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A. India

India, Israel discuss avenues to expand cooperation in Space sector

Business Standard, February 23, 2022

Ambassador of Israel to India Naor Gilon called on Chairman of Indian Space Research Organisation and Secretary in the Department of Space, S Somanath at ISRO headquarters here on Tuesday. "The ongoing interactions between the space agencies and the avenues for expanding space relations between India and Israel, in view of space reforms announced by Government of India, were discussed during the meeting", an ISRO statement said. The ISRO is in discussions with Israel Space Agency (ISA) to enhance cooperation and identify potential opportunities to work together.

https://www.business-standard.com/article/current-affairs/india-israel-discuss-avenues-to-expand-cooperation-in-space-sector-122022300775_1.html

Open To Foreign Space Infrastructure In India: ISRO

NDTV, February 24, 2022

India's new foreign direct investment (FDI) policy for the space sector could allow overseas companies to set up their own infrastructure in line with the government guidelines, a senior official said here on Wednesday. "If someone wants to come over here to establish their own infrastructure in line with the central government policies, we are looking forward to such kind of implementation," N Sudheer Kumar, Director, Capacity Building Programme Office (CBPO) on Space Opportunities, ISRO, said at the India-Singapore Technology Summit organised by Department of Science & Technology and Confederation of Indian Industry (CII). He said different policies for the space sector were at consultation stage that include use of remote sensing data, space communication, human space policy, industry and technology transfer.

<https://www.ndtv.com/india-news/open-to-foreign-space-infrastructure-in-india-isro-2785240>

China's move to weaponise space domain is bringing newer threats, says Air Force Chief

The Indian Express, February 24, 2022

Recent moves by China have weaponised the space domain, Indian Air Force Chief Air Chief Marshal V R Chaudhari said on Thursday, as he stated that terrestrial, space and aerial domains are losing their "individual identities" and the spectrum extends from small drones to hypersonic ballistic missiles. Space-based assets could become essential for the conduct of operations in a networked scenario in the future, the Air Chief Marshal said. Speaking at the Jumbo Majumdar International Seminar about the Future Challenges of Aerospace Power, Chaudhari said, "China's latest demonstration of physically moving one of its disabled satellites into the graveyard orbit is bringing in newer threats in the race to weaponise the space domain, a domain hitherto considered relatively safe." "The spectrum that we are looking at stretches from kinetic to non-kinetic, lethal to non-lethal and from small drones to hypersonic ballistic missiles. This vast and ever-changing continuum will pose significant challenges for the armed forces of the future."

<https://indianexpress.com/article/india/chinas-move-to-weaponise-space-domain-is-bringing-newer-threats-says-air-force-chief-7788658/>

"Space Station Can Drop On India...": Russian Space Chief Slams US

NDTV, February 25, 2022

The head of the Russian space agency Roscosmos has said that the new sanctions announced by the United States have the potential to destroy our cooperation on the International Space Station (ISS). "If you block cooperation with us, who will save the ISS from an uncontrolled deorbit and fall into the United States or Europe?" Roscosmos Director General Dmitry Rogozin's said in a Twitter post on Thursday, shortly after the US announced new sanctions. "There is also the option

of dropping a 500-tonne structure to India or China. Do you want to threaten them with such a prospect? The ISS does not fly over Russia, so all the risks are yours. Are you ready for them?" he said in subsequent tweet.

<https://www.ndtv.com/world-news/space-station-can-drop-on-india-russian-space-chief-on-us-sanctions-2789547>

DRDO Developed MMICs Onboard EOS 04

PIB, March 4, 2022

Defence Research and Development Organisation (DRDO) developed Monolithic Microwave Integrated Circuits (MMICs) have been used in radar imaging satellite modules of EOS 04, which was launched by ISRO on 14th Feb 2022. Many of the Monolithic Microwave Integrated Circuits (MMIC) were designed/ developed and produced at Solid State Physics Laboratory (SSPL) DRDO and Gallium Arsenide Enabling Technology Centre (GAETEC) foundry of DRDO. The TR-Modules used in the payload for Radar imaging have been developed using these MMICs. More than 30,000 modules have been produced at GAETEC foundry for various space missions. This is an example of collaborative achievement between two advanced technology departments of Government of India along with support of industry partners. The use of indigenously designed and developed MMICs is an important step towards Atmanibhar Bharat.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1802981>

In self-reliance boost, nod for industry to develop light tanks, jammers, simulators

Hindustan Times, March 4, 2022

In a renewed push for self-reliance in the defence sector, the government on Thursday gave its in-principle approval to a raft of indigenous defence projects that will involve design and development by the industry, with the military hardware covering light tanks, airborne stand-off jammers,

communication equipment and simulators, officials familiar with the development said. The four projects are for the design and development of light tanks, communication equipment with Indian security protocols, airborne electro-optical pod with ground-based system and airborne stand-off jammers. The five projects approved under the industry-funded Make-II procedure are simulators for Apache attacks helicopters and Chinook multi-mission choppers, wearable robotic equipment for aircraft maintenance, autonomous combat vehicle and integrated surveillance and targeting system for mechanised forces.

<https://www.hindustantimes.com/india-news/in-boost-for-self-reliance-nod-for-industry-to-develop-light-tanks-jammers-simulators-101646311569629.html>

Indian Navy Successfully Fires Extended Range Brahmos Land Attack Missile

Indiannavy.nic.in, March 5, 2022

The Indian Navy successfully demonstrated the accuracy of an extended-range land attack Brahmos supersonic cruise missile from the stealth destroyer INS Chennai, on 5th March, 2022. The missile hit its intended target with pinpoint accuracy after traversing an extended range trajectory and performing complex manoeuvres. Both Brahmos missile and INS Chennai are indigenously built and highlight the cutting-edge of Indian missile and ship-building prowess. They reinforce the Indian Navy's contribution towards the Atma Nirbhar Bharat and Make in India endeavours. This achievement establishes the Indian Navy's ability to strike even deeper and influence land operations further away from sea, when and where required.

