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A. India

The process of Astronaut selection for the Gaganyaan mission is completed: ISRO Chairman

PIB India, January 1, 2020

The Chairman Indian Space Research Organisation (ISRO) Dr K Sivan briefed media at a Press Meet organised at ISRO Headquarters, Bengaluru today. During the Press Meet, Dr Sivan outlined ISRO's achievements during the last one year and also the plans to be accomplished during the current year.

During 2019, six launch vehicle and seven satellite missions were realised by ISRO. The year also marked the 50th launch of the Polar Satellite Launch Vehicle (PSLV). Dr Sivan said that two new variants of the PSLV were introduced. For the first time, the spent fourth stage of the PSLV was successfully demonstrated as an experimental orbital platform. Indigenously developed Vikram processor by Semi-Conductor Laboratory was flight tested during the year. International mobile standards body 3rd Generation Partnership Project (3GPP) approved India's regional navigation satellite system NavIC which would facilitate NavIC's use in mobile phones. In an effort towards horizontal expansion of ISRO, Space Technology Cells, Space Technology Incubation Centres and Regional Academic Centres for Space were established during the year and many more such centres are planned in the future. A special programme for school children called "Yuva Vigyani Karyakram (YUVIKA)" aimed at imparting basic knowledge on Space Technology, Space Science and Space Applications was also introduced during the last year.

<https://pib.gov.in/PressReleaseDetail.aspx?PRID=1598205>

General Bipin Rawat assumes charge of first Chief of Defence Staff; Vows to create more synergy between the Armed Forces

PIB India, January 1, 2020

General Bipin Rawat assumed office of the

Chief of Defence Staff (CDS) here today. As the CDS, General Rawat will be the Principal Military Advisor to the Raksha Mantri on all Tri-Services matters. He will also head Department of Military Affairs (DMA). The CDS will have a key role in ensuring optimum utilisation of allocated budget, usher in more synergy in procurement, training & operations of the Services through joint planning and integration. The CDS will facilitate indigenisation of weapons and equipment to the maximum extent possible while formulating the overall defence acquisition plan for the three Services.

<https://pib.gov.in/PressReleaseDetail.aspx?PRID=1598155>

Cabinet approves agreement between India and Mongolia on Cooperation in the Exploration and Uses of Outer Space for Peaceful and Civilian Purposes

PIB India, January 8, 2020

The Union Cabinet, chaired by the Prime Minister Shri Narendra Modi, has given its approval for an Agreement between Government of the Republic of India and Government of Mongolia on Cooperation in the Exploration and Uses of Outer Space for Peaceful and Civilian Purposes. The Agreement was signed at New Delhi on 20 September 2019 during the state visit of the President of Mongolia to India.

<https://pib.gov.in/PressReleaseDetail.aspx?PRID=1598725>

Renewable Energy Sector Makes rapid Strides in 2019 Installed Re Capacity Crosses 84GW; Nearly 10 GW Re Capacity Added in 2019

PIB India, January 9, 2020

As a part of Nationally Determined Contributions as per the Paris Accord on Climate Change, India has made a pledge that by 2030, 40% of our installed power generation capacity shall be from non-fossil fuel sources and also by 2030, reduce emission intensity of GDP by 33-35 % from 2005 level. Economic growth, increasing

prosperity, a growing rate of urbanisation and rising per capita energy consumption has increased the energy demand of the country.

Keeping in view the above and our commitment for a healthy planet with less carbon intensive economy, we decided in 2015 that 175 GW of renewable energy capacity will be installed by the year 2022. This includes 100 GW from solar, 60 GW from wind, 10 GW from biomass and 5 GW from small hydro power. The substantial higher capacity target will ensure greater energy security, improved energy access and enhanced employment opportunities. With the accomplishment of these ambitious targets, India will become one of the largest Green Energy producers in the world, even surpassing several developed countries.

<https://pib.gov.in/PressReleaseDetail.aspx?PRID=1598948>

“Gaganyaan space astronauts training to start this month”: Dr Jitendra Singh

PIB India, January 15, 2020

“Gaganyaan” space astronauts will start their training this month, most likely in the third week of January.

This was disclosed here today by the Union Minister of State (Independent Charge) Development of North Eastern Region (DoNER), MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr Jitendra Singh who also said that the training of the astronauts for India’s first human space mission will take place in Russia. Four astronauts have been identified for the mission, he added.

It was further disclosed by the Minister that four astronauts, shortlisted for the mission, will receive training for 11 months. All the four astronauts selected for the mission are men but their identity cannot be revealed. After 11 months of training in Russia, the astronauts will receive module specific training in India. In that, they will be trained in crew and service module designed by ISRO, learn to operate it, work around it and

do simulations. As per the ISRO sources, India’s heaviest launch vehicle “Bahubali” GSLV Mark-III will carry astronauts to space.

<https://pib.gov.in/PressReleaseDetail.aspx?PRID=1599514>

India’s first CDS takes office: With nuclear weapons under his charge, Gen Rawat to work towards integration of services

Financial Express, January 1, 2020

India’s first-ever Chief of Defense Staff (CDS) a four-star Gen Bipin Rawat has officially taken over the charge today and has made it clear that the Indian Military will not copy the Western System of joint theatre command will come out with its own policy. Soon after taking over, Rawat said that the task of the CDS is to achieve more thorough integration and synergy. And all the three services-Army, Navy and Air Force will work together as a team.

Responding to a media query on the challenges the Indian Armed forces are facing at the Line of Actual Control on the China front, Rawat said that all challenges will be dealt with through synergy and integration. To a question related to political parties questioning his political inclinations, he said that “We work as per the directions of the government of the day. We are far away from politics.” Economical use of resources will be ensured and there will focus on integration, uniform procurement procedure and joint training. As a CDS he is part of Strategic Force Command which will be responsible for nuclear weapons.

<https://www.financialexpress.com/defence/indias-first-cds-takes-office-with-nuclear-weapons-under-his-charge-gen-rawat-to-work-towards-integration-of-services/1809791/>

We can execute operations without nuclear escalation: Army Chief

Dinakar Peri, The Hindu, January 3, 2020

Nuclear weapons are for deterrence and on a few occasions Indian armed forces have carried out operations across

the Line Control (LoC) without the “nuclear portion coming into play,” Army chief Gen. Manoj Naravane said on Friday, referring to the 2016 surgical strikes and the Balakot air strikes last year. Talking to a small group of print media journalists, he said the armed forces have been apolitical since independence. “I disagree that there is any politicisation of the armed forces,” he said, adding there is some misperception on that. On the Army being called frequently to assist the civil administration he observed they are the Army “of the people and for the people.”

<https://www.thehindu.com/news/national/we-can-execute-operations-without-nuclear-escalation-army-chief/article30471477.ece>

India's ballistic missile shield ready, IAF & DRDO to seek govt nod to protect Delhi

Snehes Alex Philip, The Print, January 8, 2020

India's indigenous Ballistic Missile Defence (BMD) programme is complete, and the Indian Air Force (IAF) and the Defence Research and Development Organisation (DRDO) are now working on a proposal to seek the government's nod to install the missile shield for the national capital, ThePrint has learnt. The BMD, along with the Russian S-400 Triumf air defence system, aims to secure the country from all kinds of incoming missiles, including nuclear, and flying objects.

“The BMD programme has been completed. All tests carried so far have been successful, including the radars and missiles. The IAF, which is responsible for the country's air defence, and the DRDO, which has developed the system, will now move a joint proposal for the government's clearance,” The successful test of the anti-satellite (A-SAT) missile last March was a big boost to the BMD programme. India's leap in space with the A-SAT test is especially significant because inter-continental ballistic missiles like China's Dongfeng series travel through space before re-entering Earth's atmosphere to hit the target.

<https://theprint.in/defence/indias-ballistic-missile-shield-ready-iaf-drdo-to-see-govt-nod-to-protect-delhi/345853/>

B. China

China and Iran to strengthen cooperation

Wang Qingyun, China Daily, January 1, 2020

China and Iran said they will strengthen cooperation to implement the Iran nuclear deal and uphold multilateralism, as Iranian Foreign Minister Mohammad Javad Zarif visited China for the fourth time in 2019. When meeting Zarif in Beijing on Tuesday, State Councilor and Foreign Minister Wang Yi said the deal faces serious challenges, and the root cause of tensions is that the United States withdrew unilaterally from the deal, gave up its due international obligations and applied maximum pressure on Iran. The deal, which has been endorsed by a United Nations Security Council resolution, is an important outcome of multilateral diplomacy, Wang said, adding that to maintain its authority and validity is to maintain multilateralism, international law and basic norms that guide international relations.

China supports all kinds of constructive efforts that help ease tensions and uphold the deal, and hopes parties involved will continue to implement the deal effectively by sticking to the right direction, standing up against external pressure and settling differences through talks, Wang said. Also, China will firmly safeguard international fairness and justice, oppose any kind of unilateral behavior or bullying, and work for political and diplomatic resolutions to the Iran nuclear issue, Wang added. Wang said he hopes to work with Zarif to implement the consensus reached by the top leaders of China and Iran, and consolidate political mutual trust and deepen pragmatic cooperation between the two countries.

<https://www.chinadaily.com.cn/a/202001/01/W55e0bd8f7a310cf3e35581d7f.html>

China steps up warship building programme as navy looks to extend its global reach

Kristin Huang, South China Morning Post, January 1, 2020

China is speeding up its warship building programme as its navy extends its reach to cover Beijing's increasingly far-flung interests. The latest warships, launched last week, were a Type 055 and a Type 052D, both guided missile destroyers built by Dalian Shipbuilding Industry

China's drive to build and commission warships stepped up a gear after President Xi Jinping took office and in 2015 began sweeping reforms across the entire PLA, demanding that it become combat-ready more quickly. Eighteen ships went into service in 2016 alone, and at least another 14 joined in 2017, according to a report from US think tank the Centre for Strategic and International Studies (CSIS) released in December last year. In 2018, China launched 21 warships, including five Type 054A frigates, four Type 056 corvettes and a ballistic missile submarine, Chinese news portal Sina.cn reported. China's First made-in-China aircraft carrier, the Shandong, enters service. Koh said that China's rapid build-up in hardware and software required a corresponding build-up of professional, qualified personnel to crew and maintain these assets, and there China was lagging behind. China needed to improve the power systems in its warships if it wanted a strong combat capability.

<https://www.scmp.com/news/china/military/article/3043975/china-steps-warship-building-programme-navy-looks-extend-its>

Upgraded JF-17 fighter jet makes maiden flight, equipped with J-20 tech: report

Liu Xuanzun, Global Times, January 1, 2020

The latest, powered-up version of the JF-17 fighter jet reportedly features technologies from China's top-notch J-20 fighter jet and made its maiden flight in December, as the warplane co-developed by China and Pakistan saw major upgrades in electronic

devices that will significantly increase its combat efficiency, experts said. With the serial number "3000," the first JF-17 Block 3 prototype was taken into the skies for the first time in mid-December in Chengdu, Southwest China's Sichuan Province, the Aerospace Knowledge magazine reported in its Sina Weibo account on Tuesday.

According to photos circulated on the Chinese social platform, the aircraft is installed with many commercial off-the-shelf technologies from the state-owned Aviation Industry Corporation of China, the report said. These include a new and larger holographic wide-angle head-up display and integrated cockpit display similar to the one used by the J-20, in addition to an advanced infrared missile approach warning system used by the J-10C, J-16 and J-20 fighter jets, the magazine reported. Wang Ya'nan, chief editor of Aerospace Knowledge magazine, told the Global Times that the JF-17's flight performance and airframe design have been proven in its past service, but it can quickly improve if equipped with advanced electronic devices.

"China has made a large amount of achievements in the development of the likes of the J-10 and J-20, resulting in many mature technologies and equipment... If they can be used on the JF-17, the pilot could enjoy a significant efficiency increase in flying, which will also boost its combat efficiency," Wang said. Analysts said the new additions to the JF-17 can give pilots more situational awareness, allowing them to focus more on combat instead of flying the aircraft.

<https://www.globaltimes.cn/content/1175376.shtml>

Nation's space industry set for active year

Zhao Lei, China Daily, January 2, 2020

China's space industry is poised to embrace a super busy year in 2020 as about 50 launch missions are likely to take place this year, according to major contractors and sources from space industry circles.

China Aerospace Science and Technology Corp, the country's leading space contractor, said in a statement on Thursday that it will strive to carry out more than 40 launch missions to serve national space programs, such as the completion of the Beidou Navigation Satellite System, as well as demands from commercial satellite operators.

]. This means the space magnate's actual launch number in 2020 will be even bigger. "In 2020, all of our academy's operational rocket models, ranging from Long March 3A to Long March 5, will make flights, and four new types –the Long March 5B, Long March 7A, Long March 8 and Smart Dragon 2 – are scheduled to conduct their maiden mission," Said an employee at the company's China Academy of Launch Vehicle Technology in Beijing, the biggest developer and maker of carrier rockets in the country.

<https://global.chinadaily.com.cn/a/202001/02/WS5e0de124a310cf3e3558224a.html>

Chinese rocket contractor reveals plans for record-setting 40-plus launches in 2020

Global Times, January 2, 2020

China's biggest rocket contractor China Aerospace Science and Technology Corporation (CASC) aims to complete more than 40 missions in 2020 including maiden flights for three rockets as well as lunar and Mars probe missions. According to the official CASC WeChat public account on Thursday, China will usher in a "super 2020" in the space sector, aiming for 40-plus missions for the first time in history. The 2020 launches will include completion of BeiDou Navigation Satellite System, phase 3 of the Chang'e-5 lunar probe mission and the launch of the country's first ever Mars probe.

Long March-5B, a smaller variant of the Long March-5 and the strongest member of China's carrier rocket family will make its maiden flight in 2020. Also, Long March-7A, which could lift around 7 ton of payload into geostationary transfer orbit (GTO) and Long March-8, whose payload capability

reaches 5 ton to Sun-synchronous orbit with an altitude of 700 kilometers, will also take their first flights in 2020, according to CASC. CASC completed 27 launches in 2019, sending 66 spacecrafts into space.

<http://www.globaltimes.cn/content/1175580.shtml>

China's lunar rover travels over 357 meters on moon's far side

Xinhua, January 3, 2020

China's lunar rover Yutu 2 has driven 357.695 meters on the far side of the moon to conduct scientific exploration of the virgin territory. Both the lander and the rover of the Chang'e 4 probe have ended their work for the 13th lunar day on Thursday (Beijing time), and switched to dormant mode for the lunar night, according to the Lunar Exploration and Space Program Center of the China National Space Administration.

The scientific instruments on the lander and rover worked as planned. The rover conducted explorations of several sites and photographed and conducted an infrared detection of a stone on the lunar surface, said the center. China's Chang'e 4 probe, launched on Dec 8, 2018, made the first-ever soft landing on the Von Karman Crater in the South Pole-Aitken Basin on the far side of the moon on Jan. 3, 2019.

<https://global.chinadaily.com.cn/a/202001/03/WS5e0ed2bea310cf3e3558252e.html>

China urges easing of Iran-US tensions

Chen Qingqing and Leng Shumei, Global Times, January 4, 2020

As the US killing of a top Iranian military officer risks seriously aggravating the Middle East, Chinese officials urged all sides to remain calm and opposed to the use of force in international relations, as a wider war was unaffordable for the world and no country including China would be immune from it.

After the US killed Iranian major general Qasem Soleimani, head of the Quds Force

of the Islamic Revolutionary Guard Corps, and Abu Mahdi al-Muhandis, a commander of Iraq's Shia Hashd al-Shaabi, or Popular Mobilization Units, in an air-strike on Friday, tension quickly escalated as tens of thousands of mourners and pro-Iranian fighters flooded the Baghdad streets chanting "Revenge is coming!" Chinese officials have communicated actively with all parties on the escalating conflict between Tehran and Washington during the weekend, a reflection of China's firm position of safeguarding regional peace and calling for conflict resolution through diplomatic means, according to Chinese analysts.

<http://www.globaltimes.cn/content/1175783.shtml>

Chinese FM says China to play constructive role in maintaining peace, security in Middle East

Xinhua, January 4, 2020

China will play a constructive role in maintaining peace and security in the Middle East and the Gulf region while remaining objective and fair, Chinese State Councilor and Foreign Minister Wang Yi said Saturday. Wang made the remarks during a phone call with Iranian Foreign Minister Mohammad Javad Zarif. The dangerous U.S. military actions violated the basic norms of international relations and would aggravate regional tensions, Wang said. He voiced China's opposition to the use of force in international relations, saying military means only lead to a dead end and maximum pressure will get nowhere.

China urges the United States not to abuse force and calls for dialogue to seek solutions to problems, he said. For his part, Zarif briefed Wang on Iran's position regarding the attack on a senior Iranian commander. The Iranian foreign minister strongly condemned the U.S. brutal act, which he said would bring severe consequences. Iran has sent a letter to the UN secretary-general and hopes that China will play an important role in preventing the escalation of regional tensions, said Zarif.

http://www.xinhuanet.com/english/2020-01/04/c_138678546.htm

China's fat satellite hits orbit

Deng Xiaoci, Global Times, January 5, 2020

The country's heaviest and most advanced communication satellite smoothly entered its fixed service point in 36,000 kilometer geosynchronous orbit early Sunday morning, marking a successful maiden flight for the spacecraft based on the Dongfanghong-5 satellite platform (DFH-5). After a nine-day flight and changing orbits seven times, the experimental high-throughput communication Shijian-20 satellite successfully arrived at 105.5 meridian east early Sunday morning, according to a statement by developers the China Academy of Space Technology (CAST) sent to the Global Times on Sunday. The 8,000 kilogram-plus satellite was launched by Long March-5, the strongest carrier in the Chinese rocket family, in its December comeback mission.

<http://www.globaltimes.cn/content/1175753.shtml>

Chinese embassy in US issues safety alert following Soleimani's death

Global Times, January 5, 2020

Chinese embassy in the US on Sunday issued a safety alert amid the enhanced security measures in the US following the death of Iranian general Qasem Soleimani. Soleimani, 62, head of the elite Quds Force, was killed on Friday by missiles fired from a US drone as he was leaving Baghdad's international airport, according to US officials. Five Revolutionary Guards were also killed in the attack, along with five members of a pro-Iranian paramilitary force in Iraq, the Hashed al-Shaabi.

Washington had entered a state of alert following the incident, the embassy's notice stressed. The embassy warned Chinese people in the US to pay close attention to their security situation and take prudent precautions before going to public places. The notice said people should call 911 or contact the embassy or local consulates if they encounter dangers or emergencies.

<http://www.globaltimes.cn/content/1175733.shtml>

China capable of defending against deadly drone attacks: experts

Liu Xuanzun, Global Times, January 5, 2020

The US drone strike that killed top Iranian general Qasem Soleimani in Iraq has raised concerns from Chinese netizens of drones being an increasingly dangerous instrument of war that could one day threaten China. China is fully capable of defending targeted drone attacks and places great importance on having a complete air defense system and powerful military strength as deterrent, Chinese experts said on Sunday. Sixty-two-year-old Soleimani, head of Iran's elite Quds Force, was killed by a missile fired from a US drone when he was near Baghdad's international airport in Iraq on Friday, CGTN reported.

<http://www.globaltimes.cn/content/1175804.shtml>

China's heaviest satellite positioned in geosynchronous orbit

Xinhua, January 5, 2020

China's heaviest and most advanced satellite, Shijian-20, reached its fixed position in geosynchronous orbit Sunday, marking the first successful flight of DFH-5 satellite platform, according to the China Aerospace Science and Technology Corporation. The Shijian-20 satellite is the first verification satellite for DFH-5 satellite platform, China's new generation of large geosynchronous orbit satellite platform.

At present, the satellite has completed the orbit transfer and verified the key technologies of the DFH-5 satellite platform, according to Li Feng, chief designer of the satellite. The Shijian-20 satellite was launched into space by the third Long March-5 rocket, China's largest carrier rocket on Dec. 27, 2019. It has carried out orbit experiments for a series of key technologies. Shijian-20 has the largest solar wings among all China's satellites, with the total wingspan 10 meters wider than that of a Boeing 737 aircraft. The solar wings has unfolded twice, and the increased solar wing area will supply the satellite with abundant power. Compared with the DFH-3 and

DFH-4 satellite platforms, the DFH-5 satellite platform has improved in weight, power and in-orbit lifespan, which will serve the needs of high-capacity satellites in the next 20 years, said Zhou Zhicheng, chief engineer of the DFH-5 satellite platform.

http://www.xinhuanet.com/english/2020-01/05/c_138680100.htm

China says U.S. use of force aggravating Middle East tension

Reuters, January 6, 2020

China criticized the United States for aggravating tension in the Middle East through its use of force in the standoff between Washington and Tehran and urged all parties to exercise restraint to ensure peace and stability. A U.S. drone strike that killed Iranian military commander Qassem Soleimani has further escalated the conflict between the two countries already at odds over Tehran's nuclear activities. Tehran has publicly vowed to avenge Soleimani's death, and U.S. President Donald Trump has in turn threatened further retaliation to any Iranian attacks against American assets or citizens.

"Power politics are neither popular nor sustainable," Chinese foreign ministry spokesman Geng Shuang said at a daily briefing. "The U.S.'s risky military behavior in recent days goes against the basic norms of international relations." "We call on the U.S. not to abuse its force, and appeal to relevant parties to exercise restraint to avoid the situation worsening," he said, adding that China is "highly concerned" about the standoff between Iran and the United States. China also criticized the United States for threatening sanctions against Iraq in response to the Iraqi parliament's resolution calling for U.S. and other foreign troops to leave the country. "China has consistently opposed the wanton use or threat of use of sanctions," Geng told reporters. "We wish that relevant countries, particularly major countries outside the region, can do more to promote

the Middle East region's peace and security, and avoid taking actions that escalate regional tensions."

<https://www.reuters.com/article/us-iraq-security-iran-china/china-says-u-s-use-of-force-aggravating-middle-east-tension-idUSKBN1Z50MO>

Most advanced satellite starts orbital operations

Zhao Lei, China Daily, January 7, 2020

China's biggest, heaviest and most advanced satellite has started its formal orbital operations to conduct demonstrations and verifications for advanced satellite and communication technology. Shijian 20, a technology demonstration satellite developed by the China Academy of Space Technology in Beijing, was lifted by a Long March 5 carrier rocket at the Wenchang Space Launch Center in Hainan province on Dec 27 and reached its preset position in a geosynchronous orbit about 36,000 kilometers above the Earth on Sunday, according to China Aerospace Science and Technology Corp, the nation's major space contractor.

The satellite performed seven orbital maneuvers before flying into orbit. Its components functioned well during those processes, the company said in a statement. Shijian 20 is the second satellite based on China's new-generation satellite platform, the DFH 5, after the Shijian 18 that was lost during Long March 5's failed second flight in July 2017.

<https://www.chinadaily.com.cn/a/202001/07/WS5e13d881a310cf3e35582d1b.html>

China's cosmic ray observatory half functional

China Daily, January 7, 2020

A giant observatory to search for the origin of cosmic rays in Southwest China's Sichuan province was half completed and thousands of its detectors have been put into operation, said the Chinese Academy of Sciences (CAS). The project, known as the Large High-Altitude Air Shower Observatory (LHAASO), is located 4.41 km

above sea level on Haizi Mountain in Sichuan. Since April 2019, it has launched over two thousand detectors that will probe cosmic rays and provide statistics for scientists to analyze. Cosmic rays are highly penetrative rays from outer space. Their collisions with atmospheric particles create a variety of different particles including neutrons, mesons and hyperons.

<https://www.chinadaily.com.cn/a/202001/07/WS5e13f907a310cf3e35582f00.html>

Military developing airborne laser attack pod, says report

Liu Xuanzun, Global Times, January 7, 2020

The Chinese military is procuring a laser attack pod, which Chinese media speculated could be an aircraft-based tactical weapon. If equipped on aircraft, the laser could potentially protect against incoming missile attacks and dominate in close-range combat, analysts said. The procurement plan for the laser attack pod was revealed Saturday in a notice released on the Chinese military's weapon and equipment procurement website weain.mil.cn, Weihutang, a column on military affairs affiliated with China Central Television, reported on Monday.

