the ship was capable of launching land-attack missiles, the Navy's Weibo post confirmed the speculation.

<https://www.globaltimes.cn/content/1174437.shtml>

## Stalled talks with U.S. not good for North Korea, South Korea tells China

*Reuters, December 23, 2019*

Stalled denuclearization talks and a recent flare-up in tension between the United States and North Korea are not beneficial for Pyongyang, South Korean President Moon Jae-in told Chinese President Xi Jinping in Beijing on Monday. North Korea has set a year-end deadline for the United States to change what it says is a policy of hostility amid a stalemate in efforts to make progress on their pledge to end the North's nuclear program and establish lasting peace.

North Korean leader Kim Jong Un and U.S. President Donald Trump have met three times since June 2018, but there has been no substantive progress in dialogue while the North demanded crushing international sanctions be lifted first. On Saturday, state media said the United States would "pay dearly" for taking issue with the North's human rights record and said Washington's "malicious words" would only aggravate tensions on the Korean Peninsula.

<https://www.reuters.com/article/us-china-japan-southkorea/stalled-talks-with-u-s-not-good-for-north-korea-south-korea-tells-china-idUSKBN1YR01V>

## Third Long March 5 mission to begin soon

*Zhao Lei, China Daily, December 23, 2019*

China will conduct the third mission of its largest and mightiest carrier rocket

Long March 5

Around the end of this year, the China National Space Administration said. It said in a brief statement that the gigantic rocket was moved to its launchpad on Saturday morning at the Wenchang Space Launch Center in the island province of Hainan. Two transport ships operated by the China Satellite Maritime Tracking and Control Department, Yuanwang 21 and Yuanwang 22, carried the rocket to Hainan in October from Tianjin, where it was built. It was

assembled and tested at the Wenchang center during the past two months.

The administration said the rocket will now undergo a functional examination and combined checks before being injected with propellants. The strongest and most technologically sophisticated rocket ever built by China, Long March 5 has a liftoff weight of 869 metric tons, and a maximum carrying capacity of 25 tons to a low-Earth orbit or 14 tons to a geosynchronous transfer orbit. Its payload capacity is about 2.5 times bigger than any other Chinese rocket.

<https://www.chinadaily.com.cn/a/201912/23/WS5dfff6cda310cf3e3557fd6a.html>

## Commercial space industry is soaring

*Zhang Hongpei and Li Xuanmin, Global Times, December 25, 2019*

China's commercial space sector is growing rapidly and its development is reaching a climax this year with domestic players making technology breakthroughs, executives and industry analysts told the Global Times on Wednesday. "For both players with state-owned enterprise backgrounds or private-invested, this year means harvesting the gains" of past efforts, said Huang Zhicheng, an expert in the space industry. The overall atmosphere is very dynamic, Huang told the Global Times.

<http://www.globaltimes.cn/content/1174817.shtml>

## Commercial suborbital carrier rocket launched in China

*Xinhua, December 26, 2019*

A commercial suborbital carrier rocket developed by a private Chinese company was launched from the Jiuquan Satellite Launch Center in northwest China at 4:50 p.m. Wednesday (Beijing Time). The rocket, Tansuo-1, was developed by Space Trek. It completed the whole maneuver flight and fairing separation at high dynamic pressure during the flight.

The rocket can serve purposes of meteorological observation, microgravity testing as well as satellite payload experiments. It was the maiden flight of the first rocket developed by the company. The Chinese government encourages the participation of private enterprises in the space industry. The country had more than 60 private companies in the commercial space industry as of December 2018.

[http://www.xinhuanet.com/english/2019-12/25/c\\_138657406.htm](http://www.xinhuanet.com/english/2019-12/25/c_138657406.htm)

### **China to complete Beidou-3 satellite system in 2020**

*Xinhua, December 27, 2019*

China will finish the construction of the BeiDou-3 Navigation Satellite System (BDS-3), with another two geostationary orbit satellites to be launched before June 2020, said BDS Spokesperson Ran Chengqi on Friday. Friday marks the one year anniversary of China's BDS-3 system providing global service. Ran said at a press conference of the State Council Information Office that with the BDS as the core, a more ubiquitous, integrated and intelligent navigation and timing system with comprehensive national positioning is scheduled to be established by 2035.

China sent 10 BDS satellites into space in 2019. The deployment of the core BDS-3 constellation system has been completed with all of the BDS-3 system's medium earth orbit satellites being networked. With the system's upgraded intelligent operation and maintenance capabilities, the

[http://www.xinhuanet.com/english/2019-12/27/c\\_138661493.htm](http://www.xinhuanet.com/english/2019-12/27/c_138661493.htm)

### **China exports Beidou system products to over 120 countries, regions**

*Xinhua, December 27, 2019*

China has exported its Beidou Navigation Satellite System (BDS) basic products to more than 120 countries and regions, said BDS spokesperson Ran Chengqi Friday. The

BDS has entered into a new era of global service, benefiting ASEAN, South Asia, Eastern Europe, West Asia and Africa in precision farming, digital construction and smart port construction, Ran told a press conference. China has implemented international exchanges and cooperation in the area of satellite navigation systems, according to Ran.

An intergovernmental cooperation agreement on satellite navigation between China and Russia has entered into force, and the China-Russia satellite navigation monitoring and assessment platform has been put into operation. China and the United States have deepened coordination of signal interoperability. China and EU have cooperated in frequency coordination. China has continuously promoted its BDS's compatibility with other navigation systems to benefit global users, Ran said.

[http://www.xinhuanet.com/english/2019-12/27/c\\_138661870.htm](http://www.xinhuanet.com/english/2019-12/27/c_138661870.htm)

### **Roaring rocket lifts satellite into space**

*Zhao Lei, China Daily, December 28, 2019*

China's biggest and most powerful carrier rocket, the Long March 5, kicked off its latest space mission on Friday night in Hainan province. It was carrying the largest satellite ever built domestically. As the launch sequence of the Long March 5-Y3 rocket started at 8: 45 pm, 10 engines

at the bottom of the first core stage, plus four boosters

generated a tremendous combined thrust of more than 1,000 metric tons to lift the gigantic craft from its launchpad at the Wenchang Space Launch Center in the island province. The 57-meter-long rocket, the tallest, strongest and most technologically sophisticated in China's launch vehicle family, then thundered up into the cloudy night sky with a blinding white flash.

It follows the Shijian 18, which was lost

in the failed second flight of a Long March 5. In addition to transporting the satellite to space, the flight is intended to verify the engineering adjustments that were made to improve the rocket's overall design, as well as key technologies to be used in a journey to the moon with the Chang'e 5 probe, according to the China National Space Administration. Another task of Friday's mission is to verify several key satellite technologies. The successful launch sparked a wave of public cheers and celebrations, along with those from within Chinese space circles.

<https://www.chinadaily.com.cn/a/201912/28/WS5e06c220a310cf3e35581368.html>

### **China moves ahead with major science, technology sectors under 2030 goals**

*Global Times, December 29, 2019*

China is moving into the second round of major national science and technology projects aiming for 2030, a former government official said on Saturday. At the fifth China's Manufacturing Power Forum on Saturday, Li Yizhong, former minister of industry and information technology, who is also chairman of the China Federation of Industrial Economics, said that the government has been formulating the medium- and long-term plans for major scientific and technological infrastructure projects for 2030, including quantum communications and artificial intelligence sectors. China approved the project, called the National Medium- and Long-term Plan for Scientific and Technological Development (2006-2020) in 2006. According to Li, the 2006-2020 program has had great success with all 17 projects achieving major breakthroughs, of which nuclear power technology and high-speed railways have become the national cards.

<http://www.globaltimes.cn/content/1175168.shtml>

### **C. Pakistan**

#### **Pakistan Writes to UN, Says India Placed Missiles in Kashmir**

*New York Times, December 19, 2019*

Pakistan's foreign minister said Thursday he has written to the United Nations to warn the world body of what he says are actions by New Delhi to position missile launchers in the Indian-controlled Kashmir.

In the letter Foreign Minister Shah Mahmood Qureshi said he wrote earlier this month he said he fears India plans to launch an attack on Pakistan to divert international attention from human rights violations in Kashmir. The minister did not offer evidence to support his claim of missiles being placed in the disputed Himalayan region. There was no immediate comment from India.

<https://www.nytimes.com/aponline/2019/12/19/world/asia/ap-as-pakistan-india-kashmir.html>

#### **USA-India nexus essentially anti-Pakistan**

*Malik Muhammad Ashraf, The Nation, December 24, 2019*

A few days ago, US Secretary of State Michael Pompeo and Secretary of Defence Mark Esper held bilateral talks with their Indian counterparts, dubbed as two-plus-two ministerial dialogue. and in the joint statement issued at the end of the parleys while reaffirming the growing strategic partnership and working in support of a free, open and inclusive Indo-pacific region, unwarrantedly asserted that the Pakistani territory was being used by the terrorists. The statements also asked Pakistan to take immediate and irreversible action against these networks and prevent its territory from being used in this manner.

The Ministry of Foreign Affairs of Pakistan, reacting to this indiscreet assertion, rightly rejected the statement, terming it as anti-Pakistan. The reality is that the USA-India

nexus is not only designed to promote the objective of the Contain-China policy, but is also essentially anti-Pakistan. The USA and its allies, blinded by their strategic and commercial interests, are showing criminal indifference to the state terrorism by India in Indian-Occupied Kashmir and the ruthless killing spree in the Valley at the hands of the Indian security forces and the Indian action to end the special status of the state which effectively nullifies the UN resolutions on the Kashmir dispute.

They have also kept mum on the export of terrorism to Pakistan by India through the likes of Kulbhushan Jadhav, whose confessional statement and later conviction by the military court present irrefutable evidence of Indian involvement. The conscience of the so-called champions of humanitarian causes and principles enshrined in the UN Charter and the Universal Human Rights Declaration does not seem to have been stirred either by what is happening in Indian-Occupied Kashmir nor by the recent anti-Muslim legislation enacted by the Modi government which has provoked a country-wide protest movement. They have not gone beyond mild rebuke and concern over what is happening.

<https://www.pakistantoday.com.pk/2019/12/24/usa-india-nexus-essentially-anti-pakistan/>

### **Cyber threats to Digital Pakistan**

*Mubeen Ashraf, The Nation, December 31, 2019*

Heavy reliance on computers and the internet has altered the life of a common man in a number of ways. It is perceived that the world which is apparently so large has dwindled to a number of devices and gadgets. The use of technology is a common practice as from communicating through e-mail to carrying out transactions electronically, going to places for study to e-learning and flourishing businesses through e-business, everything comes under one thing. And for now, even governments, militaries, and national security organisations are dependent on computer networks.

This dependency of nation-states on the internet has urged the attention of a number of state and non-state actors to intervene and exploit the vulnerabilities in cyberspace. As cyberspace has become the new place for terrorists and criminals for the glorification of their acts such as recruitment of fellow terrorists, motivating others using several platforms, providing tools for communications and trainings of the potential recruits and broadcasting of illegal and violent content all in real life with anonymity in a much cheaper way.

Knowing the fact that there is a dark side of surfing the internet where criminals, terrorists, pedophiles and hackers can carry out their activities illegally. These activities are carried out in Dark Web, Dark Net or Deep Web where data and information are password locked and where the user is required a special software (TOR in most cases) to operate and where the data is trapped behind pay walls. Taking the advantage of their anonymity, individuals and groups can use cyberspace to threaten and harass citizens, specific groups, communities and even countries as well. The growing use of cyberspace for such illegal and criminal activities has already warned states to look in to the matter with serious concentration.

<https://nation.com.pk/31-Dec-2019/cyber-threats-to-digital-pakistan>

### **D. USA**

#### **U.S. Congress pressures Trump to renew Russia arms control pact**

*Arshad Mohammed, Jonathan Landay, Reuters, December 18, 2019*

U.S. lawmakers of both parties are pressuring the White House to extend the last remaining restraints on U.S. and Russian nuclear weapons deployments by demanding intelligence assessments on the costs of allowing the New START treaty to lapse. The demands, contained in three bills that may be harmonized this week, reflect doubts about whether the Trump administration has done sufficient

analytical work on how China and Russia may respond to the 2010 treaty's expiration in February 2021.

New START restricted the United States and Russia to deploying no more than 1,550 nuclear warheads, the lowest level in decades, and limited the land- and submarine-based missiles and bombers that deliver them. It can be renewed for up to five years if both sides agree. Moscow has offered to immediately extend the treaty. Washington still is considering the issue. U.S. President Donald Trump and his aides have argued that New START does not cover all Russian nuclear weapons and said they want to bring China, which they increasingly view as the primary, long-term threat, into a wider arms control framework.

<https://www.reuters.com/article/us-usa-russia-nuclear/u-s-congress-pressures-trump-to-renew-russia-arms-control-pact-idUSKBN1YL2LY>

### **US regulator approves first SMR site licence**

*World Nuclear News, December 18, 2019*

The US Nuclear Regulatory Commission (NRC) has authorised the issuance of an early site permit (ESP) to Tennessee Valley Authority (TVA) for the potential construction of small modular reactors at its Clinch River site near Oak Ridge, Tennessee. TVA has yet to decide whether to actually construct such reactors at the site and, if so, what technology it would use. An ESP certifies that a site is suitable for the construction of a nuclear power plant from the point of view of site safety, environmental impact and emergency planning, but does not specify the choice of technology. The permit is valid for 10 to 20 years, renewable for an additional 10 to 20 years.

TVA submitted its 8000-page ESP application for the Clinch River site to the NRC in May 2016. The application was for two or more small modular reactor (SMR) modules of up to a combined capacity of 800 MWe at the 935 acre (378 hectare) site near the Department of Energy's Oak Ridge

National Laboratory. The proposed site hosted the former Clinch River Breeder Reactor Project. The NRC accepted the application for regulatory review in December of that year. It was the first SMR-related application of any type to be received by the NRC. The regulator published a final environmental impact statement for the permit in April this year, followed in June by its final safety evaluation report on TVA's application.

<http://world-nuclear-news.org/Articles/US-regulator-approves-first-SMR-site-licence>

### **NRC seeks public comment on SMR regulation**

*World Nuclear News, December 19, 2019*

The US Nuclear Regulatory Commission (NRC) is seeking public comment on proposals to apply risk-based emergency preparedness requirements to small modular reactors (SMRs) and other new technologies. The proposed rule would include a scalable approach for determining the size of the emergency planning zone around such facilities. The NRC's emergency preparedness programme for nuclear power plants has up to now focused on large, light-water reactors. The proposed rule, together with a draft regulatory guide, considers advances in facility design and safety research and their application to future operation of SMRs and other future technologies including non-light water reactors and certain non-power production facilities, the regulator said.

"The alternative requirements and implementing guidance would adopt a risk-informed, performance-based, and technology-inclusive approach. The alternative requirements would include a scalable approach for determining the size of the emergency planning zone around each facility, based on the distance at which possible radiation doses could require protective actions," the NRC said.

<http://world-nuclear-news.org/Articles/NRC-seeks-public-comment-on-SMR-regulation>

## In rare move, U.S. and Iranian envoys talk after U.N. meeting on nuclear deal

*Michelle Nichols, Reuters, December 20, 2019*

Since Washington pulled out of the Iran nuclear deal in May 2018, tensions between the United States and Tehran have risen. But after a contentious U.N. Security Council meeting on compliance with the 2015 accord between world powers and Iran, Ambassador Kelly Craft walked over to talk to Iran's U.N. Ambassador Majid Takht Ravanchi. Ravanchi had spoken about a two-year old girl during his statement to the 15-member council. He said the girl had died in June from a rare disease known as EB and blamed the death on U.S. sanctions.

An official from the U.S. mission to the United Nations said Craft was expressing her condolences to Ravanchi. Iran's U.N. mission spokesman Alireza Miryousefi said they "merely had a short conversation on EB patients affected by sanctions". "It is not out of the ordinary for U.N. diplomats accredited to the U.N. to run into each other, or to have brief encounters, at HQ," Miryousefi tweeted.

<https://www.reuters.com/article/us-iran-usa-un/in-rare-move-u-s-and-iranian-envoys-talk-after-u-n-meeting-on-nuclear-deal-idUSKBN1Y0074>

## U.S. renews waiver on COSCO's Dalian tanker unit hit by Iran sanctions

*Reuters, December 20, 2019*

The Trump administration on Thursday renewed a waiver for companies to wind down transactions with the Dalian unit of a Chinese tanker company on which it had imposed sanctions in September for allegedly transporting Iranian oil. The waiver, good until Feb. 4, 2020, allows activities and transactions "ordinarily incident and necessary to the maintenance or wind down of transactions" including offloading of non-Iranian crude oil involving COSCO's Dalian Shipping Tanker Co, the U.S. Treasury Department said in a release.

The Trump administration reimposed sanctions on Iran's oil exports last year after unilaterally withdrawing from a 2015 deal on Iran's nuclear program that the United States agreed with Tehran and other world powers. The Trump administration's Treasury Department slapped sanctions in late September on four Chinese shipping companies, including COSCO's Dalian tanker unit.

<https://www.reuters.com/article/us-iran-nuclear-usa-cosco/u-s-renews-waiver-on-cosco-dalian-tanker-unit-hit-by-iran-sanctions-idUSKBN1YN2RG>

## U.S. envoy meets second senior China diplomat as North Korea tensions rise

*Reuters, December 20, 2019*

Chinese Vice Foreign Minister Le Yucheng met U.S. special envoy for North Korea Stephen Biegun on Friday, China's foreign ministry said, Biegun's second high-level meeting in Beijing in two days amid growing tension on the Korean peninsula. North Korea has conducted a series of weapons tests in recent weeks and some experts say the reclusive state may be preparing for an intercontinental ballistic missile test soon. Such a test would mark a break from the detente reached with the United States last year, dash any hopes of resuming talks on ending North Korea's nuclear and missile programmes and put the two countries back on a path of confrontation.

Chinese foreign ministry spokesman Geng Shuang, who disclosed the meeting of Le and Biegun during a daily briefing, did not elaborate on what was discussed. He reiterated that China urges the United States and North Korea to resume dialogue and meet each other halfway.

<https://uk.reuters.com/article/uk-northkorea-usa-china-mofa/us-envoy-meets-second-senior-china-diplomat-as-north-korea-tensions-rise-idUKKBN1Y0009>

## USA, Japan need new nuclear, says US Commerce Secretary

*World Nuclear News, December 20, 2019*

Japan and the USA both need new nuclear generating capability to replace ageing and inefficient generating capacity and could work together to achieve this, US Commerce Secretary Wilbur Ross told a bilateral meeting yesterday. Japan would benefit greatly by having a fleet of new, inherently safe reactors, he said. In his speech at the *12th Annual US-Japan Roundtable Conference* held in Washington DC on 18 December, Ross called for a "technological revival" of the nuclear power industry.

"Nuclear is and must remain an essential part of our energy mix long into the future. To make that happen, the United States is working with allies like Japan to assure the efficient licensing and construction of a new generation of inherently safe and economically viable reactors," he said. Ross cited the US administration's support and commitment to revitalising the nuclear industry, highlighting the signature into law of the *Nuclear Energy Innovation and Modernisation Act*, and the *Nuclear Energy Innovation Capabilities Act*, which he said were the first two nuclear-specific pieces of legislation signed into US law since the Atomic Energy Act of 1954. He also spoke of collaboration and cooperation at both federal and corporate levels between Japan and the USA to promote civil nuclear power development.

<http://world-nuclear-news.org/Articles/Ross-US-Japan-need-new-nuclear>

## US builds a force for space wars of the future

*Yashwant Raj, Hindustan Times, December 22, 2019*

The United States officially launched the Space Force on Friday with President Donald Trump signing into law the 2020 defence budget that will fund the newest and the sixth branch of US military, to counter increasing threats chiefly from Russia and China to American assets in space. The US Space Force has been assigned a \$40 billion budget and will be staffed with

16,000 personnel. It will be charged with protecting America's navigation and communications satellites from being jammed, blinded and disabled by adversaries, which also include Iran and North Korea.

"Space is the world's newest warfighting domain," Trump said in an address to troops at airfield before signing the National Defence Appropriation Act (NDAA) 2020 into law. "Among the grave threats to our national security, American superiority in space is absolutely vital. And we're leading, but we're not leading by enough, and very shortly we'll be leading by a lot." "The Space Force will help us deter aggression and control the ultimate high ground," he added.

<https://www.hindustantimes.com/india-news/us-builds-a-force-for-space-wars-of-the-future/story-JXrDLhKOeTKhSMnbptfQpK.html>

## Russia's Lavrov says Trump told Putin U.S. will continue looking for arms treaty solutions: Ifax

*Reuters, December 22, 2019*

Russia's Foreign Minister Sergei Lavrov said on Sunday that U.S. President Donald Trump had sent a short letter about the Intermediate Nuclear Forces (INF) treaty to Russian President Vladimir Putin, the Interfax news agency reported. "U.S. President Donald Trump sent a short letter in which he said that they are ready to continue looking for ways to overcome the problems in our relations," Interfax cited the minister as saying on a TV talk show.

The letter was in response to Putin's offer to introduce a moratorium on the development of missiles banned by the Intermediate Nuclear Forces (INF) treaty, Interfax cited Lavrov as saying. The U.S. formally left the INF treaty with Russia in August after determining that Moscow was violating the treaty and had already deployed one banned type of missile, an accusation the Kremlin denies.

<https://www.reuters.com/article/us-russia-usa-missiles-treaty/russias-lavrov-says-trump-told-putin-u-s-will-continue-looking-for-arms-treaty-solutions-ifax-idUSKBN1YQ0AY>

## **New aircraft to support US radiological emergency response**

*World Nuclear News, December 23, 2019*

The US Department of Energy National Nuclear Security Administration (NNSA) has unveiled three new nuclear incident response aircraft. The King Air 350ER aircraft are equipped with specialised radiation detection systems and will be used to conduct measurements of air and ground contamination following a nuclear or radiological accident or incident, as well as conducting baseline surveys for normal levels of radiation in the environment in preparation for major public events.

The aircraft will be used by teams from NNSA's Aerial Measuring System (AMS), which is based out of Nellis Air Force Base in Las Vegas, Nevada, and Joint Base Andrews, near Washington, DC. The AMS mission is to provide a rapid survey of radiation and contamination following a radiological emergency. It does this by using fixed-wing aircraft to collect information and determine the location of ground contamination, then using helicopters to perform detailed surveys of ground contamination.

NNSA Administrator Lisa Gordon-Hagerty said AMS is a "premier example" of the organisation's dual public safety and national security mission. "AMS aircraft frequently support security preparations for high-profile events such as presidential inaugurations, the Super Bowl, Boston Marathon, and other major public events. Although these deployments are not well-known to the public, they're part of a critical apparatus working behind the scenes to keep the American people safe," she said.