<https://www.indiannavy.nic.in/content/indian-navy-successfully-fires-extended-range-brahmos-land-attack-missile#:~:text=Land%20Attack%20Missile-,Indian%20Navy%20Successfully%20Fires%20Extended%20Range%20Brahmos%20Land%20Attack%20Missile,%2C%20on%205th%20March%2C%202022.>

B. Russia

Russia will prevent that nuclear weapons appear with Ukraine – Putin

TASS, February 24, 2022

Russia will not allow Ukraine to have nuclear weapons, President Vladimir Putin said on Thursday in the television address.

Nationalist radical forces in Ukraine “now claim to possess nuclear weapons also,” the Russian leader said. Leading NATO countries are supporting extreme nationalists and neo-Nazi in Ukraine in all aspects for achievement of their own goals, the Russian leader noted. “We will not allow them to do so,” Putin added.

<https://tass.com/politics/1409313>

Russian paratroopers take control of area around Chernobyl

TASS, February 25, 2022

Russia’s paratroopers on February 24 put under control the territory around the Chernobyl nuclear power plant. The station’s personnel keep servicing the NPP’s facilities as usual, Russian Defense Ministry spokesman Igor Konashenkov told the media on Friday. “On February 24, Russia’s paratroops put under control the territory around the Chernobyl nuclear power plant. An agreement was achieved with Ukraine’s separate battalion guarding the country’s NPP to jointly ensure the safety of nuclear reactors and the nuclear shelter,” he said. Konashenkov said the NPP personnel continued to service the facilities and monitor the radiation situation. Joint measures by Russia’s paratroops and the Ukrainian battalion responsible for guarding the nuclear power plant is a guarantee the nationalist groups and other terrorist organizations will be unable to use the current situation in the country for staging a nuclear provocation,” he said.

<https://tass.com/politics/1410771>

Russia’s program to rearm strategic nuclear forces to take several years – Roscosmos chief

TASS, February 25, 2022

The program to rearm Russia’s strategic nuclear forces will be continued in 2022, Head of the State Space Corporation Roscosmos Dmitry Rogozin said on Friday.

“This year, we are due to continue the efforts of rearming the strategic nuclear forces. This program will take several years. This work is already underway,” Rogozin said in an interview with TV Channel One on the occasion of the 30th anniversary of creating the Russian space agency. This issue is extremely important, the Roscosmos chief emphasized.

<https://tass.com/defense/1410879>

Russia’s program to rearm strategic nuclear forces to take several years – Roscosmos chief

TASS, February 25, 2022

The program to rearm Russia’s strategic nuclear forces will be continued in 2022, Head of the State Space Corporation Roscosmos Dmitry Rogozin said on Friday. “This year, we are due to continue the efforts of rearming the strategic nuclear forces. This program will take several years. This work is already underway,” Rogozin said in an interview with TV Channel One on the occasion of the 30th anniversary of creating the Russian space agency. Russian Defense Minister Army General Sergey Shoigu said in December last year that the modernity level of the Russian nuclear triad had been raised to the highest level of 89.1% over the country’s entire history.

<https://tass.com/defense/1410879>

Russian Forces carry out precision missile strike on Ukrainian military infrastructure

TASS, February 26, 2022

Russian Armed Forces carried out a precision cruise missile strike via air-and naval-based cruise missiles on Ukrainian military infrastructure objects, Russian Defense Ministry spokesman Igor Konashenkov announced Saturday. "During the night, Russian Armed Forces carried out a long-range precision strike via naval-and air-based cruise missiles on Ukrainian military infrastructure objects," Konashenkov said. Russian Armed Forces destroyed over 800 Ukrainian military infrastructure objects, Konashenkov added. "Russian Armed Forces hit a total of 821 Ukrainian military infrastructure objects, including 14 military airstrips, 19 control centers and communication nodes, 24 S-300 and Osa missile air defense systems, 48 radar stations," he said.

<https://tass.com/world/1411737>

Putin orders "special duty regime" in Russia's deterrence forces

TASS, February 28, 2022

In response to aggressive statements in the West Russian President Vladimir Putin has issued orders to introduce what he described as a "special duty regime" in Russia's deterrence forces. "Top officials in NATO's leading countries have been making aggressive statements against our country. For this reason, I give orders to the defense minister and chief of the General Staff to introduce a special combat duty regime in the Russian army's deterrence forces," Putin said at a meeting with Defense Minister Sergey Shoigu and Chief of the General Staff Valery Gerasimov in the Kremlin on Sunday.

<https://tass.com/politics/1412697>

Residential building in Kiev hit by air defense missile - Russian Defense Ministry source

TASS, February 26, 2022

Reports of a Russian missile strike on the residential building in Kiev are false, a source

in the Russian Defense Ministry told TASS Saturday, adding that the building was hit by a Buk-M1 air defense missile. "The reports being disseminated in the social media regarding a Russian missile strike on the residential building at Lobanovskogo Avenue in Kiev are false. The damage to the building indicates an air defense missile impact. It could be seen clearly on the video," the source said. "Apparently, during the defense against the night missile strike on Ukrainian military infrastructure objects [...] the targeting system of a Ukrainian Buk-M1 missile air defense system failed, and the missile hit the corner of the residential building," the source said.

<https://tass.com/defense/1411853>

It would be US 'golden dream' to have nuclear weapons in Ukraine – diplomat

TASS, February 28, 2022

Russian Foreign Ministry Spokeswoman Maria Zakharova said the emergence of nuclear weapons in Ukraine would be a "golden dream" for Washington. "The US deployed its nuclear weapons on the territory of European countries. It's not France and the UK that have their own nuclear weapons. This is Italy and many other countries that possess the US nuclear weapons but they do not have access to them. The US controls them there. It was a golden dream that it would appear in Ukraine," she said in an interview with Vladimir Solovyov on the Rossiya-1 television channel.

<https://tass.com/world/1412847>

Russian strategic deterrence forces go on enhanced combat alert – top brass

TASS, February 28, 2022

"Defense Minister of the Russian Federation Army General Sergey Shoigu reported to Russian Supreme Commander-in-Chief Vladimir Putin that in accordance with his decree, the alert teams of the command posts of the

Strategic Missile Force, the Northern and Pacific Fleets and the military command of long-range aviation had switched to enhanced combat alert," the ministry said. The Russian strategic deterrence forces are intended to deter aggression against Russia and its allies and rout an aggressor in a war with the use of various armaments, including nuclear weapons.