This makes a laser a great tool for aerial interception, he said. An airborne laser weapon could intercept incoming missiles and shoot down hostile aircraft in a dogfight, the expert said. China has already developed land-based laser weapons. At Airshow China 2018, state-owned China Aerospace Science and Industry Corporation (CASIC) showcased the LW-30 laser defense weapon system, which could use a directional-emission high-energy laser to intercept aerial targets such as photoelectric guidance equipment, drones, guided bombs and mortars, according to a CASIC statement sent to the Global Times

<http://www.globaltimes.cn/content/1175931.shtml>

China successfully launches new communication technology experiment satellite

Xinhua, January 8, 2020

China sent a new communication technology experiment satellite into space from Xichang Satellite Launch Center in Sichuan Province at 11:20 p.m. (Beijing Time), Tuesday. The satellite has entered the preset orbit. It will be used in communication, radio, television and data transmission, as well as high throughput technology test. The satellite was launched on a Long March-3B carrier rocket. It was the 324th mission for the Long March series carrier rockets. The new satellite and the carrier rocket were developed by the Shanghai Academy of Spaceflight Technology and the China Academy of Launch Vehicle Technology, under the China Aerospace Science and Technology Corporation.

http://www.xinhuanet.com/english/2020-01/08/c_138685999.htm

Joint research paves way to China's 'artificial sun'

Wan Lin, Global Times, January 8, 2020

Chinese and British scientists have designed a material that can assist in the generation of controlled nuclear fusion and generate energy in a similar process to the sun. The research, by scientists from Liverpool University in the UK and Xi'an Jiaotong-Liverpool University, can efficiently obtain deuterium, a heavy isotope of hydrogen, which a team member said could pave the road of China's artificial sun project. "It can efficiently select deuterium from a gas mixture and absorb them in large quantities." Ding Lifeng, a scientist from the Chinese side, told the Global Times on Wednesday. Deuterium, a primary fuel for controlled nuclear fusion, is diluted in nature and therefore expensive.

High-purity, or enriched, deuterium is usually obtained by separating the isotope out of a hydrogen-deuterium mixture, which is energy-intensive and inefficient, Ding said. The new material, named porous organic cages (POCs), makes it more efficient and

cheaper to produce deuterium, he said. "Our research helps solve the shortage in deuterium supply and has the potential to secure the fuel source for the fusion process," Ding said. The US, Russia and the European Union are also researching controlled nuclear fusion as one of the most important future technologies that generates energy in a safe way, without nuclear waste.

<http://www.globaltimes.cn/content/1176143.shtml>

China and Iran: a relationship built on trade, weapons and oil

Kristin Huang, South China Morning Post, January 9, 2020

Amid its long-running conflict with the US, Iran has increasingly turned to China for aid to boost its military and to help protect its economy from trade sanctions imposed by Washington. The strong ties between Beijing and Tehran have been evident in recent days as tensions have risen in the Middle East, triggered by the killing of Iran's top military chief Qassem Soleimani by the US in Iraq. Tehran responded with a missile attack on US forces in Iraq. China's envoy to Iran, Chang Hua, has said Beijing remained committed to its partnership with Tehran. Zhai Jun, China's special representative for the Middle East, visited Tehran for a security dialogue on Monday and Tuesday, when he said some "external nations" were stirring provocations, without naming the US.

China remains Iran's biggest trading partner, but its oil imports from the country have fallen sharply as a result of US sanctions. In November 2019, the last available data, China imported 547,758 tonnes of Iranian oil, down from 3.07 million tonnes in April, according to China's General Administration of Customs. Trade between China and Iran in 2018 totaled US\$35.13 billion, with crude oil accounting for about half, or US\$15 billion.

<https://www.scmp.com/news/china/military/article/3045253/china-and-iran-relationship-built-trade-weapons-and-oil>

US plans to counter Chinese influence in Asia with new Pacific missile, cyber task force

South China Morning Post, January 10, 2020

The US Army will expand efforts to counter China by deploying a specialised task force to the Pacific capable of conducting information, electronic, cyber and missile operations against Beijing. The unit, which Army Secretary Ryan McCarthy is expected to detail at an event in Washington on Friday, would also be equipped to hit land- and sea-based targets with long-range precision weapons such as hypersonic missiles, possibly clearing the way for Navy vessels in the event of conflict. The Army task force would help neutralise some capabilities China and Russia already possess and are intended to keep US carrier groups away from the Asian mainland, McCarthy said in an interview. It's not clear how quickly the unit, which would likely be based on islands east of Taiwan and the Philippines, can be deployed.

<https://www.scmp.com/news/asia/southeast-asia/article/3045527/us-plans-counter-chinese-influence-asia-new-pacific>

China's leading nuclear submarine designer Huang Xuhua awarded top science prize

Liu Zhen, South China Morning Post, January 10, 2020

One of China's leading nuclear submarine scientists has been presented with one of the country's highest honours for his work on the development of strategic weapons. Huang Xuhua, 93, was one of two people to receive the Highest Science and Technology Award of Year 2019 from Chinese President Xi Jinping at a grand ceremony on Friday at the Great Hall of the People in Beijing. The prestigious award was Huang's second in just three months, after he was given a Medal of the Republic in September, again for his work in advancing nuclear submarine technology.

The Chinese navy has two types of submarine capable of providing a sea-based nuclear deterrent – the Type 094A and the next generation Type 096, which is under

development. Once in service, the Type 096 will carry the country's most advanced submarine-launched ballistic missile (SLBM) – the JL-3 – which itself is still in the development stage. The Type 094A is already in service and carries JL-2 missiles.

<https://www.scmp.com/news/china/military/article/3045610/chinas-leading-nuclear-submarine-designer-huang-xuhua-awarded>

World's largest radio telescope starts formal operation

Xinhua, January

China completed commissioning of the world's largest and most sensitive radio telescope on Saturday, putting it into formal operation after a productive three-year trial. The telescope will gradually open to astronomers around the globe, providing them with a powerful tool to uncover the mysteries surrounding the genesis and evolutions of the universe. All technical indicators of the telescope have reached or exceeded the planned level, and its performance is world-leading, Shen Zhulin, an official with the National Development and Reform Commission, said at a commissioning meeting Saturday.

Panoramic photo taken on Jan. 8, 2020 shows China's Five-hundred-meter Aperture Spherical radio Telescope (FAST) under maintenance in southwest China's Guizhou Province. (Xinhua/Ou Dongqu) The Five-hundred-meter Aperture Spherical radio Telescope (FAST) is a single-dish telescope with a diameter of half a kilometer and a receiving area equivalent to about 30 football fields. It is located in a naturally deep and round karst depression in southwest China's Guizhou Province. After its commissioning, FAST can now be used for observation at full capacity, and is expected to make a number of major scientific discoveries in the coming two or three years, said Jiang Peng, the chief engineer of the telescope. In over two years, FAST has identified 102 new pulsars, more than the total number of pulsars discovered by research teams in Europe and the United States during the same period.

http://www.xinhuanet.com/english/2020-01/11/c_138696973.htm

China's most advanced destroyer the Nanchang formally enters service in 'leap forward' for navy

Minnie Chan, South China Morning Post, January 13, 2020

China officially commissioned its first Type 055 guided missile destroyer, the Nanchang, on Sunday in what it hailed as a "leap forward" for its naval modernisation programme. A grand ceremony was held in Qingdao, a major naval base in the eastern province of Shandong, on Sunday morning, state news agency Xinhua reported. The Nanchang was launched in June 2017 and made its public debut in a naval parade to mark the 70th anniversary of the PLA Navy in April last year. However, military sources said that its outfitting had not been completed at the time of the parade. "Nanchang made an appearance at the parade as part of the celebration but much of its equipment – including radars, communications and weapons systems and other works – had not actually been finished," one PLA insider said.

<https://www.scmp.com/news/china/military/article/3045764/chinas-most-advanced-destroyer-nanchang-formally-enters-service>

China regrets Britain, France, Germany's decision to trigger Iran deal dispute mechanism

Global Times, January 15, 2020

China regrets that the UK, France and Germany - known as E3 - have launched the dispute resolution mechanism of the Joint Comprehensive Plan of Action (JCPOA), believing that this will not help solve the problem or ease current tensions, the Chinese Foreign Ministry said Wednesday. "China believes that there is a reason for Iran to reduce the implementation of the comprehensive agreement," Ministry of Foreign Affairs spokesperson Geng Shuang said during a routine press conference in response to a query on China's thoughts on the three countries' pulling the diplomatic trigger on JCPOA

China will continue to maintain close communication with relevant parties,

actively promote peace talks, foster a political and diplomatic settlement of the Iranian nuclear issue, and make unremitting efforts to safeguard the comprehensive agreement, ease tensions in the Iranian nuclear issue and the Middle East, Geng added. The UK, France and Germany on Tuesday formally accused Iran of withdrawing from the 2015 agreement that limited its nuclear program, taking the first step toward reimposing UN sanctions. Iran announced on January 5 that it would no longer commit to any limits on the restrictions contained in JCPOA, a deal to freeze Iran's nuclear program in return for a progressive lifting of international sanctions, after the US assassinated Iranian general Qassem Soleimani in Baghdad in a drone attack, CNN reported on January 6.

<http://www.globaltimes.cn/content/1176987.shtml>

Chinese Rocket Force exercise ensures nuclear counterattack capability

Liu Xuanzun, Global Times, January 16, 2020

The Chinese People's Liberation Army (PLA) Rocket Force has conducted a nuclear attack survival exercise where troops in an underground missile facility had to endure extreme conditions and make sure they could still launch nuclear counterattacks. During the undated exercise, a Rocket Force brigade mobilized into the launch bunker at an undisclosed location and completely sealed themselves off from the outside world, as the troops readied for combat, China Central Television (CCTV) reported on Wednesday. The bunker was then struck by a mock hostile nuclear attack as the troops inside, fully dressed in protection suits, carried out contingency plans and operated missiles for upcoming counterattacks, according to the report.

They also simulated a situation where missile fuel leaked after a hostile strike and a troubleshooting team was immediately deployed to repair. Tactics including a fast

missile condition check, rapid logistics, bunker defense and hasty launch were also practiced, CCTV reported. While China is one of a few countries in the world that operate nuclear weapons, it has promised no first use, a military expert who asked not to be named told the Global Times on Thursday. It was crucial the force survive an initial hostile strike to launch a counterattack, the expert noted. Such exercises ensure that capability and contribute to China's nuclear deterrence, the expert said.

<http://www.globaltimes.cn/content/1177156.shtml>

C. Pakistan

Pakistan, India exchange lists of nuclear installations

The News International, January 1, 2020

Pakistan and India on Wednesday officially exchanged lists of nuclear installations and facilities present within their borders under Article -II of the Agreement on Prohibition of Attacks against Nuclear Installations and Facilities. The agreement had been signed by the two countries in 1988. According to the Foreign Office, the list of Pakistan's nuclear installations was handed over to the Indian representative in Islamabad, while the list from Indian side was received by Pakistani representative in New Delhi. The FO did not provide more information about the representatives.

The handing and taking over of the lists are binding on both countries on the 1st of January every year, in accordance with the agreement on prohibition of attacks against nuclear installations and facilities between the two countries. The Article-II of the agreement contains the provision that both countries inform each other of their nuclear installations and facilities at the beginning of each year. Since 1992, the two countries have regularly exchanged the lists as per the agreement.

<https://www.thenews.com.pk/latest/591944-pakistan-india-exchange-lists-of-nuclear-installations>

Pakistan a peaceful country with nuclear capability for deterrence: President

Business Recorder, January 14, 2020

President Dr Arif Alvi on Tuesday said Pakistan was a peaceful country with an advanced nuclear capability meant for deterrence against any hegemonic designs in the region. President Alvi said war was not in the interest of any state as it brought an overall misery for mankind. Pakistan too is not interested in indulging in wars with other countries and want to maintain peaceful relations including with its neighbours, he added.

He, however, pointed out that the United Nations, formed with a purpose to promote peace and reduce conflicts as a lesson learned from the chaotic world war, was lacking its effectiveness.

<https://www.brecorder.com/2020/01/14/561596/pakistan-a-peaceful-country-with-nuclear-capability-for-deterrence-president/>

Men Charged With Smuggling to Help Pakistan Nuke Program

The New York Times, January 15, 2020

Five men are accused of conspiring to smuggle aircraft parts, electronic components and other technical equipment from the U.S. to Pakistan to support that country's nuclear program, according to an indictment unsealed Wednesday in federal court in New Hampshire. The goods were exported from the United States without export licenses, in violation of federal law, the indictment said. Both organizations were on a Commerce Department list that imposes export license requirements for groups whose activities are found to be contrary to U.S. security or foreign policy interests.

The men are accused of attempting to conceal the true destinations in Pakistan of the goods by using the front companies as the supposed purchasers and end users of them, and as the apparent source of payments. Several were listed as being in New Hampshire.

<https://www.nytimes.com/aponline/2020/01/15/us/ap-us-smuggled-goods-pakistan-1st-ld-writethru.html>

D. USA

Mothers for Nuclear urge understanding of nuclear as safe, clean energy

World Nuclear News, January 2, 2020

In a letter to the Financial Times, Heather Hoff and Kristin Zaitz of Mothers for Nuclear write that nuclear power is the safest way to generate reliable electricity. "Right now, across the US, we are closing perfectly good existing nuclear plants because of low natural gas prices and discriminatory policies that, in the name of climate action, support renewables but not carbon-free nuclear energy," they wrote.

They continued: "When existing nuclear plants close, they are almost always replaced by fossil fuels. Even if we make big gains on adding renewables, the strategy of replacing one clean energy source with another means backwards or no progress on climate. It also means that we pay more: building new clean energy to replace existing clean energy means spending money for little to no actual emissions reductions. This high cost for low progress is also causing polarising political conversations when it comes to action on climate. "Instead of continuing to rely on the renewables-only bandwagon, we need to focus on building public support for nuclear energy. There is growing public awareness on the importance of using science to inform our decisions as a nation. The science is clear - nuclear is the safest way of generating reliable electricity. Of all of the 'clean' energy sources, nuclear occupies the smallest land footprint per unit of energy produced, and we have the technology right now. We cannot continue to delay action on climate until some future solution is produced."

<https://world-nuclear-news.org/Articles/Mothers-for-Nuclear-urge-understanding-of-nuclear>

U.S. defence secretary urges North Korea to negotiate on denuclearisation

Reuters, January 2, 2020

U.S. Defense Secretary Mark Esper on Thursday said the United States still sees a

political agreement on denuclearisation as the best path forward on North Korea, but that American forces remained prepared to fight if necessary. "We would urge restraint by Kim Jong Un," Esper said in an interview on Fox News.

North Korean leader Kim Jong Un said this week that there were no longer grounds for Pyongyang to be bound by a self-declared moratorium on intercontinental ballistic missile and nuclear bomb testing and that a "new strategic weapon" would be introduced in the near future. A U.S. official, speaking on condition of anonymity, said there were no indications that North Korea was preparing for an imminent long-range missile test.

<https://in.reuters.com/article/northkorea-missiles-usa-esper/u-s-defence-secretary-urges-north-korea-to-negotiate-on-denuclearisation-idINKBN1Z1148>

Reactor shutdowns outweigh start-ups in 2019

World Nuclear News, January 3, 2020

Global nuclear generating capacity stood at 392.4 GWe net at the end of 2019, down slightly on 2018, according to data from World Nuclear Association. Six power reactors were added to the grid last year and construction of three large reactor projects started, while nine units were permanently shut down. Six new nuclear power reactors with a combined generating capacity of 5241 MWe came on line in 2019. Two of these - Taishan 2 and Yangjiang 6 - were in China. Unit 4 of South Korea's Shin Kori plant was also connected to the grid, as was Russia's Novovoronezh II unit 2. Russia's first floating nuclear power plant, the *Akademik Lomonosov* - comprising two 32 MWe reactors - was also connected to the grid towards the end the year.

In 2018, 10,420 MWe of new nuclear generating capacity was connected to the grid, while 3345 MWe was added in 2017. Power uprates at existing reactors also added 212 MWe of generating capacity during 2019. Some 35 MWe was added at the Embalse plant in Argentina, while 155

MWe and 22 MWe were added at the USA's Browns Ferry 2 and Peach Bottom 2 units, respectively. In comparison, four uprates in the USA added 350 MWe of capacity in 2018.

<https://world-nuclear-news.org/Articles/Reactor-shutdowns-outweigh-start-ups-in-2019>

IAEA explains nuclear's vital role in a carbon-free future

World Nuclear News, January 8, 2020

Nuclear power provides 10% of global electricity, but to stem climate change the world is going to need far greater amounts of clean and reliable energy, the International Atomic Energy Agency (IAEA) says in a short film it published today. To tackle climate change, 80% of all electricity will need to be low carbon by 2050.

Nuclear Power: The Road to a Carbon Free Future - notes that 30 countries currently operate nuclear power plants and that more than two dozen others are looking at nuclear energy to meet their power and climate needs. Russia, India and China are currently leading the way in expanding nuclear power. China has nine reactors under construction, the most anywhere. Countries elsewhere are also building new reactors, like Finland, and the United Arab Emirates and Belarus are close to operating their first nuclear power plants, while Bangladesh and Turkey recently started construction of theirs.

Juha Poikola of TVO power company in Finland, says in the film: "Our biggest climate act in Finland will be when the new reactor will start, in Olkiluoto." Ibrahim Halil Dere from Turkey's Ministry of Energy, says: "We believe that nuclear energy is an indispensable option for Turkey because it is emission free, environmentally friendly, sustainable and a reliable electricity source."

Currently 450 nuclear power reactors operate worldwide, but to respond to emerging needs and challenges, the nuclear power industry is looking ahead towards innovative solutions for the long-term operation of existing reactors, the timely

expansion of ongoing nuclear power programmes, and the deployment of new reactor technologies, the film says. Several countries are developing small modular reactors (SMRs) and one has already been built in Russia, it adds, referring to the floating nuclear power plant Akademik Lomonosov.

<https://world-nuclear-news.org/Articles/IAEA-explains-nuclears-vital-role-in-a-carbon-free>

U.S. delays ban on licenses for bomb-grade uranium exports for two years

Timothy Gardner, Reuters, January 8, 2020

The U.S. Energy Department has waived a ban on licenses for the export of weapons-grade uranium for making medical isotopes, which critics said raises proliferation risks and undermines companies that are converting to safer materials. Secretary of Energy Dan Brouillette said in a letter to the top members of the U.S. House of Representatives energy committee that his department had determined that global supplies of a substance made from highly enriched uranium, or HEU, that is used to make medical isotopes were not sufficient to meet the needs of U.S. patients.

In the letter, which was dated Jan. 2 and a copy of which was seen by Reuters, Brouillette waived for two years a ban on licenses issued by the U.S. Nuclear Regulatory Commission that had been set to begin on Jan. 3. The substance is known as non-HEU-based Mo-99.

<https://in.reuters.com/article/uk-usa-uranium/u-s-delays-ban-on-licenses-for-bomb-grade-uranium-exports-for-two-years-idINKBN1Z62JG>

Canada and USA to collaborate on critical minerals

World Nuclear News, January 9, 2020

Canada and the USA have finalised an agreement to collaborate on improving the security of supply chains and ensure the future competitiveness of their critical minerals industries. The announcement

follows a June 2019 commitment by the countries' leaders. The *Canada-US Joint Action Plan on Critical Minerals Collaboration* advances the two nations' interests in securing supply chains for the critical minerals needed for manufacturing sectors, including communication technology, aerospace and defence, and clean technology.

With goods and services worth billions of dollars moving between Canada and the USA every day, both economies benefit by working together, Canada's Minister of Natural Resources Seamus O'Regan said. "By finalising [the collaboration], we are advancing secure access to the critical minerals that are key to our economic growth and security - including uranium and rare earth elements - while bolstering our competitiveness in global markets and creating jobs for Canadians," he said.

The Action Plan will guide cooperation in areas such as industry engagement; efforts to secure critical minerals supply chains for strategic industries and defence; improving information sharing on mineral resources and potential; and cooperation in multilateral fora and with other countries. It outlines a range of joint activities including research and development cooperation, supply chain modelling, and increased support for industry.

<https://world-nuclear-news.org/Articles/Canada-and-USA-to-collaborate-on-critical-minerals>

U.S. sanctions policy on Iran more effective than 2015 nuclear deal: U.S. official

Reuters, January 10, 2020

The United States' sanctions policy on Iran is a more effective non-proliferation tool to force Tehran to negotiate a broader deal than the 2015 nuclear deal, U.S. special representative for Iran Brian Hook said on Friday. "Iran can never acquire a nuclear weapon, it would be catastrophic for the Middle East," Hook told reporters in a conference call. "Now that we are outside of the Iran nuclear deal, we are in a much better position to deny Iran a nuclear weapon.

"It allows us to then forcibly respond to Iran's regional aggression and that is what we have done with our sanctions," Hook said.

<https://www.reuters.com/article/us-iran-nuclear-europe-usa/u-s-sanctions-policy-on-iran-more-effective-than-2015-nuclear-deal-u-s-official-idUSKBN1Z91YK>

Brookhaven selected to host new US ion collider

World Nuclear News, January 10, 2020

The US Department of Energy has selected Brookhaven National Laboratory (BNL) in Upton, New York, as the site for a new research facility that it says will be a game-changing resource for the international nuclear physics community. The Electron Ion Collider (EIC) will be designed and constructed over 10 years and cost about USD1.6-2.6 billion.

The EIC's high luminosity and highly polarised beams will push the frontiers of particle accelerator science and technology and provide unprecedented insights into the building blocks and forces that hold atomic nuclei together, the DOE said. Design and construction of such a collider was recommended by the National Research Council of the US National Academies of Science, and endorsed by the federal Nuclear Science Advisory Committee. Secretary of Energy Dan Brouillette approved "mission need" for the EIC on 19 December.

"The EIC promises to keep America in the forefront of nuclear physics research and particle accelerator technology, critical components of overall US leadership in science," Brouillette said. "This facility will deepen our understanding of nature and is expected to be the source of insights ultimately leading to new technology and innovation."

The Relativistic Heavy Ion Collider, which has been in operation at Brookhaven since 2000, will provide crucial infrastructure for the new EIC, BNL said. Thomas Jefferson National Accelerator Facility in Newport News, Virginia, will be a partner in

realising the EIC, with several other DOE laboratories expected to contribute to the construction effort and to the EIC nuclear physics research programme. Funding for the EIC is subject to annual appropriations by the US Congress.

<https://world-nuclear-news.org/Articles/Brookhaven-selected-to-host-new-US-ion-collider>

White House says U.S. has asked North Korea to resume talks – Axios

Reuters, January 13, 2020

White House national security adviser Robert O'Brien said the United States had reached out to North Korea seeking to resume talks, according to an interview published on Sunday by Axios. O'Brien also said it was a "positive" sign that North Korean leader Kim Jong Un had not delivered on a warning of a "Christmas gift." Some analysts had said that might be a sign Pyongyang was preparing a long-range missile test, while U.S. President Donald Trump said last month the gift "might be a beautiful vase."

"We've reached out to the North Koreans and let them know that we would like to continue the negotiations in Stockholm that were last undertaken in early October," O'Brien told the online news site on Friday. "We've been letting them know, through various channels, that we would like to get those back on track."

<https://in.reuters.com/article/uk-north-korea-missiles-trump/white-house-says-u-s-has-asked-north-korea-to-resume-talks-axios-idINKBN1ZC00B>

Pompeo sees Japan, SKorea FMs as new sanctions hit NKorea

Matthew Lee, AP News, January 15, 2020

Secretary of State Mike Pompeo met Tuesday with his Japanese and South Korean counterparts to discuss stalled nuclear talks with North Korea and stress the importance of America's relationship with both countries. The meeting in California came as the Treasury Department announced new sanctions on North Korea for failing to

comply with a U.N. requirement to bring home guest workers that provide the isolated nation with much needed foreign currency.

Pompeo's discussions with Japanese Foreign Minister Toshimitsu Motegi and South Korean Foreign Minister Kang Kyung-wha in Palo Alto, California, also came as the Trump administration continues to send signals to Pyongyang that it's willing to resume talks on dismantling the North's nuclear weapons and ballistic missile programs.

<https://apnews.com/887bce2cfe2466286acad2efc9f78c9a>

Biden: No Meeting With Kim Jong Un Absent Preconditions

William Gallo, Voa, January 15, 2020

Democratic presidential frontrunner Joe Biden says he would not meet with North Korean leader Kim Jong Un without preconditions. It is the latest evidence Biden would overturn parts of U.S. President Donald Trump's outreach to Pyongyang. "Not now, I wouldn't meet without any preconditions," Biden said Tuesday during a Democratic debate in the midwestern state of Iowa. "Look, we gave him everything he's looking for. The president showed up, met with him, gave him legitimacy, weakened the sanctions we have against him." Biden has repeatedly criticized Trump's willingness to meet with Kim, saying the strategy is ineffective and aimed more at creating headlines than addressing the North Korean nuclear issue.

"I would not meet with, absent preconditions...a, quote, supreme leader who said Joe Biden is a rabid dog, (that) should be beaten to death with a stick," Biden said. "And he got a love letter from Trump right after that."