<http://world-nuclear-news.org/Articles/New-aircraft-to-support-US-radiological-emergency>

## **U.S. ready to deal with any North Korean 'Christmas gift': Trump**

*Alexandra Alper, Reuters, December 24, 2019*

U.S. President Donald Trump on Tuesday brushed off North Korea's warning of a "Christmas gift," saying the United States

would "deal with it very successfully," amid U.S. concerns that Pyongyang might be preparing a long-range missile test. China, North Korea's most important backer, meanwhile, urged Washington to take "concrete steps" as soon as possible to implement agreements reached during last year's summit between Trump and North Korea leader Kim Jong Un in Singapore.

Chinese Foreign Minister Wang Yi, in comments relayed on Twitter by the foreign ministry in Beijing, called on North Korea and the United States to work out "a feasible roadmap for establishing a permanent peace regime & realizing complete denuclearization on the (Korean) Peninsula."

<https://www.reuters.com/article/us-northkorea-missiles-usa/u-s-ready-to-deal-with-any-north-korean-christmas-gift-trump-idUSKBN1YS13A>

## **U.S. promises action on any North Korea missile test: White House**

*Doina Chiacu, Reuters, December 29, 2019*

The United States would be very disappointed if North Korea tested a long-range or nuclear missile and would take appropriate action as a leading military and economic power, White House national security adviser Robert O'Brien said on Sunday.

Washington has many "tools in its tool kit" to respond to any such test, O'Brien said in an interview with ABC's "This Week." "We'll reserve judgment but the United States will take action as we do in these situations," he said. "If Kim Jong Un takes that approach we'll be extraordinarily disappointed and we'll demonstrate that disappointment." North Korea has asked Washington to offer a new initiative to iron out differences over Pyongyang's nuclear weapons program. It warned Washington this month that failure to meet its expectations could result in an unwanted "Christmas gift."

<https://www.reuters.com/article/us-northkorea-missiles-usa/u-s-will-take-action-if-north-korea-tests-missiles-white-house-idUSKBN1YX0CM>

## **E. Europe**

### **EU Overcomes Nuclear Divide to Reach Key Green-Finance Deal**

*Alexander Weber, Bloomberg, December 17, 2019*

The European Union agreed on a landmark green-finance regulation, advancing the bloc's push to embed environmental goals in standards for banks, money managers and insurers. EU lawmakers approved an accord on the list of sustainable activities late Monday, following agreement by the bloc's member states earlier in the day. Policymakers had to overcome last-minute divisions over the kinds of technologies that should be eligible to be classified as green, with nuclear-energy proponents, including France, seeking revisions to an earlier version of the proposed rules.

<https://www.bloomberg.com/news/articles/2019-12-16/green-finance-deal-reached-by-eu-states-on-nuclear-compromise>

### **New EU rules agreed on 'green' investments**

*World Nuclear News, December 18, 2019*

A compromise agreement on criteria to be used to determine whether an economic activity is environmentally sustainable has been reached by the European Parliament, European Commission and the European Council. The so-called 'taxonomy regulation' does not explicitly exclude nuclear energy. The European Commission launched its Action Plan on Financing Sustainable Growth in March 2018, and adopted a package of measures two months later. Then, in July, a Technical Experts Group (TEG) on sustainable finance set up by the Commission began assisting it in developing a unified classification system for sustainable economic activities. The TEG published its Taxonomy Technical Report in June this year. Nuclear energy was excluded from the list of sustainable economic activities. However, in September the European Council decided to remain technology neutral in its strategy on financing sustainable growth and the

transition to a low-carbon, resource-efficient economy.

<http://world-nuclear-news.org/Articles/New-EU-rules-agreed-on-green-investments>

### **Bulgaria's nuclear dreams move a step closer to reality**

*Emerging Europe, December 20, 2019*

Bulgaria has shortlisted General Electric (GE) and four other international companies as candidates for a contract to build a new nuclear power plant in the country. Energy Minister Temenuzhka Petkova said on December 19 that along with GE, France's Framatome, Russia's Rosatom, China's CNNC and Korea Hydro and Nuclear Power Company will also be invited to file binding offers to build the 10 billion-euro project. Offers need to be submitted by the end of April 2020.

<https://emerging-europe.com/news/bulgarias-nuclear-dreams-move-a-step-closer-to-reality/>

### **Wind and Solar Farms Are Putting European Nuclear Out of Work**

*Lars Paulsson and William Wilkes, Bloomberg, December 20 2019*

Two nuclear reactors that have served homes and factories in Sweden and Germany for many decades will produce their last electricity by the end of this month. The permanent halt of Vattenfall AB's 44-year-old Ringhals-2 reactor is yet another sign of how the surge in renewable energy has upended traditional energy economics. The Nordic region's biggest utility made the decision not to invest to keep the facility going because of the unit's struggle to break even as power from wind and solar farms flood the European grids and increasingly crowd out traditional power sources.

In Southern Germany's advanced manufacturing heartland, Energie Baden Wuerttemberg AG is preparing to close Philippsburg-2, one of the nation's biggest reactors, which has helped power the car industry's megaplants since mid-1980s.

While its fate was sealed by Chancellor Angela Merkel in the aftermath of the Fukushima nuclear disaster, it probably wouldn't be closing without the nation's unprecedented supply of wind and solar power.

<https://www.bloomberg.com/news/articles/2019-12-20/nuclear-reactors-retiring-in-europe-as-renewables-generate-more>

### Japan Working With Europe to Uphold Nuclear Agreement

*Financial Tribune, December 20, 2019*

Rouhani said Iran appreciates any effort by other countries to help preserve the nuclear deal and guarantee peace and stability in the region and the world. Japan Working With Europe to Uphold Nuclear Agreement. Japanese Prime Minister Shinzo Abe reiterated his support for Iran's 2015 nuclear agreement with six world powers, saying Tokyo has initiated cooperation with the three European signatories to help salvage the fraying deal. He made the statement in a meeting with President Hassan Rouhani in Tokyo on Friday, [President.ir](http://President.ir) reported.

<https://financialtribune.com/articles/national/101310/japan-working-with-europe-to-uphold-nuclear-agreement>

### China, EU Powers Agree to Help Save Iran Nuclear Deal

*Financial Tribune, December 21, 2019*

China and the three European signatories to the 2015 nuclear deal have agreed to enhance cooperation to ensure the implementation of the fraying agreement, according to a top Chinese diplomat. Political directors from France, Germany and Britain visited China and met their Chinese counterpart on Friday to exchange views on the Iranian nuclear issue. Iran has been stepping away from its obligations under the nuclear deal, formally known as the Joint Comprehensive Plan of Action, in response to the United States' unilateral withdrawal and reimposition of sanctions

as well as the other signatories' inability to make up for the American pressure.

<https://financialtribune.com/articles/national/101315/china-eu-powers-agree-to-help-save-iran-nuclear-deal>

### French push for Washington influence and their own 'very special relationship' draws UK suspicion

*Andrew Herrer, Bloomberg, December 29, 2019*

Emmanuel Macron made an early effort to win over Donald Trump, with UK officials discussing ways to counter France's diplomatic drive. British officials have grown concerned by France's attempt to boost its military clout in Washington and are taking steps to ensure the UK remains America's top defence partner, *The Daily Telegraph* has learned. Eyebrows have been raised by what is seen as a concerted French push to portray themselves as America's "oldest ally" and tout their own "very special relationship" with the US. At least one sensitive memo has been circulated among British officials in recent years warning that France is attempting to gain advantage from the change in circumstances that comes with Brexit.

<https://www.telegraph.co.uk/news/2019/12/29/french-push-washington-influence-special-relationship-draws/>

### Iran blasts France for 'interference' over jailed academic

*The Telegraph, December 29, 2019*

Franco-Iranian academic Adelkha Fariba, 60, a well-known expert on Iran and Shiite Islam. Tehran accused Paris on Sunday of "interference" in the case of an Iranian-French academic held in the Islamic republic, saying she is considered an Iranian national and faces security charges. France said on Friday it summoned Iran's ambassador to protest

the imprisonment of Fariba Adelkhah and another academic, Roland Marchal of France, saying their detention was "intolerable". Their imprisonment has added to distrust between Tehran and Paris at a time when French President Emmanuel Macron is seeking to play a leading role in defusing tensions between Iran and its arch-foe the United States.

"The statement by France's foreign ministry regarding an Iranian national is an act of interference and we see their request to have no legal basis," Iran's foreign ministry spokesman Abbas Mousavi said in a statement.

<https://www.telegraph.co.uk/news/2019/12/29/iran-blasts-france-interference-jailed-academic/>

### **Russia warns EU over crumbling Iran nuclear deal**

*Euronews, December 31, 2019*

Iran's nuclear deal with world powers is in danger of "falling apart" without the compliance of the United States and the European Union, Russia's foreign minister warned Monday after meeting with his Iranian counterpart in Moscow. The 2015 deal between Iran and Britain, China, France, Germany, Russia and the United States lifted sanctions on Iran in exchange for limits on its nuclear program. The U.S. withdrew from the accord last year and imposed crippling economic sanctions that block Iran from selling crude oil abroad. "Because of the destructive line that Washington keeps towing, this important achievement of international diplomacy... is in danger of falling apart," Russian Foreign Minister Sergei Lavrov said, adding that "colleagues from the European Union" were not fully complying with the agreement either.

<https://www.euronews.com/2019/12/30/russia-warns-eu-over-crumbling-iran-nuclear-deal>

### **F. Russia**

#### **Russian Strategic Missile Forces to be fully equipped with modern systems by 2024**

*TASS News Agency, December 16, 2019*

The share of modern missile systems in the Russian Strategic Missile Forces (RVSN) will reach 100% by 2024, RSVN Commander Colonel-General Sergey Karakaev told the Krasnaya Zvezda (Red Star) newspaper. "By 2024, the share of modern missile systems will reach 100%, meaning that the Strategic Missile Forces will cross the line after which they will no longer have any obsolete Soviet-produced missile systems," Karakaev said.

He added that RSVN currently have seven types of missile systems. "Among them are four stationary-based systems: Voevoda, Stilet, Topol-M and Yars. The mobile group of missile systems includes Topol, Topol-M and Yars," he explained. "In the nearest future, it is planned to gradually equip all rocket units with new missile systems Yars, Avangard and Sarmat," Karakaev noted.

<https://tass.com/defense/1099597>

#### **Russian Strategic Missile Forces to test-launch 6 ICBMs in 2020**

*TASS News Agency, December 16, 2019*

The Russian Strategic Missile Forces (RVSN) plan to test-launch six intercontinental ballistic missiles (ICBMs) in 2020, RVSN Commander Colonel-General Sergey Karakaev told the Krasnaya Zvezda (Red Star) newspaper. "Six test-launches of ICBMs are planned for 2020, including five from the Plesetsk cosmodrome," Karakaev said. He reminded that in 2019, the RVSN carried out five test-launches of strategic missiles, including three from the Plesetsk cosmodrome and two from the Kapustin Yar training range.

<https://tass.com/defense/1099591>

## Smolensk unit 3 gets licence extension

*World Nuclear News, December 17, 2019*

Russian regulator Rostekhnadzor has issued a 15-year operating licence extension for unit 3 of the Smolensk nuclear power plant, the last of three RBMK-1000 reactors at the site in western Russia. The move means the whole plant has permission to operate for a total of 45 years. The Smolensk plant covers 75% of electricity supply to the region and 13% of all of the country's nuclear power generation. Life-extending modernisation work at unit 3 was completed in March, when the other two units were already set for an extended period of operation of 15 years.

Rosenergoatom, the operator subsidiary of Russian state nuclear corporation Rosatom, said the upgrade work had included "a whole range of scientific, technical and engineering activities". Pavel Lubensky, director of the plant added: "The control systems of power unit No.3 have undergone almost complete updating and technical re-equipment. We carried out complete modernisation, performing thousands of complex operations with the mass replacement of equipment, the introduction of new-generation security systems and much more. Over 2000 kilometres of cable was laid and more than 2000 sets of equipment were installed. All the planned work has been completed efficiently and in full."

<http://world-nuclear-news.org/Articles/Smolensk-unit-3-gets-licence-extension>

## Russia to track Earth-Threatening asteroids from robot-inhabited nuclear-powered polar Moon base

*Russian Times, December 17, 2019*

Moon's southern pole will be a good spot for an observatory that together with space-based telescopes help find dangerous asteroids. Russia plans to build one as part of an ambitious lunar base project. Conquering the moon is on the Russian

space agency's to-do list for the not-so-distant future. Roscosmos is currently working on a comprehensive plan that the Russian government wants to see before allocating any money for it. Part of a permanent Russian base envisioned on the Moon will be given to an observatory that will serve as part of a "global system for tracking asteroid and comet threats," a senior Roscosmos official said in a recent interview.

"The location selected for the base is southern pole of the moon. It has favorable relief and conditions: enough light for solar panels, constantly shadowed craters with ice reserves for fuel and raw material," Aleksandr Bloshenko explained.

<https://www.rt.com/russia/476082-russia-moon-base-asteroids/>

## Russia connects floating plant to grid

*World Nuclear News, December 19, 2019*

The floating nuclear power plant Akademik Lomonosov was today connected to the grid, generating electricity for the first time in the remote Chaun-Bilibino network in Pevek, in Russia's Far East. The achievement followed Russian regulator Rostekhnadzor's provision of an operating licence, as well as permission to connect to the northern electricity grid maintained by Chukotenergo JSC. Connecting the plant to Pevek's heat networks will be completed next year. Akademik Lomonosov is a pilot project and a 'working prototype' for a future fleet of floating nuclear power plants and on-shore installations based on Russian-made small modular reactors (SMRs). These units will be available for deployment to hard-to-reach areas of Russia's North and Far-East, as well as for export.

<http://world-nuclear-news.org/Articles/Russia-connects-floating-plant-to-grid>

## World's First Floating Nuclear Plant Goes Online in Russia – Rosatom

*Moscow Times, December 19, 2019*

The world's first floating nuclear power plant has begun supplying electric power to a remote corner of Russia amid criticisms from environmental activists, the state nuclear company Rosatom announced Thursday. The Akademik Lomonosov arrived in Russia's northernmost town of Pevek in September, three weeks after setting off on a 5,000-kilometer journey through Arctic waters. Greenpeace has voiced safety concerns with Russia's seaborne nuclear plant, calling it the "Chernobyl on ice" and "nuclear Titanic."

The Akademik Lomonosov is set to supply Pevek's estimated population of 100,000 people with energy, Rosatom said. The floating plant's construction costs are unknown, although media reports have estimated its price tag at around \$450 million. Rosatom said it is working on a second floating nuclear-power plant with two 50-megawatt reactors.

<https://www.themoscowtimes.com/2019/12/19/worlds-first-floating-nuclear-plant-goes-online-in-russia-rosatom-a68683>

## Russian heavy nuclear-powered missile cruiser to leave repair dock in 2020

*TASS News Agency, December 20, 2019*

The Sevmash Shipyard will roll out the Project 11442M heavy nuclear-powered missile-carrying cruiser Admiral Nakhimov from the repair dock in 2020, Sevmash CEO Mikhail Budnichenko told TASS on Friday. "Work will be fulfilled on the Project 11442M ship in 2020 in order to move it away from the dock," the chief executive said.

The next stage will involve the ship's further construction at the Shipyard's quay and its preparations for sea trials, he said. "The work aboard the ship is proceeding in accordance with the schedule. After its upgrade, the ship will be outfitted with long-range precision weapons and powerful anti-submarine warfare armament," the chief executive added. In September, Russian

Deputy Defense Minister Alexei Krivoruchko said that the cruiser was 50% ready and was set to be delivered to the Navy in 2022. After its repairs and upgrade, the ship will get the Fort-M and Pantsyr-M air defense systems and the powerful Paket-NK and Otvét anti-submarine warfare armament, he said.

<https://tass.com/defense/1101715>

## Russian latest nuclear-powered submarine gets new control system

*TASS News Agency, December 20, 2019*

The improved Project 885M (Yasen-M) lead nuclear-powered submarine Kazan will differ from the baseline 885 version by its new control system, Sevmash Shipyard CEO Mikhail Budnichenko said on Friday. "The nuclear-powered submarine Kazan is a modernized fourth-generation ship. It differs from the Yasen-class lead nuclear-powered submarine Severodvinsk by its new combat control and integrated sub control systems," the chief executive said in an interview with the Shipyard's journal Zavod on the eve of the enterprise's 80th anniversary that will be celebrated on

The Kazan is "an unusually complex ship," the chief executive said. "That is why, some aspects surfaced in the process of trials that will require additional tests at sea in 2020." "The ship is very good. During the sea trials in 2018 and 2019, it demonstrated excellent maneuvering characteristics. We are continuing to check the nuclear-powered sub at sea: it is necessary to test a large number of new types of armament and military hardware installed on it," the chief executive said.

The Kazan is the first multirole nuclear-powered submarine of the improved Project 885M (Yasen-M). It was laid out at the Sevmash Shipyard in 2009 and floated out on March 31, 2017. The sub is expected to join Russia's Northern Fleet where the lead Yasen-class submarine Severodvinsk is in operation.

<https://tass.com/defense/1101683>

## Russia ready to include Avangard, Sarmat systems in New START after its extension – Lavrov

*TASS News Agency, December 22, 2019*

Russia is prepared to include its Avangard and Sarmat missile systems in New START (Strategic Arms Reduction Treaty) when it is extended, Russian Foreign Minister Sergey Lavrov said in an interview with the Bolshaya Igra (Big Game) program on Russia's television Channel One. "We told the Americans [at a bilateral consultative commission set up under the New START] that we have presented our new systems, including hypersonic weapons. We consider that the Avangard and Sarmat systems are covered by the treaty. We are ready to include these weapons and systems in the current New START (when it is extended)," Lavrov stressed.

"We have already presented Avangard to the Americans and we will be ready to do the same with Sarmat at a certain stage," he noted. However, other systems, which Russian President Vladimir Putin mentioned in his address to the Federal Assembly in March 2018, are not covered by the New START. "We said that on these systems and on new US advanced military systems we are ready to hold a separate parallel dialogue. It should be certainly held as part of a discussion on a whole range of issues, which influences strategic stability," Lavrov stressed.

<https://tass.com/defense/1102179>

## Last of four Kola units gets extended operation licence

*World Nuclear News, December 23, 2019*

Russian regulator Rostekhnadzor has issued a 15-year operating licence extension for unit 2 of the Kola nuclear power plant to 2034. Kola NPP is located 200 km south of Murmansk, on the shore of Lake Imandra. It produces about 60% of the electricity of the Murmansk region. The four Kola units are VVER-440 reactors; 1 and 2 are V-230 models and 3 and 4 are of the V-213 type. Units 1, 3 and 4 have already received licence extensions - to 2033, 2027 and 2029,

respectively. Kola NPP is a branch of Rosenergoatom, Rosatom's operator subsidiary.

Vasily Omelchuk, Kola NPP director, said the licence extension for unit 2 marked the culmination of "many months of work by the entire plant staff, hundreds of contractors, research and design organisations" to upgrade all of the equipment and introduce the most advanced safety systems. Rosatom said the new licence means that the Kola plant, not only guarantees the continued supply of more than half of the electricity needed in the region, but also stimulates the creation of new energy-intensive industries in the Kola Arctic. Funding for the programme to extend the operation of unit 2 amounted to about RUB4.5 billion (USD72.2 million), making it one of biggest investment projects in the Murmansk region, Rosatom said.

<http://world-nuclear-news.org/Articles/Last-of-four-Kola-units-gets-extended-operation-li>

## Putin: Russia developing land-based version of Tsirkon hypersonic missile

*TASS News Agency, December 24, 2019*

Russia is carrying out work on developing the land-based version of the Tsirkon sea-launched hypersonic missile, President Vladimir Putin said at a meeting with the top brass on Tuesday. "Our work on other systems is proceeding according to plan: on the Sarmat enhanced-yield intercontinental ballistic missile, on the Tsirkon hypersonic missile in its land-based and sea-launched versions, on the Poseidon intercontinental-range underwater drone and on the Burevestnik global-range nuclear-powered cruise missile," Putin stated. A unique situation has emerged for the first time in history in the sphere of strategic balance: Russia has for the first time come ahead of the United States in developing the latest armament, the Russian president stressed.

"It was the United States that created the atomic bomb and the Soviet Union was only catching up with it. We also lacked

delivery vehicles, nuclear weapon carriers and strategic aviation: the Soviet Union was only catching up. The first intercontinental missiles were not developed in our country either: the Soviet Union was just catching up. But today a unique situation has emerged: they are catching up with us," the president stated.

<https://tass.com/defense/1103063>

### **Putin: advanced weaponry reaches 82% in Russia's nuclear triad**

*TASS News Agency, December 24, 2019*

Advanced weaponry in Russia's nuclear triad has reached 82%, President Vladimir Putin said on Tuesday. "The share of modern armament in the nuclear triad has reached 82% and the latest Avangard strategic hypersonic missile system with the boost-glide vehicle has started to arrive for the Strategic Missile Force," Putin told a Defense Ministry expanded board meeting. Putin called the Avangard system the weapon of the future capable of overcoming both existing and promising missile defenses.

Summing up the results of the Russian Armed Forces' activity in 2019, the head of state said that many qualitative and systemic changes had taken place over that period. Important steps were taken in improving inter-operability and communications, reconnaissance and electronic warfare systems, first of all, by way of introducing the latest technologies in data collection, transmittance and processing, the Russian president elaborated.

<https://tass.com/defense/1102975>

### **'Deadliest ever': Russia launches new 4th-gen nuclear-powered submarine**

*Russian Times, December 25, 2019*

The advanced Yasen-M nuclear-powered submarine has been launched in Russia. The new ship, which is expected to join the Navy next year, is capable of carrying all existing Russian cruise missiles – and likely more.

The launch ceremony was held at the

Sevmash shipyard in Russia's northwestern city of Severodvinsk on Wednesday. It comes just a few days after the shipyard marked its 80th anniversary – and an event such as this is the best way to mark the occasion, Deputy Director General of Sevmash Sergey Voronko said. Footage of the launch ceremony was released to the general public – and it does not show much, since the new vessel remains top secret. The video only shows the stern of the submarine and its propeller in detail, giving room for speculation.

The new vessel called the Novosibirsk, which is expected to join the ranks of the Russian Navy next year, is the first mass produced submarine of its type. The maiden Yasen-M submarine, the Kazan, is still undergoing naval trials and is expected to join the Navy in 2020 as well. Four more submarines of the type are under construction, and at least two more are expected to be laid down later – presumably next year.