<https://tass.com/defense/1413219>

Presence of US nuclear weapons in Europe unacceptable, Russia calls to remove it – Lavrov

TASS, March 1, 2022

Russia considers the presence of US nuclear weapons in a number of European states unacceptable, Russian Foreign Minister Sergey Lavrov said in his video address to the Geneva conference on disarmament, adding that the US nuclear weapons must have long been returned back to American soil. "It is unacceptable for us that US nuclear weapons still remain in a number of European states in contradiction to the basic points of the Non-Proliferation Treaty. The bad practice of joint nuclear missions with the participation of non-nuclear NATO states continues. During such missions, the use of nuclear weapons against Russia is being practiced," he noted. "US nuclear weapons must have long been returned home, and the corresponding infrastructure in Europe must have long been eliminated."

<https://tass.com/politics/1414033>

Update 6 – IAEA Director General Statement on Situation in Ukraine

IAEA, March 2, 2022

Russia has informed the International Atomic Energy Agency (IAEA) that its military forces have taken control of the territory around Ukraine's Zaporizhzhya Nuclear Power Plant (NPP), Director General Rafael Mariano Grossi said today. In an official letter to the Director General dated 1 March, the Permanent Mission of the Russian Federation to the International Organizations in Vienna also said personnel at the plant continued their

"work on providing nuclear safety and monitoring radiation in normal mode of operation. The radiation levels remain normal." Earlier on 1 March, Ukraine informed the IAEA that all its nuclear power plants remained under the control of the national operator. The Zaporizhzhya plant is the largest of Ukraine's NPP sites with six out of the country's 15 nuclear energy reactors.

<https://www.iaea.org/newscenter/pressreleases/update-6-iaea-director-general-statement-on-situation-in-ukraine>

Russia will not allow Ukraine to create nuclear weapons – Lavrov

TASS, March 2, 2022

Ukraine has the technical potential for creating nuclear weapons and Russia will not allow it to do that, Russian Foreign Minister Sergey Lavrov said in an interview with the Al Jazeera TV Channel on Wednesday. It is necessary to define specific types of weapons that will never be created in Ukraine, Russia's top diplomat emphasized. "There is technical, technological potential [for Ukraine to create nuclear weapons]. This is what [Russian] President Vladimir Putin spoke about and our experts also commented on this situation. I can say responsibly that we will not allow that. There must be defined specific types of strike weapons that will never be deployed or created in Ukraine," Lavrov pointed out.

<https://tass.com/politics/1415467>

Russia halts deliveries of rocket engines to the U.S.

Reuters, March 3, 2022

Russia has decided to stop supplying rocket engines to the United States in retaliation for its sanctions against Russia over Ukraine, Dmitry Rogozin, head of the state space agency Roscosmos, said on Thursday. "In a situation like this we can't supply the United States with our world's best rocket engines. Let them fly on something else, their broomsticks, I don't know what," Rogozin said on state

Russian television. According to Rogozin, Russia has delivered a total of 122 RD-180 engines to the U.S. since 1990s, of which 98 have been used to power Atlas launch vehicles. Roscosmos will also stop servicing rocket engines it had previously delivered to the U.S., Rogozin said, adding that the U.S. still had 24 engines that would now be left without Russian technical assistance.

<https://www.reuters.com/world/russia-halts-deliveries-rocket-engines-us-2022-03-03/>

US had prior knowledge of Kiev's plans to go nuclear – Russian intelligence

TASS, March 3, 2022

Ukraine had been working on the creation of nuclear weapons for quite some time, and the United States was aware of that but posed no hindrances, the chief of Russia's intelligence service SVR, Sergey Naryshkin, said in a statement on Thursday. "According to the Russian Defense Ministry Ukraine has retained the technological potential for making nuclear weapons. Its capabilities are far greater than Iran's or North Korea's. Moreover, according to some evidence the SVR has obtained Ukraine did conduct certain work in this direction," the statement reads. Naryshkin stressed that both Russia and the United States knew about that. "However, the US posed no obstructions to such plans. On the contrary, it was ready to 'lend a shoulder' to Ukraine, apparently hoping that Ukrainian missiles armed with nuclear warheads would be aimed eastwards, not westwards," he stressed.

<https://tass.com/politics/1416255>

Ukrainian forces attempted subversion near Zaporozhskaya nuclear power plant – ministry

TASS, March 4, 2022

A Ukrainian subversion group attempted a provocation near the site of the Zaporozhskaya nuclear power plant, Defense Ministry Spokesman Igor Konashenkov said on Friday. "Last night, the Kiev nationalist regime attempted to

implement a monstrous provocation on the territory adjacent to the power plant," he said at a news conference. The spokesman said a mobile patrol of the Russian Guard was attacked by a Ukrainian sabotage group while patrolling the protected area adjacent to the station at about 02:00 on March 4. According to Konashenkov, in order to provoke return fire at the building, heavy fire from small arms was opened at the servicemen of the Russian Guard from the windows on several floors of the training complex located outside the power plant.

<https://tass.com/defense/1416597>

G7 supports IAEA initiative for agreement Moscow-Kiev agreement on NPP security

TASS, March 5, 2022

The Group of Seven supports the initiative of Director General of the International Atomic Energy Agency (IAEA) Rafael Grossi for an agreement between Russia and Ukraine to ensure security of nuclear power plants in Ukraine. "We support the initiative of IAEA Director General Grossi announced today for an agreement between Ukraine and Russia to ensure the safety and security of nuclear facilities in Ukraine," says a statement released on Friday after a meeting of the G7 foreign ministers.

<https://tass.com/world/1417045>

Russia cannot ignore statements on Ukraine's nuclear status, says Putin

TASS, March 5, 2022

The Russian authorities cannot ignore the Kiev regime's statements about Ukraine's wish to acquire the nuclear status, Russian President Vladimir Putin said on Saturday.