<https://www.voanews.com/usa/biden-no-meeting-kim-jong-un-absent-preconditions>

GNF accident-tolerant fuel loaded into US reactor

World Nuclear News, January 15, 2020

Global Nuclear Fuel (GNF) accident-tolerant fuel assemblies have been loaded into a US reactor for the first time. Lead test assemblies using the company's ARMOR-coated zirconium cladding and IronClad accident-tolerant fuel solutions have been installed at Exelon's Clinton boiling water reactor power plant in Illinois. The assemblies contain three varieties of GNF's IronClad solution, and are the first fuelled ferritic steel-based cladding assemblies to be installed in a commercial reactor, the company said. Unfuelled IronClad lead test rods and fuelled ARMOR-coated zirconium cladding lead test rods were installed at Georgia Power's Hatch in 2018.

Accident-tolerant fuel - or ATF - is a term used to describe new technologies that enhance the safety and performance of nuclear fuel. ATF may incorporate the use of new materials and designs for cladding and fuel pellets. The GNF assemblies were developed as part of the US Department of Energy's (DOE) accident-tolerant fuel programme and manufactured at GNF's facility in Wilmington, North Carolina. GE Hitachi Nuclear Energy President and CEO Jay Wileman said the company was, with the support of the industry and DOE, advancing the fuel technology at an "aggressive pace".

IronClad solutions are designed to provide substantial oxidation resistance and superior material behaviour over a range of conditions compared to previous offerings. The low oxidation rates of the material at higher temperatures further improves safety limit margins, GNF said. GE Research supported the development of one of the IronClad solution varieties installed at Clinton by providing engineering support and fabricating components that went into making the fuel rods.

<https://world-nuclear-news.org/Articles/GNF-accident-tolerant-fuel-loaded-into-US-reactor>

E. Europe

Germany seeks talks with Iran to ease tensions

DW, January 5, 2020

European leaders have called for calm after the US airstrike that killed Iranian General Qassem Soleimani. Despite heightened anxiety in the region, there are no plans to increase Germany's troop deployment in Iraq. Germany's foreign minister said Saturday he is hoping for direct talks with Iran, in addition to the country's European partners and the United Nations, as a way of de-escalating tensions in the Middle East following the US assassination of Iranian General Qassem Soleimani.

Heiko Maas told the German newspaper Bild am Sonntag: "In the coming days, we will do all we can to counteract a further escalation of the situation — in the United Nations, the EU and in dialogue with our partners in the region, including in talks with Iran." Despite heightened anxiety in the region, Maas said he had no plans to increase Germany's deployment of around 120 troops in Iraq. "The fight against ISIS is and remains in Germany's interest, and the Bundeswehr is providing important training to this end on the ground," Maas said, using another name for the "Islamic State" group.

https://www.dw.com/en/germany-seeks-talks-with-iran-to-ease-tensions/a-51889391_

Iran crisis: Germany, France, UK urge de-escalation

DW, January 6, 2020

The three countries urged all parties to exercise restraint in a bid to end a cycle of violence. Germany's foreign minister says Europe will this week respond to Iran's pledge not to abide by the 2015 nuclear deal. German Chancellor Angela Merkel, French President Emmanuel Macron and UK Prime Minister Boris Johnson on Sunday called on "all parties to exercise utmost restraint" as tensions continue to rise in the Middle East.

The three leaders issued a joint statement saying there was “an urgent need for de-escalation” and that the “current cycle of violence in Iraq must end.” The trio reiterated their “attachment to the sovereignty and security of Iraq,” saying that “another crisis risks jeopardizing years of efforts to stabilize Iraq.” Fighting against Islamic State in the region “remains a high priority,” the statement added. The leaders urged Iraqi authorities to continue providing support to the US-led alliance fighting the militant group after Iraq voted to expel foreign troops linked to coalition forces fighting IS. Top EU diplomat Josep Borell tweeted on Monday that the EU “deeply regrets” Iran’s announcement that they will no longer abide by the terms of the nuclear deal.

https://www.dw.com/en/iran-crisis-germany-france-uk-urge-de-escalation/a-51895571_

NATO meets over Iran crisis amid ‘menacing escalation’

DW, January 6, 2020

NATO ambassadors convened to address the situation in the Middle East following the US killing of a top Iranian general. Secretary-General Stoltenberg called on Iran to avoid “further violence and provocations.” NATO ambassadors met in Brussels on Monday amid ongoing Middle East tensions, three days after the US killing of Iranian Major General Qassem Soleimani. After the meeting, Secretary-General Jens Stoltenberg said that Iran must avoid “further violence.”

“At our meeting today, Allies called for restraint and de-escalation. A new conflict would be in no one’s interest, so Iran must refrain from further violence and provocations,” Stoltenberg said. Stoltenberg added that while the allied nations supported NATO’s training mission in Iraq, it would remain temporarily suspended.

https://www.dw.com/en/nato-meets-over-iran-crisis-amid-menacing-escalation/a-51897058_

European Council Chief Defends Iran Nuclear Deal After Trump Call To Quit

NDTV, January 9, 2020

The president of the European Council used a call with Iran’s President Hassan Rouhani to urge for a de-escalation of tensions after Tehran carried out missile strikes on US military bases in Iraq in retaliation for the assassination of one of its top generals. European Council Chief Defends Iran Nuclear Deal After Trump Call To Quit. Charles Michel defended the crumbling Iran nuclear deal on Thursday.

Brussels, Belgium: EU chief Charles Michel defended the crumbling Iran nuclear deal on Thursday after US President Donald Trump urged Europe to quit it, but warned Tehran against “irreversible acts” that would sink the accord. The president of the European Council used a call with Iran’s President Hassan Rouhani to urge for a de-escalation of tensions after Tehran carried out missile strikes on US military bases in Iraq in retaliation for the assassination of one of its top generals. A White House statement from Trump calmed fears of all-out war erupting, but the US leader demanded that the other parties to the 2015 Iran nuclear deal follow his lead and withdraw from the pact.

https://www.ndtv.com/world-news/european-council-chief-charles-michel-defends-iran-nuclear-deal-after-donald-trump-call-to-quit-2161494_

In Germany, gridlock over nuclear-capable fighter jet

DW, January 10, 2020

Germany’s Air Force has a special mission: deliver American nukes in the case of a nuclear strike. But its Tornado fleet is rapidly nearing the end of its shelf life. So why has Germany yet to decide on a replacement? In a given week in late November, the number of flightworthy Tornado fighter jets stationed at Büchel Air Base varied widely: Sometimes, twelve out

of the 45 planes were operational; soon after, less than a handful.

“That’s pretty tight,” according to one pilot. He spoke to DW on condition of anonymity. For the air base, tucked away amid the picturesque plateaus of the Eifel region in western Germany, has a special, secret mission: It is here that American nuclear bombs are stored in what is officially termed a “nuclear sharing agreement.” In the case of a nuclear strike, German Tornado fighter jets and their crews would deliver the American bombs.

https://www.dw.com/en/in-germany-gridlock-over-nuclear-capable-fighter-jet/a-51897327_

EU willing to maintain Iran nuclear deal, risking rift with the US

Alexandra Brzozowski, Euractiv.com, January 11, 2020

With the prospects of a potential US-Iran war fading, EU foreign minister during an emergency session on Friday (10 January), said they are willing to maintain the Iran nuclear deal as long as Tehran fulfils its commitments in order to achieve it. In an attempt to avoid an escalation between Iran and the US, EU leaders in the recent week have intensified diplomatic activities, trying to salvage the EU-brokered nuclear deal while making sure the US-led anti-IS coalition continues to operate in Iraq after Iraq’s parliament called for the withdrawal of all foreign troops from the country.

“The region cannot afford another war, we call for an urgent de-escalation and maximum restraint,” EU’s chief diplomat Josep Borrell told reporters following the meeting in Brussels on Friday, that had reaffirmed European commitments preserving the Joint Comprehensive Plan Of Action (JCPOA). “We have been saying in the past and we continue to say that we regret the US decision to withdraw from the deal,” Borrell said, “And we continue believing that this deal is a key element of the global nuclear non-proliferation architecture and critical for the regional stability.” He also warned that negotiating a new pact would be a “very complex,

highly technical process” that would take a long time.

<https://www.euractiv.com/section/global-europe/news/eu-willing-to-maintain-iran-nuclear-deal-risking-rift-with-the-us/>

Germany, France, UK: ‘Essential’ Iran stick to nuclear deal

DW, January 12, 2020

Germany, France and the UK — who helped broker the 2015 accord — have urged Iran not to walk away. The treaty has come under increasing strain following the US killing of top Iranian general Qassem Soleimani. Germany, France and the United Kingdom have called on Iran to uphold the landmark 2015 deal that limits the Islamic Republic’s nuclear program. Chancellor Angela Merkel, President Emmanuel Macron and Prime Minister Boris Johnson released a joint statement late Sunday, saying it was “essential that Iran return to full compliance with its commitments under the agreement.”

https://www.dw.com/en/germany-france-uk-essential-iran-stick-to-nuclear-deal/a-51977341_

Europe stands by Iran nuclear deal for now, defying US calls to abandon it

Holly Ellyatt, CNCB, January 13, 2020

The leaders of Germany, France and the U.K. have said they will stand by the Iran nuclear deal, for now, defying a call from President Donald Trump to abandon the 2015 pact. But they warned Iran that it must comply with the commitments within the Joint Comprehensive Plan of Action (JCPOA), chiefly, the non-proliferation of nuclear weapons. The U.S. had called on other signatories of the nuclear deal to abandon it. The leaders of Germany, France and the U.K. have said they will stand by the Iran nuclear deal, defying a call from President Donald Trump to abandon the 2015 pact.

But they warned Iran that it must comply with the commitments within the Joint

Comprehensive Plan of Action (JCPOA), chiefly, the non-proliferation of nuclear weapons. "Despite increasingly difficult circumstances, we have worked hard to preserve the agreement. All remaining parties to the JCPOA, China, France, Germany, Russia, the United Kingdom and Iran, with the EU as coordinator, have stated their continuing commitment to preserve the JCPOA," the leaders of Germany, France and the U.K. said in a statement issued Sunday evening. "We urge Iran to reverse all measures inconsistent with the agreement and return to full compliance; we call on Iran to refrain from further violent action or proliferation; and we remain ready to engage with Iran on this agenda in order to preserve the stability of the region.

<https://www.cnn.com/2020/01/13/jcpoa-europe-stands-by-iran-nuclear-deal.html>

European powers trigger Iran nuclear deal dispute process

DW, January 14, 2020

Germany, France and the UK said they were given "no choice" but to trigger the dispute process, which could lead to sanctions. They stressed that the move does not mean they're joining the US "maximum pressure" campaign. European leaders launched the Iran nuclear deal's dispute mechanism on Tuesday over Tehran's failure to adhere to limits outlined under the 2015 accord.

Germany, France and the UK issued a joint statement announcing the move, saying that they were "left with no choice" but to trigger the dispute mechanism and "register our concerns that Iran is not meeting its commitments." The three European powers noted that the decision does not mean they are joining in US President Donald Trump's "maximum pressure" campaign against Iran — leaving a door open for diplomacy. "Given recent events, it is all the more important that we do not add a nuclear proliferation crisis to the current escalation threatening the whole region," they said.

<https://www.dw.com/en/european-powers-trigger-iran-nuclear-deal-dispute-process/a-51997412>

Debate: is nuclear clean enough for the EU's green funding?

JP Casey and Umar Ali, Power Technology, January 15, 2020

In September, the European Council ruled that nuclear power is eligible for an EU scheme intended to fund green power sources. While nuclear lacks the environmental footprint of energy sources such as coal and oil, its green credentials have been questioned by countries such as Germany and Austria, who object to funding being diverted towards nuclear power from renewable energy sources. JP Casey and Umar Ali consider the two sides of the debate.

Nuclear power presents an excellent opportunity for the world to reduce its reliance on fossil fuel-powered energy sources without compromising access to energy, and will undoubtedly form part of the world's energy mix in the future. However, the inherently dangerous nature of nuclear power, and the EU's current struggles to reach its own renewable energy targets, mean that the time is not right for nuclear to be considered eligible for Europe's green energy funding.

When the EU first announced that nuclear would be considered eligible for this manner of funding, there was significant opposition, with Germany, Luxembourg and Austria saying that the power source "cannot be considered either safe or sustainable". The spectre of Chernobyl and Fukushima hangs over nuclear power, and it is true that in exceptional circumstances, malfunctions at nuclear power stations pose a significant risk to human health.

<https://www.power-technology.com/features/debate-is-nuclear-clean-enough-for-the-eus-green-funding/>

Nuclear 'excluded' from EU's new Just Transition Fund

Beatriz Rios, Euractiv.com, January 14, 2020

The EU's regional policy Commissioner Elisa Ferreira revealed on Tuesday (14

January) details of the €100 billion Just Transition Mechanism, a key financial component of the European Green Deal that should make the bloc climate neutral by 2050. "Nuclear energy is excluded from the Just Transition Mechanism," Ferreira told a small group of journalists ahead of the college meeting of the European Commission that approved the proposal for the fund aimed at supporting poorer EU regions achieve climate neutrality.

EU leaders agreed in December on a bloc-wide objective of reaching climate neutrality by 2050. In order to convince Hungary and the Czech Republic to sign up, they also reaffirmed the right of countries to decide on their own energy mix, including nuclear. Poland refused to sign up, saying it needed more EU funding to help phase out coal. The Just Transition Fund is intended to support regions that will be particularly affected by the changes brought by 'greening' the economy. Ferreira confirmed "no country or region" will be excluded but the objective is to concentrate on those areas facing the most dramatic challenges. The Commission will, therefore, take into account the intensity of greenhouse gas emissions of the industrial sector compared to the EU average and the impact in terms of employment of the transition for these industries. The relative prosperity of the country will also be considered.

<https://www.euractiv.com/section/economy-jobs/news/nuclear-excluded-from-eus-new-just-transition-fund/>

EU top diplomat presses Iran to preserve nuclear deal

DW, January 15, 2020

The Iran nuclear deal is "more important than ever," the EU's foreign policy chief has told his Iranian counterpart in a "frank dialogue" over rising tensions in the Middle East. The European Union's foreign policy chief, Josep Borrell, met Iranian Foreign Minister Mohammad Javad Zarif in New Delhi, India, on Thursday to discuss an increasingly fragile multi-national nuclear deal, struck with Iran in 2015.

Iran recently reiterated it is scaling back compliance with the Joint Comprehensive Plan of Action (JCPOA) nuclear pact in response to the US decision to kill Iran's top military general, Qassem Soleimani, by drone strike. In a statement released by the EU on Thursday about the meeting, Borrell is said to have urged Zarif in a "frank discussion" to preserve the pact as well as warning that the deal "was more important than ever" given the rising tensions in the region.

https://www.dw.com/en/eu-top-diplomat-presses-iran-to-preserve-nuclear-deal/a-52025619_

F. Russia

Russia Orders Military To Watch For U.S. Missile Deployments

Tom O'Connor, Newsweek, January 1, 2020

Russia has ordered its military to watch for new U.S. missile deployments as the Pentagon pressed forward in developing weapons banned for decades by Moscow and Washington. Russian Defense Minister Sergei Shoigu held a conference call Friday with military leaders, whom he told that "it is necessary to conduct a deep analysis of potential military threats and outline measures to improve the Armed Forces." Shoigu called on his personnel to keep an eye on the United States' burgeoning short-to-mid-range missile program.

"It is necessary to monitor the deployment of medium-range and shorter-range missiles by the United States of America," Shoigu said. The move comes as the world's top two military powers appear to be teetering on the brink of an arms race. President Donald Trump has walked away from key, historic arms control deals and the Pentagon is shoring up its offensive and defensive systems around the world. At the same time, Russian President Vladimir Putin has accelerated efforts to revamp his own weaponry.

<https://www.newsweek.com/russia-orders-military-watch-us-missiles-1481526>

Science in 2020: Russian mission to Mars and the quest for 'new physics'

TASS News Agency, January 1, 2020

The outgoing year of 2019 has brought many important scientific discoveries. Astronomers obtained the first images of the shadow cast by the event horizon of a supermassive black hole; genetic studies revealed what the ancient Denisovans (Denisova hominins) looked like; and Russian archaeologists discovered the burial site of four Scythian female warriors in the Middle Don basin. Below is TASS' outlook of the scientific prospects that we can look forward to for 2020.

<https://tass.com/science/1105301>

Russian nuclear plants break electricity generation record in 2019 – Rosatom

TASS News Agency, January 1, 2020

Electricity generation at Russian nuclear power plants in 2019 reached a record-breaking figure of more than 208.7 billion kWh, Rosenergoatom, a division of Russia's state nuclear corporation Rosatom, said on Wednesday. "In 2019, Russian nuclear power plants (branches of the Rosenergoatom concern) reached a new electricity generation record of more than 208.784 billion kilowatt hours, having beaten the 2018 record of 204.275 kWh by more than 4.5 billion kWh," it said.

Thus, electricity generation at Russian nuclear plants in 2019 went up by 2.2% on 2018. According to Rosenergoatom, among the leaders in terms of electricity generation in 2019 were Rostovskaya NPP (more than 33.8 billion kWh), Kalininskaya NPP (more than 31 billion kWh), and Balakovskaya NPP (about 30 billion kWh). Currently, nuclear plants account for 19% of Russia's aggregate electricity generation. In Europe, this figure is 40%

<https://tass.com/economy/1105331>

Four Indian astronauts selected for training in Russia

TASS News Agency, January 1, 2020

India has selected four astronauts to undergo training in Russia for the Gaganyaan mission. They will start training from the third week of January, Kailasavadivoo Sivan, chairman of the Indian Space Research Organization (ISRO) told journalists on Wednesday.

"We had good progress on Gaganyaan in 2019, many of the designs were completed. Four astronauts have been identified for the training purpose. The training for the astronauts who are from the Indian Air Force will be planned in the third week of January which will take place in Russia," the Hindustan Times quoted him as saying. He gave no further details about the astronauts, neither did he say whether the team included a woman.

<https://tass.com/science/1105345>

Satan for scrap: Russia to DESTROY two of its most powerful strategic nuclear missiles in 2020

Russian Times, January 5, 2020

Russia is set to dismantle two of its Soviet-era intercontinental ballistic missiles – still considered the most powerful in the world – this year. The R-36M2 ICBMs are commonly known under the NATO reporting name SS-18 Satan. Two missiles, currently stored at a military compound in Russia's Urals, are set to be destroyed by the end of November, Interfax reported citing a contract for their dismantling. The missiles – which have a dry weight of 52 tons – will be dismantled for scrap, since they contain quite a cache of valuable materials.

Each 'Satan' contains at least 1.2kg of gold, some 19kg of silver, a few grams of platinum as well as almost 6 tons of ferrous and 20 tons of non-ferrous metals. The rest of the missile – fiberglass, assorted rubber

plumbing and other materials are set to be recycled and disposed of as well.

<https://www.rt.com/russia/477512-russia-satan-missile-scrap/>

Russia remains committed to Iranian nuclear deal - Foreign Ministry

TASS News Agency, January 6, 2020

Russia remains fully committed to the nuclear deal after the next step made by Iran in reducing its obligations and urges other participants to do the same, the Russian Foreign Ministry says in a comment on Monday. "The Russian side remains fully committed to the Joint Comprehensive Plan of Action (JCPOA) and goals set forth therein, and we are ready to continue working in order to achieve them," the Foreign Ministry said.

Participants in the Joint Comprehensive Plan of Action (JCPOA) should endeavor to keep the agreement and its sustainable implementation, the Russian Foreign Ministry says on Monday. "Decisions taken by the Iranian side on January 5 regarding the necessitated continuation of suspension of voluntary obligations ensuing from the Joint Comprehensive Plan of Action for settlement around the Iranian nuclear program is the consequence of contradictions accumulated within the agreements, and all the currently participating countries should continue to working intensively in order to overcome them. We do not see any other effective recipe to rescue the nuclear deal. We assume that keeping of comprehensive agreements and provision of their sustainable implementation shall remain a priority task for all partners," the Ministry says.

<https://tass.com/politics/1105901>

Russia sees no nuclear proliferation threat after Iran's enrichment decision

Reuters, January 6, 2020

Russia's Foreign Ministry said on Monday that it saw no threat of nuclear weapons

proliferation after Iran's decision to abandon limitations on enriching uranium. The ministry said that Russia remained fully committed to the Iran nuclear deal known as the Joint Comprehensive Plan of Action.

Iran announced on Sunday that it would lift limitations on uranium enrichment, taking a further step back from commitments to a 2015 nuclear deal with six major powers, but said it would continue to cooperate with the U.N. nuclear watchdog.

<https://www.reuters.com/article/us-iran-nuclear-russia/russia-sees-no-nuclear-proliferation-threat-after-irans-enrichment-decision-idUSKBN1Z51BT>

Putin emphasizes need to raise share of advanced weaponry in Russia's Navy to 70%

TASS News Agency, January 10, 2020

There is a need to raise the share of advanced weaponry in Russia's Navy to 70% in the near future, President Vladimir Putin said at a meeting with senior officials from the Defense Ministry and the Navy's General Command. "This is the level that we need to achieve and maintain," the president pointed out. "We will continue efforts to make sure that our navy has advanced equipment," Putin said, adding that issues concerning the Navy's modernization had been considered at a series of defense meetings in December. "The agenda included ways to strengthen sea-based nuclear forces," he specified.

"The Navy has always been important if not crucial for efforts to ensure national security. In the 21st century, we need to maintain and strengthen our country's role as one of the world's leading maritime powers," Putin emphasized.

<https://tass.com/defense/1106677>

Russian defense chief orders armed forces to monitor deployment of US missiles

TASS News Agency, January 10, 2020

The minister noted that the Russian Strategic Missile Forces must carry out re-equipment with the Avangard and Yars missiles, while the nuclear navy forces must begin deployment of the Borei-A strategic missiles "We need to carry out a profound analysis of potential military threats and outline the measures on improving the armed forces. The results of these efforts will be taken into account when drafting the country's defense plan for the years 2021-2025," he said on Friday, opening a teleconference on the main spheres of activity of the Russian Defense Ministry for the year 2020.

"We need to monitor the deployment of intermediate- and shorter-range missiles by the United States of America," Shoigu stressed when outlining the year's goals. He also noted that the Russian Strategic Missile Forces must carry out steady re-equipment with the Avangard and Yars missiles, while the nuclear navy forces must begin deployment of the Borei-A strategic missiles.

<https://tass.com/defense/1106935>

Rostov unit 1 cleared to operate until 2031

World Nuclear News, January 10, 2020

Russian regulator Rostechnadzor has issued an operating licence extension for unit 1 of the Rostov nuclear power plant in southwest Russian to 2031. As of 9 January, the VVER-1000 unit had generated 148.174 terawatt hours of electricity since it started operations in 2001. Last month, Rostechnadzor issued operating licence extensions for unit 3 of Smolensk NPP until 2034, unit 2 of Kola NPP to 2034, unit 2 of Bilibino NPP until 2025, and unit 4 of Novovoronezh NPP until 2032.

The four-unit Rostov plant generated 33.887 TWh of electricity last year, above the 31.64 TWh target set by the Federal Antimonopoly Service (FAS). It achieved a capacity factor of 107.1% (above that set in the FAS plan of 89.62%). For comparison, in 2018, the plant

produced to 29.369 TWh and had a capacity factor of 89.7%. The FAS generation plan for unit 1 for 2020 is 7.77 TWh.

<https://world-nuclear-news.org/Articles/Rostov-unit-1-cleared-to-operate-until-2031>

Kola NPP pilots use of ultraviolet wastewater disinfection

World Nuclear News, January 10, 2020

Pilot testing of a new ultraviolet wastewater disinfection system has started at the Kola nuclear power plant. For one of the largest consumers of water in the Murmansk Region (more than 1 billion cubic metres annually), the new system will enable disinfection of water without the use of chemicals containing chlorine, Kola NPP said.

Two ultraviolet disinfection units, installed as part of the company's environment programme, will provide for the purification of up to 400 cubic metres of water per hour (around the clock). Each ultraviolet module is equipped with 18 lamps, under the influence of ultraviolet radiation which purifies wastewater from microorganisms, viruses and bacteria.

<https://world-nuclear-news.org/Articles/Kola-NPP-pilots-use-of-ultraviolet-wastewater-disi>

Russia ready to help establish dialogue between US and Iran, Lavrov says

TASS News Agency, January 14, 2020

Moscow is ready to contribute to launching dialogue between Washington and Tehran if the sides show interest in this, Russian Foreign Minister Sergey Lavrov told a news conference on Tuesday. "We are calling on the US and Iran to show restraint and solve all problems through dialogue," Lavrov said. "Many tried and continue trying to contribute to launching contacts between the United States and Iran to ease tensions," he said, stressing: "[We] are also ready to help if the sides show a real interest in this."

Meanwhile, Russia's top diplomat emphasized that Moscow was not going to meddle in the ties between the United States and Iran. "By meddling, as you said, in US-Iranian relations I mean some physical actions."