<https://www.rt.com/russia/476812-russia-nuclear-submarine-launched/>

### **Rosatom plans accident-tolerant fuel loading**

*World Nuclear News, December 27, 2019*

The first Russian-made nuclear fuel assemblies with experimental accident-tolerant fuel (ATF) rods for commercial reactors have been manufactured and passed acceptance inspection at Novosibirsk Chemical Concentrates Plant, a fabrication facility of Rosatom's fuel manufacturer subsidiary TVEL. The ATF rods are to be loaded into one of the VVER-1000 units at the Rostov nuclear power plant in western Russia in the first quarter of 2020, TVEL said yesterday.

Each of the three TVS-2M model fuel assemblies contains 12 ATF rods with two variants of cladding material - zirconium alloy with chromium coating or chromium-nickel alloy. TVEL says both options make claddings more heat-resistant. Alexander Ugryumov, vice president for research and development at TVEL, said the company

had met all the milestones of its ATF programme for 2019.

<http://world-nuclear-news.org/Articles/Rosatom-plans-accident-tolerant-fuel-loading>

### **Russia to build five nuclear icebreakers by 2026**

*TASS News Agency, December 27, 2019*

The Baltic Plant (an affiliate of the United Shipbuilding Corporation) will build five nuclear-powered icebreakers for the Northern Sea Route by 2026, Deputy Prime Minister Yuri Borisov said on Friday. "Our country is the only one in the world that has a nuclear-powered fleet, which currently works on the Northern Sea Route. In 2020-2026, five new 60-megawatt icebreakers will be commissioned and begin to be used in this important region, which accounts for our main reserves of oil and gas. The five icebreakers are being built at the Baltic Plant," Borisov told the Rossiya-24 television news channel.

<https://tass.com/defense/1104271>

### **Russia Deploys Hypersonic Weapon, Potentially Renewing Arms Race**

*Julian E. Barnes and David E. Sanger, The New York Times, December 27, 2019*

The Russian military on Friday said it had deployed a hypersonic weapon that flies at superfast speeds and can easily evade American missile defense systems, potentially setting off a new chapter in the long arms race between the world's pre-eminent nuclear powers.

American officials said Friday they have little doubt that the Russians have a working hypersonic weapon — which sits on top of a modified missile and is capable of carrying a nuclear warhead at speeds faster than 3,800 miles per hour.

Moscow has been working on the technology for years and has invested heavily in it, determined to reverse the pattern in the Cold War, when it was often struggling to catch up with American

nuclear weapons systems. If the new system, called "Avangard," works as President Vladimir V. Putin of Russia boasted when he described the weapon a year ago, it would significantly enhance Moscow's already powerful nuclear forces, American officials said.

<https://www.nytimes.com/2019/12/27/us/politics/russia-hypersonic-weapon.html>

### **Russia, China to hold more U.N. talks on lifting North Korea sanctions: diplomats**

*Michelle Nichols, Reuters, December 30, 2019*

U.N. Security Council members are due to meet informally on Monday for a second round of negotiations on a Russian and Chinese proposal to lift a raft of sanctions on North Korea, a move that some diplomats say has little support. China and Russia are convening negotiations a day before North Korean leader Kim Jong Un's deadline for the United States to show flexibility in stalled talks aimed at getting Pyongyang to give up its nuclear weapons program. North Korea has warned the United States could receive an unwanted "Christmas gift" if it fails.

A top White House official said on Sunday that the United States would be very disappointed if North Korea tested a long-range or nuclear missile and would take appropriate action as a leading military and economic power. Russia and China have said they hope lifting some sanctions could help break the deadlock and encourage talks between Washington and Pyongyang. But the United States, France and Britain said now is not the time to consider lifting sanctions. A Security Council resolution needs nine votes in favor and no vetoes by the United States, China, Russia, France and Britain.

<https://www.reuters.com/article/us-northkorea-usa-un/russia-china-to-hold-more-u-n-talks-on-lifting-north-korea-sanctions-diplomats-idUSKBN1YX0LD>

## Russia's Bilibino 2, Novovoronezh 4 get licence extensions

*World Nuclear News, December 30, 2019*

Russian regulator Rostechnadzor has issued operating licence extensions to two more nuclear power units, bringing the total number to 27 since 2001. Unit 2 of Bilibino NPP and unit 4 of Novovoronezh NPP are now licensed to operate until the end of 2025 and 2032, respectively, which is six and 13 years longer than their previous licences.

State nuclear corporation Rosatom noted that extending the operating periods of existing nuclear power units was global practice that enables the continued reliable supply of electricity whilst allowing time to prepare for the construction of replacement capacities. It added that units receiving licence extensions would have had to undergo large-scale upgrade work to demonstrate that a high level of safety was guaranteed.

Such work included, for example, "the addition of a passive cooling system in the form of special hydraulic reservoirs with boron solution, which, if necessary, enters the reactor core and cools it, giving additional time to start the safety systems," Andrey Dementyev, deputy general director of Rosatom's operator subsidiary, Rosenergoatom, said.

<http://world-nuclear-news.org/Articles/Russias-Bilibino-2-Novovoronezh-4-get-licence-exte>

## More nuclear energy for Turkey as Russia starts work on 2nd power unit for Akkuyu plant

*Russian Times, December 30, 2019*

The construction of a new power unit at the Russian-built Akkuyu nuclear power plant (NPP) in Turkey, the first of its kind in the country, is set to start in the first quarter of 2020. "Works at the site have already begun... We may hold an official concrete pouring ceremony by March," Alexey Likhachev, director general of Russian nuclear energy corporation Rosatom, told journalists on Monday.

Pouring concrete at such sites usually marks the official start of construction. In August, Akkuyu Nuclear, a part of Rosatom charged with implementing the construction in Turkey, was granted a general licence, allowing them to start work on the second reactor. The Akkuyu NPP is the largest joint project between Russia and Turkey. The \$20-billion project is fully funded by Russia, while in the future Russian companies are set to have a 51 percent stake in it. The rest will be acquired by third-party investors, according to an agreement the two sides signed in 2010.

<https://www.rt.com/business/477082-russia-turkish-nuclear-plant/>

## West Asia

### G. Iran

## Iran to U.S. Treasury: Sanctions are the war itself

*Tehran Times, December 16, 2019*

The Iranian Foreign Ministry spokesman, in a post on his official Twitter account on Monday, rejected U.S. Treasury Secretary Steven Mnuchin's remarks that sanctions are alternative to war, noting that sanctions are exactly economic war. Seyed Abbas Mousavi's tweet reads, "@stevenmnuchin1 stated, #sanctions are the alternative to war! Truth is: "Sanctions" are the war itself. It is indeed the economic war and worse than that, the #EconomicTerrorism which unfairly targets civilians especially children, the elderly & the sick." CNBC quoted Mnuchin as saying on Saturday that "the reason why we're using sanctions is because they are an important alternative for world military conflicts." Talking at the Doha Forum, Mnuchin also claimed that the U.S. is not weaponizing the dollar.

In an interview with CNN aired on September 24, Foreign Minister Mohammad Javad Zarif said that sanctions were war. "Sanctions are war. Because in a war, usually military targets are chosen. In sanctions, civilians are the

targets. So, it's war. It's more than war," he said. During a speech at the 42nd session of the UN Human Rights Council in September, Esmail Baghaei Hamaneh, Tehran's ambassador and permanent representative to the UN office in Geneva, called the consequences of unilateral sanctions against Iran "crime against humanity".

<https://www.tehrantimes.com/news/443081/Iran-to-U-S-Treasury-Sanctions-are-the-war-itself>

### **Araghchi says Iran's dealings with INSTEX entering its final stage**

*Tehran Times, December 16, 2019*

Iranian Deputy Foreign Minister Abbas Araghchi said on Monday that transactions within INSTEX barter mechanism is entering its final phase. INSTEX - the Instrument in Support of Trade Exchanges - is designed to circumvent U.S. sanctions against trade with Iran by avoiding the use of the dollar. It was introduced by the European trio of France, Germany, and Britain on January 31. "Interaction between INSTEX and the similar Iranian institution is at the final phase," Araghchi told reporters on the sidelines of a conference at the University of Tehran.

He added, "Recently, the two institutions signed a memorandum of understanding and we hope that the first interaction will take place in the coming days." 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/443100/Araghchi-says-Iran-s-dealings-with-INSTEX-entering-its-final>

### **EU chief diplomat: Iran has not violated JCPOA**

*Tehran Times, December 16, 2019*

Josep Borrell, the new EU foreign policy chief, has said Iran is moving within the framework of the JCPOA and has not violated it, IRNA reported on Monday. Borrell also said the 2015 nuclear deal has

benefits for Europe and efforts must be made to preserve it. "The JCPOA is still alive and we make efforts to keep it alive," Borrell said according to a translation of his remarks. He noted that the European Union supports the JCPOA and seeks to preserve it.

"Definitely, preserving the JCPOA has many benefits for us and it is a common foreign policy of the European Union's member states. Common foreign policy means that the majority agree with that, however, there may be some different views," the EU chief diplomat said in an interview with France 24. Borrell said on December 9 that the signatories to the nuclear deal should adopt a united stance to preserve the deal. He also said on December 7 that "collective responsibility" is needed to stop the JCPOA from breaking apart.

<https://www.tehrantimes.com/news/443098/EU-chief-diplomat-Iran-has-not-violated-JCPOA>

### **Paris serious in salvaging Iran nuclear deal: envoy**

*New Delhi, December 17, 2019*

French ambassador to Tehran Philippe Thiebaud has underlined Paris's interest in preserving the 2015 Iran nuclear agreement, also known as the Joint Comprehensive Plan of Action (JCPOA), reaffirming the seriousness and interest of his country and the European Union in maintaining the important agreement. Thiebaud made the remarks in a meeting with Behrouz Kamalvandi, the spokesman of Iran's Atomic Energy Organization (IAEO) on Monday.

During the meeting, the French envoy discussed the latest status of the agreement and expectation of the JCPOA parties to maintain the agreement given Iran's scaling down of its commitments under the deal, Iran Press reported. The two sides also exchanged views on bilateral cooperation in various fields of nuclear science and technology, including fusion and radiopharmaceuticals, and the deepening of relations in the field of

nuclear industry. Washington withdrew from the internationally-endorsed nuclear deal with Iran on May 8, 2018, reimposed the toughest-ever sanctions against the country and started a plan to zero down Tehran's oil sales.

<https://www.tehrantimes.com/news/443133/Paris-serious-in-salvaging-Iran-nuclear-deal-envoy>

### **No deal can survive if there is no balance between gives and takes, Araqchi says of JCPOA**

*Tehran Times, December 17, 2019*

"The message is that we want to save the deal. The purpose is not to kill the deal. Otherwise, we could have withdrawn from the deal right after the U.S. withdrew on May 8, 2018, and nobody would have blamed us because that was in reaction to what the U.S. has done," he told CGTN in an interview published on Tuesday. "But we decided to give diplomacy a chance to save the deal. And now,... we are exercising our right in paragraph 36 of the deal. So, we are still in the deal and are trying to take remedy measures in order to save the deal," he added.

He said, "No deal can survive if there is not a balance between gives and takes. And we have no balance in the deal right now. Iran is fully committed to its obligations up to May this year. But we received nothing. So, what Iran is doing is still trying to restore the balance in the deal, which hasn't happen yet." Araghchi asserts that Iran wouldn't bow to pressure. Negotiating under maximum pressure is tantamount to surrender, Araghchi believes.

<https://www.tehrantimes.com/news/443142/No-deal-can-survive-if-there-is-no-balance-between-gives-and>

### **Iran to continue reducing JCPOA commitments to create a balance: Shamkhani**

*Tehran Times, New Delhi, December 18, 2019*

Ali Shamkhani, secretary of Iran's Supreme National Security Council (SNSC), said on

Wednesday that if the Europeans fail to fulfil their commitments under the 2015 nuclear deal, known as the JCPOA, Iran will have no choice but to continue reducing its commitments to the pact in order to create a balance. During a meeting with Russian Security Council Secretary Nikolai Patrushev on the sidelines of the Regional Security Dialogue on Afghanistan in Tehran, Shamkhani also praised Russia's stance on the nuclear deal.

For his part, Patrushev said that the JCPOA must be implemented and that Iran must enjoy its benefits. Josep Borrell, the new EU foreign policy chief, has said Iran is moving within the framework of the JCPOA and has not violated it, IRNA reported on Monday. Borrell also said the nuclear deal has benefits for Europe and efforts must be made to preserve it. "The JCPOA is still alive and we make efforts to keep it alive," Borrell said, according to a translation of his remarks. He noted that the European Union supports the JCPOA and seeks to preserve it.

<https://www.tehrantimes.com/news/443170/Iran-to-continue-reducing-JCPOA-commitments-to-create-a-balance>

### **Iran is testing new uranium enrichment centrifuges, President Hassan Rouhani says**

*Joshua Berlinger and Mallory Gafas*

*CNN, December 19, 2019*

Iran President Hassan Rouhani said his country is working on the development of new, advanced uranium enrichment centrifuges, according to Iranian state-run news agency IRNA, a move that appears to violate the landmark nuclear agreement Tehran signed with world powers in 2015. Rouhani said at a meeting with Iranian expatriates in the Malaysian capital of Kuala Lumpur on Wednesday that the country is now testing IR-9 centrifuges, which convert mined uranium into fuel for nuclear power. Iran has repeatedly denied it has any ambitions of building a nuclear weapon. Iran had agreed to strict limits on uranium enrichment as part of

the 2015 nuclear deal, known as the Joint Comprehensive Plan of Action (JCPOA).

<https://edition.cnn.com/2019/12/19/middleeast/iran-nuclear-enrichment-rouhani-intl-hnk/index.html>

### **Iran and US both undermining nuclear deal says UN political affairs chief**

*UN News, December 19, 2019*

Rosemary DiCarlo was briefing the Security Council on nuclear non-proliferation, and resolution 2231 that specifically backed the Joint Comprehensive Plan of Action (JCPOA), agreed in July 2015, by China, France, Germany, Russia, The United Kingdom, the United States, the European Union, and Iran (see fact box below for full details). She said the “full and effective implementation” of the Plan was “key to ensuring the peaceful nature of Iran’s nuclear programme and to secure tangible economic benefit to the Iranian people.” Ms. DiCarlo said the US decision to pull out of the deal was a source of “regret” as well as “the recent steps taken by Iran to reduce its nuclear-related commitments”.

<https://news.un.org/en/story/2019/12/1054071>

### **Iran president says country testing new advanced centrifuges**

*Amir Vahdat, AP News, December 19, 2019*

Iran’s President Hassan Rouhani said his country’s nuclear experts are testing a new type of advanced centrifuges, remarks likely meant to rally support for the Iranian leader as his nation struggles under crushing U.S. sanctions. Rouhani spoke during a meeting Wednesday with Iranian expatriates in Kuala Lumpur, Malaysia, where he also used an Islamic conference on Thursday as a platform to decry American sanctions against Iran.

“We have had great achievements and today, Iranian new IR-6 centrifuges are working and models IR-9 are currently being tested,” the state-run IRNA news agency quoted Rouhani as telling the Iranian

expats. Iran was gripped by several days of violent protests in November amid anger over a sharp hike in gasoline prices following U.S. sanctions after Washington withdrew last year from Iran’s 2015 nuclear deal with world powers. Rouhani told the Islamic conference that the U.S. sought to cripple Iran with the “heaviest sanctions” but the country’s economy is on the mend and moving away from reliance on oil.

<https://apnews.com/6b6541184b35ded84c0513b50b234f34>

### **U.S. sanctions are ‘collective punishment’, Iranian diplomat says**

*Tehran Times, December 20, 2019*

Majid Takht-Ravanchi, Iran’s ambassador to the United Nations, said on Thursday that the United States’ sanctions against Iran are illegitimate, immoral, inhumane and cruel. “What the U.S. sanctions are intended to do is ‘collective punishment’ of the general public, which is prohibited even in armed conflicts,” Majid Takht-Ravanchi said in a statement read in the UN Security Council meeting. He said sanctions are “targeting the most vulnerable groups of ordinary people in order to create discontent within the society.”

Following is the full text of the statement issued on implementation of Security Council resolution 2231, which endorsed the 2015 nuclear deal: The Security Council is once again considering the implementation of one of its most important resolutions, namely resolution 2231, which is being vehemently violated by a permanent member of the Council, an unprecedented development in the history of the UN. Here, I wish to express my appreciation to all fourteen members of the Council for lending their valuable support to the JCPOA.

<https://www.tehrantimes.com/news/443208/U-S-sanctions-are-collective-punishment-Iranian-diplomat>

## In rare move, U.S. and Iranian envoys talk after U.N. meeting on nuclear deal

*Michelle Nichols, Reuters, December 20, 2019*

The U.S. Ambassador to the United Nations made a rare compassionate public gesture toward her Iranian counterpart in the Security Council chamber on Thursday, expressing condolences over the death of an Iranian toddler. Since Washington pulled out of the Iran nuclear deal in May 2018, tensions between the United States and Tehran have risen.

But after a contentious U.N. Security Council meeting on compliance with the 2015 accord between world powers and Iran, Ambassador Kelly Craft walked over to talk to Iran's U.N. Ambassador Majid Takht Ravanchi. Ravanchi had spoken about a two-year old girl during his statement to the 15-member council. He said the girl had died in June from a rare disease known as EB and blamed the death on U.S. sanctions.

<https://in.reuters.com/article/iran-usa-un/in-rare-move-u-s-and-iranian-envoys-talk-after-u-n-meeting-on-nuclear-deal-idINKBN1YO0SB>

## UN says US withdrawal from nuclear deal is 'source of regret'

*Tehran Times, December 20, 2019*

"Certain actions taken by the United States, since its withdrawal from the Plan, are contrary to the goals of the Plan", she said, addressing the Security Council meeting on nuclear non-proliferation, and resolution 2231, the UN website reported. Summing up the importance of the JCPOA, DiCarlo said that António Guterres, the UN secretary general, considers the full implementation of resolution 2231, by all member states "as an integral component of our collective conflict prevention efforts."

Resolution 2231 confirmed the nuclear deal between Iran, the five permanent members of the UN Security Council, Germany, and the European Union. She added that it was the secretary-general's wish for all countries "to avoid confrontational actions and explore avenues for dialogue and

cooperation in the interest of international peace and security."

U.S. President Donald Trump quit the nuclear deal in May 2018 and introduced the harshest ever sanctions on Iran as part of his administration's "maximum pressure" campaign against Iran. Under the JCPOA, Iran promised to put limits on its nuclear activities in exchange for the termination of economic and financial sanctions.

<https://www.tehrantimes.com/news/443209/UN-says-US-withdrawal-from-nuclear-deal-is-source-of-regret>

## Iran may not take fifth JCPOA step if INSTEX goes into effect: senior MP

*Tehran Times, December 21, 2019*

Chairman of the Iranian Parliament National Security and Foreign Policy Commission Mojtaba Zonnour has said that if the EU-proposed INSTEX is operationalized, Tehran may reconsider taking the fifth step in reducing its commitments to the nuclear deal. "In case the signatories to the JCPOA, especially Europe, operationalize INSTEX and sanctions are removed, the fifth step of reducing commitments to the JCPOA may not be taken," Zonnour told Mehr News Agency on Thursday.

"Although, we predict that the European countries will not take any specific and influential measure to preserve the JCPOA," he added. On the U.S. anniversary of the U.S. withdrawal from the JCPOA, Tehran announced it would take steps back from its JCPOA obligations every 60-day unless the other signatories to the deal abide by their commitments under the accord. As the latest step (the fourth step) to scale back JCPOA commitments, Iran injected gas into IR6 centrifuges and resumed uranium enrichment at Fordow nuclear facility in early November.

<https://www.tehrantimes.com/news/443274/Iran-may-not-take-fifth-JCPOA-step-if-INSTEX-goes-into-effect>

## 'China, Europe support implementation of nuclear deal'

*Tehran Times, December 21, 2019*

"China and Europe, as two major forces for multilateralism, agreed to strengthen communication and coordination, carry out the consensus reached at the Foreign Ministers' Meeting on the Iranian Nuclear Issue in September, and ensure the full and effective implementation of the JCPOA," Geng told a press conference, according to the Chinese Foreign Ministry website.

He added, "Both sides support diplomatic mediation efforts and stand for resolving compliance issues through consultation within the JCPOA Joint Commission. We stand ready to work for the easing of tensions to uphold the international nuclear non-proliferation regime as well as peace and stability in the Middle East." Ali Shamkhani, secretary of Iran's Supreme National Security Council (SNSC), said on Wednesday that if the Europeans fail to fulfil their commitments under the nuclear deal, Iran will have no choice but to continue reducing its commitments to the pact in order to create a balance. Josep Borrell, the new EU foreign policy chief, said on December 7 that "collective responsibility" is needed to stop the JCPOA from breaking apart.

<https://www.tehrantimes.com/news/443268/China-Europe-support-implementation-of-nuclear-deal>

## Iran installs Arak heavy water reactor's secondary circuit

*Tehran Times, December 23, 2019*

In a ceremony on Monday, the Atomic Energy Organization of Iran (AEOI) started the first stage of installing equipment of the Arak heavy water reactor, including secondary circuit. Ali Akbar Salehi, the AEOI chief, who had attended the ceremony, said, "One of the largest achievements of Iran in nuclear technology is planning and building Arak's Khondab research site. Our young scientists began a way 20 years ago and we witness that giant

strides have been taken thus far in this regard."

He added, "If we divide the reactor's system into 50 parts, out of which 20 parts have been completed so far, 12 more parts are under completion and preliminary works on the remaining 12 parts have been started." "Today, we make operational a remarkable part of the reactor titled the secondary circuit which is different from the primary part," Salehi stated. "The primary circuit is tasked with removing heat from the heart of the reactor, and the secondary circuit is responsible for transferring the heat from the primary circuit to cooling towers and finally to the outside environment," explained Salehi, a nuclear physicist.

<https://www.tehrantimes.com/news/443343/Iran-installs-Arak-heavy-water-reactor-s-secondary-circuit>

## Iran unveils development at Arak reactor in face of U.S. pressure

*Reuters, December 23, 2019*

Iran unveiled a redevelopment of part of its Arak heavy water reactor on Monday - a move that did not breach international restrictions on its nuclear work but showed it is developing the sector in the face of U.S. pressure. Iranian state media said technicians switched on a secondary circuit at Arak, a plant built to produce the heavy water used as a moderator to slow down reactions in the core of nuclear reactors.

"Today we are ... starting a noteworthy section of the reactor," the head of Iran's atomic agency, Ali Akbar Salehi, said in remarks broadcast live on state TV. Tehran has been reactivating parts of its nuclear program in protest at the United States' withdrawal last year from an international deal meant to limit the Islamic Republic's ability to develop a nuclear bomb.