"Now they have begun to talk [in Ukraine] about acquiring the nuclear status, i.e. acquiring nuclear weapons. We cannot ignore such things! Moreover, we know how the so-called West behaves towards Russia," he stressed. As Putin explained,

Ukraine has retained nuclear competences since the Soviet period. "As for enrichment and nuclear materials, they can organize this work," the Russian leader pointed out.

Kiev also possesses missile competences, Putin said. "Take Yuzhmash alone: it participated in creating intercontinental ballistic missile technology for the Soviet Union. They will ramp up [capacities] and create [weapons]," the Russian president said. "Moreover, those on the other side of the Ocean will help Ukraine do that," Putin explained.

<https://tass.com/politics/1417505>

Russia put nuclear forces on special alert after UK foreign secretary's statement – Putin

TASS, March 5, 2022

Moscow made a decision to put its strategic deterrence forces on special alert immediately after a statement by UK Foreign Secretary Liz Truss on a possible conflict between Russia and NATO, Russian President Vladimir Putin said on Saturday. Western partners do have an understanding about what the West's actions against Russia "may be fraught with and what this may entail for all, despite their reckless statements," the Russian leader pointed out. "Like it was done by the UK foreign secretary who blurted that NATO may be involved in the conflict," the head of state went on to say. "We had to immediately make a decision on putting our forces on special alert," Putin said. This decision was followed by the West's reaction, the Russian leader said.

<https://tass.com/politics/1417515>

Putin agrees to IAEA-Russia-Ukraine meeting by video link or in third country – Kremlin

TASS, March 6, 2022

Russian President Vladimir Putin said the idea to hold a meeting of the International Atomic Energy Agency, Russia and Ukraine

was useful and the meeting could be held by video link or in a third country, the Kremlin said in a statement following phone talks between the Russian leader and French President Emmanuel Macron. "Commenting on the proposal of the Director General of the International Atomic Energy Agency mentioned by the President of France to hold a trilateral (IAEA-Russia-Ukraine) meeting in the Chernobyl zone to develop a mechanism for ensuring the safety of nuclear facilities in Ukraine, Vladimir Putin noted that in principle this idea could be useful, but it would be worth considering holding such a meeting by video link or in a third country," the statement said.

<https://tass.com/politics/1417889>

Ukrainian military to blow up experimental nuclear reactor at Kharkov Institute – ministry

TASS, March 7, 2022

The Ukrainian Security Forces and the nationalist Azov battalion are planning to blow up a reactor at the National Research Center of the Kharkov Institute of Physics and Technology and accuse the Russian Armed Forces of launching projectiles at an experimental nuclear reactor, says Russia's Defense Ministry on Monday. "The Security Forces of Ukraine along with the militants of the Azov battalion are plotting a provocation with possible radioactive contamination of the area near the city of Kharkov. Nationalists mined a reactor at an experimental nuclear system located at the [National Research Center of] Kharkov Institute of Physics and Technology. The Ukrainian military and the Azov battalion militants are planning to blow up the reactor and accuse the Russian Armed Forces of allegedly launching a missile strike on an experimental nuclear system," the statement says.

<https://tass.com/defense/1418059>

C. China

Chinese FM holds phone talks with U.S. secretary of state over Ukraine, Korean Peninsula nuclear issue

Xinhua, February 22, 2022

Chinese State Councilor and Foreign Minister Wang Yi on Tuesday held a phone conversation with U.S. Secretary of State Antony Blinken over the Ukraine issue and the Korean Peninsula nuclear issue at the latter's request. Blinken also updated Wang about the latest relations between the United States and the Democratic People's Republic of Korea (DPRK). Wang said the problem between the United States and the DPRK is at the heart of the Korean Peninsula nuclear issue, noting that the U.S. side should attach importance to the DPRK's legitimate and reasonable concerns and take substantial actions. China stands for direct talks between the United States and the DPRK, and will as always play a constructive role in promoting the resolution of the Korean Peninsula nuclear issue.

<https://english.news.cn/northamerica/20220222/1b508259c95142e6a4a10a87d9516acf/c.html>

China's Type 055 large destroyer Lhasa conducts live-fire drills, enhances combat capabilities

Global Times, February 22, 2022

The Lhasa, the second Type 055 10,000 ton-class large destroyer of the Chinese People's Liberation Army (PLA) Navy, recently conducted live-fire drills against sea, air and land targets, effectively enhancing the warship's comprehensive combat capabilities. This is the second time the Lhasa has held seagoing exercises since the start of 2022 and experts said on Monday that the drills consolidated the vessel's operational capability in advance of more important operations soon to come. A vessel training center attached to the PLA Northern Theater Command Navy recently organized the Type 055 guided missile destroyer Lhasa to participate in a maritime exercise in the Yellow Sea to boost the crew's comprehensive combat capabilities, China

Central Television (CCTV) reported on Monday.

<https://www.globaltimes.cn/page/202202/1252825.shtml>

Taiwan military ordered to be combat ready in case of disruption by 'outside force' amid Ukraine crisis

South China Morning Post, February 23, 2022

Taiwanese President Tsai Ing-wen has ordered the island's armed and security forces to step up their surveillance, remain alert for military activity in the region and strengthen combat readiness as tensions between Russia and Ukraine mount. Tsai, concerned about the worsening Ukraine situation, met top officials on Wednesday and sought counsel over how the self-ruled island should react and how the crisis would affect Taiwan.

<https://www.scmp.com/news/china/military/article/3168052/taiwan-military-ordered-be-combat-ready-case-disruption-outside>

Chinese nuclear steam supply project launched

World Nuclear News, February 24, 2022

A project has started at the Tianwan nuclear power plant in China's Jiangsu province to supply steam to a nearby petrochemical plant, China National Nuclear Corporation (CNNC) has announced. It will be China's first industrial-use nuclear energy steam supply project. The project is being jointly carried out by CNNC subsidiary Jiangsu Nuclear Power Company and the Lianyungang Petrochemical Industry Base in Xuwei New District, Lianyungang City. In the project, steam generated at units 3 and 4 of the Tianwan plant will be transported to the Lianyungang Petrochemical Industrial Base for industrial production and utilisation. The project is scheduled to be put into operation by the end of 2023. It is expected to supply 4.8 million tonnes of steam annually, which

will reduce the burning of standard coal by 400,000 tonnes per year, and the equivalent emission reduction of 1.07 million tonnes of carbon dioxide, 184 tonnes of sulphur dioxide and 263 tonnes of nitrogen oxides.