<https://tass.com/politics/1108157>

Russian cutting-edge corvette test-fires shipborne weapons during trials in Barents Sea

TASS News Agency, January 14, 2020

The Project 20385 lead corvette Gremyashchiy held torpedo fire against an underwater and a surface target, testing new armament in the Barents Sea, spokesman for the Northern Fleet Vadim Serga said on Tuesday "The corvette operating in the Barents Sea under the program of state sea trials delivered torpedo fire against an underwater and a surface target. During the fire, a new naval weapon suite was successfully tested," the spokesman said.

The crews of a nuclear-powered submarine and the Northern Fleet small anti-submarine warfare ship Snezhnogorsk provided for the corvette's trials, simulating the enemy, he said.

Project 20385 corvettes displace 2,200 tonnes, have an operating range of 3,500 miles and their sea endurance is 15 days. They are armed with Kalibr-NK universal missile systems, Redut anti-aircraft missile complexes and Paket anti-submarine warfare technology.

<https://tass.com/defense/1108315>

Putin: Russia is world's leader in advanced weaponry for first time in history

TASS News Agency, January 15, 2020

Russia has been able for the first time in history to become the world's leader in advanced weapons, Russian President Vladimir Putin said in his annual State of the Nation Address to the Federal Assembly

on Wednesday. "We are not threatening anyone and are not seeking to impose our will. At the same time, I can assure everyone that our steps for strengthening national security were made timely and in a sufficient amount," the Russian president said.

Today Russia is the world's leader in developing advanced weaponry, Putin stressed. "For the first time, let me stress, for the first time in the entire history of the existence of missile and nuclear weapons, including the Soviet period and present-day history, we are not catching up with anyone and, on the contrary, other leading countries of the world will still have to develop weapons, which Russia already possesses," the Russian leader said.

<https://tass.com/defense/1108859>

Russian repair improvements led to 3 TWh more power in 2019

World Nuclear News, January 15, 2020

Greater efficiency in Russian nuclear power plant maintenance outages saved nearly 180 days last year and enabled 2.9 terawatt hours more electricity to be produced than would otherwise have been possible, Rosenergoatom said yesterday. This amount of electricity is enough to meet the energy demand of, for example, the Smolensk or Tver regions for six months, the company said. Optimisation of maintenance outages at Russia's nuclear power units during 2019 amounted to 179.5 days, fewer than the target set by the Federal Antimonopoly Service and 60.5 days fewer than the company's target level.

The main contributors to the achievement were Kursk units 1 and 2 and Leningrad unit 4 thanks to improvements in "managing the characteristics" of RBMK reactors, Rosenergoatom said. In total last year, there were 37 maintenance outages at 32 power units. This year, 41 maintenance outages are planned, with a total duration of 2484 days (at the target

level). To achieve this, a schedule has been developed and agreed with the national grid operator, the company said.

<https://world-nuclear-news.org/Articles/Russian-repair-improvements-led-to-3TWh-more-power>

Five nuclear-armed states must work together to neutralize threat of 'global war' – Putin

Russian Times, January 15, 2020

The nuclear-armed countries, permanent UN Security Council members, must work on a common approach aimed at preventing a global war, Russian President Vladimir Putin has said. Putin made the comments during his annual state-of-the-nation address on Wednesday. The president said the five permanent members of the UN Security Council – the US, China, Russia, Britain and France – carry a "special responsibility for securing the sustainable development of humanity."

He previously expressed "deep concern" over the recent flare-up of tensions between the US and Iran, which almost put the two countries on a brink of war. Both states did not mince words after Washington ordered the drone strike which killed senior Iranian military commander Qassem Soleimani in Iraq. Moscow urged everyone to show restraint and seek diplomatic means to defuse the conflict.

<https://www.rt.com/russia/478313-putin-nuclear-armed-states/>

West Asia

G. Iran

Rouhani: U.S. should return to right track if it really wants to talk to Iran

Tehran Times, January 1, 2020

Iranian President Hassan Rouhani, in a ceremony in Ardabil province on Wednesday, voiced his country's readiness to resume talks with the U.S. provided that Washington returns to the 2015 nuclear deal

and fulfils its obligations under the pact, including lift of sanctions. "A plot has been hatched against us (by the U.S.) to damage our greatness to force us to be surrendered and to be obedient, however, it is not possible in face of our nation; instead, they should return from their wrong path they started once," the president said.

"We are ready for negotiations whenever they (the U.S. officials) confess their wrong policy. We are ready to talk to you, to listen to your words. You should listen to our words too," Rouhani said. "You are not a superior government than the Iranian government. We respect your people, but, we strongly protest your ruling system. We condemn your measures, but meantime, we remind that the returning path is open to you," the president advised the U.S. officials.

Earlier this month, Rouhani said that Iran was resisting sanctions but his country had not closed the door to negotiations. "We have no way but resistance against sanctions, however, we have not closed door of negotiations," Rouhani said during a speech at the Insurance and Development Conference. The president said if the sanctions against Iran were lifted, he would be ready to meet the leaders of the countries party to the nuclear deal. "If they remove sanctions, we are prepared for talks at the level of 5+1 group's heads of states," Rouhani remarked.

https://www.tehrantimes.com/news/443668/Rouhani-U-S-should-return-to-right-track-if-it-really-wants_

Palermo and CFT are extremely dangerous, says Expediency Council chief Amoli Larijani

Tehran Times, January 1, 2020

Chairman of the Expediency Council Ayatollah Sadeq Amoli Larijani has said accession to Palermo Convention and Combating the Financing of Terrorism (CFT) is extremely dangerous for Iran's

national security. "If you ask my personal opinion, Palermo and CFT are extremely detrimental to national security," Amoli Larijani said on Wednesday, adding, "Especially the CFT which is very dangerous." He said Iran has grown more suspicious of the Americans and their servants and the countries that are members of the Financial Action Task Force (FATF) over time.

"This is clear. I want to say that they are really dangerous individuals. They are corrupt individuals. Of course, they were already corrupt and dangerous. Their Barjam (Iran nuclear deal) showed how cheap of individuals they are and the CFT is worse than Barjam," said Amoli Larijani, according to Mehr. Ratifying the FATF-related bills has become a contentious issue in Iran. Mohsen Rezaee, secretary of the Expediency Council, said on Wednesday that politicizing the issue of FATF and exerting pressure on the council to approve it are "suspicious". Rezaee said the issue is being discussed by the opponents and proponents in the council. The parliament passed the FATF in October 2018. However, the oversight Guardian Council rejected the bill. Whenever there is a dispute between the parliament and the Guardian Council on a bill, it will be referred to the Expediency Council for final decision. Now it is up to the Expediency Council to reject or ratify the FATF. The Paris-based task force said on October 18 that it has given Iran a final deadline of February 2020 to tighten its laws against money laundering in compliance with the global watchdog's financial standards.

<https://www.tehrantimes.com/news/443666/Palermo-and-CFT-are-extremely-dangerous-says-Expediency-Council>

Iran takes fifth and last step to end commitment to JCPOA

Tehran Times, January 5, 2020 - 21:35

Late on Sunday, Iran took the fifth and last step to fully end commitment to the 2015 nuclear deal, officially called the Joint Comprehensive Plan of Action (JCPOA), the government announced in a statement.

According to the new step, from now on Iran will no longer commit to any limits on the level of uranium enrichment, stockpile of nuclear fuel and also nuclear research and development, the statement said.

<https://www.tehrantimes.com/news/443820/Iran-takes-fifth-and-last-step-to-end-commitment-to-JCPOA>

Zarif says Iran still committed to continue cooperation with IAEA

Tehran Times, January 6, 2020

Foreign Minister Mohammad Javad Zarif announced via his official Twitter account on Sunday that Iran is still resolved to continue full cooperation with the International Atomic Energy Agency (IAEA) even after taking the fifth and final step to put an end to its obligations under the 2015 nuclear deal. "Iran's full cooperation w/IAEA will continue," Zarif tweeted. Since May 8, Iran has been reducing its nuclear commitments with a series of steps every 60 days. In November, it gave Britain, France, and Germany a third 60-day deadline to salvage the Joint Comprehensive Plan of Action (JCPOA) or face a further decrease of commitments by Tehran. The deadline passed on Saturday. In the statement on Sunday, the Iranian government announced that from now on the country will observe no limitations on its nuclear industry, including the level of uranium enrichment, the number of enriched materials as well as research and development. Zarif said the last step, which is also in accordance with paragraph 36 of the JCPOA, Iran will see no "restriction on a number of centrifuges" that it can operate.

"As 5th & final Remedial step under paragraph 36 of JCPOA, there will no longer be any restriction on the number of centrifuges," Zarif tweeted. The chief diplomat reiterated Tehran's long-held position that if the remaining parties to the JCPOA take steps to offset sanctions on Iran, Tehran will reverse its decisions. "This step is within JCPOA & all 5 steps are reversible upon Effective

implementation of reciprocal obligations," Zarif added.

https://www.tehrantimes.com/news/443849/Zarif-says-Iran-still-committed-to-continue-cooperation-with_

E3 states urge Iran to reverse its JCPOA decision

Tehran Times, January 6, 2020

Iran issued a statement on Sunday announcing suspension of all limits under the 2015 nuclear deal, known as the Joint Comprehensive Plan of Action, in its fifth and final step in reducing commitments. "The Islamic Republic of Iran no longer faces limitations on the capacity of enrichment, purity of enrichment, amount of enriched material and research and development," the statement said. The statement added that Iran will continue cooperation with the International Atomic Energy Agency. It is noted in the statement that Iran will reverse its decision once the sanctions are removed and the country enjoys the benefits of the nuclear deal. British Prime Minister Boris Johnson, French President Emmanuel Macron and German Chancellor Angela Merkel issued a joint statement on Sunday urging Iran to reverse its decision.

"We specifically call on Iran to refrain from further violent action or proliferation, and urge Iran to reverse all measures inconsistent with the JCPOA (the Iran nuclear deal)," the statement said, according to AP. Elsewhere in the statement, the three European countries have called for all sides to work towards an urgent easing of tension in the Persian Gulf. "We call on all parties to exercise utmost restraint and responsibility. The current cycle of violence in Iraq must be stopped," the joint statement said. "We recall our attachment to the sovereignty and security of Iraq. Another crisis risks jeopardizing years of efforts to stabilize Iraq."

https://www.tehrantimes.com/news/443864/E3-states-urge-Iran-to-reverse-its-JCPOA-decision_

Nuclear deal savable if remaining signatories act willfully: Araghchi

Tehran Times, January 7, 2020

Iranian Deputy Foreign Minister Abbas Araghchi said on Tuesday the Joint Comprehensive Plan of Action (JCPOA), commonly called the nuclear deal, can be preserved if the remaining signatories show enough determination. Araghchi told reporters on the sidelines of the Tehran Dialogue Forum that the fifth step in modifying JCPOA undertakings was the final step and there won't be any other step to take. "There is still the possibility of preserving the JCPOA provided that the other side shows will," the senior negotiator said.

Under the 2015 nuclear deal, Iran agreed to put limits on its nuclear activities in exchange for the termination of economic and financial sanctions. However, in May 2018 the Trump administration abrogated the agreement and started introducing the harshest ever sanctions on Iran. The remaining signatories, especially Europeans, have also failed to take a concrete step to shield Iran from sanctions. Pointing to the Europeans' threat to resort to trigger mechanism, Araghchi said, "It is natural that such issues will create a situation for faster end of the JCPOA." Late on Sunday, Iran took the fifth and last step to fully end commitment to the nuclear pact, the government announced in a statement.

According to the new step, from now on Iran will no longer commit to any limits on the level of uranium enrichment, the stockpile of nuclear fuel and related research and development, the statement said. On Sunday, Foreign Minister Mohammad Javad Zarif announced via his official Twitter account that Iran was resolved to continue full cooperation with the International Atomic Energy Agency (IAEA) even after taking the fifth and final step to put an end to its obligations under the 2015 nuclear pact.

<https://www.tehrantimes.com/news/443899/Nuclear-deal-savable-if-remaining-signatories->

act-willfully_

Zarif says assassination of Gen. Soleimani amounts to an armed attack on Iran

Tehran Times, January 7, 2020

Iranian Foreign Minister Mohammad Javad Zarif has said that assassination of Lieutenant General Qassem Soleimani by the United States amounts to an armed attack against Iran. "This is an act of aggression against Iran and amounts to an armed attack against Iran, and we will respond. But we will respond proportionally not disproportionately," he told CNN in an interview published on Tuesday. "We will respond lawfully, we are not lawless people like President Trump," he said.

Referring to a tweet by the U.S. President Donald Trump on Saturday in which he threatened to target 52 Iranian sites, including cultural and civilian ones, Zarif said those comments showed Trump "has no respect for international law and is prepared to commit war crimes — attacking cultural sites is a war crime." He also said that Trump threw the Middle East into chaos by leaving the 2015 nuclear deal, known as the JCPOA, in May 2018. "A war was started a long time ago by the United States, the United States destroyed stability in this region, the United States undermined security in this region," he said. "What is important is for the Trump regime to realize is that everything in this region was improving following the JCPOA," Zarif said.

https://www.tehrantimes.com/news/443912/Zarif-says-assassination-of-Gen-Soleimani-amounts-to-an-armed_

'Western media attempt to downplay Iran's retaliatory attacks'

Tehran Times, January 8, 2020

A media expert has said that a number of certain Western media outlets are making efforts to downplay the significance of Iran's missile attacks on U.S. forces in Iraq. The attacks were carried out on Wednesday morning in retaliation to the assassination

of a top Iranian commander in Baghdad on January 3. "After the initial shock of the Iranian lightning strikes, some Western media tried to minimize the magnitude of Iran's action," the expert told the Tehran Times on condition of anonymity. Such media outlets in fact followed Donald Trump's initial comment on the strikes who claimed "all is well!", the source said. After Iran's retaliatory attacks, Trump tweeted, "All is well! Missiles launched from Iran at two military bases located in Iraq. Assessment of casualties & damages taking place now. So far, so good! We have the most powerful and well equipped military anywhere in the world, by far! I will be making a statement tomorrow morning."

Trump's remarks have come under fire by some U.S. political figures. Wendy Sherman, lead negotiator on the Iran nuclear deal, denounced Trump's big-headed comment who claimed "All is well". Sen. Amy Klobuchar said: "All is not well" with Iran, despite Trump's tweet. CNN quoted a U.S. official as saying that there were no initial reports of any U.S. casualties, but an assessment of the impact of the strikes is underway. "A preliminary report from an Iraqi security source indicated there were Iraqi casualties, but Iraqi security officials later told CNN there were no casualties among Iraqi security forces," the official said.

https://www.tehrantimes.com/news/443927/Western-media-attempt-to-downplay-Iran-s-retaliatory-attacks_

Iran's Rouhani, EU's Michel confer on recent developments in region

Tehran Times, January 10, 2020

In a phone conversation on Thursday, Iranian President Hassan Rouhani and European Council President Charles Michel conferred on the recent developments in West Asia, including the U.S. assassination of Iranian Lieutenant General Qassem Soleimani and new sanctions on the Islamic Republic by

Washington. General Soleimani was assassinated in a U.S. air raid near the Baghdad international airport on January 3 upon direct order by Donald Trump. In retaliation on January 8, on the dead of the night, the Aerospace Force of the Islamic Revolution Guards Corps (IRGC) fired several ballistic missiles at the U.S. Ain al-Assad airbase in southwestern Iraq.

In the phone conversation, Rouhani said, "The European Union is a major power in the world with a heavy responsibility and if it wants to contribute to regional peace and stability, Tehran is ready to cooperate with it." "Iran and Europe want stability in the region and strengthening of the JCPOA (the official name for the 2015 nuclear deal), and it is very important for us that Europe, China, and Russia play their important role in preserving the JCPOA in order to secure Iran's interests," Rouhani remarked. Rouhani said the five steps by Iran to reduce its JCPOA commitments are intended to create a balanced situation, adding, "Iran will continue to cooperate with the (the International Atomic Energy) Agency".

https://www.tehrantimes.com/news/443986/Iran-s-Rouhani-EU-s-Michel-confer-on-recent-developments-in_

Russia, France, UK reassure Iran about commitment to JCPOA

Tehran Times, January 10, 2020 - 18:32

The foreign ministries of the Russian Federation, France and Britain have said that their country will remain committed to obligations under the 2015 Iran nuclear deal, officially known as the Joint Comprehensive Plan of Action (JCPOA). According to Tasnim, French Foreign Ministry spokeswoman Agnes von der Muhll said on Thursday that France will adhere to the nuclear agreement within the framework of the Vienna Agreement. Russia said this week that it remains fully in compliance with the nuclear deal and is ready to continue working towards their achievement.

"The challenges which the international community has come across during the implementation of the comprehensive arrangements call for political will and

collective response, primarily by the main JCPOA signatories. We have no doubt that when these challenges are checked Iran will see no reason to avoid compliance with the agreed commitments. We urge all our partners to continue on the path set out in the JCPOA and to create conditions for the resumption of its sustainable implementation," the Russian Foreign Ministry said in a statement. British Prime Minister Boris Johnson disregarded U.S. President Donald Trump's call to withdraw from the nuclear deal, telling Iran's President Hassan Rouhani in a telephone conversation on Thursday morning that his country remains committed to the international agreement. "The Prime Minister underlined the UK's continued commitment to the JCPOA and to ongoing dialogue to avoid nuclear proliferation and reduce tensions," Johnson's office said in an official statement after his call with Rouhani.

https://www.tehrantimes.com/news/443998/Russia-France-UK-reassure-Iran-about-commitment-to-JCPOA_

Iran to unveil new generation of centrifuges in April

Tehran Times, January 11, 2020

The Atomic Energy Organization of Iran (AEOI) is set to unveil the 16th generation of domestically-manufactured centrifuge machines in early April 2020, the special assistant to the AEOI chief announced on Saturday. Ali Asghar Zare'an broke the story on the sidelines of the nuclear industry exhibition in the southern port city of Bushehr. "We certainly will showcase more products both in terms of volume and quality on April 8," Zare'an explained.

April 8 marks the National Nuclear Technology Day in Iran. "One of the newest achievements is the latest version of the centrifuge machine with SWU 50 (Separate Work Unit), which is designed and manufactured by the Atomic Energy Organization's experts. The new centrifuge machine will be unveiled on the national nuclear day in Tehran," he said "The new centrifuge machine is the 16th

version of such machines." He added, "We had five centrifuge machines for research and development purposes but now we have 15 generations of centrifuge machines." In recent years, Iranian scientists have made remarkable progress in the field of nuclear technology despite the sanctions imposed by the West.

<https://www.tehrantimes.com/news/444036/Iran-to-unveil-new-generation-of-centrifuges-in-April>

Putin, Merkel agree nuclear deal should be kept by all means

Tehran Times, January 12, 2020

Russian President Vladimir Putin and German Chancellor Angela Merkel have agreed that preserving the 2015 nuclear deal, known as the JCPOA, is a matter of "tremendous importance" and should be kept by all means necessary. During a joint press conference in Moscow on Saturday, Merkel said that "everything must be done to keep the JCPOA going" and vowed to use "all the diplomatic tools to help this agreement."

According to RT, Putin described the deal as "tremendously important" and said that both Moscow and Berlin agree that all parties need to "come back to the deal." Putin further expressed hope that a special-purpose vehicle called INSTEX, created to facilitate trade with Iran and circumvent U.S. sanctions, would soon "be up and running" and that European nations "would deliver on their promise to create an independent mechanism free of the dollar influence." The European Union has established INSTEX to continue trade with Iran without suffering from U.S. sanctions, however, the mechanism is yet to be operationalized.

<https://www.tehrantimes.com/news/444083/Putin-Merkel-agree-nuclear-deal-should-be-kept-by-all-means>

Iran downplays fresh U.S. sanctions

Tehran Times, January 12, 2020

The Foreign Ministry spokesman Abbas Mousavi on Saturday condemned the new U.S. sanctions on Iran, saying sanctions on

senior Iranian officials as well as metal industries will bring nothing for Washington. "The American regime will finally be forced to accept its failure," Mousavi said. He went on to say that sanctions are a clear violation of the UN Security Council Resolution 2231 that endorsed the 2015 nuclear deal. "Unfortunately, the Americans have adopted unilateral, illegal and fruitless behaviors and are stressing to repeat them," he added.

The Trump administration imposed more sanctions on Iran on Friday in response to Iran's missile attacks on U.S. forces in Iraq on January 8. Iran's missile attacks were in response to the U.S. assassination of Lieutenant General Qassem Soleimani, the commander of the IRGC Quds Force in Baghdad on January 3. The U.S. introduced sanctions on Iran's metal industries and eight senior military and national security officials who the U.S. said were involved in the ballistic missile attack on the U.S. airbase in western Iraq. Among them were the secretary of Iran's Supreme National Security Council, the armed forces deputy chief of staff and the commander of the Basij.

<https://www.tehrantimes.com/news/444054/Iran-downplays-fresh-U-S-sanctions>

Kerry calls JCPOA the 'strongest' and 'most transparent' agreement in the world

Tehran Times, January 13, 2020

Former U.S. Secretary of State John Kerry has said that the 2015 nuclear deal, officially known as the JCPOA, is the "strongest" and "most transparent" agreement on the planet. "Britain, China, Russia are all still trying to keep the agreement in place because they recognize it's the strongest, most transparent, most accountable nuclear agreement on the planet," he told CBS News in an interview published on Sunday. He said, "President Trump decided unilaterally to ignore all of our allies and move to get out of the agreement."

U.S. President Donald Trump quit the

nuclear deal in May 2018 and introduced the harshest ever sanctions in history on Iran as part of his administration's "maximum pressure" campaign against Iran. In another interview with CBS News in September, Kerry said, "France, Germany, Britain, China, Russia, all still support a multilateral agreement that was a model of multilateral diplomacy. We came together, the world welcomed this, the United Nations Security Council ratified it, embraced it. And that still is there. Along comes President Trump and he pulls out. He broke the agreement... The escalation is the absolutely foreseeable and it was foreseen that this is what would happen. Why do I say that? Because we were ridiculed for saying that the alternative to what we were trying to do in making the agreement was war, was conflict."

<https://www.tehrantimes.com/news/444129/Kerry-calls-JCPOA-the-strongest-and-most-transparent-agreement>

Zarif: E3 has bowed to U.S. diktat

January 14, 2020

Iranian Foreign Minister Mohammad Javad Zarif has said that France, Germany, and the UK have bowed to "the U.S. diktat" for 20 months. "For 20 months, the E3-following UK appeasement policy-has bowed to US diktat," Zarif tweeted late on Monday. Zarif said this policy "hasn't gotten it anywhere-and it never will." The chief diplomat added that the three European countries can save the 2015 nuclear deal "but not by appeasing the bully & pressuring the complying party."

In the same tweet, Zarif also said, "Rather it should muster the courage to fulfill its own obligations." France, Britain, and Germany plan to trigger on Tuesday the dispute mechanism in the Iran nuclear deal, Reuters reported. Two European diplomats said on Tuesday the decision was aimed at saving the deal by discussing with Iran what it should do to reverse its decision on suspending all the nuclear limits. The three countries were to inform the European Union on Tuesday they plan to trigger the mechanism.

<https://www.tehrantimes.com/news/444170/Zarif-E3-has-bowed-to-U-S-diktat>

Trump 'flat-out lied' about Soleimani assassination: Biden

Tehran Times, January 15, 2020

U.S. Democratic presidential candidate Joe Biden has said that Donald Trump "flat-out lied" when offering justification for the assassination of Iran's top general, Qassem Soleimani. "Quite frankly, I think he's flat-out lied about saying, the reason he made the strike [on Soleimani] was because our embassies were about to be bombed," Biden said while speaking at a Democratic debate in Des Moines, Iowa on Tuesday night. Trump ordered the drone strikes that targeted Lieutenant General Soleimani, chief of the IRGC's Quds Force, and Abu Mahdi al-Muhandis, the second-in-command of Iraq's Popular Mobilization Units (PMU) as well as eight other companions on January 3.

Trump told Fox News Friday that "four embassies" would have been targeted had the U.S. not carried out the operation, but failed to provide any details to substantiate his claims. American officials have made confusing remarks about what prompted Trump to order the assassination. After the president claimed that the strikes were conducted to prevent an "imminent" attack, Secretary of State Mike Pompeo said the operation was part of a "bigger strategy of deterrence." Pentagon Chief Mark Esper, on the other hand, said there was "no intelligence forewarning of imminent attacks on embassies," contradicting Trump.

On Monday, Trump in a tweet alleged any imminent threat Soleimani posed "doesn't really matter because of his horrible past!" Biden also criticized the president for pulling the U.S. out of a nuclear deal with Iran, a move which he said alienated Washington's allies. "We have lost our standing in the region, we have lost the support of our allies. The next president has to be able to pull those folks back together, reestablish our alliances and insist Iran go back into the agreement."