<https://www.reuters.com/article/us-iran-nuclear-arak/iran-unveils-development-at-arak-reactor-in-face-of-u-s-pressure-idUSKBN1YR0KA>

## **Nuclear deal is in trouble: British diplomat**

*Tehran Times, December 24, 2019*

"I had in Moscow last week our political director, Richard Moore. Richard is the foreign secretary's top advisor on matters of international security. He was here with his European colleagues, French and German colleagues, to talk with their Russian colleague, Sergei Ryabkov, about the Iran nuclear deal. The reasons you well know. The Iran nuclear deal is in trouble," he told Interfax in an interview published on Monday. "As the leading members of the international community – we [Russian and the UK] are both permanent members of the UN Security Council – we have a special responsibility here to work together to strengthen the international nuclear non-proliferation arrangements," he said.

During a meeting with Russian Security Council Secretary Nikolai Patrushev on the sidelines of the Regional Security Dialogue on Afghanistan in Tehran on December 18, Ali Shamkhani, secretary of Iran's Supreme National Security Council (SNSC), said that if the Europeans fail to fulfil their commitments under the nuclear deal, Iran will have no choice but to continue reducing its commitments to the pact in order to create a balance.

<https://www.tehrantimes.com/news/443393/Nuclear-deal-is-in-trouble-British-diplomat>

## **Tel Aviv repeats allegations against Iran's peaceful nuclear and defense missile programs**

*Tehran Times, December 29, 2019*

In an address to Mossad's agents, Cohen said the Islamic Republic is "at the top of the Mossad's work priorities," Press TV reported on Saturday. "All Iranian nuclear, long-range missile and precision missile activities," as well as its regional role "are a challenge to the security of" Israel, he added. The remarks came one day after Israeli military chief of staff Lieutenant General Aviv Kochavi said Tel Aviv is

preparing for "limited confrontation" with Tehran.

"There is a possibility that we will face a limited confrontation with Iran and we are preparing for it," he said, stressing that it would have been better had Israel not been the only one engaged in the anti-Iran campaign. "We will not allow Iran to entrench itself in Syria, or in Iraq," he added. In August, Iranian Defense Minister Amir Hatami underlined his country's astonishing progress in producing different types of weapons and missiles, saying that Iran was able to protect its security by conventional warheads.

<https://www.tehrantimes.com/news/443543/Tel-Aviv-repeats-allegations-against-Iran-s-peaceful-nuclear>

## **Zarif says it is unlikely Europe to quit nuclear deal**

*Tehran Times, December 31, 2019*

Foreign Minister Mohammad Javad Zarif has told IRNA in an interview published on Tuesday that it is unlikely that Europe withdraw from the 2015 nuclear deal, officially known as the Joint Comprehensive Plan of Action. However, the chief diplomat said Europeans are unable act independently from Washington in regard to the JCPOA. "Unfortunately, the Europeans could not take practical actions on the JCPOA independent from the United States," Zarif remarked. Zarif added, "It is essential for the Europeans to take practical actions on JCPOA."

He noted that Iran will reverse its decision to reduce commitments under the deal if Europeans take practical actions. U.S. President Donald Trump quit the nuclear deal in May 2018 and introduced the harshest ever sanctions on Iran as part of his administration's "maximum pressure" campaign against Iran.

<https://www.tehrantimes.com/news/443630/Zarif-says-it-is-unlikely-Europe-to-quit-nuclear-deal>

## Iran in worst days of sanctions: Rouhani

*Tehran Times, December 31, 2019*

Iranian President Hassan Rouhani said on Tuesday that the country is passing “the worst days” of sanctions imposed by the U.S., praising the people for their resistance and patience. Addressing a ceremony arranged to inaugurate subway train in the western part of Alborz province, Rouhani hailed people for their firm stance and resistance in hard days of sanctions.

Pointing to the consequences of sanctions on the country, he said, “If we were not engaged in an imposed-economic war, we could enjoy a sum of \$200 billion out of which \$100 billion was income of crude export. Now we do not have that hefty amount of money.” “We are managing the country without that \$200 billion income. People are not living comfortably, however, we (the government) try as much as we can,” he went on to say. Elsewhere in his remarks, Rouhani said, “People should expect the government to understand (the problems), to draft required plan (to solve the problem) and try (to implement its plan) as much as it can. If the government does not manage to do its duty it should be criticized.”

<https://www.tehrantimes.com/news/443611/Iran-in-worst-days-of-sanctions-Rouhani>

### H. Israel

## Israel determined to target Iranian positions in Syria

*Yusuf Selman Ýnanç, Daily Sabah, December 23, 2019*

The Israeli army targeted Syrian and Iranian positions near Damascus, the Israeli media reported; while the Syrian state, in a statement, said missiles fired were intercepted. Though Israeli army officials remained silent and refused to issue a statement, the attacks show that Israel is determined to keep its frontiers clear of Iran and its proxies.

According to reports released Sunday night, the Israeli army fired missiles into Syrian

territory, targeting specific Syrian and Iranian positions. One of the missiles landed in a populated area in one of Damascus’ suburbs. No casualties were reported. Moreover, Israeli jets were heard in Lebanon’s skies during the night, indicating that the Israeli army may have been planning to carry out aerial attacks as well. The Syrian state television station SANA claimed that the Syrian regime successfully intercepted the missiles, downing one. Israel’s daily Haaretz reported that “four cruise missiles were believed to have been launched across the coast through Lebanese airspace toward Syria.” The Britain-based Syrian Observatory for Human Rights, an opposition war monitoring group that has observers across the country, said the missile attacks targeted Iranian and Syrian positions near Damascus, namely near the Israeli-occupied territories.

<https://www.dailysabah.com/mideast/2019/12/23/israel-determined-to-target-iranian-positions-in-syria>

### I. Turkey

## Turkey is going nuclear by 2030: Part 2

*Mehmet Ödütçü, Hurriyet Daily, December 17, 2019*

Currently, the Mersin Akkuyu project undertaken with Russia remains Turkey’s sole concrete “nuclear energy game” in town. This does not mean that the Akkuyu project will have a smooth path towards the 2023 target and beyond. The government presents nuclear energy as cheap, sustainable and environmentally friendly. It is also portrayed by many as a powerful way to diversify the country’s energy portfolio while at the same time reducing energy dependence and spilling over to the civilian economy.

However, as a country, which had experienced the consequences of Chernobyl disaster in 1986, it is not easy to convince people completely of the benefits of a nuclear plant within the borders. In the public debate, there is no shortage of prejudice, misperception and

ideological preferences for a variety of reasons, including public opposition, high capital cost and financing difficulties, and insufficient governance and management capacity on the part of the Turkish state agencies. Perhaps, the biggest concern is the lack of an independent nuclear regulator and a “safety culture” in state institutions that is commensurate with the risks inherent in nuclear operations. Public consultation and dispute settlement mechanisms does not exist yet. Political concerns and bureaucratic interests might be at play instead of technical assessments of supply and demand.

<http://www.hurriyetdailynews.com/turkey-is-going-nuclear-by-2030-part-2-149929>

### **Turkey, Israel gas cooperation lucrative for capitalizing on East Med resources**

*Elif Binici Er°en, Daily Sabah, December 17, 2019*

The reports also suggested that the Israeli officials welcomed the idea of initiating negotiations for the Turkish proposal to build a gas pipeline from Israeli fields to deliver the gas to Europe. “It is good to see a positive media discourse emerge on potential cooperation between Israel and Turkey. For a long while, we mostly heard about negative developments in ties,” Dr. Nimrod Goren, the founder and head of Mitvim – the Israeli Institute for Regional Foreign Policies, told Daily Sabah, commenting on the recent reports. However, Goren remained cautious of an immediate recovery or quick rapprochement between the two countries.

In June 2016, Israeli Energy Minister Yuval Steinitz announced a reconciliation agreement between Ankara and Tel Aviv after six years of strained bilateral relations following the Mavi Marmara incident in 2010. While both parties endeavored to keep the détente and resorted to energy diplomacy as an effective instrument at the time, the changing dynamics of regional politics, Israel’s choices of energy partners, moves to exclude Turkey and the Turkish Republic of Northern Cyprus (TRNC) from the share of hydrocarbon resources around

the island of Cyprus, and the institution of a framework agreement on the EastMed gas pipeline have greatly hampered the efforts.

<https://www.dailysabah.com/energy/2019/12/17/turkey-israel-gas-cooperation-lucrative-for-capitalizing-on-east-med-resources>

### **Turkey accuses US Congress of ‘hostile’ behaviour**

*Laura Pitel, Financial Times, December 18, 2019*

Turkey has accused the US Congress of “hostile” behaviour after senators passed punitive measures against Ankara, underscoring the growing tensions between the two Nato members. Ankara claimed on Wednesday that members of Congress were “acting under the influence of anti-Turkish circles” after they approved the National Defense Authorization Act (NDAA), a sprawling military bill that included provisions intended to punish Turkey for its growing closeness with Russia — and for a simmering dispute with Cyprus over natural gas reserves in the eastern Mediterranean.

“The language of threats and sanctions will never dissuade Turkey from resolutely taking steps to ensure its national security,” the Turkish foreign ministry said in a statement. “No one should doubt that necessary measures will be taken against these initiatives targeting Turkey.” The sprawling \$738bn defence bill, which was approved by the US Senate on Tuesday and is expected to be signed into law by president Donald Trump shortly, renewed a decision to exclude Turkey from the US-led F-35 fighter jet programme — a retaliatory move in response to Ankara’s purchase of a Russian-made S-400 air defence system.

<https://www.ft.com/content/79feb8c0-2183-11ea-b8a1-584213ee7b2b>

## Turkey solidified regional presence with East Med move

*The Daily Sabah, December 19, 2019*

Turkey's recent energy politics in the Eastern Mediterranean have strengthened its presence in the region, experts on energy said. Amid deepened conflicts between countries in the region over resources, the issue of maritime borders in the Eastern Mediterranean has been at the top of many state's agendas. "This step that came following the cross-border operation, has strengthened Turkey's presence in the region. The recent policies and strategies have shown that Turkey also has a say in the region," Levent Ayдын, a professor on Energy at Ankara Social Sciences University said at a panel on energy in the Eastern Mediterranean, organized by the Institute of Strategic Thinking (SDE).

Turkey has recently sealed a deal with Libya to secure its rights in the Mediterranean while preventing any fait accompli action by other states in the region and to pursue its interests regarding natural resources in the Eastern Mediterranean. Furthermore, as a guarantor country, Turkey is also seeking to protect the rights of the the Turkish Republic of Northern Cyprus (TRNC).

<https://www.dailysabah.com/politics/2019/12/19/turkey-solidified-regional-presence-with-east-med-move-1576780942>

## Highlights of Turkish energy market in 2019

*Ebru Sengul, Anadolu Agency, December 27, 2019*

The start of new drilling operations in the Eastern Mediterranean, the completion of the TurkStream pipeline project, the finalization of the laying of the foundation for the first reactor of the Akkuyu Nuclear Power Plant, the European leg of the Trans Anatolian Natural Gas Pipeline (TANAP) and the record high electricity generation from renewable and local resources marked the top news stories in Turkey's energy sector in 2019. Turkey's exploration and drilling activities in the Eastern Mediterranean have expanded to a great

extent in 2019. The country sent a second vessel, Yavuz, to the East Mediterranean Sea on June 20 to begin hydrocarbon exploration off the coast of Cyprus.

During the year, ongoing efforts to find common ground in sharing the East Mediterranean reserves between all concerned actors, namely Turkey, the Turkish Republic of North Cyprus (TRNC), and the Greek Cypriot Administration failed. On July 13, the TRNC President Mustafa Akinci via the United Nations extended the hand of cooperation to explore hydrocarbon resources as equal partners and share the income equally with the Greek Cypriot administration leader Nicos Anastasiades. Three days later, however, the Greek Cypriot party leaders rejected this proposal. In response, the Turkish Foreign Ministry clarified its stance in a statement saying "it is a vain expectation for those who think that Turkey will bow to threats and back down on its rights in the Eastern Mediterranean."

<https://www.aa.com.tr/en/economy/highlights-of-turkish-energy-market-in-2019/1685141>

## Akkuyu NPP signs coolant equipment agreement with Russian, German firms

*The Daily Sabah, December 29, 2019*

Turkey has signed an agreement to obtain coolant system equipment for turbine installments at the country's first nuclear power plant in Akkuyu, the Russian State Nuclear Energy Corporation (Rosatom) confirmed Saturday. To supply equipment for systems that will provide cooling water for turbine capacitors, Rosatom's energy engineering division Atomenergomash, Russian firm NPO TsNIITMASH and Germany's Taprogge GmbH signed a deal with Akkuyu nuclear power plant (NPP). Atomenergomash, which manufactures reactor equipment for nuclear power plants in India, Bangladesh, China and Russia, will supply machinery equipment for Akkuyu's four reactors. An intergovernmental agreement was signed between Russia and Turkey in May 2010

for the Akkuyu NPP that will consist of four VVER-1200 power units with a total installed capacity of 4,800 megawatts.

<https://www.dailysabah.com/energy/2019/12/29/akkuyu-npp-signs-coolant-equipment-agreement-with-russian-german-firms>

## Second unit in Akkuyu nuke plant to begin construction in early 2020

*Daily Sabah, December 30, 2019*

The construction of the second unit of Turkey's first nuclear power plant Akkuyu may start in the first quarter of 2020, Russia's atomic energy corporation Rosatom's Director General Alexey Likhachev said. "We may hold an official concrete pouring ceremony in March 2020," Likhachev said during a press conference in Moscow, and added that the preliminary works at the site have already begun. Likhachev said that Titan-2 IC Yçtas, a joint venture between Concern Titan-2 JSC and the Turkish construction company IC Yçtas, is to carry out the construction of the plant.

"We created an alliance with Turkey's IC Yçtas and Concern Titan-2, which is a part of Rosatom. This alliance gives us hope for the successful implementation of the project," Likhachev said. An intergovernmental agreement was signed between Turkey and Russia in May 2010 for Akkuyu NPP, the first nuclear plant of Turkey that will have four VVER-1200 power reactors with a total installed capacity of 4,800 megawatts.

<https://www.dailysabah.com/energy/2019/12/30/second-unit-in-akkuyu-nuke-plant-to-begin-construction-in-early-2020>

### **East Asia**

#### **J. Japan**

## Contractors want 70 billion yen more for safety at nuclear plant

*Takashi Ichida, Asahi Shimbun, December 17, 2019*

Costs to safeguard the Tokai No. 2 nuclear plant here will run at least 70 billion yen (\$642 million) more than the plant operator's

estimate, raising the likelihood that consumers will get stuck covering the difference through their power bills. Japan Atomic Power Co. (JAPC) is seeking to restart the plant, idled since the 2011 Fukushima nuclear disaster, as soon as possible to secure much-needed revenue by selling power from it to electric utilities.

The plant operator has been negotiating with leading general contractors over the cost of work to increase safety at the single-reactor plant along the coast of Ibaraki Prefecture. It aims to ink contracts for the work by March 2020. But the difference over the cost between the two sides has rarely narrowed. Construction of a 20-meter-tall seawall and an emergency facility to protect the plant from possible tsunami and other natural disasters are among the protective measures scheduled. The ballooning price tag is blamed on a spike in the cost of civil engineering materials, machine tools and workers, according to officials familiar with the matter. The plant operator urged contractors to rethink their estimates, but they refused, maintaining that the higher price was inevitable in order to complete the project on time. With JAPC's self-imposed March deadline to conclude contracts fast approaching, industry analysts say the operator will likely give in to the contractors' demands.

<http://www.asahi.com/ajw/articles/AJ201912170067.html>

## Calls grow to preserve factory that survived atomic bombing

*Sonoko Miyazaki, Asahi Shimbun, December 19, 2019*

A former Imperial Japanese Army clothing factory that emerged more or less intact after the 1945 atomic bombing of this city is due to be torn down unless authorities can be persuaded to preserve the historic structure. Mayu Seto, who works with Fukuoka, submitted about 12,000 signatures collected over the first five days to the prefectural government on Dec. 16. The online campaign will continue.

The factory is one of the largest structures

left standing in Hiroshima after the nuclear attack. It is also one of the oldest reinforced concrete structures in Japan. Completed in 1913, the facility produced military uniforms and boots for Japanese troops. The structure, situated just 2.7 kilometers from ground zero, served as an aid station in the aftermath of the atomic bombing. The factory often features in wartime accounts given by hibakusha atomic bomb survivors.

<http://www.asahi.com/ajw/articles/AJ201912190001.html>

### **Severed section of JR Joban Line in Fukushima to reopen in March**

*Shoko Rikimaru*

*Asahi Shimbun, December 19, 2019*

A disrupted section of the JR Joban Line near the beleaguered Fukushima nuclear plant is expected to reopen March 14, bringing the entire line back in service for the first time in nine years. A test run to check signal lights, rails and crossings started in Fukushima Prefecture Dec. 18. As part of the test, a five-car train arrived around 10:20 a.m. at the newly built Futaba Station, about 4 kilometers northwest of the plant. The Fukushima No. 1 nuclear power plant suffered a triple meltdown following the Great East Japan Earthquake and tsunami in March 2011, with residents in wide areas ordered to evacuate.

The tests will continue through Dec. 20, with the train making two round trips a day between Tomioka and Namie, the 20.8-kilometer section of the line that has remained out of service. If service in the section is resumed, the Joban Line will connect Nippori in Tokyo to Iwanuma in Miyagi Prefecture, covering about 344 km.

<http://www.asahi.com/ajw/articles/AJ201912190048.html>

### **Japan briefs Iran on plan to send forces to Middle East**

*Kiyoshi Takenaka, Reuters, December 20, 2019*

Japanese Prime Minister Shinzo Abe on Friday briefed Iranian President Hassan

Rouhani on Tokyo's plan to send naval forces to the Middle East to protect Japanese vessels, a Japanese official said. Rouhani said in response that he understood Japan's intention to contribute to navigational safety, the official told a media briefing after the two leaders met in Tokyo. "I'm highly concerned about tensions running high in the Middle East," Abe told Rouhani at the start of the meeting. Friction between Tehran and Washington has increased since last year when U.S. President Donald Trump pulled the United States out of Tehran's 2015 nuclear deal with six nations and re-imposed sanctions on the country, crippling its economy.

Japan, a U.S. ally maintaining friendly ties with Iran, is looking to launch its own operation rather than joining a U.S.-led mission to protect shipping in the region. Local media have said the plan will be approved by Abe's cabinet as soon as next week. In the Tokyo meeting, Abe asked Rouhani to stick to commitments made in the landmark 2015 nuclear agreement and said Japan would do what it can to ensure stability in the Middle East. In turn, Rouhani asked Abe to work with other countries to help keep the nuclear deal alive. "I hope Japan and other countries in the world will work hard to help keep the nuclear agreement in place." In response to re-imposed sanctions, Iran has gradually scaled back its commitments to the deal this year.

<https://www.reuters.com/article/us-japan-iran-abe/japan-briefs-iran-on-plan-to-send-forces-to-middle-east-idUSKBN1YO10W>

### **Government proposes release of Fukushima water to sea or air**

*Mari Yamaguchi, AP News, December 23, 2019*

Japan's economy and industry ministry proposed on Monday the gradual release or evaporation of massive amounts of treated but still radioactive water being stored at the tsunami-wrecked Fukushima nuclear plant. The proposal to a group of experts is the first time the ministry has

narrowed down the various options available to those choices. It is meant to solve a growing problem for the plant's operator as storage space for the water runs out, despite fears of a backlash from the public. The draft proposal will be discussed further. Nearly nine years after the 2011 meltdowns of three reactor cores at the Fukushima Dai-ichi Nuclear Plant, radioactive water continues to accumulate as water used to keep the cores cool leaks from the damaged reactors and is stored in tanks so it won't escape into the ocean or elsewhere.

[https://apnews.com/e60f93b7f7de2ff7b5b015fb5167dd9b\\_](https://apnews.com/e60f93b7f7de2ff7b5b015fb5167dd9b_)

### **Japan's NHK delivers erroneous North Korean 'Christmas gift'**

*Chang-Ran Kim, Kaori Kaneko, Reuters, December 27, 2019*

Japanese public broadcaster NHK on Friday sent a news bulletin that incorrectly reported North Korea had launched a missile that fell into waters east of the Japanese archipelago, issuing an apology explaining it was a media training alert. The news alert came as the United States and its East Asian allies have been on tenterhooks after Pyongyang's warning this month of a possible "Christmas gift" for Washington in what experts took to mean a possible long-range missile test. The NHK bulletin, sent out 22 minutes after midnight on its website, read: "North Korean missile seen as having fallen into seas about 2,000 km east of Hokkaido's Cape Erimo", suggesting a flight path over Japanese territory. The same information was also delivered to users' phones through NHK's apps.

NHK corrected the information on those platforms, as well as on television and radio within half an hour, an NHK spokesman said. "We apologize to our viewers and the public," NHK said in a statement on its website, explaining the alert was for training purposes. It also said it would review its procedures to prevent a recurrence.

[https://www.reuters.com/article/us-northkorea-missiles-nhk/japans-nhk-delivers-erroneous-north-korean-christmas-gift-idUSKBN1YV044\\_](https://www.reuters.com/article/us-northkorea-missiles-nhk/japans-nhk-delivers-erroneous-north-korean-christmas-gift-idUSKBN1YV044_)

## **K. North Korea**

### **Biegun may hold secret meeting with NK in Beijing: ex-unification minister**

*Yonhap, Korea Herald, December 18, 2019*

The US point man on North Korea, Stephen Biegun, could hold a secret meeting with North Korean officials when he travels to China later this week, a former South Korean unification minister said Wednesday. The State Department announced earlier that Biegun, US special representative for North Korea policy, will visit Beijing on Thursday and Friday "to discuss the need to maintain international unity on North Korea." The previously unannounced trip, which follows his visits to Seoul and Tokyo, spawned speculation about whether it has anything to do with Biegun's offer to meet with North Korean officials to talk about ways to move the stalled nuclear talks forward.

Biegun publicly made the proposal during a news conference in Seoul on Monday, apparently offering to meet with the North Koreans at the border village of Panmunjom while he was in the South. The North has not reacted to the offer publicly yet. "Special Representative Biegun's plan to go to Beijing must mean that there is a change in North Korea's situation," former Unification Minister Jeong Se-hyun, currently executive vice chairperson of the presidential National Unification Advisory Council, said during a council meeting.

[http://www.koreaherald.com/view.php?ud=20191218000801&ACE\\_SEARCH=1\\_](http://www.koreaherald.com/view.php?ud=20191218000801&ACE_SEARCH=1_)

### **U.N. condemns North Korea rights abuses, Pyongyang rejects resolution**

*Reuters, December 19, 2019*

The United Nations General Assembly on Wednesday condemned "the long-standing and ongoing systematic, widespread and gross violations of human rights in and by" North Korea in an annual resolution that Pyongyang's U.N.

envoy rejected. The resolution, sponsored by dozens of countries including the United States, was adopted by the 193-member General Assembly without a vote. Such resolutions are non-binding but can carry political weight.