<https://www.world-nuclear-news.org/Articles/Chinese-nuclear-steam-supply-project-launched>

U.S. "Indo-Pacific Strategy" interferes in China's internal affairs: defense spokesperson

Xinhua, February 24, 2022

A Chinese defense spokesperson on Thursday criticized the recently released U.S. "Indo-Pacific Strategy." The U.S. report hyped up foreign threats and tried to form exclusive cliques yet claimed to promote regional freedom, openness, prosperity and security, which is "void of any logic or reason," said Tan Kefei, a spokesperson for China's Ministry of National Defense, at a press conference. China firmly opposes the negative content regarding Taiwan in the U.S. report, which is a gross interference in China's internal affairs and a violation of the one-China principle and the basic norms governing international relations, Tan said.

<https://english.news.cn/20220224/695c215a7fed4add957399214503576f/c.html>

Construction starts on eighth Tianwan unit

World Nuclear News, February 25, 2022

Construction of unit 8 at the Tianwan nuclear power plant in China's Jiangsu province officially got under way on 25 February with the pouring of first concrete for the reactor's nuclear island. The unit is one of four VVER-1200 reactors to be supplied by Russia to China under a 2018 agreement. In June 2018, Russia and China signed four agreements, including for the construction of two VVER-1200 reactors as units 7 and 8 of the Tianwan plant. In addition, two further VVER-1200 units were to be constructed at the new Xudabao (also known as Xudapu) site in Huludao, Liaoning province. Work on Tianwan 7 and 8 and

Xudabao 3 and 4 was launched on 19 May last year at a ceremony attended via video-link by Chinese President Xi Jinping and Russian President Vladimir Putin. The ceremony included the pouring of first concrete for Tianwan 7.

<https://www.world-nuclear-news.org/Articles/Construction-starts-on-eighth-Tianwan-unit>

How mainland Chinese transport plane highlighted 'serious weaknesses' in Taiwan's air defences

South China Morning Post, February 26, 2022

The failure by Taiwan's military to spot a civilian plane from mainland China near an islet held by Taipei earlier this month has highlighted a "serious weakness" in its radar system, a former instructor has said. Last week Taiwan's defence ministry confirmed that "an unidentified fixed-wing twin-propeller aircraft" that flew close to Dongyin earlier this month was a Y-12, a small transport plane, from the Chinese mainland.

<https://www.scmp.com/news/china/military/article/3168407/how-mainland-chinese-transport-plane-highlighted-serious>

China's new-generation rocket launches 22 satellites into space

India Today, February 27, 2022

China's new Long March-8 rocket placed 22 satellites in space on Sunday, setting a domestic record for the most spacecraft launched by a single rocket. The rocket blasted off at 11:06 a.m. (Beijing Time) at the Wenchang Spacecraft Launch Site in the southern Hainan Province before sending the satellites into pre-set orbits, state-run Xinhua news agency reported. These satellites will be mainly used for commercial remote sensing services, marine environment monitoring, forest fire prevention and disaster mitigation.

<https://www.indiatoday.in/science/story/china-long-march-8-rocket-launches-22-satellites-into-space-new-record-1918410-2022-02-27>

Linglong 1's lower cylinder of steel containment successfully lifted

Global Times, February 27, 2022

The lower cylinder of the steel containment of the world's first commercial modular small reactor on land, the Linglong 1, was successfully lifted into position on Saturday in Changjiang Nuclear Power Plant in South China's Hainan Province, completing the milestone 46 days ahead of schedule, according to media reports. Launched by China National Nuclear Corporation, the multipurpose modular small reactor technology demonstration project officially started its construction in July, 2021, which will have a power generation capacity of 125,000 kilowatts, according to Xinhua News Agency.

<https://www.globaltimes.cn/page/202202/1253295.shtml>

Record number of satellites share space ride in Long March-8 second flight

Global Times, February 27, 2022

China's new-generation medium size carrier rocket Long March-8 took off from the Wenchang Space Launch Center in South China's Hainan Province for a second flight at 11 am on Sunday. The rocket successfully sent a total of 22 commercial satellites into their pre-determined orbits, an amount which is a record high for a single launch mission in the country's aerospace history. The satellites in this commercial rideshare mission were designed and manufactured by seven entities and the users are from seven domestic commercial aerospace companies and two scientific research institutions, and they include optical remote sensing Taijing3-01, Taijing4-01 manufactured by the Minospace Co, Data collection satellite Tianqi-19 by the Shandong Institute of Aerospace Electronics Technology and Phosphorus-1 also an optical remote sensing satellite by the Wuhan University.

<https://www.globaltimes.cn/page/202202/1253286.shtml>

China's 1st amphibious assault ship reaches initial operating capability, to make world tour

Global Times, March 2, 2022

China's first Type 075 amphibious assault ship, the *Hainan*, has reached initial operating capability, and the vessel will visit harbors and ports all over the world and provide an outstanding image for the Chinese People's Liberation Army (PLA) Navy, the warship's captain told the state broadcaster. After a year of training, the *Hainan* will have full operating capability in the not-too-distant future, Captain Lü Yongjun, the captain of the ship, revealed in a program broadcast by China Central Television (CCTV) on Saturday. The *Hainan* entered service with the PLA Navy on April 23, 2021 as China's first amphibious assault ship. Often dubbed a helicopter carrier, the vessel can carry a large number of helicopters in addition to amphibious armored vehicles and tanks, and launch both horizontal and vertical landing missions on islands and reefs, and even land from the sea, analysts said.