<https://www.tehrantimes.com/news/444207/Trump-flat-out-lied-about-Soleimani-assassination-Biden>

H. Israel

In momentary slip, Netanyahu breaks Israel's nuclear ambiguity

The Times of Israel, January 5, 2020

Prime Minister Benjamin Netanyahu on Sunday called Israel a “nuclear power” before correcting himself mid-word to say “energy power.” The premier’s comment came during the weekly cabinet meeting as he briefed ministers about the deal signed Thursday between Israel, Greece and Cyprus on Thursday for a huge pipeline project to ship gas from the eastern Mediterranean to Europe. “We are transforming Israel into a nuclear power... energy power,” Netanyahu said. Israel has never acknowledged possessing nuclear weapons, instead maintaining a policy of “strategic ambiguity.”

Foreign reports have put the size of Israel’s nuclear arsenal in the dozens to hundreds of weapons. Under the gas deal inked last week, the 2,000-kilometer (1,200-mile) EastMed pipeline will be able to carry between nine and 12 billion cubic meters of gas a year from offshore reserves held by Israel and Cyprus to Greece, and then on to Italy and other southeastern European countries.

<https://www.timesofisrael.com/in-momentary-slip-netanyahu-breaks-israels-nuclear-ambiguity/>

Iran's 'Nuclear Revenge' for the Death of Soleimani

Haaretz, January 13, 2020

On today’s show: Host Simon Spungin is joined by Haaretz’s senior Middle East analyst, Zvi Bar’el, and by military affairs analyst, Amos Harel, to discuss the fallout from the United States’ assassination of General Qassem Soleimani, the commander of the Islamic Republic’s Revolutionary Guards’ Quds Force.

We ask whether Soleimani was a legitimate target for an extrajudicial killing, how Iran will seek to avenge his death, what role Israel may or not have played in providing the intelligence for the operation and whether the Iranian nuclear deal can be

brought back from the dead. We also take a broader look at the regional implications, from Israel’s northern border, where Iranian-controlled Hezbollah has amassed huge quantities of missiles, to Iraq, where the United States still has forces.

<https://www.haaretz.com/israel-news/podcasts/iran-s-nuclear-revenge-for-the-death-of-soleimani-listen-1.8383310>

Israel Warns Iran is Closer to Nuclear Bomb

Linda Gradstein, VOA, January 15, 2020

Israel’s army intelligence says Iran will have enough enriched uranium to produce one nuclear bomb by the end of the year. Israeli Prime Minister Benjamin Netanyahu says Israel will not let Iran become a nuclear power.

Israeli military analysts say that by the end of 2020 Iran will have enough enriched uranium for one nuclear bomb. The assessment comes after recent tensions between the U.S. and Iran brought them to the brink of war. The United States pulled out of the Iran nuclear deal in 2018, and Israeli intelligence officials speculated that Iran would resume its efforts to acquire a nuclear bomb. Israeli army intelligence officials based their calculation on their assessment that it takes 40 kilograms of 90-percent enriched uranium for one nuclear bomb. Iran announced several months ago that it no longer considered itself bound by the nuclear deal and would step up enrichment efforts.

<https://www.voanews.com/middle-east/voa-news-iran/israel-warns-iran-closer-nuclear-bomb>

I. Turkey

Turkey concerned over North Korea's nuclear move

Burak Bir, Anadolu Agency, January 3, 2020

Turkey on Friday expressed concern over North Korea’s statement on ending moratorium on nuclear missile tests. “We are concerned by the statement of the Democratic People’s Republic of Korea

(DPRK) that has indicated the end of the moratorium on nuclear and intercontinental ballistic missile tests," said the Foreign Ministry.

"It is important to resume the dialogue process initiated in 2018 with the aim of achieving lasting peace and complete and verifiable denuclearization on the Korean Peninsula and refrain from provocative actions which would lead to further escalation in the region," the ministry added.

<https://www.aa.com.tr/en/politics/turkey-concerned-over-north-koreas-nuclear-move/1691443>

Turkey striving to reduce tensions between US, Iran

Dilara Hamit, Anadolu Agency, January 6, 2020

Turkey is going to great lengths to reduce tensions between the U.S. and Iran, President Recep Tayyip Erdogan said Sunday following the recent killing of a top Iranian commander in a U.S. drone strike in the Iraqi capital. "Turkey always stands against foreign intervention and regards the recent U.S. attack in Baghdad with this same understanding," Erdogan said in a televised interview. He added that despite all efforts and international initiatives, it has not been possible for U.S.-Iran tensions to be resolved.

"We had a conversation with [U.S. President Donald] Trump that evening, and 4-5 hours later, this broke out," said Erdogan, referring to Soleimani's assassination. So the matter was planned. We were shocked to hear the news. I specifically advised him [Trump] not to increase tensions with Iran." Erdogan said Iran probably would not remain unresponsive to Soleimani's killing, adding the move would raise tensions in the region.

Soleimani was killed along with Abu Mahdi al-Muhandis, the senior commander of Iraq's Hashd al-Shaabi force, and eight others in the drone airstrike early Friday outside Baghdad's airport, marking a dramatic escalation in tensions between the U.S. and Iran, which have been high since Trump decided in 2018 to unilaterally withdraw Washington from a 2015 nuclear pact that

world powers struck with Tehran.

<https://www.aa.com.tr/en/middle-east/turkey-striving-to-reduce-tensions-between-us-iran/1693407>

Putin, Erdogan deepen energy ties as Middle East tensions mount

Andrew Wilks, January 8, 2020

The leaders of Turkey and Russia on Wednesday formally launched a Black Sea gas pipeline that will funnel Russian natural gas via Turkey to Europe, further cementing ties between the two nations against a backdrop of heightened tensions between the United States and Iran. President Vladimir Putin joined Turkish counterpart Recep Tayyip Erdogan in Istanbul for the inauguration of Turkish Stream or TurkStream - an undersea pipeline stretching 930km (578 miles) from Anapa on the Russian Black Sea coast to Kiyikoy west of Istanbul.

The pipeline will carry Russian gas for Turkish domestic consumption, while a second leg slated for construction will carry Russian gas to southeast Europe through Bulgaria, Serbia and Hungary.

TurkStream enables Russia to bypass Ukraine to sell gas to Europe, while bolstering Turkey as a major energy transport hub. The project also marks another area of mutual cooperation between Moscow and Ankara, which have also deepened military cooperation after Turkey took delivery of a Russian-made S-400 missile defence system last year.

<https://www.aljazeera.com/ajimpact/putin-erdogan-deepen-energy-ties-middle-east-tensions-mount-200108162355381.html>

J. UAE

UAE investing to ensure energy resources well secured

Rania El Gamal, Reuters, January 11, 2020

The United Arab Emirates energy said on Saturday it was investing heavily to secure its energy resources. "We are in a very

good position to secure ourselves and keep securing our customers (needs)," Energy Minister Suhail al-Mazrouei told an energy conference in the capital Abu Dhabi. "We are committed that (our partners) have ample supply of hydrocarbons and we are investing heavily to ensure that energy security for... our partners are well secured," he added. He said investments by foreign companies in the UAE energy sector reflected their confidence in the country's security.

<https://www.reuters.com/article/us-uae-investing-to-ensure-energy-resources-well-secured-idUSKCN1ZA08X>

UAE to deliver commercial nuclear power in 2020

Jumana Khamis, Arab News, January 13, 2020

The United Arab Emirates (UAE) will become the first country in the region to deliver "safe, commercial and peaceful nuclear power," Sultan Ahmed Al-Jaber, Minister of State in the UAE, and Chairman of Masdar, announced in his opening speech at the Abu Dhabi Sustainability Week (ADSW) on Monday.

Held under the theme "Accelerating the pace of sustainable development," the event's 2020 edition is taking place from Jan. 11 to 18 at the Abu Dhabi National Exhibition Centre, bringing together policy makers, technology pioneers and industry specialists. Hosted by the Abu Dhabi Future Energy Company, Masdar, the event is also focusing on the role of youth as the next generation's sustainability leaders. Reviewing the UAE's progress in the field of sustainability, Al Jaber referred to initiatives under Masdar and the Mohamed Bin Zayed Solar Park, calling the country one of the region's first movers in promoting and investing in advanced energy.

"We live in a time where break-through technology is delivering unprecedented progress to humanity," he said, noting that in the first two decades of the 21st century, life expectancy reached new heights, global

child mortality was cut in half and the middle class more than doubled.

<https://www.arabnews.com/node/1612451/business-economy>

East Asia

K. North Korea

North Korea reverts to aggressive nuclear policy

Ahn Sung-mi

Korea Herald, January 1, 2020

North Korean leader Kim Jong-un on Wednesday declared the regime will continue to develop its nuclear program and debut a new "strategic weapon" in the near future, if the US does not end its economic sanctions. His remarks — during an unexpectedly long four-day meeting of ruling party officials, reported by the state-run Korea Central News Agency — signals the country plans to revert to its prior "byungjin" policy of simultaneously developing nuclear capabilities alongside the economy.

The North had dropped the aggressive byungjin line and pursued the "economy-first" policy in April 2018, with a self-imposed moratorium on intercontinental ballistic missiles and nuclear tests, hoping that the decision would prompt the US to lift its economic sanctions. Indicating a shift in the country's position, Kim said there is no longer a need to be bound by its self-imposed moratorium, as the US continues conducting military drills, adopting cutting-edge weapons and imposing sanctions on the North, the KCNA reported.

http://www.koreaherald.com/view.php?ud=20200101000159&ACE_SEARCH=1

Kim Jong-un impatient with moratorium on ICBM tests, warns of 'new strategic weapon'

Korea Times, January 1, 2020

North Korean leader Kim Jong-un said he sees no reason to stick to his commitment

to suspend nuclear and long-range missile tests and will soon show off a “new strategic weapon,” accusing the United States of stalling for time for its own political interests, according to state media Wednesday. Still, however, Kim appeared to have left room for negotiations as he also said during a meeting of the Central Committee of the ruling Workers’ Party that how much the North will bolster its “nuclear deterrent” will depend on the future U.S. attitude.

Kim said it was part of his efforts to build confidence with the U.S. that he suspended tests of nuclear weapons and intercontinental ballistic missiles (ICBM), but Washington responded with joint military exercises with South Korea and more sanctions on Pyongyang.

http://www.koreatimes.co.kr/www/nation/2020/01/103_281213.html

Experts weigh in on what NK’s ‘new strategic weapon’ might be

Choi Si-young, Korea Herald, January 1, 2020

Following North Korean leader Kim Jong-un’s warning of a “new strategic weapon,” experts on Wednesday weighed in on the state of the regime’s veiled missile program for clues. Given that the North has been trying to develop multiple-warhead intercontinental ballistic missiles and submarine-launched ballistic missiles, the strategic weapon may be an upgrade of either of the two — both of which could pose a greater threat to the security of the United States and its allies, as they would be harder to intercept in the air (multiple-warhead ICBMs) or detect before liftoff (SLBMs).

The technologies required are highly complicated and expensive, and only a few countries such as the US, Russia and China hold such weapons.

http://www.koreaherald.com/view.php?ud=20200101000155&ACE_SEARCH=1

NK likely to maintain denuclearization tug-of-war in 2020: experts

Jhoo Dong-chan, Korea Times, January 1, 2020

North Korea is likely to maintain the status quo combining its hardline stance with an open negotiation channel next year, according to a number of experts in South Korea and abroad. They also claim it is a very tall task to lead North Korea to complete and irreversible denuclearization without guaranteeing its regime survival. According to the Republic of Korea Air Force (ROKAF), Monday, the first RQ-4 Block 30 Global Hawk aircraft arrived at an air force base in Sacheon, South Gyeongsang Province, on the day.

http://www.koreaherald.com/view.php?ud=20200102000060&ACE_SEARCH=1

North Korea’s official newspaper warns of immediate, powerful strike against threats

Korea Times, January 3, 2020

North Korea’s official newspaper said Friday that any attempt to infringe upon the communist state’s dignity and survival should be met by an “immediate and powerful” strike, calling for all-out efforts to build up its national defense capability. North Korean leader Kim Jong-un threatened at a key party meeting in late December that the world will soon witness a “new strategic weapon,” and warned of a “shocking actual action,” accusing the United States of stalling for time for its own political interests. Kim said that he sees no reason to stick to his commitment to suspend nuclear and long-range missile tests and that there will never be denuclearization of the Korean Peninsula until the U.S. rolls back its hostile policy against Pyongyang.

http://www.koreatimes.co.kr/www/nation/2020/01/103_281325.html

NK official newspaper calls for self-reliance amid int'l sanctions

Yonhap, Korea Herald, January 4, 2020

North Korea's official newspaper said Saturday that the communist state will not maintain an attachment to seeking the lifting of international sanctions currently imposed against Pyongyang and will instead overcome hurdles through a self-reliant approach. The Rodong Sinmun, the official newspaper of the North's ruling party, reported that having an illusion of establishing peace with enemies will lead to self-destruction, and added the country will not have a lingering attachment to easing sanctions.

North Korea also claimed that it does not believe that Washington will ever leave Pyongyang in peace, adding that the United States will not change its imperialist nature. The newspaper added that Pyongyang will make efforts to find ways to incapacitate such sanctions, rather than waiting for their abolishment. In late December, North Korean leader Kim Jong-un presided over a four-day plenary meeting of the Workers' Party Central Committee and discussed policy directions on key domestic and diplomatic issues.

http://www.koreaherald.com/view.php?ud=20200104000026&ACE_SEARCH=1

N. Korea may push for advanced missiles: Seoul lawmaker

Yonhap, Korea Herald, January 6, 2020

North Korea's "new strategic weapon," touted by leader Kim Jong-un last week, may be new versions of long-range ballistic missiles, a South Korean lawmaker said Monday, citing intelligence authorities. Rep. Lee Eun-jae of the main opposition Liberty Korea Party also said Seoul's intelligence officials believe North Korea has decided not to engage in nuclear talks, which entail negotiations toward its abandonment of nuclear weapons in exchange with the lifting of international sanctions.

The lawmaker, who sits on parliament's intelligence committee, made the remark

during a news briefing on Seoul intelligence officials' analysis of the plenary meeting of the Central Committee of the North's ruling Workers' Party at the end of last year. According to North Korea's media, Kim pledged to show a "new strategic weapon" to the world, expressing frustration over stalled nuclear talks with the United States.

http://www.koreaherald.com/view.php?ud=20200106000800&ACE_SEARCH=1

US strike on Iran could have consequences in North Korea

Kim Tong-hyung, AP News, January 7, 2020

The U.S. strike that killed Iran's top military commander may have had an indirect casualty: a diplomatic solution to denuclearizing North Korea. Experts say the escalation of tensions between Washington and Tehran will diminish already fading hopes for such an outcome and inspire North Korea's decision-makers to tighten their hold on the weapons they see, perhaps correctly, as their strongest guarantee of survival. North Korea's initial reaction to the killing of Gen. Qassem Soleimani has been cautious. The country's state media was silent for several days before finally on Monday issuing a brief report on the attack that didn't even mention Soleimani's name.

The Korean Central News Agency report didn't publish any direct criticism by Pyongyang toward Washington, instead simply saying that China and Russia had denounced the United States over last week's airstrike at the airport in Baghdad. The North's negotiations with the U.S. have been at a stalemate since last February, when a summit between leader Kim Jong Un and President Donald Trump collapsed over disagreements about exchanging sanctions relief for nuclear disarmament. The North has recently pointed to that lack of progress and hinted it may resume tests of nuclear bombs and intercontinental ballistic missiles.

https://apnews.com/b6b5f79d170628a0db384f9374ca983f_

North Korea says Kim Jong Un's relationship with Trump not enough to salvage nuclear talks

Jesse Johnson, Japan Times, January 11, 2020

Kim Jong Un's personal relationship with U.S. President Donald Trump may not be enough to salvage stalled nuclear talks between Pyongyang and Washington, a senior North Korean official said Saturday. Kim Kye Gwan, an adviser to the North's Foreign Ministry, said in a statement carried by the state-run Korean Central News Agency that his country had directly received Trump's letter wishing a happy birthday to leader Kim Jong Un, but warned that it will return to nuclear talks only when Washington fully accepts its demands.

"As acknowledged by the world, it is true that the personal relations between (Kim Jong Un) and President Trump are not bad," he said. However, he continued, it would be "absent-minded" to expect Pyongyang to resume dialogue because of that warm personal relationship.

https://www.japantimes.co.jp/news/2020/01/11/asia-pacific/north-korea-says-kim-jong-uns-relationship-trump-not-enough-salvage-nuclear-talks/#.Xi7cOIQzblW_

Nuke talks only possible when US fully accepts NK demands: Pyongyang official

Yonhap, Korea Herald, January 11, 2020

Former North Korean chief nuclear envoy Kim Kye-gwan said Saturday that dialogue with the United States can resume only when it fully accepts Pyongyang's demands. Kim, currently foreign ministry adviser, also stressed the North would never engage in a negotiation to exchange its core nuclear facility for partial sanctions relief as it did in the no-deal Hanoi summit between US President Donald Trump and North Korean leader Kim Jong-un in February last year.

The remarks, carried by the North's Korean Central News Agency, followed North Korean leader's New Year's Day message that warned of a "new strategic weapon" test and "shocking actual action" in a display

of frustration over the stalemated nuclear talks with Washington.

http://www.koreaherald.com/view.php?ud=20200111000052&ACE_SEARCH=1

N Korea: Trump's birthday greet not enough to resume talks

Kim Tong-hyung, AP News, January 11, 2020

A North Korean official on Saturday said that the U.S. and South Korea are dreaming if they think that President Donald Trump's sending a birthday message would get leader Kim Jong Un back to the negotiating table. North Korean Foreign Ministry adviser Kim Kye Gwan repeated the North's deep frustrations over stalled nuclear negotiations with the Trump administration and stressed that the country will never fully deal away its nuclear capabilities for ending U.S.-led sanctions despite its economic difficulties.

He was responding to comments by South Korean presidential national security director Chung Eui-yong who, after returning from a visit to the United States on Friday, said that Seoul had conveyed Trump's birthday greetings to Kim. His birthday is believed to be Jan. 8. Chung told reporters that Trump during their meeting at the White House this week had asked Seoul to deliver the message to Pyongyang, which it did through "proper means" on Thursday.

https://apnews.com/50f256a6811a4befd95dfd01405d74cd_

US sanctions 2 N. Korean entities over labor exports

Yonhap, Korea Herald, January 15, 2020

The United States on Tuesday sanctioned two North Korean entities, including one based in China, for involvement in North Korean labor exports in violation of international sanctions. The US Treasury Department said it is targeting a North Korean trading corporation, Namgang Trading Corp., and a China-based North

Korean lodging facility, Beijing Sukbakso, for facilitating North Korea's practice of sending laborers abroad.

"The exportation of North Korean workers raises illicit revenue for the government of North Korea in violation of UN sanctions," Treasury Secretary Steven Mnuchin said in a statement. Under a 2017 United Nations Security Council resolution, all UN member states were required to expel North Korean workers by Dec. 22, 2019. The workers are believed to be a major source of income for Pyongyang as it continues to develop its nuclear weapons and ballistic missile programs in violation of UN resolutions.

http://www.koreaherald.com/view.php?ud=20200115000036&ACE_SEARCH=1

L. South Korea

S. Korea to invest W5.19tr into science, ICT R&D in 2020

Yonhap, Korea Herald, January 1, 2020

South Korea said Wednesday that it will invest 5.19 trillion won (\$4.49 billion) into various science and information and communication technology research projects in 2020. The annual research and development spending plan covers 4.15 trillion won earmarked for science and technology and 1.04 trillion won set aside to build up ICT capabilities, according to the Ministry of Science and ICT.

Of the total, slightly more than 1.53 trillion won will be used on basic scientific research. That amount is up 319.8 billion won, or 26.4 percent, from 2019, with original tech development programs to get 1.68 trillion won. ICT R&D and commercialization support will get 812.1 billion won and 230.9 billion won, respectively, with personnel training and establishment of an R&D foundation getting 729.6 billion won. Of the R&D projects to receive funding, the country will spend 1.68 trillion won on biotech, medicine-related technology, nano materials and space exploration. Space exploration fields to get support include development of indigenous space vehicles, creating an industrial eco-system for space exploration

and joint South Korea-US efforts to build a lunar probe.

http://www.koreaherald.com/view.php?ud=20200101000085&ACE_SEARCH=1

S. Korea, US to adjust combined drills for diplomacy with N. Korea: defense ministry

Korea Times, January 2, 2020

South Korea and the United States will continue to stage their combined exercises in an adjusted manner to support efforts for the denuclearization of the Korean Peninsula, Seoul's defense ministry said. The allies have either canceled or scaled back joint drills since 2018 to back diplomacy with North Korea.

"We've maintained our stance that combined exercises with the U.S. shall be adjusted in close coordination between the two sides in order to support diplomatic efforts for the denuclearization," ministry spokesperson Choi Hyun-soo told a regular briefing. Asked about any plan to resume their springtime exercise that had usually been staged in March, Choi said she has "nothing to comment on the issue as of now," adding that details would be decided "in consideration of how things go." Last year, Seoul and Washington decided to end their large-scale springtime Key Resolve and Foal Eagle maneuvers, and instead staged a modified command post exercise called Dong Maeng. But local media have reported that the two sides have been reviewing an option to resume a field training exercise around March this year to add pressure on North Korea.

http://koreatimes.co.kr/www/nation/2020/01/113_281264.html

FM Kang voices hopes for 'big' step in 2020 toward 'genuine' peace on peninsula

Yonhap, January 2, 2020

Foreign Minister Kang Kyung-wha on Thursday expressed hopes for a "big" step in the new year toward establishing

"genuine" peace on the Korean Peninsula, despite growing skepticism over the stalemated nuclear talks with North Korea. Kang made the remarks during her ministry's kick-off meeting for 2020, pointing to the continued momentum for dialogue with Pyongyang as a result of "perseverance" despite diplomatic challenges from home and abroad. "This year's task is that, taking the efforts we have made as a stepping stone, we take a big step forward to ending confrontation on the peninsula and establishing genuine peace." Kang said.

http://www.koreaherald.com/view.php?ud=20200102000828&ACE_SEARCH=1

S. Korean ambassador asks Trump to continue to show leadership on NK nuclear issue

Yonhap, Korea Herald, January 7, 2020

South Korean Ambassador to the United States Lee Soo-hyuck asked US President Donald Trump on Monday to continue to show leadership on the North Korean nuclear issue and Trump said in response that he would do so, his embassy said. Lee made the request during a White House ceremony to present his credentials to Trump, the embassy said in a press release. Lee was among six new ambassadors to present credentials, including those from East Timor, Thailand and Austria.

"Ambassador Lee said he hopes President Trump will continue to show leadership to resolve the North Korean nuclear issue and establish peace on the Korean Peninsula," the embassy said in a press release. "President Trump said he would do so." Trump asked how President Moon Jae-in was doing and sought Lee's opinion on the recent developments with North Korea, and Lee responded that Moon also wanted to send his regards to Trump, and offered his views on North Korea, the embassy said.

http://www.koreaherald.com/view.php?ud=20200107000046&ACE_SEARCH=1

South Korea's Moon cites 'desperate need' for ways to improve ties with North

Sangmi Cha, Josh Smith, Reuters, January 7, 2020

There is a "desperate need" for practical ways to improve ties with North Korea, the South's President Moon Jae-in said on Tuesday, adding that he was ready to meet with the reclusive leader in Pyongyang repeatedly if necessary. Moon, sidelined from his leading role in the diplomatic effort with North Korea in 2018, said he regretted the past year's lack of progress in negotiations.

In an annual New Year's speech in Seoul, Moon called for new talks with Kim Jong Un, and vowed to keep up work to facilitate U.S.-North Korea communication. "In a time of deadlock in U.S.-North Korea talks - and where we are even concerned about a step backward in inter-Korean relations - we are in desperate need of practical ways to improve inter-Korean cooperation," he said.

<https://in.reuters.com/article/uk-southkorea-politics-moon/south-koreas-moon-cites-desperate-need-for-ways-to-improve-ties-with-north-idINKBN1Z602N>

Nuclear safety agency approves additional spent fuel storage facilities

Yonhap, January 10, 2020

Nuclear safety agency approves additional spent fuel storage facility. South Korea's nuclear safety agency said Friday that it has approved the construction of seven additional spent fuel storage structures at the Wolsong nuclear power plant to allow for uninterrupted power generation. The decision comes after the state-run Korea Hydro & Nuclear Power Co., said the load at the plant hit 93.1 percent of capacity in September 2019, according to the Nuclear Safety and Security Commission.