North Korea's U.N. Ambassador Kim Song told the General Assembly that the resolution has "nothing to do with the genuine promotion and protection of human rights, as it is an impure product of political plots by hostile forces that seek to tarnish the dignity and image of the DPRK and overthrow our social system." North Korea's official name is the Democratic People's Republic of Korea (DPRK).

[https://www.reuters.com/article/us-northkorea-rights-un/un-condemns-north-korea-rights-abuses-pyongyang-rejects-resolution-idUSKBN1YM2J8\\_](https://www.reuters.com/article/us-northkorea-rights-un/un-condemns-north-korea-rights-abuses-pyongyang-rejects-resolution-idUSKBN1YM2J8_)

## **N. Korea establishes info website on science, technology**

*Yonhap, Korea Herald, December 19, 2019*

North Korea recently established a website providing information on science and technology trade, its state media said Thursday, an apparent move to revitalize related sectors amid economic challenges stemming from global sanctions. The North's National Science and Technology Committee created it to contribute to invigorating technology trade by establishing a link to prepare and verify the quality and competitiveness of technology products, the official Korean Central News Agency said. "The units that register with the website can save human and material resources and time related to the efforts, materials and funds required for the development and production of new technologies and products, and increase the efficiency of their spending," the KCNA said.

[http://www.koreaherald.com/view.php?ud=20191219000814&ACE\\_SEARCH=1\\_](http://www.koreaherald.com/view.php?ud=20191219000814&ACE_SEARCH=1_)

## **US watching North Korea for 'Christmas gift' missile launch**

*Lolita C. Baldor*

*AP News, December 20, 2019*

The U.S. is closely watching North Korea for signs of a possible missile launch or nuclear test in the coming days that officials are referring to as a "Christmas surprise." A significant launch or test would mean the end of North Korea's self-imposed moratorium and raise tensions in the region. It would also be a major blow to one of the Trump administration's major foreign policy initiatives: the drive to get North Korea back to negotiations to eliminate its nuclear weapons and missiles.

Earlier this month, the North conducted what U.S. officials say was an engine test. North Korea described it as "crucial" and experts believe that it may have involved an engine for a space launch vehicle or long-range missile. Officials worry that it could be a prelude to the possible launch of an intercontinental ballistic missile in the coming days or weeks.

[https://apnews.com/d846a03014a975c351ba3e640410c2da\\_](https://apnews.com/d846a03014a975c351ba3e640410c2da_)

## **North Korea warns U.S. could 'pay dearly' for human rights criticism**

*Joyce Lee*

*Reuters, December 21, 2019*

North Korea lashed back at the United States for taking issue with its human rights record on Saturday, saying Washington's "malicious words" would only aggravate tensions on the Korean Peninsula, state news agency KCNA reported. The KCNA statement, attributed to a foreign ministry spokesperson, warned that if the United States dared to take issue with the North's system of government by citing human rights problems, it would "pay dearly".

The United Nations General Assembly on Wednesday condemned North Korea's

"long-standing and ongoing" violations of human rights in an annual resolution sponsored by dozens of countries including the United States, that Pyongyang's U.N. envoy rejected. The North Korean Foreign Ministry statement is its first since U.S. special envoy for North Korea, Stephen Biegun, publicly urged Pyongyang on Monday to return to talks. There has been no direct response from North Korea to Biegun's entreaty. U.S. Defense Secretary Mark Esper said on Friday that he remains hopeful the United States can restart diplomacy with North Korea, as the clock ticks down to North Korea's declared year-end deadline for new U.S. concessions in talks over its nuclear arsenal.

[https://in.reuters.com/article/northkorea-usa-rights/north-korea-warns-u-s-could-pay-dearly-for-human-rights-criticism-idINKBN1YP022\\_](https://in.reuters.com/article/northkorea-usa-rights/north-korea-warns-u-s-could-pay-dearly-for-human-rights-criticism-idINKBN1YP022_)

### **NK leader presides over expanded Central Military Commission meeting of Workers' Party**

*Yonhap, Korea Herald, December 22, 2019*

North Korean leader Kim Jong-un presided over an enlarged meeting of the Central Military Commission of the ruling Workers' Party and discussed "important organizational and political measures and military steps to bolster up" the armed forces, state media said Sunday. The meeting was held amid heightened tensions with the United States with Pyongyang threatening to seek a "new way" unless Washington comes up with an acceptable proposal in their nuclear negotiations by end of the year. "Supreme Leader Kim Jong-un gave analysis and briefing on the complicated internal and external situation and said that the meeting would decide on important organizational and political measures and military steps to bolster up the overall armed forces of the country," the Korean Central News Agency said.

"Also discussed were important issues for decisive improvement of the overall national defence and core matters for the sustained and accelerated development of military capability for self-defence," it added. The

meeting also decided on "important military issues and measures for organizing or expanding and reorganizing new units in conformity with the party's military and strategic intention, changing the affiliation of some units and changing deployment of units." KCNA, however, did not provide details on what military capability of self-defence. It did not mention when the meeting took place.

[http://www.koreaherald.com/view.php?ud=20191222000007&ACE\\_SEARCH=1](http://www.koreaherald.com/view.php?ud=20191222000007&ACE_SEARCH=1)

### **North Korea threat looms as China, Japan, South Korea leaders meet**

*Se Young Lee, Reuters, December 22, 2019*

The spectre of new confrontation between Pyongyang and Washington hangs over meetings between China, Japan and South Korea this week, with growing risks North Korean actions could end an uneasy detente and upend recent diplomatic efforts. South Korean President Moon Jae-in and Japanese Prime Minister Shinzo Abe are expected to meet Chinese President Xi Jinping separately on Monday. They will then travel to the southwestern city of Chengdu for a trilateral meeting with Chinese Premier Li Keqiang. Though they are expected to discuss various economic matters, North Korea appears likely to dominate the agenda.

Pyongyang has grown increasingly frustrated that its halt of nuclear and long-range missile tests has not ended the crippling economic sanctions against it. It set a Dec. 31 deadline for the United States to make concessions, but Washington has been unmoved.

[https://www.reuters.com/article/us-china-japan-southkorea/north-korea-threat-looms-as-china-japan-south-korea-leaders-meet-idUSKBN1YQ01T\\_](https://www.reuters.com/article/us-china-japan-southkorea/north-korea-threat-looms-as-china-japan-south-korea-leaders-meet-idUSKBN1YQ01T_)

## North Korea's Kim holds military meeting as tension rises under looming deadline

*Reuters, December 22, 2019*

North Korean leader Kim Jong Un held a meeting of top military officials to discuss boosting the country's military capability, state news agency reported on Sunday amid heightened concern the North may be about to return to confrontation with Washington. Kim presided over an enlarged meeting of the ruling Workers' Party's Central Military Commission, KCNA news agency said, to discuss steps "to bolster up the overall armed forces of the country ... militarily and politically."

"Also discussed were important issues for decisive improvement of the overall national defence and core matters for the sustained and accelerated development of military capability for self-defence," KCNA said. It did not give details on when the meeting was held nor what was decided.

[https://in.reuters.com/article/northkorea-missiles/north-koreas-kim-holds-military-meeting-as-tension-rises-under-looming-deadline-idINKBN1YQ03T\\_](https://in.reuters.com/article/northkorea-missiles/north-koreas-kim-holds-military-meeting-as-tension-rises-under-looming-deadline-idINKBN1YQ03T_)

## U.S., North Korea talks 'more important than anything', South Korea tells China

*Ben Blanchard, Reuters, December 23, 2019*

It is "more important than anything" to keep up the momentum for talks between the United States and North Korea, South Korean President Moon Jae-in told Chinese President Xi Jinping in Beijing on Monday. North Korea has set a year-end deadline for the United States to change what it says is a policy of hostility amid a stalemate in efforts to make progress on their pledge to end the North's nuclear program and establish lasting peace. North Korean leader Kim Jong Un and U.S. President Donald Trump have met three times since June 2018, but there has been no substantive progress in dialogue while the North demanded crushing international sanctions be lifted first.

<https://www.reuters.com/article/us-china-japan->

[southkorea/stalled-talks-with-us-not-good-for-north-korea-south-korea-tells-china-idUSKBN1YR01V\\_](https://www.reuters.com/article/southkorea/stalled-talks-with-us-not-good-for-north-korea-south-korea-tells-china-idUSKBN1YR01V_)

## North Korea leaning toward China and Russia as it defies U.S.

*The Asahi Shimbun, December 23, 2019*

A North Korean worker counts his cash at Vladivostok Airport in Russia's Far East on the morning of Dec. 20. Behind him are other North Korean workers lining up to pay excess baggage charges. A black market money changer was doing a roaring business at Vladivostok Airport in Russia's Far East on Dec. 20 as nearly 100 North Korean workers loaded up with luggage waited to board a flight home to Pyongyang. The group was leaving ahead of a Dec. 22 deadline for countries to send back North Korean workers under a U.N. resolution two years ago aimed at reining in Pyongyang's missile and nuclear programs.

<http://www.asahi.com/ajw/articles/AJ201912230051.html>

## New construction seen at missile-related site in North Korea

*AP News, December 24, 2019*

A new satellite image of a factory where North Korea makes military equipment used to launch long-range missiles shows the construction of a new structure. The release of several images from Planet Labs comes amid concern that North Korea could launch a rocket or missile as it seeks concessions in stalled nuclear negotiations with the United States. North Korea has warned that what "Christmas gift" it gives the U.S. depends on what action Washington takes. One of the satellite images taken on Dec. 19 shows the completion of a new structure at the March 16 Factory near Pyongyang, where North Korea is believed to be developing and manufacturing vehicles used as mobile launchers for long-range ballistic missiles.

Jeffrey Lewis, director of the East Asia nonproliferation program at the

Middlebury Institute, said in an email that the construction seemed to be an expansion of the factory, which would be “big news.” North Korea used what appeared to be vehicles imported from China during its three flight tests of the Hwasong-14 and -15 intercontinental ballistic missiles in 2017, Lewis said. An increased capacity to produce mobile launchers would potentially help expand North Korea’s ICBM force and improve its survivability during nuclear conflict. Lewis said, as far as he knows, North Korea only imported six of the vehicles that were used during the 2017 ICBM tests. “I would think North Korea would want 50-100 such systems,” he said. “This would probably be some mix of ICBMs we have seen and the new system that North Korea claims is under development.”

[https://apnews.com/2d79b8eae45f6adcaab193f48024e7e5\\_](https://apnews.com/2d79b8eae45f6adcaab193f48024e7e5_)

### **NK may consider timing of nuclear talks amid uncertainty in US politics: source**

*Yonhap, Korea Herald, December 26, 2019*

North Korea has reasons to keep up nuclear talks with the United States, but it may consider their timing based on its assessment of the political fortunes of US President Donald Trump, who faces an impeachment trial, a source said Thursday. Though the Senate trial is expected to result in Trump’s acquittal on charges of obstruction of congress and abuse of power, the North could wait until the political footing of the Trump administration becomes firmer, the source said on condition of anonymity.

Pyongyang has been concerned that the submission of a list of its nuclear weapons, materials and related sites — a key denuclearization step demanded by the US — could be tantamount to making them potential targets for attack absent clear security assurances. Taking such a step when the fate of the incumbent US government remains uncertain would be a key concern for the communist regime, a reason why it may now be “taking a breather,” the source pointed out. The remarks came amid growing concerns that

Pyongyang could resume major provocations such as an intercontinental ballistic missile launch in protest over the stalled nuclear talks. The source noted that the North may need to restart negotiations to seek sanctions relief for its economic development ahead of big political events next year such as the 75th anniversary of the founding of its ruling Workers’ Party.

[http://www.koreaherald.com/view.php?ud=20191226000758&ACE\\_SEARCH=1\\_](http://www.koreaherald.com/view.php?ud=20191226000758&ACE_SEARCH=1_)

### **NK propaganda outlet denounces US surveillance operations**

*Yonhap, Korea Herald, December 26, 2019*

A North Korean propaganda outlet on Thursday denounced stepped-up surveillance by the United States and South Korea of military targets in the communist nation, saying the country is closely watching such “provocative” moves. The US and South Korea have been on high alert in recent days amid growing concerns that the North could conduct a major provocation, such as launching an intercontinental ballistic missile, in protest over stalled nuclear talks. Between Tuesday and Wednesday, the US flew four spy planes over the Korean Peninsula at the same time amid concern the North could fire an ICBM as a “Christmas gift” to the US. On Monday, South Korea also brought in its first advanced unmanned aircraft, Global Hawk.

Meari, a North Korean propaganda outlet, criticized the US and South Korea for engaging in “constant surveillance” on its military installations, introducing US fighter jets and strengthening their military readiness against Pyongyang. “We are fully ready for any situations no matter what direction the US’ oppressive scheme against North Korea would go,” it said. “We are closely watching hostile forces’ provocative schemes. They should know that our patience also has a limit.”

The website, in particular, criticized South Korea for “jumping on the bandwagon of the US’ oppressive scheme,” calling for its restraint and warning of “terrible

consequences." North Korea has threatened to take a "new way" if Washington fails to come up with a new proposal in denuclearization talks before the end of this year, hinting that it otherwise will end diplomacy and revert to provocative behavior. Speculation has arisen that the North might test-fire an intercontinental ballistic missile since it earlier conducted what are presumed to be rocket engines tests at its west coast satellite launch site.

[http://www.koreaherald.com/view.php?ud=20191226000090&ACE\\_SEARCH=1](http://www.koreaherald.com/view.php?ud=20191226000090&ACE_SEARCH=1)

### **Kim Jong Un urges 'positive and offensive' security measures ahead of nuclear talks deadline**

*Hyonhee Shin, Reuters, December 30, 2019*

North Korean leader Kim Jong Un called for "positive and offensive measures" to ensure the country's security before a year-end deadline he has set for denuclearization talks with the United States, state media KCNA said on Monday. Kim convened a weekend meeting of top Workers' Party officials to discuss policy matters amid rising tension over his deadline for Washington to soften its stance in stalled negotiations aimed at dismantling Pyongyang's nuclear and missile programs.

At a Sunday session, Kim suggested action in the areas of foreign affairs, the munitions industry and armed forces, stressing the need to take "positive and offensive measures for fully ensuring the sovereignty and security of the country," KCNA said, without elaborating.

[https://in.reuters.com/article/northkorea-missiles/kim-jong-un-urges-positive-and-offensive-security-measures-ahead-of-nuclear-talks-deadline-idINKBN1YY04C\\_](https://in.reuters.com/article/northkorea-missiles/kim-jong-un-urges-positive-and-offensive-security-measures-ahead-of-nuclear-talks-deadline-idINKBN1YY04C_)

### **Kim Jong-un stresses 'aggressive measures' for security**

*Choi He-suk, Korea Herald, December 30, 2019*

South Korean authorities are closely monitoring North Korea, following North Korean leader Kim Jong-un's mention of

"aggressive measures" to ensure sovereignty at the uncommonly long plenary meeting to the North's ruling party. North Korean media reported Monday that Kim called for "proactive and aggressive measures to guarantee the country's sovereignty and security befitting to the established political conditions," on Sunday, the second day of the plenary meeting of the Central Committee of the Workers' Party of Korea.

The KCNA also said that Kim discussed the roles the party organs concerned with overseas projects, the defense industry and military should play to that end. The report went on to say that Kim provided detailed analysis of foreign and defense policies, and proposed "practical measures for strengthening the country's independent economy." The lack of details on the North Korean report on the "aggressive measures" is fanning speculations that the North may be mulling resuming a hostile stance against Seoul and Washington. A day earlier, the KCNA had reported that "important policy issues for achieving a new victory for our revolution" and the direction the North will take under current political circumstances were discussed on the first day of the meeting.

[http://www.koreaherald.com/view.php?ud=20191230000627&ACE\\_SEARCH=1](http://www.koreaherald.com/view.php?ud=20191230000627&ACE_SEARCH=1)

### **Kim calls for 'diplomatic, military countermeasures' ahead of end-of-year deadline**

*Yonhap*

*Korea Herald, December 31, 2019*

North Korean leader Kim Jong-un has called for "diplomatic and military countermeasures" for preserving the country's sovereignty and security during an ongoing Workers' Party meeting, state media reported Tuesday, ahead of the impending expiry of Pyongyang's end-of-year deadline for US concessions. He made the calls at the third-day session of the plenary meeting of the Central Committee of the North's ruling Workers Party on Monday, according to the Korean Central

News Agency. The meeting came as North Korea has threatened to take a "new way" in denuclearization talks if Washington fails to come up with an acceptable proposal before the end of this year, hinting it would otherwise end diplomacy and revert to provocative acts.

Kim urged party members to prepare "positive and offensive political, diplomatic and military countermeasures for firmly preserving the sovereignty and security of the country, intensifying the combat against anti-socialist and non-socialist acts," the KCNA said. "He made a comprehensive report on the work of the Central Committee of the WPK, state building, economic development and building of the armed forces for seven hours at the plenary meeting," it added. Kim called for the party's stepped-up efforts to foster its leadership ability and turn itself into a "militant party full of vitality and vigor." The KCNA said that a process has started to draw up the draft resolution of relevant agenda items being discussed. It added that the plenary meeting "goes on," suggesting an additional session will take place.

[http://www.koreaherald.com/view.php?ud=20191231000057&ACE\\_SEARCH=1](http://www.koreaherald.com/view.php?ud=20191231000057&ACE_SEARCH=1)

### **L. South Korea**

#### **Biegun arrives in Seoul amid deadlock in NK-US nuclear talks**

*Jo He-rim, Korea Herald, December 15, 2019*

Pyongyang says it conducted "another crucial test" at Sohae site. US Special Representative for North Korea Stephen Biegun arrived in Seoul on Sunday for a "close coordination" with allies amid the deadlock in the denuclearization talks with Pyongyang just weeks before the communist regime's year-end deadline. A day before, North Korea issued statements to announce that it had carried out "another crucial test" at a satellite launching site, warning the United States to "hold off" any action to "rattle" the regime.

[http://www.koreaherald.com/view.php?ud=20191215000133&ACE\\_SEARCH=1](http://www.koreaherald.com/view.php?ud=20191215000133&ACE_SEARCH=1)

#### **Biegun proposes meeting with North Korean counterparts**

*Park Han-na, Korea Herald, December 16, 2019*

US Special Representative for North Korea Stephen Biegun on Monday proposed a meeting with North Korean officials during his visit to Seoul, saying Washington is willing to discuss all issues of interest to Pyongyang if they resume denuclearization talks. He said it was "not too late" for North Korea to choose a "better way," following the regime's second "crucial" test at its long-range rocket launch site Friday. The test may have been an attempt to advance technology for intercontinental ballistic missiles that could potentially reach the continental US.

[http://www.koreaherald.com/view.php?ud=20191216000607&ACE\\_SEARCH=1](http://www.koreaherald.com/view.php?ud=20191216000607&ACE_SEARCH=1)

#### **FOC assessment for OPCON transfer is most important task next year: defense minister**

*Jo He-rim, Korea Herald, December 16, 2019*

Defense Minister Jeong Kyeong-doo called Monday for the military to thoroughly prepare for next year's assessment for the transfer of wartime operational control from Washington. Presiding over the second meeting to assess the military's preparedness for the envisioned OPCON transfer, Jeong highlighted the military should be aware that the most important task next year is to successfully complete the Full Operational Capability assessment.

Seoul and Washington have been working together to transfer OPCON. In 2014, they set three conditions that need to be fulfilled for OPCON to be completely transferred to South Korea. The three conditions are: Seoul's capability to lead the allies' combined defense mechanism; its capacity for initial responses to the North's nuclear and missile threats; and a stable security

environment on the peninsula and in the region.

[http://www.koreaherald.com/view.php?ud=20191216000772&ACE\\_SEARCH=1\\_](http://www.koreaherald.com/view.php?ud=20191216000772&ACE_SEARCH=1_)

### **Prospects dim for US-N. Korea nuclear talks: ministry**

*Park Han-na, Korea Herald, December 17, 2019*

Prospects are dim for denuclearization talks between the US and North Korea next year, with the possibility of the communist regime escalating military tension, the South Korean government said Tuesday. "If there is no progress in North Korea-US negotiations by the year-end deadline, the possibility of North Korea's leader declaring the suspension of the talks in his New Year's address cannot be ruled out," the Unification Ministry said in a press release on its evaluation of the situation involving North Korea in 2019 and the outlook for 2020.

North Korea has repeatedly urged Washington to return to the negotiating table with a more flexible proposal, such as the lifting of sanctions and the halt of South Korea-US joint military exercises, by the end of the year. The US asserts that it has offered creative ways to proceed, with feasible steps and flexibility in negotiations, which seem to have fallen short of meeting Pyongyang's demands. In light of the circumstances, the Unification Ministry said the North may heighten military tension on the Korean Peninsula.

[http://www.koreaherald.com/view.php?ud=20191217000756&ACE\\_SEARCH=1\\_](http://www.koreaherald.com/view.php?ud=20191217000756&ACE_SEARCH=1_)

### **Biegun wraps up trip to S. Korea with his call for NK dialogue unanswered**

*Yonhap, Korea Herald, December 17, 2019*

US Special Representative for North Korea Stephen Biegun on Tuesday wrapped up his three-day visit to Seoul and departed for Japan, with his emphatic call for dialogue with North Korea unanswered. His high-profile trip focused on efforts to bring

Pyongyang back to the negotiating table, as it has been pressuring Washington to make concessions by the end of the year, with hints that it could engage in provocative acts such as a long-range rocket launch.

Appearing at Gimpo International Airport in western Seoul, the US envoy waved away questions from reporters. His South Korean counterpart Lee Do-hoon rode in the same car with Biegun to the airport in a show of close coordination between the allies on efforts to resume the hitherto unproductive negotiations with the North. On Monday, Biegun said that the United States has no deadline while stressing the "goal" of fulfilling the commitments that US President Donald Trump and North Korean leader Kim Jong-un made during their first historic summit in Singapore in June last year.

[http://www.koreaherald.com/view.php?ud=20191217000820&ACE\\_SEARCH=1\\_](http://www.koreaherald.com/view.php?ud=20191217000820&ACE_SEARCH=1_)

### **Seoul likely to send troops to Strait of Hormuz**

*Kim So-hyun, Korea Herald, December 18, 2019*

The South Korean government is likely to send military forces to join a US-led multinational coalition to defend the Strait of Hormuz early next year. According to military sources, the 4,400-ton destroyer Wang Geon of the Cheonghae anti-piracy unit is scheduled to leave Busan late this month to relieve the destroyer Kang Gamchan which is currently operating in the Gulf of Aden. The Wang Geon is expected to arrive in the Gulf of Aden in mid-January, and start anti-piracy operations and escorting vessels from February.