<https://www.globaltimes.cn/page/202203/1253757.shtml>

Chinese envoy says IAEA's resolution on Ukraine undermines agency's independence

Global Times, March 3, 2022

The resolution on Ukraine's nuclear security, adopted by the International Atomic Energy Agency (IAEA), undermines the agency's independence as a professional international organization, China's Permanent Representative to the United Nations in Vienna Wang Qun said Thursday. Wang made the remarks after voting against the resolution at a meeting convened by the IAEA Board of Governors to discuss the situation in Ukraine. The resolution on nuclear safety, security and safeguards implications of the situation in Ukraine, proposed by Canada and Poland, was adopted by the IAEA board at the meeting. The Chinese envoy said the

resolution has “obviously gone beyond the IAEA’s mandate by introducing many politicized elements.”

<https://www.globaltimes.cn/page/202203/1253878.shtml>

Chinese firm forges nation’s first low-Earth orbit broadband communication test constellation

Global Times, March 6, 2022

Chinese companies sent seven satellites into space from the Xichang Satellite Launch Center in Southwest China’s Sichuan Province on Saturday, aiming to build the nation’s first low-Earth orbit (LEO) broadband communication test constellation. Six satellites were produced by Beijing-based start-up GalaxySpace and a commercial remote sensing satellite was launched by a Long March2C carrier rocket and entered their planned orbits. The six broadband communication satellites will form China’s first LEO broadband communication test constellation together with the first satellite of GalaxySpace, and build a satellite-ground fusion 5G test network, codenamed “Minispider Constellation,” capable of providing communication services for more than 30 minutes each time.

<https://www.globaltimes.cn/page/202203/1254110.shtml>

D. Pakistan

Second overseas Hualong One starts up

World Nuclear News,, February 23, 2022

Unit 3 of the Karachi nuclear power plant in Pakistan has reached first criticality, becoming the fourth Hualong One reactor in the world - and the second outside China - to reach that milestone. “Unit 3 of the Karachi nuclear power plant in Pakistan achieved criticality for the first time at midnight on Feb 21, meaning it is now able to operate with power and laying a solid foundation for future connection to the grid and power generation,” China National Nuclear Corporation (CNNC) said.

Construction of Karachi 3, the second of two 1100 MWe Hualong One units to be built near Paradise Point in the province of Sindh, began in May 2016. Karachi 2 entered commercial operation in May last year. The units are the first exports of CNNC’s Hualong One, which is also promoted on the international market as HPR1000.

<https://www.world-nuclear-news.org/Articles/Second-overseas-Hualong-One-starts-up>

Pakistan plans 40,000MW nuclear energy by 2050 to meet electricity demands

Gulf News, February 26, 2022

Pakistan is on its way to adapting to zero-emission clean energy with a planned nuclear power generation capacity of 40,000 megawatts (MW) by 2050. The country has envisaged a nuclear power generation capacity of 40,000MW under its Nuclear Energy Vision 2050 with a total of 32 nuclear power plants to meet one-fourth of the country’s energy needs. PM’s special assistant on climate change Malik Amin Aslam has said that Pakistan intends to adapt to the zero-carbon emission goal by 2050 in energy by utilizing all types of renewable and low-carbon sources. “We will make optimal use of our wind, hydel, solar and nuclear resources to meet the goals set by Conference of the Parties (COP26) recently held in Glasgow,” he said.

<https://gulfnews.com/world/asia/pakistan/pakistan-plans-40000mw-nuclear-energy-by-2050-to-meet-electricity-demands-1.86031513>

Turkey and Pakistan to Jointly Develop 5th-Gen Fighter

The Defence Post, February 28, 2022

Turkish Aerospace Industries (TAI) has announced that it will collaborate with the state-owned Pakistan Aeronautical Complex to deploy the National Combat Aircraft MMU beginning in 2030. The announcement came during an interview with *Aaj News* by TAI President and Chief Executive Officer Temel Kotil. He stated

that Turkey and Pakistan would jointly carry out the project. However, he did not provide any further details on the fighter jet or its development. Also referred to as the TF-X, the fifth-generation jet is expected to meet the operational requirements of both countries, replacing their Lockheed Martin jets currently in service. The two countries plan to develop a prototype in 2023 and conduct the aircraft's maiden flight in 2026.

Pakistan plans to have a fifth-generation jet fleet by 2047. The TF-X program is the first step toward the induction of the first fifth-generation fighter jet into their fleet. TAI opened its first office in Pakistan at the country's first technology park – the National Science & Technology Park – in 2019.

<https://www.thedefensepost.com/2022/02/28/turkey-pakistan-5th-gen-fighter/>

Pakistan claims of intercepting India's submarine INS Kalvari

India Tv, March 3, 2022

Pakistan on Thursday claimed that it had intercepted and tracked India's submarine INS Kalvari's movement in its territorial waters. Pakistan also shared the video of interception on a social media platform. The claims were made by Major General Babar Iftikhar, Director General of the Pakistan military's Inter-Services Public Relations (ISPR) on social media, who also stated that the incident took place on March 1. On social media platform Twitter, the Director-General stated, "Pakistan Navy Anti-Submarine Warfare Unit intercepted & tracked latest Kalvari class Indian submarine on March 1." He also said that the recent incident being the fourth detection in the last five years. He lauded the detection and stated that it is reflection of Pakistan Navy's competence and resolve to defend maritime frontiers of Pakistan.

<https://www.indiatonews.com/news/india/pakistan-claims-of-intercepting-india-s-submarine-ins-kalvari-2022-03-03-762542>

E. Europe

Finland questions Hanhikivi's prospects amid Ukraine conflict

World Nuclear News, February 25, 2022

Fennovoima says that the "Russian invasion of Ukraine, and the counter measures by EU and western countries as a consequence" pose a "major risk" to the future of the nuclear power plant project. Finland's Minister for Economic Affairs Mika Lintila told the country's parliament that he would not be granting a building permit for the Hanhikivi nuclear plant as things stand. "It's quite clear that as a consequence of this conflict this project will at least be significantly delayed," Lintilä told the STT newswire on Thursday. Fennovoima, the company behind the planned nuclear power plant which will have a Russian reactor and is one third owned by a Finnish subsidiary of Russia's Rosatom, said it "acknowledges that the ongoing conflict situation may have impacts on the Hanhikivi 1 project". It said the "Russian invasion of Ukraine, and the counter measures by EU and western countries as a consequence, pose a major risk for the Hanhikivi 1 project.