The KHNP asked for additional storage

facilities, noting it may run out of space by the end of 2021 and that the lack of storage may force it to take some reactors offline to stop producing more spent fuel. The company currently operates 24 nuclear reactors. "Because of the time it takes to build the storage facilities, work must start as soon as possible," a commission source said. He said that despite some reservations, six of the eight members of the commission agreed with the construction plan.

The Korea Institute of Nuclear Safety earlier confirmed that despite concerns raised by local environmental groups the facilities in use and those to be built will meet all regulatory requirements and pose no risk to the environment. In addition to approving the construction of more storage facilities, the nuclear commission said it will spend 33.5 billion won (\$28.8 million) on nuclear safety research in 2020, up 10.2 percent from the year before. It said of the total, only 4.2 billion won will be used to back new projects, with the rest being spent on existing programs centered on such areas as safeguarding nuclear facilities from natural disasters and non-proliferation activities.

http://www.koreaherald.com/view.php?ud=20200110000583&ACE_SEARCH=1

M. Japan

Work starts on film on Nagasaki cathedral hit by atomic bomb

Toko Tanaka, Asahi Shimbun, January 10, 2020

Production has started for a film based on "The Head of Mary," a play by Nagasaki native Chikao Tanaka (1905-1995) about the Urakami Cathedral, which was destroyed by the atomic bomb in 1945. Director Katsuya Matsumura, 56, and others announced the project at a news conference held at the Nagasaki National Peace Memorial Hall for the Atomic Bomb Victims in the city's Hiranomachi district on Nov. 25.

The film, titled "Inori—Maboroshi ni Nagasaki o Omou Toki" (Prayer—When you think of Nagasaki in a vision), is set in Nagasaki in the decade starting in 1955.

Citizens are split over whether to preserve the ruins of the cathedral. "It's a story about uncelebrated women living in obscurity in the corners of society," Matsumura said at the news conference. "I want to portray the 'scars' of the war and Nagasaki through this film."

<http://www.asahi.com/ajw/articles/AJ202001100004.html>

Motegi to discuss North Korea and other issues with U.S. and South Korean foreign ministers

Japan Times, January 11, 2020

Foreign Minister Toshimitsu Motegi will meet with his U.S. and South Korean counterparts in San Francisco on Tuesday to discuss their cooperation on the denuclearization of North Korea.

<https://www.japantimes.co.jp/news/2020/01/11/national/politics-diplomacy/toshimitsu-motegi-north-korea-united-states-south-korea/#.XiFoHdQzbiU>

Documents show concerns from Okinawa on U.S. base presence

Sokichi Kuroda, Asahi Shimbun, January 13, 2020

Newly released government documents show how Okinawa became home to so many U.S. military bases after its reversion to Japan in 1972 despite concerns from a local leader of the heavy U.S. presence. The diplomatic records disclosed by the Foreign Ministry on Dec. 25 reveal the detailed discussions between Tokyo and Okinawa over the 1969 Japan-U.S. joint statement concerning the southern island's return to Japanese sovereignty.

While Okinawa called for the relocation of U.S. bases in the documents, Tokyo simply tried to fend off the issue just as it currently is doing 50 years after the release of the joint declaration. On Nov. 21, 1969, Japanese Prime Minister Eisaku Sato and U.S. President Richard Nixon agreed to the return of Okinawa to Japanese sovereignty in 1972 without nuclear weaponry, and that military facilities there would be

treated in the same manner as those in Japan's main island. They also came to an agreement on the automatic extension of the Japan-U.S. Security Treaty." The documents reveal the Japanese government showed consideration to dispel criticism, but it is doubtful whether Tokyo had a clear view on the relocation of bases as Okinawa demanded," said Gabe. "Foreign Minister Aichi seemingly just utilized a makeshift excuse."

<http://www.asahi.com/ajw/articles/AJ202001130001.html>

Law to provide financial support for drone development

Hiroki Ito, Asahi Shimbun, January 14, 2020

The government is drawing up legislation to provide financial incentives and other assistance to domestic companies that develop drones with sophisticated technologies to thwart cyberattacks. While the move is intended to give Japan an edge in the fierce international competition to develop next-generation drone and telecommunications technology, the planned legislation is also an attempt to counter the huge market presence of companies such as China's Huawei Technologies Co., which is leading the race for fifth-generation (5G) telecom technology.

Given that the drone market in Japan is now dominated by Chinese enterprises, government officials are hoping the bill will encourage Japanese companies to begin developing not only drones, but also products related to 5G telecom technology. The bill will be submitted to the ordinary Diet session to be convened on Jan. 20 with plans to enact it into law this summer. The use of drones is currently limited under the Civil Aeronautics Law. For example, the devices can only be flown while they are visible to the operator. They are prohibited from flying over urban areas or important facilities, such as nuclear power plants and airports, due to safety concerns.

However, the government is planning to relax those restrictions by fiscal 2022 to allow for greater use of drones to deliver products to underpopulated rural areas and for other services. The growing market for drones is expected to spur the development of more advanced devices as well as operating systems that allow for preprogrammed flights via the internet using 5G telecom technology. To deal with security concerns that are bound to arise, the proposed legislation would provide financial support to companies that develop and acquire drones and piloting systems that employ advanced security measures to prevent hacking.

<http://www.asahi.com/ajw/articles/AJ202001140021.html>

Spent MOX fuel removal under way at Ikata nuclear plant

The Asahi Shimbun, January 14, 2020

Workers at Ikata nuclear power plant here started removing spent mixed-oxide (MOX) fuel from the No. 3 reactor following a delay due to a minor mishap. As it has yet to be decided how to ultimately dispose of the fuel, which is a mix of plutonium and uranium, it will be stored temporarily in pools on the premises. The removal work, which started at 9 p.m. on Jan. 13, was scheduled to begin at 12 a.m. the same day. However, during the preparatory work the previous day, workers mistakenly removed a control rod that was aimed to curb nuclear fission reactions, and the operation was delayed for safety confirmation.

MOX fuel is currently used in four reactors at three nuclear plants in Japan for plus thermal power generation. Nuclear power plants typically make use of uranium fuel. To make MOX, plutonium is extracted from spent uranium fuel and then reprocessed.

<http://www.asahi.com/ajw/articles/AJ202001140028.html>

N. Misc

UN chief 'deeply concerned' over North Korea missile tests threat

DW, January 2, 2020

The UN Secretary General said he was "deeply concerned" to hear North Korea is developing a "strategic weapon." But US President Trump was confident that Kim Jong Un is a "man of his word" on denuclearization. UN Secretary General Antonio Guterres said he is "deeply concerned" about North Korea's indication on Wednesday that it could resume nuclear and missile tests.

The statement comes a day after North Korean leader Kim Jong Un said that North Korea was developing a new "strategic weapon" and that the country no longer considered itself bound by a self-imposed moratorium on nuclear and missile tests. "The Secretary-General very much hopes that the tests will not resume, in line with relevant Security Council resolutions," Guterres' spokesman Stephane Dujarric said in a statement on Wednesday. "Non-proliferation remains a fundamental pillar of global nuclear security and must be preserved," he added. "Diplomatic engagement is the only pathway to sustainable peace."

<https://www.dw.com/en/un-chief-deeply-concerned-over-north-korea-missile-tests-threat/a-51853854>

Ontario Alert Warned of a Nuclear 'Emergency,' Then Backed Down

Ian Austen, The New York Times, January 12, 2020

Millions of people in Ontario, Canada's most populous province, were greeted by a screeching alarm on their cellphones on Sunday morning and an ambiguous "emergency alert" about an "incident" at one of the world's largest nuclear power plants. But after about 90 minutes of puzzling and fretting by Canadians over a possible nuclear Armageddon, the warbling siren sounded out again from phones across Ontario with another alert taking it all back.

"The previous alert was issued in error," the second message read. "There is no danger to the public or environment." The false alarm over a possible emergency at the Pickering Nuclear Generating Station, which sits on the shore of Lake Ontario to the east of Toronto, is the latest embarrassment for Canada's national emergency alert system, which was expanded to phone from broadcast warnings just over a year and a half ago.

<https://www.nytimes.com/2020/01/12/world/canada/ontario-nuclear-pickering.html>

Ontario investigates why emergency operations centre sounded a nuclear false alert

National Post, January 13, 2020

The unintended release of an Ontario-wide alert about an "incident" at the Pickering Nuclear Generating Station on Sunday has sparked a provincial investigation into how such an error could happen and how such future mistakes can be avoided. The province's solicitor general said the error occurred during a routine training exercise being conducted by the Provincial Emergency Operations Centre (PEOC).

The PEOC — which is responsible for coordinating the provincial government's response to major emergencies — conducts exercises testing the system twice daily, but there was no intention to notify the public, Solicitor General Sylvia Jones said in an interview. "At one of those tests this morning, instead of it going out on the test side, it went out live to the people of Ontario, and for that I sincerely apologize," she said. "It should not have happened, which is why I have asked the chief of Emergency Management Ontario, Doug Brown, to launch a full investigation." "The alert was issued in error to the public during a routine training exercise being conducted by the Provincial Emergency Operations Centre," Ontario's solicitor general, Sylvia Jones, said in a statement posted to Twitter. "The Government of Ontario sincerely apologized for raising public concern and has begun a full investigation to determine

how this error happened and will take the appropriate steps to ensure this doesn't happen again."

<https://nationalpost.com/news/canada/newsalertopg-says-alert-about-pickering-nuclear-plant-was-sent-in-error>

Nuclear weapons: Which countries have them and how many are there?

BBC, January 14, 2020

They are considered the most destructive weapons in the world - their explosions are so powerful, just one nuclear bomb could destroy an entire city. Nukes, as nuclear weapons are known, are far more damaging than even the biggest normal, non-nuclear bombs.

There's also been lots of talk about some countries, including Iran, not being allowed to have them, while others can. There's quite a lot to get your head around when it comes to nuclear weapons - but don't worry, we've put together a guide to the key questions.

<https://www.bbc.com/news/newsbeat-51091897>

O. Op-ed

India

Indian Navy: The very silent service

Anil Jai Singh, Deccan Herald, January 5, 2020

India is a nuclear weapons power with 'No First Use' as the cornerstone of its nuclear doctrine. Hence, a credible deterrence and invulnerable second-strike capability is essential, for both of which a submarine is the most effective platform as it provides stealth, surprise and concealment. Presently, India has one nuclear-powered ballistic missile submarine (SSBN) INS Arihant, which was built indigenously and completed her first deterrent patrol successfully in November 2018. India thus became only the sixth nation, after the Big Five (US, UK, Russia, France and China), with this capability. However, for deterrence and second strike to be credible, the continuous presence of a SSBN at sea is essential, for which a force level of 4-5 SSBNs

is required. It is believed that India is in the process of building this capability.

<https://www.deccanherald.com/specials/sunday-spotlight/indian-navy-the-very-silent-service-791460.html>

Anticipating Pakistan's Next Move In Kashmir

Nishank Motwani, War on the Rocks, January 6, 2020

Pakistanis often call Kashmir their "jugular vein." The implication is that reclaiming the part of the region now administered by India is key to Pakistan's survival. That objective got harder in August 2019, when India rescinded Kashmir's semi-autonomous status. The move caught Pakistan off guard, made its military look weak, and turned its goal of annexing territory that has never formed part of its homeland even more distant.

So far, Pakistan has been active diplomatically but has not yet responded militarily. Looking ahead, Pakistan will likely continue its support of anti-India terrorist groups, which risks sparking another crisis. It might also launch a limited military assault against Indian targets of some kind. This misadventure would likely backfire because Pakistan risks isolating itself internationally as it did twenty years ago in the Kargil War. Military action would also offer India the rationale to respond with force as it did in Feb. 2019 after a Pakistan-linked terrorist attack in Kashmir. Moreover, Pakistan would jeopardize its already precarious economic position — it received a \$6 billion IMF bailout last summer (the 13th in the country's history) and desperately needs international investment. Another military confrontation with India would scare away investors when Pakistan can least afford it. Still, from the perspective of the Pakistan Army, military action would demonstrate that it can challenge and punish India no matter New Delhi's growing military and economic strength.

<https://warontherocks.com/2020/01/anticipating-pakistans-next-move-in-kashmir/>

India's Su-30 Fighters Now Come With Nuclear Brahmos Missiles

Zachary Keck, National Interest Blog, January 14, 2020

New Delhi's Su-30 jets are very formidable and armed with nuclear weapons they will play a greater deterrence role. The question is how Pakistan will respond.

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. "Individually, the Su-30 and BrahMos are powerful weapons," Russia and India Report noted. "But when the world's most capable fourth generation fighter is armed with a uniquely destructive cruise missile, together they are a dramatic force multiplier."

<https://nationalinterest.org/blog/buzz/indias-su-30-fighters-now-come-nuclear-brahmos-missiles-113926>

China

Now Russia Accuses China of Technology Theft

James M. Dorsey, The Globalist, January 2, 2020

The question is for how long Russia can afford a benign, acquiescent attitude and look the other way when China steals military technology. Chinese technology theft is unlikely to persuade Russia any time soon to forego the strategic advantages of its geopolitical cooperation with China. When it comes to arms, Russia's preferred strategy is to try pressuring China to engage in joint weapons development, while seeking to maintain a technological edge for itself. With China's defense industry significantly improving its technological capabilities, Russia needs to ensure that it remains crucial to China's military development for economic reasons.

Chinese-Russian military and geopolitical cooperation is flourishing – for now. And

that has Washington worried. However, if the weapons industry is anything to go by, a fraying at the edges of close ties between the two Asian powers may be on the horizon. To be sure, Russia remains by far China's foremost arms supplier. But that doesn't keep China from stealing Russian military technology, much like it allegedly does in the West. These alliances, adopting pragmatic approaches, have so far worked by focusing on immediate interests, while carefully managing significant differences. Those differences, nonetheless, surface regularly. Recently, alleged Chinese intellectual property theft as well as diametrically opposed Turkish, Russian and Iranian policies towards conflicts in Syria and/or Libya that have figured prominently in media reports.

<https://www.theglobalist.com/russia-china-intellectual-property-theft-technology-arms-sales/>

China nuclear missile development steps up a gear with test of weapon capable of hitting US mainland

Minnie Chan, South China Morning Post, January 7, 2020

China has moved to speed up development of its most advanced submarine-launched nuclear missile, a weapon capable of striking the US mainland, military sources have said. Two independent sources told the South China Morning Post that the Chinese navy had tested the JL-3, or Julang (or "Big Wave") missile – which it ultimately intends to pair with its next-generation nuclear submarines. It was launched from Bohai Bay in the Yellow Sea late last month, with the warhead landing in the northwest Gobi Desert in Xinjiang. Unlike the previous three tests, which used a conventional Type 032 submarine, the latest launch was conducted using the Type 094 nuclear submarine, according to one source. But the military ultimately plans to arm the Type 096 submarine with the missiles, a process that could take years to complete.

The JL-3 test was first reported by The Washington Times on Christmas Eve in an article that cited Pentagon sources who said the launch had been conducted on December 22 and monitored by US satellites and other intelligence platforms. Chinese military observers said Beijing's missile tests were in response to moves from US President Donald Trump to target the country – along with Russia and North Korea – in his deterrence strategy. "Construction work on the Type 096 nuclear ballistic missile submarine is not finished. In order to speed up the JL-3's full development, missile testing and submarine development have been separated," said the source, who requested anonymity due to the sensitivities surrounding the topic.

<https://www.scmp.com/news/china/military/article/3044674/china-nuclear-missile-development-steps-gear-test-weapon>

Are China's civilian satellites being used to spy on a Japanese airbase?

Kristin Huang, South China Morning Post, January 7, 2020

Photographs of a Japanese military base have been published on Chinese social media, suggesting that China's civilian satellites are being used to gather intelligence for military purposes. Three animated GIFs were posted on microblogging platform Weibo on Thursday by an account called China Aerospace – also the name of the Chinese space programme's main contractor. The account is not officially that of the company, but features news and videos closely related to its work. The GIFs showed planes taking off from and landing at a Japanese air force base in Naha, in southern Japan's Okinawa prefecture. A zoomed-in image showed more than 10 planes stationed at the Japan Air Self-Defence Force base, and vehicles could be seen driving past the base. China's completes core network of GPS rival Beidou with latest satellite launch

The images were credited to Chang Guang Satellite Technology, China's first commercial remote sensing satellite company, which owns the Jilin-1 satellites. The three images were taken on December

14, according to the Weibo post. In recent years, Japan has used the Naha base to dispatch its fighter jets to expel foreign aircraft, especially after the Chinese air force stepped up its activities in the East China Sea. Chinese military aircraft were involved in 638 of the 999 interceptions in the 2018-19 financial year, Japanese officials said last April. Nearly all of those incidents were in airspace close to the disputed Diaoyu Islands, which are claimed by China but controlled by Japan, which knows them as the Senkaku archipelago.

<https://www.scmp.com/news/china/military/article/3044908/are-chinas-civilian-satellites-being-used-spy-japanese-airbase>

China is developing drones that use quantum physics to send unhackable messages

Stephen Chen, South China Morning Post, January 10, 2020

Chinese scientists say they have developed the world's first fleet of drones equipped with quantum communication technology so that robots can share information securely with each other and human operators. Researchers at Nanjing University, in eastern China, built drones able to generate pairs of "entangled" particles of light that could carry information in quantum states such as charges or polarisations representing 0 or 1, according to their paper published this month in the journal National Science Review. Scientists test the alignment of the particle emitter and receiver, which need to face each other in a straight line.

By the laws of quantum physics, disturbing one entangled particle in a pair would affect the other, regardless of distance – meaning that information carried by such particles could not be intercepted without altering the message and alerting the receiver or sender. Quantum communication devices, or quantum nodes, are usually set up in a laboratory with bulky, complex equipment including laser pumps, beam-splitting crystals, mirrors and ultra-sensitive

detectors. But Professor Zhu Shining and colleagues at the National Laboratory of Solid State Microstructures significantly reduced the size of the quantum node and packed it into a drone weighing 35kg (77lbs). "A third of the weight comes from the battery," said Professor Xie Zhenda, a co-author of the paper. "We have built and deployed about 10 drones." With future upgrades, these drones will be able to connect to quantum satellites or a ground-based quantum communication network and provide an "ultimate solution to secure data transfer", the researchers wrote in the paper. Each of the drones could generate 2.4 million pairs of entangled particles of light each second, they said. 'Game-changer' methanol battery keeps drone in the air for 12 hours

<https://www.scmp.com/news/china/science/article/3045229/china-developing-drones-use-quantum-physics-send-unhackable>

Nation soars ahead with space missions

Zhao Lei, China Daily, January 13, 2020

Last year, a long chapter was written in the history of China's space industry, with a host of memorable events taking place. The nation carried out more space missions than any other country, with 32 successful orbital launches. At the start of last year, the country mounted the world's first expedition to the far side of the moon, which had never before been closely observed by a spacecraft. The Chang'e 4 robotic probe landed on the far side in early January last year after a 26-day journey that began at the Xichang Satellite Launch Center in Sichuan province. It was the country's fourth mission to explore the moon.

Yutu 2, the world's seventh lunar rover and the first to reach the far side, was released from the spacecraft to survey the landing site near the moon's South Pole-Aitken basin, the largest and deepest known in the solar system. The robot has been operating on the lunar surface for about 370 days-a record. The previous mark was set by the Soviet Union's Lunokhod 1, which worked on the moon for 321 days in 1970 and 1971.

According to the China National Space Administration, Yutu 2 has traveled nearly 360 meters on the lunar surface. In June, the China Academy of Launch Vehicle Technology, the nation's leading maker of carrier rockets, carried out the country's first seaborne launch of a rocket in the Yellow Sea.

A Long March 11 solid-propellant rocket was fired from a mobile launch platform in the waters off Shandong province, sending seven satellites into orbit nearly 600 kilometers above the Earth. The mission-the world's first seaborne space launch for five years-shows that China has the technologies and capabilities required for such an operation and also indicates that the country has found an alternative to its ground-based launch centers.

<https://www.chinadaily.com.cn/a/202001/13/WS5e1bb74aa310cf3e3558406c.html>

Pakistan

Kashmir: A nuclear tinderbox

Mohammad Asad Malick, Pakistan Today, January 7, 2020

Some people wish that an Indo-Pak nuclear confrontation was a myth rather than a reality. But, John Thomson, in his article 'Kashmir: the Most Dangerous Place in the World' thinks. He gives cogent arguments to prove that the Kashmir issue could once again spark another Indo-Pak military confrontation with concomitant risks of a nuclear war. Carnegie Endowment for International Peace, also, inter alia, points out that 'avoiding nuclear war in South Asia will require political breakthroughs in India-Pakistan'. India has been gearing up for a nuclear attack. It held mock exercises to withstand a nuclear attack. The former Indian National Security Advisor Brajesh Mishra during an interview with the NDTV revealed that a letter given to President Clinton by PM Vajpayee had hinted that India was contemplating crossing the LoC as well as using nuclear weapons if Pakistan did not pull out its fighters from Kargil. President Bill Clinton, on the eve

of his visit to the subcontinent, called the ceasefire line that divides Kashmir 'the most dangerous place in the world'.

<https://www.pakistantoday.com.pk/2020/01/07/kashmir-a-nuclear-tinderbox/>

Foundational basics of Pak nuclear programme

Dr Rajkumar Singh, Pakistan Today, January 10, 2020

As in other cases, the Pakistani nuclear programme is a result of gradually changing circumstances, global, regional, and national. For example, its nuclear policy may be traced back to the mid-1950s and a focused historical narrative shows to assess how that policy evolved. It shows how Pakistan gradually moved from a civilian to a civil-military nuclear programme and ultimately a *de facto* nuclear weapon state.

The nuclear weapon programme of a sovereign nation is not static but dynamic and determined by the larger forces and interests at work both within the region and outside. Further regional security cannot be considered in isolation from global or extra-regional conditions. In contrast to India, Pakistan's nuclear programme is driven mainly by its threat perception and security concerns with respect to India. It sees its potential nuclear forces as a deterrent to India's conventional military advantages and strategic ambitions.

<https://www.pakistantoday.com.pk/2020/01/10/foundational-basics-of-pak-nuclear-programme/>

A nuclear holocaust in South Asia

Abbas Zaidi

Daily Times, January 11, 2019

A nuclear war between Pakistan and India has been talked about, referred to and discussed by many people and at many forums. It is believed that some intelligence quarters in the United States have even simulated such a scenario and predicted many deaths. However, Safdar Zaidi has a different take on it. He is a fiction writer and has fictionalised a possible nuclear holocaust between Pakistan and India.

The problem with us the readers is that we take fiction as something akin to make-believe or made-up. But if you ask a fiction writer, they will say that the basic principle of writing fiction is not to tell but show. In fiction writing, this principle is emphasized so frequently that it is now taken to be a cliché in the domain of creative writing. But clichés despite their hollowness are not empty of the truth they seek to outline. And this is what Safdar Zaidi has done in his *Bhaagbhari/ A Blessed Woman*. He has shown how a nuclear war between the two countries can destroy everything.

<https://dailytimes.com.pk/536632/a-nuclear-holocaust-in-south-asia/>

USA

Trump Bet He Could Isolate Iran and Charm North Korea. It's Not That Easy

David E. Sanger, The New York Times, January 1, 2020

President Trump entered the new year facing flare-ups of long-burning crises with two old adversaries — Iran and North Korea — that are directly challenging his claim to have reasserted American power around the world. While the Iranian-backed attack on the United States Embassy in Baghdad seemed to be under control, it played to Mr. Trump's longtime worry that American diplomats and troops in the Middle East are easy targets and his longtime position that the United States must pull back from the region.

<https://www.nytimes.com/2020/01/01/us/politics/trump-iran-north-korea.html>

5 Weapons Trump Could Strike Iran With

Zachary Keck, National Interest Blog, January 3, 2020

If Donald Trump commits to war, he has several options. The Islamic State of Iran was born in enmity toward the United States. Led by the fiery cleric, Grand

Ayatollah Ruhollah Khomeini, revolutionary leaders animated crowds in Iran by lambasting “Great Satan” for any number of crimes, both real and imagined.

It didn’t take long for this animosity to turn kinetic. As the Iran-Iraq War intensified throughout 1984, the two combatants began targeting each other’s oil shipments as a way to gain military advantage. According to Global Security, “Seventy-one merchant ships were attacked in 1984 alone, compared with forty-eight in the first three years of the [Iran-Iraq] war.”

<https://nationalinterest.org/blog/buzz/5-weapons-trump-could-strike-iran-111016>

What Trump Could Do To Scare Iran: Give Israel’s Air Force B-52 Bombers

Robert Farley, The National Interest, January 7, 2020

It’s tough to imagine any aircraft more symbolic of American empire than the B-52. In April 2014, retired Air Force lieutenant general David Deptula and Michael Makovsky of the Jewish Institute for National Security Affairs penned an op-ed for *The Wall Street Journal* arguing that the United States should turn over a dozen surplus B-52 heavy bombers to Israel. Deptula and Makovsky said that the eight-engine B-52s should come with a consignment of America’s special Massive Ordnance Penetrators—gigantic bombs tailored for smashing buried facilities. Specifically, nuclear facilities.