Sources said the South Korean government is likely to join the coalition, known as the International Maritime Security Construct, by changing the Wang Geon's operation region to the Strait of Hormuz.

[http://www.koreaherald.com/view.php?ud=20191218000642&ACE\\_SEARCH=1\\_](http://www.koreaherald.com/view.php?ud=20191218000642&ACE_SEARCH=1_)

## **Moon to hold summit with Xi next week amid stalled NK nuke talks**

*Yonhap, Korea Herald, December 19*

South Korean President Moon Jae-in will hold a summit with his Chinese counterpart, Xi Jinping, next week when he visits China for annual trilateral talks with Chinese and Japanese leaders, Moon's office said Thursday. The Moon-Xi summit will take place on Dec. 23 in Beijing, where the two leaders will discuss ways to promote bilateral ties and the Korea peace process, according to Cheong Wa Dae. The meeting comes as North Korea has threatened to take a "new way" if the United States does not put forward concessions in their stalled nuclear talks by the end of this year.

[http://www.koreaherald.com/view.php?ud=20191219000390&ACE\\_SEARCH=1\\_](http://www.koreaherald.com/view.php?ud=20191219000390&ACE_SEARCH=1_)

## **S. Korean firm shortlisted for Bulgarian nuclear plant project**

*Yonhap, Korea Herald, December 20, 2019*

The South Korean energy firm, along with Russia's Rosatom and the China National Nuclear Corporation, were selected as strategic candidates for the new nuclear energy plant project in northern Bulgaria, its ministry said. The decision was based on the candidates' experience in building nuclear plants along with their financial capabilities, it added. France-based Framatom SAS and US General Electric were also chosen as candidates to supply equipment for the project.

The ministry plans to make preparations to receive binding offers from the candidates by the end of next month. The candidates will then have six months to hand in an offer. Bulgaria currently operates a nuclear plant in Kozloduy, whose lifespan was supposed to end in 2021 but was extended for 10 years on a lack of other options. South Korea, which has been seeking to reduce dependence on fossil fuels and nuclear power at home, is currently making efforts to win nuclear plant projects overseas instead.

[http://www.koreaherald.com/view.php?ud=20191220000101&ACE\\_SEARCH=1\\_](http://www.koreaherald.com/view.php?ud=20191220000101&ACE_SEARCH=1_)

## **Biegun suggests US remains open to talks with N. Korea**

*Yonhap, Korea Herald, December 21, 2019*

US Special Representative for North Korea Stephen Biegun returned to Washington on Friday after a dayslong trip to South Korea, Japan and China, suggesting he remains open to meeting with North Korean officials to discuss the country's denuclearization. Biegun arrived at Dulles International Airport on a flight from Beijing after what would have been an impromptu meeting with the North Koreans apparently did not materialize. The special representative traveled to the region as tensions have risen over North Korea's threats to resume nuclear or long-range missile tests unless the United States offers concessions to break their deadlock in denuclearization talks before the end of the year. "You heard what I said in South Korea and those remarks stand," Biegun said when asked whether he met the North Korean delegation in Beijing. While in Seoul earlier this week, the special representative made a public offer to meet with the North Koreans, saying it was time for the two sides to "do our jobs" and work toward an agreement.

[http://www.koreaherald.com/view.php?ud=20191221000037&ACE\\_SEARCH=1\\_](http://www.koreaherald.com/view.php?ud=20191221000037&ACE_SEARCH=1_)

## **N. Korea may launch 'maximum gray-zone' provocations for US concessions in 2020: expert**

*Yonhap, Korea Herald, December 26, 2019*

North Korea could launch maximum "gray-zone" provocations next year just short of an intercontinental ballistic missile launch to extract US concessions in their stalled nuclear talks, an expert said Thursday. Jun Bong-geun, professor at the state-run Korea National Diplomatic Academy, made the remarks amid speculation that the North could engage in provocative acts in a show of anger over the absence of US concessions by Pyongyang's self-imposed year-end deadline.

"Though strong provocations are

expected, the North may not go all the way to an ICBM launch, as the launch could make it difficult for Pyongyang to secure support from China and Russia," Jun said during a briefing on the outlook of global politics for 2020 by the KNDA Institute of Foreign Affairs and National Security.

[http://www.koreaherald.com/view.php?ud=20191226000690&ACE\\_SEARCH=1](http://www.koreaherald.com/view.php?ud=20191226000690&ACE_SEARCH=1)

### **Unification minister proposes 'tentative deal' for NK nuclear impasse**

*Ahn Sung-mi, Korea Herald, December 27, 2019*

Expressing regret over stalled inter-Korean relations, South Korean Unification Minister Kim Yeon-chul stressed the need to seek "modus vivendi," or a tentative deal, as a solution to break the impasse in the nuclear negotiations between the US and North Korea. "With North Korea's looming deadline for negotiations, the situation on the Korean Peninsula hereafter is very uncertain. Concerned countries share the severity of the circumstances, and are undertaking various diplomatic endeavors at this moment," Kim told reporters at a year-end press conference held in Seoul on Thursday. "In order to prevent the situation from worsening and gain momentum for negotiations, we need a tentative deal that could be a stepping stone to reach a final agreement, the wisdom of modus vivendi."

[http://www.koreaherald.com/view.php?ud=20191227000509&ACE\\_SEARCH=1](http://www.koreaherald.com/view.php?ud=20191227000509&ACE_SEARCH=1)

#### **M. Misc**

### **IAEA approves four projects for Uzbekistan**

*World Nuclear News, December 17, 2019*

Four projects aimed at building up Uzbekistan's technical capacity, human resources, developing nuclear infrastructure, and strengthening nuclear and radiation safety have been approved by the International Atomic Energy Agency's (IAEA's) board of governors. The Central Asian country aims to have two nuclear

power reactors in operation by 2030. The approvals were received under the framework of the technical cooperation programme between Uzbekistan and the IAEA. The programme provides for the strengthening of nuclear and radiation safety in the operation of nuclear facilities in Uzbekistan, the development and implementation of modern nuclear technologies in medicine and other sectors of the economy, as well as the dissemination of nuclear knowledge.

In Uzbekistan, the project executors are: UzAtom, an agency created in July last year to manage the government's nuclear power programme; the State Committee for Industrial Safety; the Institute of Nuclear Physics; the National University of Uzbekistan; Samarkand State University; and Tashkent City Oncology Centre. Uzbekistan has worked closely with the IAEA on its atomic energy programme during 2019, Uzatom said, adding that these approvals have "deepened and strengthened" Uzbekistan's relationship with the IAEA. The agency said it looks forward to closer collaboration with the IAEA on the development of regulation. "Uzatom believes that the stronger its regulator is, the safer and more successful its atomic energy programme will be."

<http://world-nuclear-news.org/Articles/IAEA-approves-four-projects-for-Uzbekistan>

### **Is a New Nuclear Age Upon Us?**

*Nicholas L. Miller and Vipin Narang, Foreign Affairs, December 30, 2019*

A year ago, it was clear that a storm was brewing on the nuclear horizon. Writing in *Foreign Affairs* in January, we warned that "the United States could find itself in not one but three nuclear crises in the next 12 months." We pointed to the risk that negotiations with North Korea would break down, that arms control between the United States and Russia would further deteriorate, and that Iran would begin violating its commitments under the 2015 nuclear deal.

Looking back, it is clear that we missed

the mark—by being too optimistic. Over the past year, Washington has not only faced nuclear crises with North Korea, Russia, and Iran, as predicted; it has also watched as nuclear-armed rivals India and Pakistan stumbled to the brink of all-out war and a host of U.S. allies began to rethink their nuclear options. Unless governments in Washington and elsewhere act quickly to reverse course, future scholars may look back on 2019 as the turning point from an era of relative calm to one of intense nuclear competition and proliferation—the dawn of a dangerous new nuclear age.

<https://www.foreignaffairs.com/articles/2019-12-30/new-nuclear-age-upon-us>

### **N. Op-Ed**

#### **India**

#### **Meet India's Fighter Jet Armed With Supersonic Nuclear Missiles**

*Zachary Keck, National Interest Blog, December 18, 2019*

Pairing a supersonic missile with a jet fighter strengthens one leg of India's nuclear triad. India's nuclear command has begun receiving fighter jets armed with the country's most advanced, supersonic cruise missile. According to media reports, India's Strategic Forces Command (SFC) has begun receiving 42 Su-30MKI air dominance fighters modified to carry air-launched BrahMos supersonic cruise missile. This will significantly enhance the striking power of the air leg of India's nuclear triad.

The Sukhoi Su-30 MKI is a twin-seater, highly maneuverable, fourth-generation multirole combat fighter aircraft built by Russia's Sukhoi Design Bureau and licensed to India's Hindustan Aeronautics Limited. The plane will serve as the backbone of India's Air Force through 2020 and beyond. Delhi has already acquired around 200 jets, and eventually plans to acquire 282 of them.

<https://nationalinterest.org/blog/buzz/meet-indias-fighter-jet-armed-supersonic-nuclear-missiles-106291>

#### **India's National Cybersecurity Policy Must Acknowledge Modern Realities**

*Prateek Waghre and Shibani Mehta, The Diplomat, December 20, 2019*

Earlier this year, it was discovered that India was the target of two cyberattacks in the same month. The malware attacks at the Kundankulam Nuclear Power Plant and the Indian Space Research Organization (ISRO) are believed to be the outcomes of phishing attempts on employees. In 2018, it was reported that an officer of the Indian Air Force was sharing sensitive information on Facebook with two women who had honey-trapped him. None of these incidents are known to have resulted in severe harm, but the possibility that they could have is reason enough for India to cultivate and shape international discussions on cyberspace.

As is the case with both international terrorism and protection of the environment, cooperation is a prerequisite to deal with cyberthreats given their borderless nature. India's National Cyber Security Policy (2013) did not assign much weight to this aspect and defined no measurable outcomes against which progress could be judged. With its upcoming National CyberSecurity Policy (2020-2025), India has the opportunity to align its domestic policy with its global aspirations.

<https://thediplomat.com/2019/12/indias-national-cybersecurity-policy-must-acknowledge-modern-realities/>

#### **Pakistan**

#### **Pakistan Cannot Get Enough Of America's F-16 Fighting Falcon**

*Sebastien Roblin, National Interest Blog, December 21, 2019*

Recent aerial skirmishes highlight the important capabilities F-16s continue to provide Pakistan's military. During an aerial skirmish on February 27, 2019, an Indian Air Force MiG-21 Bison was shot

down by a radar-guided missile. The Pakistani Air Force (PAF) claims the kill was scored by a JF-17 Thunder, a domestically-built fighter built with Chinese assistance.

Today, Pakistan operates around sixty-six F-16A/Bs and nineteen F-16C/Ds in four active squadrons, including No. 9 Griffins multi-role squadron in Sargodha, the No. 19 Sherdills training and air defense squadron at Thatta, and the No. 11 Arrows multi-role squadron based at Shahbaz near Jacobabad. The last base also hosts No. 5 Falcons multi-role squadron, the only F-16C/D unit.

<https://nationalinterest.org/blog/buzz/pakistan-cannot-get-enough-americas-f-16-fighting-falcon-106656>

## USA

### Talk With Iran Now. Time Is Fleeting.

*Vali R. Nasr and Ali Vaez, The New York Times, December 19, 2019*

The momentous protests in Iran this autumn came at a delicate time in a tense standoff between the United States and Iran. Despite the recent prisoner swap, officials in Washington may see the prospects for diplomacy dimming. But that would be wrong. Iranian elections are coming, and without any American agreement to relent on sanctions, the current relatively conciliatory government might well lose all its influence in favor of far more confrontational hard-liners. That calculus makes this exactly the time to take diplomacy seriously. While the opportunity for success may be slim, failing to reverse rising tensions now risks a serious escalation in frictions that would be more impervious to diplomacy down the road.

<https://www.nytimes.com/2019/12/19/opinion/talk-iran-now-time-fleeting.html>

### Viewpoint: Only the atom, not fossil gas, can deliver robust climate action

*World Nuclear News, December 19, 2019*

The rhetoric from many world leaders at the climate summit in Madrid

was, unsurprisingly, laden with foreboding and a strong sense of urgency on taking robust climate action. Proclaiming a transition to an electricity system powered by 100% renewables is seemingly the latest fashion, and prevalent in contemporary discourse. However, the Economist Intelligence Unit's recently published Industries in 2020 report concluded that generation from renewables is not increasing fast enough to keep global warming within the goals set in the Paris Agreement. With batteries large enough to support a modern economy for days - let alone weeks - remaining elusive, and coal falling out of favour, the modern economy requires other, more reliable, energy sources.

In this vacuum, opportunists have entered the field. Some of the biggest cheerleaders for renewables are, paradoxically enough, the fossil gas companies. Some of these have embarked on flashy public relations campaigns, proudly proclaiming that renewables, heavily backed by 'natural' gas, is the path to a low-carbon future.

<http://world-nuclear-news.org/Articles/Viewpoint-Only-the-atom,-not-fossil-gas,-can-deliv>

### Congress's Christmas gift to Trump: A new nuclear weapon

*John Tierney, The Hill, December 24, 2019*

In reaction to the Trump administration's inept negotiating process on denuclearization, the North Koreans have threatened to send an ominous "Christmas gift." Unfortunately, Americans are already certain to get a different nightmarish present, compliments of the U.S. Congress. Absent convincing logic or reason, and against the House of Representative's inclinations, legislators overwhelmingly decided to provide President Donald Trump with a new nuclear warhead — one that his administration thinks is "more usable." Indeed, upon signing the Fiscal Year 2020 National Defense Authorization Act, this president — only the third in U.S. history to be impeached for high crimes and misdemeanors — will be in the position to

gain control over the new nuclear weapon he first requested in 2018, a submarine-launched "low-yield" warhead.

The United States has the most sophisticated conventional and nuclear arsenals in the world, with capabilities to respond to any limited use of nuclear weapons in multiple ways, including a thousand existing low-yield options that can be delivered by air. In fact, Congress and the last two administrations have already devoted billions of dollars to ensure these assets can effectively penetrate the most advanced air defenses. Based on existing bipartisan-supported plans, those investments are sure to continue.

<https://thehill.com/opinion/national-security/475794-congresss-christmas-gift-to-trump-a-new-nuclear-weapon>

### **With China, the US must avoid a repeat of its disastrous war in Afghanistan**

*Chi Wang, South China Morning Post, December 28, 2019*

In 1953, while studying agriculture at the University of Maryland, I received a draft notice. Like thousands of young Americans, I was being drafted by the United States for service in the Korean war. Although I was not an American citizen at the time, the military planned to use my Chinese-language skills by having me interrogate captured Chinese soldiers detained in South Korea. That war ended in June 1953, before I could fulfil such a function. It would be the last time American and Chinese soldiers met directly in combat, but it was far from the end of American military action in the post-WWII era.

Critics have frequently derided the US for being in a "constant state of war" since World War II. From a purely legal standpoint, this is not true. The US has not declared war on any country since 1942, when war was declared on Bulgaria, Hungary and Romania.

<https://www.scmp.com/comment/opinion/article/3043627/china-us-must-avoid-repeat-its-disastrous-war-afghanistan>

## **Russia**

### **Roscosmos plans 20 launches of Soyuz rocket in 2020**

*TASS News Agency, December 16, 2019*

Twenty launches of the Soyuz carrier rocket are planned for 2020, according to a video shared by state space corporation Roscosmos Director General Dmitry Rogozin at a press conference at the Vostochny cosmodrome on Monday. "Twenty launches of the Soyuz carrier rocket," according to the video. It was also noted in the video that the work on the construction of carriers is in full swing. As of now 22 flight vehicles have lifted off in 2019, among them Soyuz-2 rockets of various modifications and Rokot. That number includes three manned launches and one uncrewed launch of manned spacecraft.

<https://tass.com/science/1099675>

### **Russian scientists ready to design reusable space launch system in 8 years**

*TASS News Agency, December 17, 2019*

Russian scientists are ready to build a reusable space launch system with a single-stage-to-orbit carrier rocket in eight years, the director of the Polytechnic Institute of the South Urals State University, which takes part in the project, said. "We have passed the stage of technical design report and, by now, three variants of the spacecraft have been designed. If we start working in 2020, a prototype of a carrier rocket should be ready by 2028. It will take five years to design the [launch] platform and eight years - for the entire system," Sergei Vaulin said.

The system can be used for building modular orbital stations or delivering cargo to the International Space Station (ISS). The project, codenamed Korona, was ran by the Makeyev State Rocket Center between 1992 and 2012, but was suspended due to lack of financing. In 2017, the center suggested resuming it. In November 2019, the South Urals State

University said its scientists were ready to join the project.

<https://tass.com/science/1100033>

### **Russia replaces orbital missile early warning system with new satellites**

*TASS News Agency, December 18, 2019*

Russia has replaced its Oko-1 orbital missile early warning system with new Kupol satellites, according to the materials for a briefing by Chief of the Russian General Staff Army General Valery Gerasimov who spoke at a meeting with foreign military attaches on Tuesday. In his presentation, the chief of Russia's General Staff demonstrated slides that showed the structure of the country's missile early warning system. Specifically, the slides showed a satellite with the caption: satellite of the Kupol integrated space system.

The general noted at the presentation that in 2019 Russia launched another satellite of the integrated space system, which enhanced its capabilities for detecting ballistic missile launches. Russia's Defense Ministry earlier reported that the new system's satellites were called Tundra. The first such satellite was launched in 2015. The Oko-1 orbital grouping comprised eight satellites and ceased to operate in 2014. As of now, the new orbital grouping comprises three satellites, including the space vehicle orbited this year. Overall, nine new satellites are set to be launched by 2022.

<https://tass.com/science/1100559>

### **Look Out America: Russia's Hypersonic Avangard Nuclear Missile Is Going Live**

*Michael Peck, National Interest Blog, December 20, 2019*

The U.S. withdrawal from the INF agreement has spurred fears that Washington and Moscow will revive the costly and dangerous Cold War nuclear arms race. "This missile system is set to go on combat alert in December 2019," Russia's Ministry of Defense announced.

A defense industry source said "that the first two UR-100N UTTKh 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," according to Russian news agency TASS. TASS also noted that another defense industry source said in October 2018 that "two Avangard regiments with six silo-based missiles each were due to assume combat duty in Russia." And in December 2018, Sergei Karakayev, chief of the Strategic Missile Force, said that Avangard be deployed with the Dombarovsky missile division in the Orenburg Region in 2019. Orenburg is a city in southwest Russia near the border with Kazakhstan.

<https://nationalinterest.org/blog/buzz/look-out-america-russias-hypersonic-avangard-nuclear-missile-going-live-106771>

### **U.S. Submarines Are Getting New W76-2 Tactical Nuclear Warheads (And It Might Be a Giant Mistake)**

*Sebastien Roblin, National Interest Blog, December 21, 2019*

It was a small, obscure-sounding item in the 2020 defense budget—a mere \$19.6 million to procure W76-2 warheads, a sum which could pay for just one quarter of a single F-35A stealth fighter. But it, along with a select few other items including plans for a Space Force and border wall funding, generated such controversy that Senate Republicans and House Democrats spent three additional months hashing out a compromise defense budget after striking an initial deal this summer.

Ultimately, the House conceded on most of its defense policy priorities—meaning funding will continue flowing to deploy the W76-2 nuclear warheads manufactured by the Pantex plant in Texas. The W76-2 is a less powerful variant of the W76-1 warhead deployed on 13.5-meter-tall Trident II ballistic missiles

deployed on the U.S. Navy's Ohio-class submarines. Whereas the four 90- or 100-kiloton independently reentering warheads carried on a standard Trident each explode with six times the force of the Little Boy uranium bomb that killed over 60,000 Japanese at Hiroshima, the 5 to 7 kiloton W76-2 has an explosive yield a third or half that of the Hiroshima blast.

<https://nationalinterest.org/blog/buzz/us-submarines-are-getting-new-w76-2-tactical-nuclear-warheads-and-it-might-be-giant>

## Russia to launch new Angara carrier rocket in 2020

*TASS News Agency, December 23, 2019*

Russia's State Space Corporation Roscosmos intends to launch a new Angara carrier rocket in 2020, the Roscosmos press office told TASS on Monday. The Angara's launch was previously scheduled for December 2019. "Next year, we are planning to resume the launches of the Angara carrier rocket. The launch vehicle will be delivered by the Khrunichev Center in the first quarter of 2020," the press office said.

All necessary organizational and technological measures have been scheduled to make the Angara a commercial spacecraft through the launch of its serial production in Omsk in Siberia. There are plans to produce eight Angara-A5 rockets (including its crewed version) and two light-class Angara-1.2 carriers a year after the enterprise reaches its designed capacity, Roscosmos specified.

<https://tass.com/science/1102539>

## Russian Navy to get carrier for nuclear super-torpedo Poseidon next year – manufacturer

*Russian Times, December 20, 2019*

The submarine Belgorod, which may be armed with Russia's much-anticipated nuclear drone Poseidon, will be one of four nuclear-propelled ships which the producer plans to hand over to the Russian military in 2020. The Oscar-class nuclear-propelled

submarine 'Belgorod' was modified "for special purposes" and widely believed to be the intended carrier of the Poseidon weapon system. The large long-range robotic nuclear vehicle is part of Russia's effort to counter the US development of anti-ballistic missile technologies and is currently undergoing trials. The 184-meter long submarine will reportedly be able to carry as many as four Poseidon drones and is one of two vessels designated for the purpose.

<https://www.rt.com/russia/476473-belgorod-submarine-poseidon-drone/>

## How The U.S. Navy Remains The Masters Of Modular Nuclear Reactors

*James Conca, Forbes, December 23, 2019*

You might be aware of the 98 or so commercial nuclear power reactors that produce about 20% of our electricity. But there are another hundred nuclear reactors that power 86 submarines and aircraft carriers, producing electricity, heat and propulsion. We think of small modular nuclear reactors as something new that will take nuclear power to a new level, and even marvel at the rollout of new iterations, like Russia's new floating nuclear power plant. But in truth, the U.S. Navy has been operating and perfecting SMRs for 75 years. Work on nuclear marine propulsion started in the 1940s. In 1955, the first nuclear-powered submarine, the *USS Nautilus*, put to sea. This changed submarines from slow underwater cigar tubes to warships capable of sustaining 20-25 knots submerged for weeks or months on end. By 1962, the U.S. Navy had 26 operational nuclear-powered submarines with 30 more under construction.

More and different classes of nuclear submarines followed, along with nuclear aircraft carriers and other ships. The first nuclear-powered carrier, the *USS Enterprise* completed in 1960, was powered by eight Westinghouse reactors. The *USS Long Beach* followed in 1961 as

the first nuclear-powered cruiser with two reactors.