<https://www.world-nuclear-news.org/Articles/Fennovoima-Ukraine-events-put-Hanhikivi-at-major-r>

GE Steam Power joins Polish AP1000 team

World Nuclear News, February 25, 2022

Bechtel and Westinghouse have signed a Memorandum of Understanding (MoU) with GE Steam Power to explore opportunities in their joint pursuit of civil nuclear power prospects in Poland. In July last year, Westinghouse announced the launch of front-end engineering and design (FEED) work under a grant from the United States Trade and Development Agency "to progress" the nuclear energy programme in Poland. Westinghouse said

the FEED was one of the key elements in the implementation of the Intergovernmental Agreement between Poland and the USA regarding cooperation to develop a civil nuclear power programme. Westinghouse is executing the FEED - which will be based on AP1000 technology - together with Bechtel. The FEED study will be reviewed later this year by the Polish government to help in its selection of the best partner for the nuclear power plant programme.

<https://www.world-nuclear-news.org/Articles/GE-Steam-Power-joins-Polish-AP1000-team>

President Lukashenko rules out nuclear weapons in Belarus

TASS, February 27, 2022

Belarusian President Alexander Lukashenko rejected the possibility of deployment of nuclear weapons in his country in a phone conversation with French President Emmanuel Macron on Saturday. According to a report by BelTA, Lukashenko dismissed such speculations as “fakes.” “As long as no one is trying to strangle the people of Belarus, not just nuclear weapons - conventional weapons - are ruled out,” he said.

<https://tass.com/world/1412229>

Belarus to deploy nuclear weapons if Poland or Lithuania do it - Lukashenko

TASS, February 27, 2022

Belarus will turn to Russia with a request to return nuclear weapons to it if the United States deploys them in Poland or Lithuania, President of Belarus Alexander Lukashenko announced on Sunday. According to Lukashenko, he mentioned this possibility during the conversation with French President Emmanuel Macron. “If the United States, or France ... transfer nuclear weapons to Poland, to Lithuania, to our borders, ... I will appeal to [Russian President Vladimir] Putin to return the weapons that I once gave without any preconditions,” Lukashenko said.

<https://tass.com/world/1412453>

Reconsider nuclear shutdowns to cut gas imports, IEA tells EU

World Nuclear News, March 3, 2022

The International Energy Agency (IEA) has set out a ten-point plan that could enable the European Union to reduce its imports of natural gas from Russia by more than one-third within a year, including maximising generation from existing low-emissions sources such as nuclear. Temporarily delaying the closure of EU reactors scheduled for shut-down over the next year could cut EU gas demand by almost 1 billion cubic metres per month. The EU imported some 155 billion cubic metres of natural gas from Russia in 2021, accounting for around 45% of the bloc’s gas imports and nearly 40% of its total gas consumption. Progress towards net-zero will “over time” bring down gas use and imports, but the current “crisis” raises the specific question about imports from Russia and how they can be quickly brought down, the IEA said. “Nobody is under any illusions anymore,” IEA Executive Director Fatih Birol said at the launch of the 10-Point Plan to Reduce the European Union’s Reliance on Russian Natural Gas.

<https://www.world-nuclear-news.org/Articles/Reconsider-nuclear-shutdowns-to-cut-gas-imports,-I>

F. Ukraine

IAEA Director General Statement on the Situation in Ukraine

IAEA, February 24, 2022

The International Atomic Energy Agency (IAEA) is following the situation in Ukraine with grave concern and is appealing for maximum restraint to avoid any action that may put the country’s nuclear facilities at risk, Director General Rafael Mariano Grossi said today. The Ukraine regulatory body, the counterpart, has earlier informed the IAEA that it is maintaining communications with Ukraine’s operational nuclear power plants, which it said are operating safely and securely. Regarding the situation at

the Chernobyl Nuclear Power Plant, Ukraine has informed the IAEA that “unidentified armed forces” have taken control of all facilities of the State Specialized Enterprise Chernobyl NPP, located within the Exclusion Zone.

<https://www.iaea.org/newscenter/pressreleases/iaea-director-general-statement-on-the-situation-in-ukraine>

Ukraine’s PM confirms loss of control over Chernobyl zone

TASS, February 25, 2022

The Ukrainian government has lost control over the Chernobyl nuclear power plant exclusion zone established after the 1986 disaster, Prime Minister Denis Shmygal said on Thursday. “Unfortunately, I must say that the Chernobyl zone, the so-called zone of alienation, and the Chernobyl NPP were taken under the control of Russian troops,” Shmygal said, adding that no victims were reported. The Chernobyl zone of Alienation is an officially designated exclusion zone around the site of the Chernobyl nuclear reactor disaster. Decades after the accident, it became a popular tourist attraction.

<https://tass.com/world/1410435>

Ukraine says that Chernobyl NPP sustained no damage - IAEA

TASS, February 25, 2022

Ukraine notified the International Atomic Energy Agency that “unidentified armed forces” seized control over the Chernobyl nuclear power plant, the station itself sustained no damage, IAEA Director General Rafael Grossi said in a statement on Thursday. “Ukraine has informed the IAEA that ‘unidentified armed forces’ have taken control of all facilities of the State Specialized Enterprise Chernobyl NPP, located within the Exclusion Zone. The counterpart added that there had been no casualties nor destruction at the industrial site. Director General Grossi said it is of vital importance that the safe and secure operations of the

nuclear facilities in that zone should not be affected or disrupted in any way,” IAEA said.

<https://tass.com/world/1410507>

Radiation levels around Chernobyl NPP remain normal - monitoring

TASS, February 25, 2022

Radiation levels measured around Ukraine’s Chernobyl Nuclear Power Plant remain within the norm, according to monitoring data from the Automatic Radiation Control System. As of 21:00 local time on Thursday, background radiation levels around the Chernobyl NPP do not exceed the norm. The Automatic Radiation Control System was designed to automatically monitor radiation levels within the 30-km zone around the NPP, located in northern Ukraine.