“B-52s for Israel,” as we’ve dubbed it, is a silly little proposal with approximately zero chance of actually being implemented. And it’s possible Deptula and Makovsky don’t even mean for anyone to take its details seriously. Their bomber idea could be part of a media game of sorts, one that certain political constituencies are playing in order to broadly influence policy, rather than comprise policy.

<https://nationalinterest.org/blog/buzz/what-trump-could-do-scare-iran-give-israels-air-force-b-52-bombers-111691>

A New Nuclear Era Is Coming

Uri Friedman, The Atlantic, January 9, 2020

Iranian missile attacks on U.S. forces in Iraq. Deadly chaos in Iran. A sudden halt of the fight against the Islamic State. Utter confusion over whether U.S. troops will remain in Iraq, and even whether the United States still respects the laws of war. The fallout from the Trump administration’s killing of Qassem Soleimani has been swift and serious.

But one potential knock-on effect may not come into clear view for some time: the emergence of Iran as the next nuclear-weapons state, at the very moment when the world appears on the cusp of a more perilous nuclear age. It’s possible that the Reaper drone hovering over Baghdad’s airport last week destroyed not only an infamous Iranian general, but also the last hope of curbing Iran’s nuclear ambitions. When the Iranian government announced that it would suspend more (though not yet all) of its commitments under the nuclear agreement, in a move made after Soleimani’s death but planned beforehand, I recalled something Richard Burt, the U.S. diplomat behind the largest nuclear-weapons reduction in history, told me back in 2018. He noted that in the ‘80s, when he negotiated the START I treaty with the Soviet Union, people were acutely aware of the existential dangers of a nuclear conflict. That’s no longer the case, he warned.

<https://www.theatlantic.com/politics/archive/2020/01/soleimani-iran-north-korea-new-nuclear-age/604618/>

The Risk of Nuclear Proliferation (and War) Is Growing

Andreas Kluth, Bloomberg, January 9, 2020

It’s been 75 years since Hiroshima and Nagasaki were incinerated, and 50 years since the Nuclear Non-Proliferation Treaty took effect. And yet the world is today in

greater danger of nuclear war than at any time since the Cuban Missile Crisis. In its confrontation with the U.S., Iran appears hell-bent on getting nukes, and could do so within a year. If it does, Saudi Arabia and Turkey will almost certainly follow suit. Israel is already armed. Asia has several nuclear hotspots. And in the most frightening scenario, at any point bombs could fall into the hands of terrorists or other “non-state” groups that are hard to retaliate against and thus to deter.

To slow this proliferation of nukes, the world still relies mostly on the Nuclear Non-Proliferation Treaty, known as NPT, which currently has 191 signatories. Every five years, diplomats gather for a review conference (RevCon), and the next one, in New York, starts in April. Expectations are low, fears are high. If diplomats and the public read up on game theory, their dread would grow more.

<https://www.bloomberg.com/opinion/articles/2020-01-09/game-theory-shows-risk-of-nuclear-war-is-growing-with-iran-rift>

How One American Helped Fund Israel's Nuclear Bomb

Zachary Keck, National Interest Blog, January 14, 2020

Israel managed to convince France to give it a lot of the necessary nuclear technology. However, to afford the cost, Israel turned to sympathetic Americans for donations.

Although Israel doesn't officially acknowledge it, it is well understood that the country possesses a nuclear weapon arsenal (although the exact number of warheads are in dispute). It is similarly well understood that the United States opposed Israel's nuclear weapons program during the John F. Kennedy and, to a lesser extent, Lyndon B. Johnson administrations. One part of the history that is less well known is that much of the funding for Israel's nuclear weapons program came from private Americans in an effort that was spearheaded by, Abraham Feinberg, a prominent American who served as an unofficial advisor to both President Kennedy and President Johnson.

The problem Ben-Gurion and his closest advisors faced was that their young, poor, and relatively unsophisticated country didn't possess the necessary technological and material resources to support an indigenous nuclear weapons program. Israel's best hope of acquiring nuclear weapons came from finding a foreign patron. Fortunately for Israel, contemporary circumstances created conditions for it to obtain this support.

<https://nationalinterest.org/blog/buzz/how-one-american-helped-fund-israels-nuclear-bomb-113946>

Europe

'Dead in the water': Europe can no longer help save Iran's nuclear deal, strategists say

Holly Ellyatt, CNBC, January 7, 2020

With hostility between Iran and the U.S. running high and Tehran vowing to backtrack on its commitment to the 2015 international nuclear deal, questions have arisen over whether European nations will stand by the pact. The EU has attracted criticism for its slow response to the crisis that erupted last week following the U.S. airstrike on Baghdad that killed Iran's top military commander Qasem Soleimani.

The EU is mulling what to do next regarding the Iran nuclear deal. With hostility between Iran and the U.S. running high and Tehran vowing to backtrack on its commitment to the 2015 international nuclear deal, questions have arisen over whether European nations will stand by the pact, or side with the U.S. The EU has attracted criticism for its slow response to the crisis that erupted last week following the U.S. airstrike on Baghdad that killed Iran's top military commander Qasem Soleimani, prompting public and political outrage in Iran.

Only on Monday (four days after the attack and a day after Iran said it would no longer abide by uranium enrichment limits in the nuclear deal struck with the U.S., U.K., France, Germany, Russia and

China), did European Commission President Ursula von der Leyen comment on the crisis. Von der Leyen said in a statement that “now it is important to halt the cycle of violence” and that a space for diplomacy was created; “Europe has a special responsibility here,” she said.

<https://www.cnn.com/2020/01/07/irans-nuclear-deal-cant-be-saved-by-europe.html>

UK envoy to Israel warns Iran has ‘last opportunity’ to comply with nuclear deal

15 January 2020

The British ambassador to Israel on Wednesday warned Iran has a “last opportunity” to return to full compliance with the international deal limiting its nuclear program before it faces renewed sanctions “Iran has a key decision to make about what path it wants to go down,” Ambassador Neil Wigan told the Ynet news site. Britain, France and Germany, the three European Union signatories to the 2015 nuclear deal, on Tuesday triggered the accord’s dispute mechanism to stop Iran violating the pact.

The launching of the dispute mechanism marked a last-ditch effort between the European states and Iran to resolve their differences through talks, while also starting a process that could bring back punishing United Nations sanctions on Tehran.

<https://www.timesofisrael.com/uk-envoy-to-israel-warns-iran-has-last-opportunity-to-comply-with-nuclear-deal/>

Can Europe take back control of the Iran nuclear deal?

Tara Kangarlou, Aljazeera, January 22, 2020

Europe says it wants to save the Iran nuclear deal but has set a mechanism in motion that could destroy it - or worse. London, United Kingdom - When President Donald Trump decided to unilaterally withdraw the United States from the nuclear deal between Iran and world powers, and use sanctions to economically squeeze Tehran back to the negotiating table, Europe found itself in a

bind. Trump wanted the deal’s European signatories to abandon the agreement. Tehran wanted them to maintain it.

Cognizant of Trump’s penchant to economically punish nations that refuse to play along with the White House but all too aware of the security consequences of the deal falling apart, European leaders defaulted to rhetoric rather than action - pledging repeatedly to uphold the pact even as they failed to deliver on its promised economic benefits to Tehran.

<https://www.aljazeera.com/ajimpact/europe-control-iran-nuclear-deal-200120204731686.html>

Russia

Russia’s Hypersonic ICBM Is Operational. So What?

Michael Peck, National Interest Blog, January 1, 2020

Russia’s Avangard hypersonic ICBM system is now operational. Russian state media sounded a triumphal tone in the December 27th announcement that the first Avangards are now ready for launch, even specifying the exact hour of combat readiness for the nuclear-armed hypersonic glider. “The Avangard strategic missile system has been put on combat duty at 10 a.m. today,” Defense Minister Sergei Shoigu told President Vladimir Putin. The weapon was deployed with a missile division in the Orenburg region 900 miles southeast of Moscow.

Avangard is a nuclear-armed boost-glide system. The glider is boosted high into the atmosphere atop a Sarmat ICBM, and then glides down to its target at what Russia claims is a speed of Mach 27. The weapon was spurred by Moscow’s fears that the U.S. missile defense program will eventually be capable of intercepting and destroying conventional Russian ICBMs, and thus encourage America to launch a first strike without fear of Russian nuclear retaliation. But while conventional ICBM warheads descend from space at Mach 20-plus, they follow predictable ballistic trajectories: a winged hypersonic glider

can maneuver within the atmosphere to avoid interception.

<https://nationalinterest.org/blog/buzz/russia%E2%80%99s-hypersonic-icbm-operational-so-what-109901>

Hypersonic Missiles Are a Game Changer

Steven Simon

The New York Times, January 2, 2020

Last week, President Vladimir Putin of Russia announced the deployment of the Avangard, among the first in a new class of missiles capable of reaching hypersonic velocity — something no missile can currently achieve, aside from an ICBM during re-entry. Such weapons have long been an object of desire by Russian, Chinese and American military leaders, for obvious reasons: Launched from any of these countries, they could reach any other within minutes. No existing defenses, in the United States or elsewhere, can intercept a missile that can move so fast while maneuvering unpredictably.

Whether or not the Avangard can do what Mr. Putin says, the United States is rushing to match it. We could soon find ourselves in a new arms race as deadly as the Cold War — and at a time when the world's arms control efforts look like relics of an inscrutable past and the effort to renew the most important of them, a new START agreement, is foundering.

<https://www.nytimes.com/2020/01/02/opinion/hypersonic-missiles.html>

Does Russia Really Have Hypersonic Weapons That Are 'Operational'?

David Axe

National Interest Blog, January 3, 2020

The Russian defense ministry claimed it has deployed the Avangard surface-to-surface hypersonic missile, possibly making Russia one of the first countries to field an operational guided missile capable of

traveling faster than five times the speed of sound. Avangard is what the U.S. military calls a "hypersonic glide vehicle." Propelled to high speed by the same kind of rocket that boosts a satellite or an intercontinental-range nuclear warhead, a hypersonic glide vehicle follows a different kind of flight path than other payloads do.

Staying relatively close to Earth — around 300,000 feet up, approximately where the atmosphere ends and space begins — a hypersonic vehicle glides toward its target at many times the speed of sound, potentially performing small manoeuvres while en route. In theory a hypersonic glide vehicle can carry a conventional explosive warhead, a nuclear warhead or no warhead at all, instead relying on sheer kinetic force to destroy its target. Its low altitude and high manoeuvrability compared to a traditional intercontinental ballistic missile could make it harder to intercept.

<https://nationalinterest.org/blog/buzz/does-russia-really-have-hypersonic-weapons-are-operational-110721>

Russia's Largest Nuclear Bomb Was Too Big (And Failed)

Steve Weintz, National Interest Blog, January 5, 2020

The Tsar Bomb convinced its creator to become an anti-nuclear activist. On July 10, 1961 Soviet Premier Nikita Khrushchev summoned the USSR's top nuclear weaponeers and told them to promptly resume nuclear testing. After roughing up America's young new President Kennedy at a Vienna summit in June, Khrushchev was in a mood, according to Andrei Sakharov, to "show the imperialists what we can do."

For two years while their country joined the United States and the United Kingdom in a voluntary moratorium on nuclear tests, Soviet nuclear scientists, including Andrei Sakharov, the "father of the Soviet hydrogen bomb," developed and refined

new weapon concepts and designs. Now they had to deliver big results in very short order. Khrushchev wanted a political spectacle to shock and awe the West, and it had better go right.

<https://nationalinterest.org/blog/buzz/russias-largest-nuclear-bomb-was-too-big-and-failed-110291>

Is 'Escalate to Deescalate' Part of Russia's Nuclear Toolbox?

Kevin Ryan, Russia Matters, January 8, 2020

The phrase "escalate to deescalate" has worked its way into American security vocabulary and onto the pages of our strategic documents. It describes a supposedly new Russian plan to use limited nuclear strikes in a local/regional conflict, the belief being that such an escalation from conventional² to nuclear conflict would shock an adversary into suing for peace. In reaction to this alleged doctrine, U.S. policy makers have already ordered the development of new weapon systems and capabilities to ensure Russia's plan cannot work against the United States. Russia's political leaders, however, say they don't have such a plan and that "escalate to deescalate" doesn't exist in their doctrine at all.

Has the United States misunderstood Russian intentions and plans? To answer the question, let's examine the origin of the phrase and what the Russians themselves say about escalating to deescalate. Unfortunately, we cannot read the classified war plans of the Russian government. We will have to rely on unclassified documents, professional articles and public statements, which have their limitations but can nevertheless bring us close to the truth. Spoiler alert: Russia does plan for using nuclear strikes to deescalate (that is, to end) and win conflicts. So does the United States.

<https://www.russiamatters.org/analysis/escalate-deescalate-part-russias-nuclear-toolbox>

Is Russia's 100-Megaton Nuclear Torpedo More Trouble Than Its Worth?

Lyle J. Goldstein, National Interest Blog, January 8, 2020

The development of new weapons systems may benefit the military-industrial complex, but they don't benefit the safety of Russians or Americans. The "collateral damage" of the Russia investigation becomes ever more apparent. From the breakdown of American institutional norms between the executive and the legislature, to increasing distrust regarding the law enforcement and intelligence apparatus to regional crises, for example in Syria, that seem to spin increasingly out of control, the probe has brought both U.S. domestic and foreign policy making to a the point of crisis. Yet these calamities, which are largely advantageous to newspaper subscriptions and cable news ratings, may mask a deeper and more fundamental threat: the accelerating pace of a nuclear arms race between Moscow and Washington.

<https://nationalinterest.org/blog/buzz/russias-100-megaton-nuclear-torpedo-more-trouble-its-worth-111596>

Could Russia and China Ever Work Together to Build Nuclear-Powered Aircraft Carriers?

David Axe, National Interest Blog, January 14, 2020

Moscow and Beijing may be closer than in previous years, but that doesn't mean the political will and money exists to co-build nuclear-powered carriers. Besides, Russia needs carriers more badly than China and Beijing is quickly learning how to build better and better flattops.

But naval expert Li Jie told the newspaper that to be truly competitive, the Chinese navy needs a ship capable of generating lots of power and high speeds in order to

launch large aircraft. "China really needs a more powerful, nuclear-powered aircraft carrier to catapult its superheavy carrier-based fighter jet, the J-15," Li said.

<https://nationalinterest.org/blog/buzz/could-russia-and-china-ever-work-together-build-nuclear-powered-aircraft-carriers-113911>

West Asia

Iran

Joint message of Iran, Russia and China to the world

Tehran Times, January 5, 2020

After the U.S. failed to form an international coalition in the Persian Gulf, Iranian, Russian and Chinese armies launched a joint naval maneuver, codenamed "Naval Security Belt", in the northern part of the Indian Ocean and the Sea of Oman. The drill started on December 27 and lasted for four days. Many media outlets interpreted the maneuver as a "clear warning to America". Some main political and geopolitical aspects of the wargame are given here: Iran's dominant position in the region cannot be overlooked

The most significant aspect of the maneuver is Tehran's clear message to those countries that seek to isolate Iran through economic and political pressure. Through holding this joint maneuver, Tehran sent this warning to the foes that Islamic Republic is a power that world powers such as Russia and China cannot close their eyes to.

The Turkish Anatolia news agency, quoting experts, said, "The maneuver is a clear message from Tehran to Washington." The state-run news agency also said the maneuver was conducted at a time that Iran is decreasing its commitments to the 2015 nuclear deal, officially called the Joint Comprehensive Plan of Action (JCPOA).

In its editorial, the Al-Rai Elium newspaper also said "An Iran which is facing the harsh U.S. blockade will profit furthest from this maneuver since it will shatter the U.S. blockade, at least psychologically, and shows that Iran is not an isolated country

and has strategic friends at the international level. The widespread coverage of the joint exercise by regional and overseas media indicated that Tehran has selected a suitable time and good thing to indirectly show its power to the United States.

https://www.tehrantimes.com/news/443774/Joint-message-of-Iran-Russia-and-China-to-the-world_

Hegemons' media warfare to complete the Soleimani assassination project

Tehran Times, January 6, 2020

The media outlets of the hegemonic system have made certain efforts to ignore Major General Qassem Soleimani's attempt in confronting terrorism, naming him only an Iranian commander and downplaying his international and special role in the fight against terrorism. In a desperate attempt, the media outlets are trying to portray the martyrdom of General Soleimani as an irreparable loss for Iran, while the history of resistance has shown that with the martyrdom of each commander, the next ones have led the resistance movement stronger, more enthusiastically and determinedly.

They are trying to imply that the U.S. terrorist act was a precautionary move against terrorism, while all the oppressed people around the world see Soleimani as a great commander who fought against terrorism, which based on lots of evidence was created by the U.S. in the region. The wave of numerous regional and international reactions to the martyrdom of General Soleimani, coupled with hatred and condemnation of the assassination, reveal global anger at the terrorist nature of the United States. The global anger drives from Iran's genuine work in establishing security in face of the U.S. behavior in creating insecurity in the world.

Another point is that the statements by Iraqi officials condemning the assassination reveal that the claims over

the coordination between the Iraqi government and the U.S. in committing this horrific crime are fake. In the past few hours, U.S.-affiliated media outlets, in a coordinated and preplanned move, have been seeking to create a dispute between the Iranian and Iraqi nations. They intend to introduce Baghdad as a partner in the crime, while the remarks by the Iraqi officials proved the opposite of this claim and foiled the enemy's plot. The undeniable crime by the U.S. in fact amounted to "state terrorism". The Americans have proven that they are the leading element of state terrorism at regional and international levels. In the meanwhile, the deafening silence of international organizations, including the UN, in the face of U.S. state terrorism is completely unacceptable.

https://www.tehrantimes.com/news/443831/Hegemons-media-warfare-to-complete-the-Soleimani-assassination_

No winners in any war

Tehran Times, January 12, 2020 - 11:35

In a rare accident during my last year's trip to India, a cobra managed to sneak into a jaguar's enclosure in one of the country's oldest and most popular zoo in the southwestern city of Mysuru. As the Jaguar, named Raja saw the cobra, the two pounced at each other. When the animal keepers got to the scene Raja had already killed the cobra and in the process had taken a few snake bites. The zoo authorities rushed Raja to the Zoo Hospital but the feline succumbed to the snake bites later the same day. Today's precarious situation in the Persian Gulf reminds me of this incident at the Mysuru Zoo, with the U.S. being the cobra, Iran as Raja and world powers the zookeeper. In this case, however, the zookeeper is not too late to save the day.

Although the tensions have been going on for years now but the situation got explosive with the assassination of General Qassem Soleimani on January 3. General Qassem Soleimani frequently visited Iraq, and these visits were hardly a secret and according to the U.S. Secretary of State Mike Pompeo, the U.S. had him under surveillance for a long time. In the past, he had miraculously

escaped multiple assassination attempts. General Soleimani was assassinated alongside and six others following a U.S. air raid at Baghdad's international airport on January 3.

https://www.tehrantimes.com/news/444049/No-winners-in-any-war_

Israel

Would Israel still need US bunker busters for attacking Iranian nukes?

Yonah Jeremy Bob, The Jerusalem Post, January 3, 2020

Tensions are going into overdrive between Israel, Iran and the US, and Tehran has been creeping closer to a nuclear weapon since it started violating the 2015 nuclear deal in May 2019. If "judgment day" comes in late 2020, and Israel believes it must preemptively strike the Islamic republic's nuclear facilities to prevent Ayatollah Ali Khamenei from having nuclear weapons, will it be able to effectively do so alone?

In 2020, bunker busters can actually mean a range of options: from the US's Massive Ordnance Penetrator "MOP," to its Mother of All Bombs "MOAB," to variations of those weapons. But the bottom line is these weapons combine using a delayed fuse explosion to occur underground and a massive ordinance to be able to destroy even facilities that are deep underground like Fordow. Without striking Fordow, it is debatable about how effective an Israeli strike would be.

Since the F-35 aircraft became operational in late 2017, Israel has publicly presented new weapons, such as the Rampage (1,200 pounds) and updated Spice bombs (2,000 pounds), both of which can penetrate some underground facilities. Another weapon that can strike underground is known as the Rocks, but its weight class is undisclosed.

<https://www.jpost.com/Israel-News/Would-Israel-still-need-US-bunker-busters-for-attacking-Iranian-nukes-612948>

East Asia

North Korea

N. Korea, US should meet

Korea Times, January 1, 2020

Kim Jong-un still has room for dialogue. After four days of an unexpectedly long ruling Workers' Party meeting, North Korean leader Kim Jong-un has revealed an idea for the New Year: Developing a new strategic weapon against the United States. It has become apparent that the "Christmas gift" to U.S. President Donald Trump is the test of a long-range nuclear missile. This shouldn't happen, but the harsh reality is that we should brace for a new threat level from Pyongyang. The specter of a nuclear war is apparently casting a shadow over the Korean Peninsula. So 2020 will be very much different from the past two years for all parties concerned with North Korea. Diplomacy should work to keep this fragile peace for us and our future generations.

http://www.koreatimes.co.kr/www/opinion/2020/01/137_281227.html

What Iran crisis could mean for N. Korea

Ahn Sung-mi, Korea Herald, January 6, 2020

Amid escalated tensions between the US and Iran, experts are mixed on how the situation in the Middle East will impact Washington's military standoff with Pyongyang. North Korea's state-run Korea Central News Agency on Monday ran its first report on the recent US killing of Qassem Soleimani, Iran's top military general, four days after the incident. It said Soleimani was killed in a US missile attack in an airfield in Baghdad and quoted a phone conversation between Chinese Foreign Minister Wang Yi and his Russian counterpart Sergey Lavrov to condemn Washington.

"China and Russia emphasized that they not only oppose abusing military forces in international relations, but also cannot tolerate adventurous military acts," said KCNA, referring to Wang and Lavrov's conversation earlier Saturday. "They

expressed concerns over the worsened regional situation due to the US' illegal acts." Despite the absence of an official statement from the North, Pyongyang watchers say Kim Jong-un's regime is being careful about openly stating its position, while referring to China and Russia's stance to criticize the US. South Korea's former Unification Minister Jeong Se-hyun dismissed the possibility of a similar US strike on North Korea's top leadership, while appearing on TV on Sunday. "(For the US), the message is that (the North) should not launch a military provocation and fire missiles, as it has threatened (the US)."

http://www.koreaherald.com/view.php?ud=20200106000702&ACE_SEARCH=1

Pyongyang's option

Korea Herald, January 7, 2020

The escalating tensions in the Middle East in the wake of a fatal US drone attack on a top Iranian military commander last week have heightened uncertainties over the stalled nuclear talks between Washington and Pyongyang. North Korea may judge it has more room to maneuver, with the US focusing on the intensifying standoff with Iran that could flare up into a full-scale war.

The upsurge in the conflict between Washington and Tehran comes amid the North's repeated threats to return to provocations such as launching an intercontinental ballistic missile in a bid to draw concessions from the US. In his New Year's message at a key ruling party meeting last week, North Korean leader Kim Jong-un said the world would witness a "new strategic weapon" in the near future. He warned of a "shocking actual action" while accusing US President Donald Trump's administration of stalling for time in pursuit of its own political interests.

Washington certainly does not want to see Pyongyang increasing provocations when it is coping with heightened tensions with Tehran. Trump has regarded the North's self-imposed moratorium on nuclear and

ICBM tests as a key foreign policy accomplishment he can boast of as he is entering a reelection campaign this year. Pyongyang may be gauging whether and when to ditch that ban to put maximum pressure on the Trump administration to make significant concessions to the recalcitrant regime in the nuclear negotiations. It may also move to cooperate with Iran's nuclear program, or hint at the possibility of doing so, in an additional attempt to increase its bargaining power. Tehran announced Sunday that it would forgo the limits under a 2015 nuclear agreement with major global powers, from which Washington withdrew in 2018.

http://www.koreaherald.com/view.php?ud=20200107000368&ACE_SEARCH=1

South Korea

Moon seeks renewed role in inter-Korean relations amid nuclear deadlock

Ahn Sung-mi, Korea Herald, January 7, 2020

With denuclearization talks between the United States and North Korea showing no sign of progress, South Korean President Moon Jae-in is seeking a greater role, renewing a push for better inter-Korean ties, analysts said Tuesday. In his New Year's address earlier in the day, Moon emphasized the importance of inter-Korean exchanges, while expressing hope to see North Korean leader Kim Jong-un in Seoul. He also expressed commitment for resuming two major inter-Korean projects that have been halted since the North's nuclear crisis — the Kaesong industrial park and tours to the Kumgangsan resort — as well as reconnecting roads and railways between the North and South.