<https://www.forbes.com/sites/jamesconca/2019/12/23/americas-nuclear-navy-still-the-masters-of-nuclear-power/#417bf3d86bcd>

### **Russia's Meteor-M satellite hit by micrometeorite**

*TASS News Agency, December 24, 2019*

One of Russia's Meteor-M satellites has become uncontrollable following an external impact, presumably a micrometeorite strike, Russia's Roscosmos state space corporation said on its website on Tuesday. "On December 18, 2019, an emergency situation caused by external influence (presumably, a micrometeorite) was reported on board Meteor-M (identification number 2-2) spacecraft," the space agency said. "As a result, the parameters of the spacecraft's orbit were changed, and it entered the non-directed flight mode with high angular velocity." After that, the spacecraft switched to energy-saving mode. When the satellite entered the Russian ground control zone and established contact with the ground, efforts to restore its operations have been launched.

<https://tass.com/science/1102815>

### **Satellites delivered to orbit by Briz-KM upper stage — Russian Defense Ministry**

*TASS News Agency, December 27, 2019*

The Briz-KM upper stage has delivered to the orbit the military satellite and the Gonets-M communications satellite, the Russian Defense Ministry told journalists on Friday. "The Rokot light carrier rocket that has been launched earlier today, on December 27, at 2:11 a.m. Moscow time from the Plesetsk cosmodrome (Arkhangelsk region), delivered three Gonets-M communications spacecraft and the spacecraft of the Russian Defense Ministry to the orbit at the assigned time," the ministry said.

The launch of the Rokot rocket and delivery of the spacecraft to the orbit were carried

out in the routine mode, the ministry added.

<https://tass.com/science/1104117>

### **America Is Driving The Return Of Russia's Nuclear "Dead Hand"**

*Michael Peck, National Interest Blog, December 29, 2019*

Russia is acting out of fear that a U.S. first-strike that would decapitate the Russian leadership before it could give the order to retaliate. Russia has a knack for developing weapons that—at least on paper—are terrifying: nuclear-powered cruise missiles, robot subs with 100-megaton warheads. Perhaps the most terrifying was a Cold War doomsday system that would automatically launch missiles—without the need for a human to push the button—during a nuclear attack. But the system, known as "Perimeter" or "Dead Hand," may be back and deadlier than ever.

This comes after the Trump administration announced that the United States is withdrawing from the 1987 Intermediate-Range Nuclear Forces Treaty, which eliminated the once-massive American and Russian stockpiles of short- and medium-range missiles. Donald Trump alleges that Russia has violated the treaty by developing and deploying new, prohibited cruise missiles.

<https://nationalinterest.org/blog/buzz/america-driving-return-russias-nuclear-dead-hand-109206>

### **West Asia**

#### **Iran**

### **From Nuclear to NewClear**

*Chris Cook, Tehran Times, December 25, 2019 - 15:47*

This election was fought and won by Johnson's Conservative party in order to "Get Brexit Done" so that the UK will now definitively – after three years of political paralysis - leave the European Union. I believe this result to be positive for Iran

for two reasons, the first being Prime Minister Johnson as a person, and the second being the new role and responsibilities of Johnson's office as UK Prime Minister in international diplomacy and commerce for an independent UK.

"Those are my principles, and if you don't like them....well, I have others....." Groucho Marx. As with President Trump it is a mistake to view Prime Minister Johnson through the lens of rational statecraft. Johnson combines intelligence, idleness and pure expedience in equal measure. He owes his success to his capacity to delegate strategy and responsibility to capable and diligent subordinates such as Dominic Cummings, the Grand Vizier to Johnson's Byzantine Caliph. Perhaps the most important point for Iran's decision-makers to bear in mind with PM Johnson is that, like his father Stanley before him, he genuinely likes and respects Iran and Iranians, and the country's great culture, history and heritage. So, all things being equal, the accession to power of Johnson as a person is positive for Iran.

<https://www.tehrantimes.com/news/443393/Nuclear-deal-is-in-trouble-British-diplomat>

## Iran Newly Breaches Nuclear Deal

*Arms Control Today, December 2019*

December 2019 By Kelsey Davenport  
European parties to the 2015 nuclear deal that limits Iran's nuclear program said Tehran's decision to resume enriching uranium at its Fordow site makes diplomatic efforts to preserve the agreement and de-escalate tensions more difficult. Iran has announced it is accumulating uranium enriched by more advanced technology, including these IR-4 centrifuges. Iran has announced it is accumulating uranium enriched by more advanced technology, including these IR-4 centrifuges.

Iranian President Hassan Rouhani announced on Nov. 5 that Iran had "no other choice" but to resume enrichment at Fordow, violating the 15-year prohibition on enrichment at that site put in place by the

Joint Comprehensive Plan of Action (JCPOA). The nuclear deal allows Iran to retain 1,044 centrifuges at Fordow, but requires Tehran to convert the uranium-enrichment facility into a medical isotope production and research center.

<https://www.armscontrol.org/act/2019-12/news/iran-newly-breaches-nuclear-deal>

## Israel

### Does Israel Have Nuclear Missile Submarines?

*Sebastien Roblin, December 17, 2019*

Jerusalem has to have someplace to store its alleged 80-300 nuclear weapons. Unofficially, Tel Aviv wants everyone to know it has them, and doesn't hesitate to make thinly-veiled references to its willingness to use them if confronted by an existential threat. Estimates on the size of Tel Aviv's nuclear stockpile range from 80 to 300 nuclear weapons, the latter number exceeding China's arsenal.

Originally, Israel's nuclear forces relied on air-dropped nuclear bombs and Jericho ballistic missiles. For example, when Egyptian and Syrian armies attacked Israel during the 1973 Yom Kippur War, a squadron of eight Israeli F-4 Phantom jets loaded with nuclear bombs was placed on alert by Prime Minister Golda Meir, ready to unleash nuclear bombs on Cairo and Damascus should the Arab armies break through.

Though Israel is the only nuclear-armed state in the Middle East, Tel Aviv is preoccupied by the fear that an adversary might one day attempt a first strike to destroy its nuclear missiles and strike planes on the ground before they can retaliate. Currently, the only hostile states likely to acquire such a capability are Iran or Syria.

<https://nationalinterest.org/blog/buzz/does-israel-have-nuclear-missile-submarines-105517>

## Can Israel combat Iran at the UN?

*Yonah Jeremy Bob*

*The Jerusalem Post, December 19, 2019*

Despite US sanctions which started in August 2018 and kicked into full gear this past May, support from Russia, China and a range of other countries has kept the Islamic republic afloat.

More than four years after the Iran nuclear deal was signed and about 18 months after President Donald Trump pulled the US out of the deal, Iran is finally on the defensive again at the UN. Since Trump pulled the US out in May 2018, the EU-3 have criticized the US and mostly given moral support to Iran, ignoring most of its problematic activities with ballistic missiles and in the Middle East. This all changed two weeks ago when the EU-3 referred Iran to the UN Security Council for at least four separate violations of resolutions restricting it from ballistic missile testing.

<https://www.jpost.com/Opinion/With-EU-support-Iran-issue-goes-to-the-UN-will-Israel-get-anywhere-611487>

## Middle East Disaster: Nuclear War Between Russia and Israel Is Possible

*Michael Peck, National Interest Blog, December 24, 2019*

Were the Israelis and Russians to come to blows, or if Moscow were to seriously threaten military force against Israel, could the United States risk a grave loss of prestige by not intervening to back its longtime ally?

Israel remains determined to continue pounding Iranian forces in Syria in a bid to keep Tehran's forces away from Israel's northern border. At the same time, Russia has thousands of troops in Syria that could be caught in the crossfire—or even become belligerents if Moscow tires of its Syrian ally being pummeled. And if Israel and Russia come to blows, would Israel's big brother—the United States—feel compelled to intervene? Not that Jerusalem or Moscow are eager for such a fight. "Neither of us desire a military confrontation," a senior

Israel Defense Forces (IDF) official told me during a recent interview in Jerusalem. "It would be detrimental to both sides."

<https://nationalinterest.org/blog/buzz/middle-east-disaster-nuclear-war-between-russia-and-israel-possible-108286>

## Turkey

### Turkey Threatens to Close Key U.S. Air Base That Houses Nuclear Bombs

*Mark Episkopos, National Interest Blog, December 18, 2019*

In what may become the latest wedge in Turkey-NATO relations since Ankara's purchase of the Russian S-400 missile system earlier this year, Turkish President Tayyip Erdogan has threatened to shut down the Incirlik air base. "If it is necessary for us to take such a step, of course we have the authority ... If this is necessary, together with our delegations, we will close down Incirlik if necessary," Erdogan told Turkish state television earlier this week.

President Erdogan's comments were prompted by a recent Senate vote to recognize the early 20th century massacres and mass deportations of Armenians in the Ottoman Empire as a genocide, as well as the ongoing prospect of Ankara's S-400 deal being sanctioned under the 2017 Countering America's Adversaries Through Sanctions Act (CAATSA).

Far more than merely a symbolic rift in the U.S.-Turkey defense relationship, the prospective closure of the Incirlik air base forebodes immediate and serious military repercussions for the U.S. The base, located deep in southern Turkey off the mediterranean coastline, houses a 50-unit stockpile of B61 nuclear bombs. A legacy of Cold War-era nuclear deterrence strategy, Incirlik remains the largest U.S. nuclear weapons storage site in Europe. But what used to be a forward post for a retaliatory strike against prospective Soviet encroachment into Western Europe, as well as a crucial bargaining chip during

the 1960's Cuban Missile Crisis, is increasingly seen as a strategic liability amid the stark downturn in U.S.-Turkish relations over the past several years.

<https://nationalinterest.org/blog/buzz/turkey-threatens-close-key-us-air-base-houses-nuclear-bombs-106116>

### **CHP rules out sanctions, threats on Turkey-US ties**

*Serkan Demirta<sup>o</sup>, Hurriyet Daily News, December 18, 2019*

First, it was Foreign Minister Mevlüt Çavuşođlu; then, it was President Recep Tayyip Erdoğan who said that Turkey may shut down İncirlik military base and the radar site in Kürecik, Malatya in retaliation against a vote by the U.S. Congress that paves the way for sanctioning Turkey over its military operation into Syria and purchase of Russian weaponry.

Both the İncirlik base and the Kürecik radar site operate under separate bilateral agreements between Turkey and the United States. The legal foundation of the İncirlik base dates to 1980 when the two allies signed the Defense and Economic Cooperation Agreement (DECA), although it was built in the early 1950s. The base has long been regarded as the symbol of the Turkish-American strategic partnership particularly through the Cold War. Plus, it's believed the facility still stores around 50 nuclear warheads

The legality of the Kürecik radar site is based on a memorandum of understanding the two countries inked in September 2011. Although Kürecik has already been hosting a radar site there since the 1950s, the new agreement has allowed expanding the capacity of the base so that it could function as part of NATO's Ballistic Missile Defense program. Both facilities are still crucial for both the U.S. and NATO although many experts recall that the U.S. Army has built several important military bases in the entire region, particularly in Iraq and in the Gulf, and the role of the İncirlik may have been ignored for Washington. However, an ongoing discussion over Turkey's threats

that it may terminate the use of these sites by the U.S. is much deeper and concerns not only bilateral ties with Washington but also Ankara's commitments to its NATO responsibilities.

<http://www.hurriyetdailynews.com/opinion/serkan-demirtas/chp-rules-out-sanctions-threats-on-turkey-us-ties-149966>

### **East Asia**

#### **North Korea**

### **Chief of KPA General Staff urges US to watch its mouth**

*Pyongyang Times, December 16, 2019*

"I am very glad that the DPRK Academy of Defence Sciences is attaining great successes in building up defence capabilities of the country as it successfully carries out a series of tests of great significance," Pak Jong Chon, chief of the General Staff of the Korean People's Army, said last Saturday. He said that the priceless data, experience and new technologies gained through the recent tests will be applied to another strategic weapon programme of the DPRK aimed at restraining and overpowering the US' nuclear threat in a definite and reliable manner. Only when the balance of power is fully ensured, can genuine peace be safeguarded and our development and future be guaranteed, he added. "We have stored up tremendous force.

"We should be ready to cope with both political and military provocations by hostile forces and be familiar with both dialogue and confrontation." The KPA, he noted, is fully poised to carry through any decision of the Supreme Leader with action. Everyone is free to evaluate the entity of our force, he said, but he or she needs to see it squarely before judgment. Given the acute situation, he advised the US and other hostile forces to refrain from provoking the DPRK in order to spend the year-end in peace.

[http://www.pyongyangtimes.com.kp/?bbs=32453\\_](http://www.pyongyangtimes.com.kp/?bbs=32453_)

## Diplomacy is best way

*Korea Times, December 16, 2019*

N. Korea should not ignore Biegun's proposal, U.S. Special Representative for North Korea Stephen Biegun, who is visiting Seoul, on Monday offered to meet North Korean officials to discuss how to move the stalled denuclearization talks forward. This raises expectations for an impromptu meeting between Biegun and North Koreans at the inter-Korean truce village of Panmunjeom before he leaves Seoul, Tuesday. Hopefully, the North will accept his proposal without conditions and exchange ideas on how to break the deadlock in a candid manner.

First, the North should realize that the self-imposed "deadline" for a deal with the U.S. is meaningless as long as both sides are committed to seeking solutions through diplomacy. The North cannot get anything by firing missiles or resuming nuclear tests. It only aggravates the situation, and will give the impression to the world that the nuclear issue cannot be resolved through dialogue. Pyongyang should leave open the possibility of extending the negotiations with Washington. So when Biegun told reporters in Seoul that the U.S. had no deadline on nuclear negotiations with the North, it sounded like an implicit acknowledgement that narrowing differences with the North is impossible at this moment. However, Biegun said his team was ready to resume negotiations with the North, saying the U.S. had offered the North a number of "creative ways" to proceed with "feasible steps and flexibility" to reach a balanced agreement.

[http://www.koreatimes.co.kr/www/opinion/2019/12/137\\_280384.html](http://www.koreatimes.co.kr/www/opinion/2019/12/137_280384.html)

## Wrong signal to North Korea

*Korea Times, December 17, 2019*

It is premature to call for sanctions relief. China and Russia have proposed the U.N. Security Council ease sanctions against North Korea amid growing tensions between Pyongyang and Washington over the stalled nuclear talks. On Monday, the two countries circulated a draft resolution

to council members calling for sanctions relief. The proposal is somewhat surprising as it came when U.S. Special Representative for North Korea Stephen Biegun was visiting Seoul for a possible contact with the North's negotiators to put the deadlocked dialogue back on track. Pyongyang is threatening to conduct another provocation, possibly an ICBM test launch, after carrying out two tests - believed to be rocket engine tests - on Dec. 7 and 13.

The Kim Jong-un regime has made the threat in an apparent bid to extract concessions from the U.S., possibly sanctions relief, before the year-end deadline it has given. The North has even threatened to stop the denuclearization talks and take a "new way" unless Washington accepts its demands by Dec. 31. Against this backdrop, the sanctions relief proposal by the North's allies - China and Russia - runs the risk of sending the wrong signal to Pyongyang. The draft resolution calls on the council to lift sanctions which were imposed on major North Korean exports such as seafood, textiles and statues in 2016 and 2017. It also calls for lifting a ban on North Koreans working abroad and the termination of a decision to repatriate all those workers by Dec. 22. The two countries said the proposal was made to enhance the livelihood of the civilian population and for humanitarian purposes.

[http://www.koreatimes.co.kr/www/opinion/2019/12/137\\_280464.html](http://www.koreatimes.co.kr/www/opinion/2019/12/137_280464.html)

## NHK's false alarm

*Korea Times, December 27, 2019*

Even a small mistake can be dangerous at this time. Japan's public broadcaster NHK mistakenly reported early Friday morning that a North Korean missile had landed in the sea off the country's northern island of Hokkaido. It was not the first time NHK has issued a false alarm about North Korea's missile launch. In January last year, the broadcaster sent out a "J-alert" warning to the public that North Korea

had fired a missile, prompting Chief Cabinet Secretary Yoshihide Suga to issue a reprimanding commentary. "J-alert provides extremely important information that affects the safety and security of Japanese citizens. We want NHK to do their utmost to prevent a recurrence," Suga said at the time. NHK took disciplinary measures against its news bureau chiefs regarding this incident.

But NHK made the same careless mistake. The latest case should not be taken lightly because such a false report at this sensitive time could lead to an armed clash – even war. Notably, tensions are running high over Pyongyang's possible missile test as a "Christmas gift" for U.S. President Donald Trump. The U.S. has been increasingly flying surveillance aircraft near the Korean Peninsula. What is notable in Friday's original NHK report is that it contained some specific information about the missile trajectory. It stated that the North Korean missile had landed in the sea about 2,000 kilometers east of Hokkaido's Cape Erimo, suggesting a flight path over Japanese territory. The alert was sent out 22 minutes after midnight on its website and news app, not on TV. At 2:28 a.m., NHK issued an apology on its website, explaining that the text was meant for training purposes and was a false alarm. "We apologize to our viewers and the public," NHK said. But we should not rule out the possibility that the false alert could have been intentional considering the Shinzo Abe administration has maintained a hostile stance on North Korea.

[http://www.koreatimes.co.kr/www/opinion/2019/12/137\\_280977.html](http://www.koreatimes.co.kr/www/opinion/2019/12/137_280977.html)

## South Korea

### Christmas gift - for whom?

*Choi Sung-jin, Korea Times, December 17, 2019*

This month, the North seems to be preparing a "Christmas gift" for the United States, saying the content of the present will depend on Washington. Even longtime Pyongyang watchers are not sure what the gift will be.

They just guess it will be a long-range rocket closer to an intercontinental ballistic missile under the guise of a satellite launch or another nuclear test.

Listening to what North Korea says, however, it is Pyongyang that direly wants a Christmas gift from Washington. The North has called for the U.S. to lift economic sanctions or guarantee its national security, and make promises about them before this year passes. Otherwise, the isolationist regime says it will seek a "new way," another word over which guesses are rampant about what it means. According to some educated guesses, the "new way" of North Korea may be to raise tensions by sophisticating nuclear and missile capabilities and returning to brinkmanship tactics. Or North Korean leader Kim Jong-un may maintain the status quo in the nuclear confrontation while focusing on rebuilding the economy with the help of China and Russia.

[http://www.koreatimes.co.kr/www/opinion/2019/12/137\\_280432.html](http://www.koreatimes.co.kr/www/opinion/2019/12/137_280432.html)

### Unhappy holidays

*Deauwand Myers, Korea Times, December 18, 2019*

The cold and gloom this Christmas season matches the mood on the Korean Peninsula and elsewhere. And unfortunately for world leaders like President Moon Jae-in, he won't be getting what he wants for Christmas. The threat of a fully operational nuclear arsenal controlled by North Korea has become an increasingly likely scenario, a position that's untenable and obviously dangerous. How did we get here?

Well, first, let's look at the players. Japan's Prime Minister Shinzo Abe is not the best arbiter when it comes to Korean relations because of his increasingly truculent and ahistorical rhetoric on Imperial Japan's war crimes. Then, of course, there's U.S. President Donald Trump. His two failed summits with North Korean leader Kim Jong-un were predictably unproductive photo ops for Trump's ridiculous obsession

with getting the Nobel Peace Prize. Predictable because, like everything else Trump does, his large ego doesn't match his actual capabilities.

China's President Xi Jinping is not nearly as intellectually uncurious as his American counterpart. But he is ideologically rigid. But more than this, a reunited Korea would mean a democratic country right on China's doorstep, a scenario that's unpalatable to the Chinese Communist Party. Xi wants North Korea to suspend its nuclear weapons program, but he most likely doesn't want it completely dismantled. He sees these weapons as the Kim regime does: as a kind of insurance against regime change. Then there's President Moon himself. His breathless attempts at rapprochement with North Korea have been unsuccessful. His overtures to North Korea, though noble, were naive and politically wasteful. They fear that without the threat of using these deeply immoral weapons in a conflict, an American administration at one point in the future would attack and destroy the North Korean government, reunifying the Korean Peninsula.

[http://www.koreatimes.co.kr/www/opinion/2019/12/137\\_280255.html](http://www.koreatimes.co.kr/www/opinion/2019/12/137_280255.html)

### **Fragile peace**

*Korea Times, December 22, 2019*

Seoul should work closely with US, China over NK. U.S. President Donald Trump and Chinese President Xi Jinping had a telephone conversation about North Korea and other critical issues of mutual concern. Trump tweeted that he had a "very good talk" with Xi concerning an interim trade agreement the U.S. and China reached on Dec. 12. "China has already started large scale purchases of agricultural product & more. Formal signing being arranged," Trump wrote. "Also talked about North Korea, where we are working with China & Hong Kong (progress!)." China's Xinhua news agency reported that Xi stressed to Trump that all parties needed to seek a "political" settlement on the North Korean issue and that "all parties should meet each other halfway and maintain the momentum

of dialogue, which serves the common interests of all parties." Much of Xinhua's report was about Xi's concerns about U.S. "interference in internal affairs" on issues related to Taiwan, Hong Kong, Xinjiang and Tibet.

It is unclear what the U.S. and Chinese leaders discussed about North Korea. But it is easy to guess, given rising tensions on the Korean Peninsula over the North's move to pull out of denuclearization talks with the U.S. It is becoming more evident that the "new path" it previously pledged to take if the U.S. failed to present a new proposal within this year is about resuming tests of intercontinental ballistic missiles and nuclear weapons. According to the North's Korean Central News Agency, Sunday, Kim Jong-un has presided over a meeting of the Workers' Party Central Military Commission to decide on "important organizational and political measures and steps to bolster the North's armed forces."

[http://www.koreatimes.co.kr/www/opinion/2019/12/137\\_280684.html](http://www.koreatimes.co.kr/www/opinion/2019/12/137_280684.html)

### **'Pivot' to China**

*Korea Times, December 24, 2019*

President Moon sees easing sanctions on N. Korea necessary. President Moon Jae-in and Chinese President Xi Jinping appear to have reached a consensus that easing sanctions on North Korea is necessary to revive the momentum for dialogue between the North and the United States. Cheong Wa Dae said Moon and Xi exchanged opinions during their summit in Beijing, Monday, about the draft of a fresh U.N. Security Council resolution proposed recently by China and Russia to remove some sanctions imposed on North Korea.

Moon and Xi agreed to make concerted efforts to revive the dialogue momentum and reduce tension on the Korean Peninsula. According to the South Korean presidential office, the Chinese leader told Moon that Seoul and Beijing should work together to help Pyongyang and Washington continue the denuclearization

talks, saying China and South Korea could do many things if they joined hands. Moon agreed, saying maintaining the dialogue momentum was “more important than anything else.” We view this as Moon’s tacit agreement with China’s efforts to push for the easing of sanctions on North Korea. A security aide for Moon also told reporters on condition of anonymity that Pyongyang and Washington need to take “simultaneous and paralleled” measures to move the denuclearization talks forward based on a landmark agreement reached by their leaders in Singapore in June 2018.