Moon's heavy emphasis on inter-Korean relations in the 25-minute televised speech indicates Seoul's strong will to find ways for peace on the Korean Peninsula, with less dependency on the deadlocked US-North Korea nuclear talks.

http://www.koreaherald.com/view.php?ud=20200107000688&ACE_SEARCH=1

P. Think Tanks

IAEA Network for Emergency Assistance Grows to 35 Countries as India Joins

International Atomic Energy Agency, January 1, 2020

India has become the 35th country to join the International Atomic Energy Agency (IAEA) Response and Assistance Network (RANET), a group of states which offer assistance to mitigate the consequences of nuclear or radiological emergencies.

Through RANET, states can register their emergency preparedness and response capabilities, including support for radiation measurements, medical advice or treatment, and specialized equipment. This enables the IAEA's Incident and Emergency Centre to promptly mobilize an assistance team upon request of a state affected by an emergency.

"India's emergency preparedness and response capabilities can now be offered to countries during an emergency, if these countries ask for assistance. This shows a strong commitment by India to strengthen the international framework for nuclear and radiological emergency preparedness and response," said Elena Buglova, Head of the IAEA's Incident and Emergency Centre, which serves as a focal point for coordinating and facilitating international assistance. "We hope that India's decision to join RANET will encourage more countries to become members."

<https://www.iaea.org/newscenter/pressreleases/iaea-network-for-emergency-assistance-grows-to-35-countries-as-india-joins>

Why America should strike an interim deal with North Korea

Michael E. O'Hanlon, Brookings, January 2, 2020

The Christmas season is halfway over with no sign of the gift that was promised for the United States by Kim Jong Un, the brutal and cunning young North Korean leader, after a prolonged period of paralysis in talks over his nuclear weapons program. But

rather than count on continued good luck of North Korea not delivering the gift, Washington should propose an interim deal to serve the vested interests of each nation.

Largely as a result of the sanctions imposed after North Korean nuclear and missile tests three years ago, the North Korean economy remains in recession, with estimates by the South Korean central bank showing annual contractions of up to 4 percent a year. That is despite imperfect enforcement of sanctions by the likes of China and Russia.

<https://www.brookings.edu/blog/order-from-chaos/2020/01/02/why-america-should-strike-an-interim-deal-with-north-korea/>

Iran scraps limit on uranium enrichment

World Nuclear News, January 6, 2020

Iran said yesterday it will ignore the limit on the number of uranium enrichment centrifuges agreed under the Joint Comprehensive Plan of Action (JCPOA), thus withdrawing from the last operational restriction imposed by the 2015 deal. The statement, reported by the Mehr news agency, followed the US assassination of Iranian General Qasem Soleimani last week.

This is Tehran's fifth step in reducing its JCPOA commitments - originally agreed in exchange for the lifting of economic sanctions - which it said "discards the last key component of the operational limitations" of the deal. As such, the country's nuclear programme "no longer faces any operational restrictions, including enrichment capacity, percentage of enrichment, amount of enriched material, and research and development." Its nuclear programme will now be developed "solely based on its technical needs", while the country's cooperation with the International Atomic Energy Agency will continue as before, it said. If US economic sanctions are lifted and Iran "benefits from its interests enshrined in the JCPOA", then it is "ready to return to its commitments".

The so-called E3 - France, Germany and the UK - today issued a joint statement in which President Emmanuel Macron, Chancellor

Angela Merkel and Prime Minister Boris Johnson called on all parties to exercise "utmost restraint and responsibility". They said: "We specifically call on Iran to refrain from further violent action or proliferation, and urge Iran to reverse all measures inconsistent with the JCPOA," they said.

<https://world-nuclear-news.org/Articles/Iran-scraps-limit-on-uranium-enrichment>

Iran spent years building a cyber arsenal. Will it unleash that arsenal now?

Chris Meserole, Brookings, January 6, 2020

In 2007, a computer virus crippled centrifuges at Iran's uranium enrichment facility in Natanz, setting back its nuclear program by years. The Stuxnet attack — not uncovered until a few years later — taught the revolutionary regime in Tehran a valuable lesson about how effective cyber weapons can be, prompting Tehran to invest heavily in cyber capabilities of its own. The results speak for themselves: Iranian hacking groups have graduated from conventional distributed denial of service (DDoS) and domain name system (DNS) attacks to more sophisticated operations against critical infrastructure and industrial control systems.

In the wake of Qassem Soleimani's killing last week, the question of how Iran aims to use its cyber arsenal has acquired a newfound urgency. Tehran will need to respond forcefully to Friday's attack, as well as related recent strikes. Iran's cyber weaponry would seem to offer a ready-made option for high-impact, low-cost retaliation, as Iran's national security chiefs have apparently recognized. Yet fears of a devastating Iranian cyberattack are premature. The coming days and weeks will almost certainly bring an uptick in Iranian activity, as always happens when the two countries are engaged in brinkmanship. But it would be surprising if Tehran's promised retaliation leveraged cyber operations alone.

<https://www.brookings.edu/blog/order-from-chaos/2020/01/06/iran-spent-years-building-a-cyber-arsenal-will-it-unleash-that-arsenal-now/>

Trump's Approach to Iran Is Muddled and Unpredictable

Aaron David Miller, Carnegie, January 1, 2020

Early Tuesday, pro-Iranian Iraqi militia members and demonstrators stormed the US Embassy compound in Baghdad after the Trump administration's airstrikes on a Iranian-backed militia on Sunday. The embassy attack, perhaps the worst crisis between Iraq and the US since 2003, reveals the inconsistency and vulnerability of the Trump administration's policies toward both Iran and Iraq. Like a modern-day Gulliver, President Trump is metaphorically wandering around a Middle East where he'd rather not be, tied up both by smaller powers whose interests are not his own — and by America's illusions about the region, perpetuated by Trump who somehow believes he can force Iran to bend to his will. The odds are that the situation for the US in Iraq and Iran is likely to get worse before it gets still worse.

The US had little choice but to respond on Sunday to recent pro-Iranian Iraqi militia attacks against US forces in Kirkuk, which claimed the life of an American contractor and wounded US forces. The Trump administration needed both to deter and signal to Tehran that such attacks were unacceptable. Failure to do so would have left the administration in violation of one of its own red lines — that the US would not tolerate attacks against Americans.

But the US attacks in response seemed intentionally disproportionate, killing at least 25 militia and injuring scores of others. And it seems the US did not take into consideration that the airstrikes would seriously embarrass the government of Iraq or could lead to reactions like a storming of the American Embassy. The storming of the embassy raises questions as to why the administration didn't think through how Tehran might respond to Sunday's airstrikes on five pro-Iranian militia bases in Iraq and Syria, and why security at the embassy wasn't beefed up in advance.

https://carnegieendowment.org/2020/01/01/trump-s-approach-to-iran-is-muddled-and-unpredictable-pub-80686_

IAEA Network for Emergency Assistance Grows to 35 Countries as India Joins

IAEA, January 7, 2020

India has become the 35th country to join the International Atomic Energy Agency (IAEA) Response and Assistance Network (RANET), a group of states which offer assistance to mitigate the consequences of nuclear or radiological emergencies. Through RANET, states can register their emergency preparedness and response capabilities, including support for radiation measurements, medical advice or treatment, and specialized equipment. This enables the IAEA's Incident and Emergency Centre to promptly mobilize an assistance team upon request of a state affected by an emergency.

"India's emergency preparedness and response capabilities can now be offered to countries during an emergency, if these countries ask for assistance. This shows a strong commitment by India to strengthen the international framework for nuclear and radiological emergency preparedness and response," said Elena Buglova, Head of the IAEA's Incident and Emergency Centre, which serves as a focal point for coordinating and facilitating international assistance. "We hope that India's decision to join RANET will encourage more countries to become members." Participating in RANET is one way in which states fulfil their obligations under the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, which was adopted in 1986 following the Chernobyl nuclear power plant accident.

The network was formally established after a decision by IAEA Member States in 2000. RANET members share up-to-date information about the type of assistance they can offer so that response teams can be assembled based on the support required.

https://www.iaea.org/newscenter/pressreleases/iaea-network-for-emergency-assistance-grows-to-35-countries-as-india-joins_

How Inevitable Is War with Iran?

Aaron David Miller, Carnegie, January 07, 2020

Listening to experts, analysts and the 24/7 nonstop media in the days since President Trump ordered a drone strike on Iranian Gen. Qassem Suleimani, one could be forgiven for concluding that we were right on the brink of a major war with Iran. As a longtime State Department analyst and negotiator specializing in the Middle East, I'm conditioned to assume the worst. The U.S. is without a doubt in for a tough time with Tehran. Sources close to Iran's supreme leader, Ayatollah Ali Khamenei, have told reporters he is demanding direct and open retaliation against American targets. In the absence of a Tehran-Washington diplomatic off-ramp, it would be foolish to rule out uncontrolled escalation. But a major war is not inevitable.

So far in his presidency, Trump has been cautious when it comes to using military power against Iran, as his unwillingness to retaliate for the Iranian attacks against an American drone in June and Saudi oil facilities in September suggests. What prompted Trump to take out Suleimani is still not clear. News reports suggest he was angered by the attacks on the U.S. Embassy in Baghdad, worried that he'd allowed Tehran to think it could act with impunity and egged on by hard-liners like Secretary of State Michael R. Pompeo, who has been arguing for a military response for months.

<https://carnegieendowment.org/2020/01/07/how-inevitable-is-war-with-iran-pub-80724>

Defusing the Crises with Iran-Time for Europe to Assume the Mantle

Ariel (Eli) Levite, Shimon Stein, Carnegie, January 08, 2020

The recent US attack killing general Qassem Suleimani is merely the latest move in a chain reaction triggered by a President Trump's erratic policy choices on Iran starting with his decision to walk out of the nuclear agreement (JCPOA) and apply on it "maximum pressure" without developing a coherent strategy instead. Each of his

decisions could have made sense on its own. But his unilateralism, myopia and inconsistency have resulted in an upward spiral of friction and violence with Iran and its regional allies and left the JCPOA on life support. Iran has predictably elected to resist the US pressure by undertaking ever bolder steps to breach its obligations under the nuclear agreement, attack Western and US assets and those of its regional allies, and scale up its subversion in and from Iraq, Lebanon, Syria, and Yemen.

While at the same time brutally suppressing any sign of genuine domestic dissent over corruption, and economic plight. Herein lie the seeds for greater distress and conflagration in a region not precisely known for its stability and civility. Trump is unable to forge a constructive engagement with Iran any more than he has developed with the DPRK. China is similarly preoccupied with a series of domestic woes. While Russia which has its hands in ever larger number of pots is too closely aligned with Iran. Which leaves Europe in a unique position to step in to halt retaliatory terrorism, perhaps even rapid deterioration toward war, that would likely follow Iranian attempts to avenge Suelleimani's death.

<https://carnegieendowment.org/2020/01/08/defusing-crises-with-iran-time-for-europe-to-assume-mantle-pub-80734>

The only winner of the US-Iran showdown is Russia

Strobe Talbott and Maggie Tennis, January 9, 2020

Relations between Washington and Tehran have deteriorated since the onset of the Syrian conflict and even more so since President Donald Trump's withdrawal from the 2015 nuclear deal. At the same time, Russia and Iran have grown closer through military cooperation in Syria. Moscow's expanding influence in Syria suggests that a conflict between the United States and Iran could advance Russia's power and reputation in the region. At the very least, Russia will be able to paint the United States as an erratic

aggressor, leading regional actors and international allies to question cooperation with Washington.

Russia has helped the Assad regime maintain control in Syria, even as the U.S. and its NATO allies demanded Assad's ouster. As the U.S. pulls back from Syria, Assad and Russia remain in control. Russia's backing of Assad began as a quest to undermine U.S. interests and gain influence in the Middle East. More than four years later, Russia's triumphs from that conflict include drawing Turkey away from its NATO allies, building a reputation as a valuable foreign backer, and emerging as a kingmaker—all at the expense of the United States.

<https://www.brookings.edu/blog/order-from-chaos/2020/01/09/the-only-winner-of-the-us-iran-showdown-is-russia/>

Qassem Soleimani And Deterrence

Koplow Column | By Michael J. Koplow, Israel Policy Forum, January 9, 2020

Following the American drone strike near the Baghdad airport last Thursday that killed Iranian General Qassem Soleimani, it was assured that some sort of retaliation would be forthcoming from Tehran. The initial response came on Tuesday when Iran launched a series of ballistic missiles at the Al Asad and Erbil bases in Iraq where American troops are based. The strike and counterstrike provide some real-time lessons in deterrence, and how the use of force is but only one variable alongside deniability and domestic politics determining whether things will further escalate and plunge the Middle East into more turmoil.

From the U.S. perspective, assassinating Soleimani was justified. Soleimani commanded the Qods Force, the most elite branch of the Iranian Revolutionary Guard Corps, which is designated by the U.S. as a terrorist group along with its parent organization and is responsible for the IRGC's foreign operations. Soleimani may have had more American blood on his hands than anyone else alive, being responsible for the deaths of hundreds of U.S. soldiers in Iraq through attacks organized and

coordinated by him with Iranian proxy forces. While those of us without access to classified intelligence will never be able to assess whether or not Soleimani was in the process of planning an imminent attack on American assets, it is almost certain he was always scheming new ways to damage U.S. interests in the region. He was also responsible for fomenting chaos in Iraq, Syria, and Yemen and organizing attacks on U.S. regional allies. It is an understatement to say that he will not be missed.

<https://israelpolicyforum.org/2020/01/09/qassem-soleimani-and-deterrence/>

Why nuclear weapons should be a major focus of the 2020 campaign

John Mecklin, Bulletin of Atomic Scientists, January 12, 2020

The proverbial alien beamed down to Earth would find the situation quizzical indeed: The political debates and campaigns involved in selecting the most powerful person on the planet – the US president – scarcely mention the stark fact that any president could at any time be called to decide, almost instantly, whether to order a nuclear attack that would lead to the end of civilization. There is, at present, no significant check on the president's ability to make that decision. If he orders a nuclear attack, there will almost certainly be one. For a variety of reasons, the chances of nuclear war are not negligible; they are at least as high as they were at the height of the Cold War, according to leading world experts. And a nuclear exchange of even modest proportions would change the world forever, bringing on nuclear winter, degrading civilization in countless other ways, and affecting every person, everywhere. (At least every live person. The tens or hundreds of millions killed quickly in a nuclear exchange will just be dead.)

<https://thebulletin.org/2020/01/why-nuclear-weapons-should-be-a-major-focus-of-the-2020-campaign/>

What the presidential candidates should be asked about arms control and nonproliferation

Alexandra Bell, Bulletin of Atomic Scientists, January 12, 2020

The next president will have to deal with many pressing questions, but few are as consequential as this one: Do we want to live in a world in which the number of nuclear weapons is going up or going down? Once the next president is elected, he or she will have to make many choices about US internal nuclear policy: Should we use nuclear weapons first in a crisis? Should there be more than one person involved in the authorization of a nuclear strike? Should we make unilateral changes to our forces? And should we be deploying new low-yield nuclear capabilities? External policy choices on arms control and nonproliferation efforts will also have to be made, many of them all but immediately. The American public should be aware of the candidates' various nuclear weapons plans before they vote.

<https://thebulletin.org/2020/01/what-the-presidential-candidates-should-be-asked-about-arms-control-and-nonproliferation/>

The overwhelming case for no first use

John P. Holdren, Bulletin of Atomic Scientists, January 13, 2020

The arguments in favor of the United States' declaring that the only purpose of its nuclear weapons is to deter others who possess them from using theirs – in other words, that in no circumstances will this country use nuclear weapons first – are far stronger than the arguments against this stance. It must be hoped that the next US administration will take this no-first-use step promptly.

<https://thebulletin.org/2020/01/the-overwhelming-case-for-no-first-use/>

Loose cannons: The president and US nuclear posture

Bruce G. Blair, Bulletin of Atomic Scientists, January 13, 2020

The US president's unfettered authority to order the use of nuclear weapons and an

unstable US nuclear posture create a compound existential risk. Reducing the risk requires eliminating the dangerously unstable warfighting contingencies of first use of nuclear weapons and launch on warning of nuclear attack from the repertoire of presidential options; reconfiguring the nuclear chain of command; and building a robust and enduring nuclear command system to stabilize the contingency of second-strike retaliation on which true deterrence depends.

<https://thebulletin.org/2020/01/loose-cannons-the-president-and-us-nuclear-posture/>

Cool your jets: Some perspective on the hyping of hypersonic weapons

Ivan Oelrich, Bulletin of Atomic Scientists, January 13, 2020

Russia, China, and the United States are in a race to develop and deploy hypersonic glide weapons. Hypersonic vehicles are defined as moving at a speed greater than five times the speed of sound. The US Defense Department has claimed these weapons will provide revolutionary new capabilities and will present daunting new threats against which there is currently no effective defense. Such claims have been repeated with little skepticism in the public and trade press. Many of the claims made for hypersonic weapons are, however, overstated and much of what they can do could be accomplished more easily and cheaply using better-established technology, typically via the modification of ballistic missile warheads.

<https://thebulletin.org/2020/01/cool-your-jets-some-perspective-on-the-hyping-of-hypersonic-weapons/>

United States nuclear forces, 2020

Hans M. Kristensen, Matt Korda, Bulletin of Atomic Scientists, January 13, 2020

The Nuclear Notebook is researched and written by Hans M. Kristensen, director of the Nuclear Information Project with the Federation of American Scientists, and

Matt Korda, a research associate with the project. The Nuclear Notebook column has been published in the since 1987. This issue examines the status of the US nuclear arsenal. The US nuclear arsenal remained roughly unchanged in the last year, with the Defense Department maintaining an estimated stockpile of approximately 3,800 warheads. Of these, only 1,750 warheads are deployed, while approximately 2,050 are held in reserve. Additionally, approximately 2,000 retired warheads are awaiting dismantlement, giving a total inventory of approximately 5,800 nuclear warheads. Of the approximately 1,750 warheads that are deployed, 400 are on land-based intercontinental ballistic missiles, roughly 900 are on submarine-launched ballistic missiles, 300 are at bomber bases in the United States, and 150 tactical bombs are at European bases.

<https://thebulletin.org/2020/01/united-states-nuclear-forces-2020/>

It's time to jettison Nuclear Posture Reviews

Brad Roberts, Bulletin of Atomic Scientists, January 13, 2020

Nuclear Posture Reviews have served a useful purpose but their moment has passed. The existing architecture of Pentagon policy and posture reviews has failed to deliver the needed responses to the new strategic environment. A different approach is needed, one that embeds decisions about nuclear policy and posture in a coherent defense strategy that integrates rather than disaggregates the tools of influence. It must also embed those decisions in a realistic appraisal of the goals of US strategic policy, as legacy approaches have come to a series of dead-ends.

<https://thebulletin.org/2020/01/its-time-to-jettison-nuclear-posture-reviews/>

European leaders trigger dispute mechanism of Iran nuclear deal

World Nuclear News, January 14, 2020

Iran said on 5 January it will ignore the limit on the number of uranium enrichment

centrifuges agreed under the deal, thus withdrawing from the last operational restriction imposed by the 2015 agreement. The announcement followed the US assassination of Iranian General Qasem Soleimani and marked Tehran's fifth step in reducing its JCPOA commitments - originally agreed in exchange for the lifting of economic sanctions. "The aim of the mechanism is to resolve issues relating to the implementation of the agreement within the framework of the Joint Commission. In this respect I note the foreign ministers' intention 'to preserve the JCPOA in the sincere hope of finding a way forward to resolve the impasse through constructive diplomatic dialogue'," Borrell said in a statement on the EU's website. The dispute resolution mechanism "requires intensive efforts in good faith by all, he said, adding that he expects all JCPOA participants "to approach this process in that spirit".

UK Prime Minister Boris Johnson said in an interview with BBC Breakfast today that he wants to work with the USA and the UK's other allies to replace the current agreement to stop Iran acquiring a nuclear weapon. He said the UK would continue to back the existing deal which President Donald Trump withdrew the USA from in May 2018, saying: "Let's replace it and let's replace it with the Trump deal." "We're going to come under pressure, everybody will say, 'well you've got to get rid of this nuclear deal, the JCPOA', that's what Trump wants. My point to our American friends is, look, somehow or other we've got to stop the Iranians acquiring a nuclear weapon, that's what the JCPOA does, but if we're going to get rid of it, then we need a replacement," Johnson said.

<https://world-nuclear-news.org/Articles/European-leaders-trigger-dispute-mechanism-of-Iran>

What Europe's Dispute about Iran's Nuclear Program Means

Jarrett Blanc, Carnegie, January 15, 2020

On January 14, 2020, just shy of the fourth anniversary of the full implementation of

the Iran nuclear deal (the Joint Comprehensive Plan of Action, or JCPOA), the UK, France, and Germany triggered the dispute resolution mechanism (DRM), a tool created by the deal to address concerns about noncompliance. Opponents of the nuclear deal in the United States crowed that this was a European move to restore its traditional alignment with the United States against Iran. But the E3 foreign ministers were careful to describe their “overarching objective of preserving the JCPOA.” Iran’s reaction also does not suggest the end of the deal, somewhat disingenuously claiming that Tehran had already triggered the DRM in response to U.S. noncompliance.

In this case, it is better to listen to the governments that made the decision than the advocates that are trying to spin or even shape it. Rather than ditching the deal, this is more a reinvestment in the JCPOA by European countries that have toyed with other diplomatic models. To explain why, consider what the DRM is and why it has not been triggered until now.

<https://carnegieendowment.org/2020/01/15/what-europe-s-dispute-about-iran-s-nuclear-program-means-pub-80808>

Q. Interviews and Reports

U.S. And Russia Have Just Over A Year To Deal With An Expiring Nuclear Treaty

Franco Ordoñez

President Trump talked to Russian President Putin this week about arms control. Critics worry Trump could let a bilateral treaty lapse as he chases a new deal with Russia and China.

MARY LOUISE KELLY, HOST:

The topic of arms control came up this week in a phone call between President Trump and Russian President Vladimir Putin. The U.S. and Russia have just over one year to deal with an expiring nuclear treaty. Trump wants to expand that treaty. He wants China to join.

PRESIDENT DONALD TRUMP: I spoke to China about it. They - during one of our

trade negotiations, they were extremely excited about getting involved in that.

KELLY: Now, skeptics worry that going big could risk upending the existing treaty with Russia. Here to talk about this is NPR White House correspondent Franco Ordoñez. Hey there.

FRANCO ORDOÑEZ, BYLINE: Hi.

KELLY: So this is the New START treaty - that’s the formal name. Why does President Trump want to make it bigger?

ORDOÑEZ: Well, he is concerned that Russia has been able to build up its nuclear arsenal despite that agreement, particularly when it comes to shorter-range nuclear weapons that are outside the scope of the treaty. Meanwhile, there’s China, which is investing heavily in its own nuclear weapons. And while it doesn’t have nearly as many weapons, the U.S. officials warn that China’s been doing more testing than the rest of the world combined.

A senior administration official told me this week that President Trump has directed them to think more broadly, both in terms of including China but also on what is covered. And the official didn’t rule out just extending the current deal with Russia.

<https://www.npr.org/2020/01/01/792916517/u-s-and-russia-have-just-over-a-year-to-deal-with-an-expiring-nuclear-treaty>

There’s too much hype about Pakistan’s nuclear capability: Anil Kakodkar

Financial Express, January 5, 2020

Nuclear physicists Kakodkar and Gangotra believe India’s nuclear industry “lost time” due to liability regime that followed 2008 nuclear deal, say country should aim for 50% nuclear energy, and insist that the space programme is about “national pride”, not jingoism

SHUBHAJIT ROY: I wanted to get your sense on the nuclear weapons programme of two of our neighbours — Pakistan and

China. What is Pakistan's capability status and how potent is their programme? On China, how ahead of India are they in terms of potency and capability?

KAKODKAR: It is very difficult to talk about this in an authentic way because we are not privy to all the information. In matters of nuclear weapons, we should be ready for all eventualities... If some adversary or anybody else says that your adversary has this much readiness, I think we should not discount that... Having said that, I have reason to believe that there is too much hype about Pakistan's nuclear capability. Also, there is reason to believe that there is probably a nexus between China and Pakistan. For example, one of the issues which we have discussed in the book is this aspect of whether Pakistan tested plutonium-based weapons. On the face of it, they were all uranium weapons, but we know that there is a huge emphasis on plutonium production for weapons in Pakistan. If that is so, where has the validation of plutonium weapon designs come from? Obviously, one can draw conclusions. So, I don't want to discount whatever is being said, though I have reason to believe that a significant part of that is a hype.

Coming to China, I know that even in the '90s, the Chinese nuclear establishment was three-lakh strong and their programme had been running for a much longer time.

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