[http://www.koreatimes.co.kr/www/opinion/2019/12/137\\_280805.html](http://www.koreatimes.co.kr/www/opinion/2019/12/137_280805.html)

### **Shutdown of nuclear reactor**

*Korea Times, December 27, 2019*

Decision leaves room to be desired in many ways, The nation’s atomic industrial regulator has decided to shut down the Wolsung-1 nuclear reactor for good. The seven-member Nuclear Safety and Security Commission Tuesday approved 5-2 the permanent closure of the reactor in Gyeongju, some 370 kilometers southeast of Seoul. The Wolsung-1, which began commercial operation in 1983, has become the second reactor to go into the shutdown process, following Kori-1 in 2007. The decision was fully expected under the incumbent government, which had pledged to denuclearize the nation’s energy mix. In pursuing a nuclear-free energy policy, the Moon Jae-in administration put forth two principles – no building of new nuclear power stations and no prolonging the operation of existing ones after their service life has expired. According to the policy, the Moon administration decided to nullify the previous government’s plan to build six new reactors and extend the operational license of the 14 worn-out plants, reducing the number of nuclear power stations from the current 24 to 14 by 2038.

The preliminary decision to shut down the Wolsung-1 reactor, however, resulted in a fierce debate on nuclear energy. The plant’s service life expired in 2012, but the regulatory commission decided to extend it

by 10 years, provided it supplements safety equipment. Its operator, Korea Hydro and Nuclear Power (KHNP), poured 560 billion won (\$482 million) in taxpayer money into beefing up its security system. It is incomprehensible that the commission, which initially took issue with safety issues, is now citing the plant’s lack of commercial viability as the reason for closure.

[http://www.koreatimes.co.kr/www/opinion/2019/12/137\\_280961.html](http://www.koreatimes.co.kr/www/opinion/2019/12/137_280961.html)

### **O. Think Tanks**

#### **Kudankulam: One Incident, Many Facets**

*Cherian Samuel and Munish Sharma,  
Institute for Defence Studies and Analyses,  
December 16, 2019*

A malware infection in the IT network of the Kudankulam Nuclear Power Plant (KKNPP) located in Tamil Nadu was first reported in social media on October 28. The coincidental shutdown of one of the plants in the preceding week led to speculations that the two were connected. An initial official response from the plant authorities refuted these reports. Subsequently, officials from other agencies including office of the National Cyber Security Coordinator (NCSC) confirmed these reports, and the Nuclear Power Corporation of India Limited (NPCIL) – the parent body responsible for running the nuclear power plants in the country – came out with an official press release giving some details of the incident. In its October 30 press release, the NPCIL clarified that the infected personal computer was in use for administrative purposes only, and the control systems of the plant and critical functions were unaffected by the breach. These details were later confirmed by the Union Minister of State for the Department of Atomic Energy in the Parliament on November 20.

The breach of a critical information infrastructure, particularly in the nuclear domain, cannot be taken lightly. It also affords an opportunity to review existing security practices and address the lacunae, where found. Now that much of the dust

has settled down, this issue brief seeks to examine the incident and address the larger questions it raises about the security of critical information infrastructure.

<https://idsa.in/issuebrief/kudankulam-incident-cherian-munish-161219>

### **Good news for climate change: India gets out of coal and into renewable energy**

*Tim Buckley, Bulletin of Atomic Scientist, December 16, 2019*

In the often grim world of climate reporting, there is at least one upbeat story: India has been aggressively pivoting away from coal-fired power plants and towards electricity generated by solar, wind, and hydroelectric power. This means that the amount of carbon dioxide the country emits into the atmosphere should come down dramatically.

The reasons for this change are complex and interlocking, but one aspect in particular seems to stand out: The price for solar electricity has been in freefall, to levels so low they were once thought impossible. For example, since 2017, one solar energy company has been generating electricity in the Indian state of Rajasthan at the unheard-of, guaranteed wholesale price of 2.44 rupees per kilowatt-hour, or 3 US cents. (In comparison, the average price for electricity in the United States is presently about 13.19 cents per kilowatt-hour, and some locations in the country pay far more. As recently as 2008, the average homeowner on Block Island, Rhode Island, paid a staggering 61 cents per kilowatt-hour for electricity, before any other fees or charges—which can nearly double the price. And businesses had it even worse, with some business owners reporting electric bills of as much as \$30,000 per month.)

Consequently, with this massive reduction in the cost of renewables, India is able to shift away from the world's dirtiest fossil fuel, and to much cleaner sources. It's a stunning change, and one that could have profound implications on the world energy market. While western countries continue to baulk

at reducing their reliance on fossil fuels, India is accelerating its plans to lock in a sustained, aggressive reduction in the carbon emissions intensity of its economy. In fact, India's prime minister, Narendra Modi, is targeting a fivefold expansion of the electricity generated from renewable energy sources by 2030—and this from a country that has already doubled its renewable energy in the past three years.

<https://thebulletin.org/2019/12/good-news-for-climate-change-india-gets-out-of-coal-and-into-renewable-energy/#>

### **As the US, China, and Russia build new nuclear weapons systems, how will AI be built in?**

*Matt Field, Bulletin of Atomic Scientist, December 20, 2019*

Researchers in the United States and elsewhere are paying a lot of attention to the prospect that in the coming years new nuclear weapons—and the infrastructure built to operate them—will include greater levels of artificial intelligence and automation. Earlier this month, three prominent US defense experts published a comprehensive analysis of how automation is already involved in nuclear command and control systems and of what could go wrong if countries implement even riskier forms of it.

The working paper "A Stable Nuclear Future? The Impact of Autonomous Systems and Artificial Intelligence" by the team of Michael Horowitz, Paul Scharre, and Alexander Velez-Green comes on the heels of other scholarly takes on the impact artificial intelligence (AI) will have on strategies around using nuclear weapons. All this research reflects the fact that militaries around the world are incorporating more artificial intelligence into non-nuclear weaponry—and that several countries are overhauling their nuclear weapons programs. "We wanted to better understand both the potentially stabilizing and destabilizing effects of automation on nuclear stability," Scharre, a senior fellow at the Center for a New American Security, told the *Bulletin*. "In

particular, as we see nations modernize their nuclear arsenals, there is both a risk and an opportunity in how they use automation in their nuclear operations.”

The report notes that nuclear weapons systems already include some automated functionality: For example, warning systems automatically alert nuclear weapons operators of an attack. After the Cold War, Russian missiles were programmed to automatically retarget themselves to hit US targets if they were launched without a flight plan. For its part, the United States at one point designed its entire missile arsenal so that it could be retargeted in seconds from its peacetime default of flying into the ocean. Even these forms of automation are risky as an accidental launch could “spark a nuclear war,” the report says. But some countries, the report warns, might resort to riskier types of automation.

<https://thebulletin.org/2019/12/as-the-us-china-and-russia-build-new-nuclear-weapons-systems-how-will-ai-be-built-in/#>

### **AI-controlled nuclear weapons, smallpox labs, and nuclear disinformation: The best of 2019 in disruptive tech coverage**

*Matt Field, Bulletin of Atomic Scientists, December 27, 2019*

Since the *Bulletin's* first issue in 1945, the publication started by scientists hoping to focus the world's attention on the dangers of nuclear weapons has been expanding its scope. These days you're just as likely to find exclusive climate change coverage as you are to read about new and ill-conceived ventures in the nuclear weapons space. A relatively new focus at the *Bulletin* involves what we call disruptive technologies. From artificial intelligence (AI) to new gene editing techniques, many technologies under development today promise unquestionably useful applications but also raise thorny ethical and practical questions and the possibility of misuse. Some use cases, in fact, seem only to help spread disinformation, raise the risk of war, or contribute to greater inequality.

There's been quite a lot to talk about under

this umbrella of disruptive technologies, and over the last year, the *Bulletin* has done just that. From an explosion at a Russian disease research center that houses the smallpox virus to a proposal to allow AI to be used in the command and control system for nuclear weapons, *Bulletin* authors ranged across the disruptive tech landscape. Here are six stories that are among the best we published in 2019.

<https://thebulletin.org/2019/12/ai-controlled-nuclear-weapons-smallpox-labs-and-nuclear-disinformation-the-best-of-2019-in-disruptive-tech-coverage/>

### **The six best nuclear risk stories of 2019**

*John Krzyzaniak, Bulletin of Atomic Scientists, December 30, 2019*

2019 was full of surprising—and terrifying—nuclear news. To list a few of the major events: A crisis between India and Pakistan brought two nuclear-armed countries to the brink of war; Donald Trump met Kim Jong Un twice but made no diplomatic progress on North Korean denuclearization; Russia tried to cover up a mysterious explosion on its northern coast that prompted near-endless speculation about its efforts to build a nuclear-powered cruise missile; the United States formally withdrew from the Intermediate-range Nuclear Forces Treaty and resumed testing missiles that would have been banned under the treaty; and Iran, after nearly goading the United States into a war over the summer, settled into a series of steady, deliberate breaches to its commitments under the nuclear deal that was inked in 2015.

A wide array of experts contributed valuable stories to help *Bulletin* readers make sense of these major events. While that coverage was superb and merits reading and even re-reading, the list below takes a different tack. It is composed of articles that either look back to generate some historical perspective or look forward to a brighter, less dangerous future.

<https://thebulletin.org/2019/12/six-best-nuclear-risk-stories-2019/>

## IAEA Highlights and Achievements in 2019 – a Year in Review

*Natalia Ivanova, International Atomic Energy Agency, December 30, 2019*

The appointment of a new Director General, over 60 peer review missions, the first entirely virtual conference and a stronger voice in global climate discussions are some of the highlights of this past year here at the IAEA. This article summarizes some of the key events and achievements of the year. To review some of the most important topics at the IAEA during this past year, see also recent issues of its flagship publications — the IAEA Bulletin — highlighting the Agency's work and impact in the peaceful uses of nuclear technology.

<https://www.iaea.org/newscenter/news/iaea-highlights-and-achievements-in-2019-a-year-in-review>

## US-India space cooperation: Moving away from the burden of the past

*Kartik Bommakanti, Observer Research Foundation, December 31, 2019*

Since the 2000s, India and the US have forged ahead and sought to intensify civilian and commercial cooperation in the domain of space. US-India space cooperation have come a long way since the 1960s. Washington played a vital role in laying the foundations of the Indian space programme. The US helped in establishing the Thumba Equatorial Rocket Launch (TERL), Thiruvananthapuram and transferred sounding rockets such as the Nike-Apache, which was launched from the TERL. US-India space cooperation has witnessed growth since 2008 when the Indian Space Research Organisation (ISRO) as part of India's first deep space mission the Chandrayaan-1 to the moon carried two scientific payloads — the Moon Mineralogy Mapper (M3) and Miniature Synthetic Aperture (MiniSar). In 2006, the ISRO and its American counterpart National Aeronautics and Space Administration (NASA) signed a Memorandum of Understanding (MoU), which enabled the NASA payloads to be part of the lunar mission under the aegis of the US

Administration led by George W. Bush. The Bush Administration pushed for improved strategic ties starting with the 2004 launch of the Next Steps in Strategic Partnership (NSSP) between United States and India. Since then in a little over a decade, US-India space cooperation has intensified at a brisk pace, particularly involving the American private sector, which has found India's space launch services attractive and economical. However, before we address the key developments in US-India space relations in recent years, we need to survey the issues that divided New Delhi and Washington for decades.

Nevertheless, beyond space launches, India and the US have started cooperating in the area of Satellite Navigation (SatNav). The United States Congress earlier this month decided in principle, if not yet formally, to designate the Indian Regional Navigation Satellite System (IRNSS) or better known as the NavIC as an "allied system". According allied status to the NavIC is part of a larger effort on the part of Washington to develop a "prototype" programme with underlying objective of establishing "multi-global" SatNav system. In addition, American private sector companies such as Qualcomm Technologies have concluded an agreement with ISRO to support the NavIC's geolocation capabilities in its chipset platforms that will enable better mobile services and Internet performance. All this represents important progress and as ISRO's capacities grow further, more significant scientific exploration could crystallise for deep space missions as well as initiatives that are more limited.

<https://www.orfonline.org/expert-speak/us-india-space-cooperation-moving-away-burden-past-59282/>

## P. Reports & Interviews

### Iran's Nuclear Program: Status

*Congressional Research Report, December 20, 2019*

Iran's nuclear program began during the 1950s. The United States has expressed

concern since the mid-1970s that Tehran might develop nuclear weapons. Iran's construction of gas centrifuge uranium enrichment facilities is currently the main source of proliferation concern. Gas centrifuges can produce both low-enriched uranium (LEU), which can be used in nuclear power reactors, and weapons-grade highly enriched uranium (HEU), which is one of the two types of fissile material used in nuclear weapons. Is Iran Capable of Building Nuclear Weapons? The United States has assessed that Tehran possesses the technological and industrial capacity to produce nuclear weapons. But Iran has not yet mastered all of the necessary technologies for building such weapons. Whether Iran has a viable design for a nuclear weapon is unclear.

A National Intelligence Estimate made public in 2007 assessed that Tehran "halted its nuclear weapons program" in 2003. The estimate, however, also assessed that Tehran is "keeping open the option to develop nuclear weapons" and that any decision to end a nuclear weapons program is "inherently reversible." U.S. intelligence officials have reaffirmed this judgment on several occasions. Obtaining fissile material is widely regarded as the most difficult task in building nuclear weapons. As of January 2014, Iran had produced an amount of LEU containing up to 5% uranium-235, which, if further enriched, could theoretically have produced enough HEU for as many as eight nuclear weapons. Iran had also produced LEU containing nearly 20% uranium-235; the total amount of this LEU, if it had been in the form of uranium hexafluoride and further enriched, would have been sufficient for a nuclear weapon. After the Joint Plan of Action, which Tehran concluded with China, France, Germany, Russia, the United Kingdom, and the United States (collectively known as the "P5+1"), went into effect in January 2014, Iran either converted much of its LEU containing nearly 20% uranium-235 for use as fuel in a research reactor located in Tehran, or prepared it for that purpose. Iran has diluted the rest of that stockpile so that it contained no more than 5% uranium-235.

In addition, Tehran has implemented various restrictions on, and provided the IAEA with additional information about, its nuclear program pursuant to the July 2015 Joint Comprehensive Plan of Action (JCPOA), which Tehran concluded with the P5+1. Although Iran claims that its nuclear program is exclusively for peaceful purposes, the program has generated considerable concern that Tehran is pursuing a nuclear weapons program. The U.N. Security Council responded to Iran's refusal to suspend work on its uranium enrichment program by adopting several resolutions that imposed sanctions on Tehran. Despite evidence that sanctions and other forms of pressure have slowed the program, Iran continued to enrich uranium, install additional centrifuges, and conduct research on new types of centrifuges. Tehran has also worked on a heavy-water reactor, which was a proliferation concern because its spent fuel would have contained plutonium—the other type of fissile material used in nuclear weapons. However, plutonium must be separated from spent fuel—a procedure called "reprocessing." Iran has said that it will not engage in reprocessing.

How Soon Could Iran Produce a Nuclear Weapon? Then-Under Secretary of State for Political Affairs Wendy Sherman explained during an October 2013 hearing of the Senate Committee on Foreign Relations that Iran would need as much as one year to produce a nuclear weapon if the government decided to do so. At the time, Tehran would have needed two to three months to produce enough weapons-grade HEU for a nuclear weapon. Iran's compliance with the JCPOA increased that time frame to one year, according to U.S. officials. These estimates apparently assume that Iran would use its declared nuclear facilities to produce fissile material for a weapon. However, Tehran would probably use covert facilities for this purpose; Iranian efforts to produce fissile material for nuclear weapons by using its known nuclear facilities would almost certainly be detected by the IAEA.

<https://fas.org/sgp/crs/nuke/RL34544.pdf>

## Gorbachev: Don't give up hope for world without nuclear weapons

*The Asahi Shimbun, December 17, 2019*

With the Trump administration withdrawing from a key nuclear weapons agreement and even contemplating the use of low-grade nuclear weapons, former Soviet Union leader Mikhail Gorbachev wants to reach out to the United States for dialogue. "The main thing is to act so as not to allow the world to slide towards an arms race, to a confrontation, and to hostility," Gorbachev said. "Despite everything, I believe that this is still within our capabilities." As general secretary of the former Soviet Union, Gorbachev played a large role in bringing the Cold War to an end and reaching agreements with the United States on reducing nuclear weapons. He received the Nobel Peace Prize in 1990. The Asahi Shimbun recently interviewed Gorbachev, 88, in Moscow to hear his views on what needs to be done to restore mutual cooperation and negotiations to lessen the dangers of nuclear war.

Excerpts of the interview follow:

**Question: Having worked toward the signing of the Intermediate-Range Nuclear Forces Treaty (INF), how do you now feel about the invalidation of that treaty?**

Gorbachev: I want to remind you of an idea which was the main driver on the road to this treaty. It is expressed in the joint announcement given by the leaders of the Soviet Union and the United States that was agreed at our first meeting (in 1985) in Geneva: "A nuclear war is not acceptable, and there will be no winners in a nuclear war." We announced that we had to get rid of nuclear weapons. This is something I am still praying for.

This was the first step as the states reviewed their respective military doctrines with the aim of reducing their reliance on nuclear weapons. In comparison with the peak of the Cold War, the number of nuclear weapons that Russia and the United States had was reduced by more than 80 percent. The countries of Eastern and Western Europe

agreed on reductions in their armed forces and their weaponry. This was the "peace dividend," which everyone received as a result of the end of the Cold War.

**Q: But with the abandonment of various restrictions, what do you feel will be the effects for the future of the world?**

Gorbachev: The decision by the United States to withdraw from the INF threatens to unleash a sequence of events that would move to undo all of this. The United States refused to ratify the Comprehensive Nuclear Test Ban Treaty (CTBT). As a result of the unilateral decision in 2002, the United States nullified the Treaty on the Limitation of Anti-Ballistic Missile Systems (ABMT).

Out of the three principal pillars of global strategic stability—the ABMT, INF and START (Strategic Arms Reduction Treaty)—only one is left, but even the fate of the New START, which was signed in 2010, is becoming unclear.

What's behind the United States' decision to withdraw from the INF is their striving to free themselves of any obligations with respect to weapons and obtain absolute military supremacy. That is an illusory aim, an unfulfilled hope. Hegemony by one single country is not possible in today's world. The result would be destabilization of the global strategic situation, a new arms race and all the randomness and unpredictability of global politics. The security of every country, including the United States, will suffer as a result.

**Q: What would you like to say to the current U.S. president?**

Gorbachev: I hear from the current president of the United States that they are the richest country, that they have more money than anybody else, so there is going to be a new arms race. Who is America planning to fight, however? The first country to come to mind, of course, is Russia. We should never let ourselves embark on a course of developing nuclear weapons again and of a new arms race. We have to stop working on pipe dreams,

and engage with realpolitik. We don't need an apocalypse! We need peace!

**Q: I understand that one catalyst for your signing the INF was the accident at the Chernobyl nuclear plant. Can you explain?**

Gorbachev: The explosion of the atomic reactor at the Chernobyl Nuclear Power Station became one of the most important boundaries in the history of our country and of the world, laying bare the problems in the Soviet Union and reminding us of the colossal destructive power of atomic energy and of nuclear weapons. Colossal efforts were put in place to find the reasons behind what happened and to liquidate the immediate consequences of this tragedy. The liquidators showed courage, but unfortunately, this did result in casualties.

My life was divided into two parts: before the Chernobyl accident, and after. They tried to prevent a nuclear explosion themselves, but they still lacked the understanding of what Japan had been through. Again, that was an experience which demonstrated to us that we had to do something about nuclear weapons.

**Q: After the Chernobyl accident, you made a speech on television in May 1986 in which you called out to U.S. President Ronald Reagan for a meeting at a European capital or even Hiroshima. Why did you make that proposal?**

Gorbachev: I don't think anyone wants a second Hiroshima. The powerful states who have 90 percent of the nuclear arsenal at their disposal have to reassure global public opinion that we are moving toward a liquidation of these weapons. Russia is ready.

**Q: How have you been making your calls for eliminating nuclear weapons?**

Gorbachev: I consider nuclear war to be unacceptable. Only a madman would start a nuclear war. Even during the course of what was mandatory training for a head of state I never pressed that button in the so-called "nuclear briefcase." I recently wrote to Nobel Peace Prize laureates and called on them to approach the leaders of the nuclear

states and request that they return to talks on the reduction and elimination of nuclear arsenals. Some of our experts are singing the praises of nuclear weapons. They are saying that nuclear weapons saved the world from war. But at least on one occasion they took the world to the brink of self-destruction. I am referring to the Cuban missile crisis. This should never be forgotten.

**Q: What do you think needs to be done now?**

Gorbachev: I think that talks between the United States and Russia must be resumed immediately. During these talks not only must the issues of the INF, or a continuation of the New START be reviewed, but also the principal questions of peace and security, and, first and foremost, the need to restore the movement toward a world without nuclear weapons. All the nuclear states need to make decisive steps toward a world free of nuclear weapons. Nuclear deterrence will not protect the world from a nuclear accident or from nuclear terrorism, but would keep it under a constant threat.

**Q: What advice do you have for the current global situation?**

Gorbachev: The agreements that created the basis for international security following the end of the Cold War should be used for further talks. I want to reach out to the Americans, especially to the members of Congress, Republicans and Democrats. I regret that the pressing situation with respect to internal politics that has unfolded in the United States over the last few years has led to a failure of dialogue between our two countries. It is time to overcome the inter-party disagreements and start a serious conversation.

New ideas are needed, which would help in moving relations between Russia and the United States away from their deadlock. Not so long ago, former U.S. Secretary of State George Shultz and I called for the establishment of a non-governmental forum of Russian and

American experts to develop proposals for the governments of our respective countries. The militarization of thought has led to the militarization of the behavior of countries. The key to resolving security issues lies not in weapons, but in politics. The main thing is to act so as not to allow the world to slide towards an arms race, to a confrontation, and to hostility. Despite everything, I believe that this is still within our capabilities.

**Q: How did you first become involved in nuclear issues?**

Gorbachev: It all began when I worked in the Komsomol (the Communist Party's youth division). We were a small group gathered at an officers' club and we were shown a film about the effects of a nuclear explosion and about the atomic bomb itself. There is so much power in that bomb. We were shocked. We were told you should never look directly at the blast and you have to cover yourself with a wet sheet. Back then when I saw all this, I said there is only one thing we can do—we have to fight for peace.

*<http://www.asahi.com/ajw/articles/AJ201912170049.html>*

## 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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