<https://tass.com/world/1410525>

Update 3 – IAEA Director General Statement on Situation in Ukraine

IAEA, February 27, 2022

Ukraine informed the International Atomic Energy Agency (IAEA) today that missiles hit the site of a radioactive waste disposal facility in Kyiv overnight but there were no reports of damage to the building or any indications of a radioactive release, Director General Rafael Mariano Grossi said. The State Nuclear Regulatory Inspectorate of Ukraine (SNRIU) told the IAEA that both its communications with the facility – the Kyiv branch of the State Specialized Enterprise “Radon” – and the radiation monitoring system at the site had been restored during the morning. SNRIU said it expects to soon receive the results of on-site radioactive monitoring.

<https://www.iaea.org/newscenter/pressreleases/update-3-iaea-director-general-statement-on-situation-in-ukraine>

Ukraine asks IAEA for 30km safe zones around nuclear plants

World Nuclear News, March 1, 2022

The head of Ukraine's nuclear power plant operator Energoatom has asked the International Atomic Energy Agency (IAEA) to intervene to help keep the area around the plants free from military action. Petro Kotin, CEO of Energoatom, said that he had spoken with the Director General of the IAEA on Monday 28 February about the situation in the country, where Russian forces have been involved in military action since last Thursday. In a statement the company said that columns of military equipment and forces have been moving near the nuclear power plants, with "shells exploding near the nuclear power plant - this can lead to highly undesirable threats across the planet". "In this regard, we call on the IAEA to intervene to prevent occupying forces in the 30 kilometre zone around our nuclear power plants," said Kotin, who also called on the Chernobyl zone and control of the nuclear facilities there to be returned to the Ukrainian side.

<https://www.world-nuclear-news.org/Articles/Ukraine-asks-IAEA-for-30km-safe-zones-around-nucle>

Update 7 – IAEA Director General Statement on Situation in Ukraine

IAEA, March 2, 2022

Ukraine informed the International Atomic Energy Agency (IAEA) today that the same staff had been working at the Chernobyl Nuclear Power Plant (NPP) since Russian forces last week took control of the site of the 1986 nuclear accident, Director General Rafael Mariano Grossi said, expressing his growing concern about their continued wellbeing and ability to do their jobs safely and effectively. In a regular update to the IAEA, the State Nuclear Regulatory Inspectorate of Ukraine (SNRIU) said it maintained communications with the Chernobyl site – whose personnel it said were carrying out their duties under "supervision" – and that no operation involving nuclear material had been

conducted there since 24 February. The Chernobyl NPP, located in an Exclusion Zone, has been undergoing decommissioning since the accident and significant amounts of nuclear material remain in various facilities at the site in the form of spent fuel and other radioactive waste.

<https://www.iaea.org/newscenter/pressreleases/update-7-iaea-director-general-statement-on-situation-in-ukraine>

Update 9 – IAEA Director General Statement on the situation in Ukraine

IAEA, March 3, 2022

Ukraine informed the International Atomic Energy Agency (IAEA) today that a large number of Russian tanks and infantry "broke through the block-post" to the town of Enerhodar, a few kilometres from the Zaporizhzhya Nuclear Power Plant (NPP), Director General Rafael Mariano Grossi said. In an urgent letter to the Director General, the Ukraine regulatory authority added that Russian infantry troops were moving directly towards the site of Ukraine's largest nuclear power plant. "The battle is going on in the town of Enerhodar and on the road to the ZNPP (Zaporizhzhya Nuclear Power Plant) site," it said, adding that the situation was "critical".

<https://www.iaea.org/newscenter/pressreleases/update-9-iaea-director-general-statement-on-the-situation-in-ukraine>

Update 10 – IAEA Director General Statement on Situation in Ukraine

IAEA, March 4, 2022

Ukraine informed the International Atomic Energy Agency (IAEA) today that the site of the Zaporizhzhya Nuclear Power Plant (NPP) had been shelled overnight and Director General Rafael Mariano Grossi immediately spoke with Prime Minister Denys Shmyhal as well as the country's national nuclear regulator

and operator about the serious situation. The Ukraine regulatory authority said a fire at the site had not affected “essential” equipment and plant personnel were taking mitigatory actions. There was no reported change in radiation levels at the plant, it said. The IAEA is putting its Incident and Emergency Centre (IEC) in full response mode due to the situation at the Zaporizhzhya NPP, Director General Grossi said.

<https://www.iaea.org/newscenter/pressreleases/update-10-iaea-director-general-statement-on-situation-in-ukraine>

Update 11 – IAEA Director General Statement on Situation in Ukraine

IAEA, March 4, 2022

Ukraine informed the International Atomic Energy Agency (IAEA) today that Russian forces had taken control of the site of the country’s Zaporizhzhya Nuclear Power Plant (NPP), but that the nuclear power plant continued to be operated by its regular staff and there had been no release of radioactive material, Director General Rafael Mariano Grossi said. Ukrainian counterparts informed the IAEA that a projectile overnight had hit a training building in the vicinity of one of the plant’s reactor units, causing a localized fire that was later extinguished. The safety systems of the plant’s six reactors had not been affected and there has been no release of radioactive material.

<https://www.iaea.org/newscenter/pressreleases/update-11-iaea-director-general-statement-on-situation-in-ukraine>

Update 12 – IAEA Director General Statement on Situation in Ukraine

IAEA, March 5, 2022

Ukraine’s nuclear regulator told the International Atomic Energy Agency (IAEA) today it had been able to maintain communications with staff at the Zaporizhzhya Nuclear Power Plant (NPP) where two out of six reactors were now operating, a day after Russian forces took control of the site in the country’s south-east,

Director General Rafael Mariano Grossi said. In regular updates to the IAEA, the Ukrainian regulatory authority and the plant management also confirmed that the technical safety systems were intact and radiation levels remained normal at Ukraine’s largest nuclear power plant. One telephone communication line had been lost but another was still functioning, as was mobile phone communication.

<https://www.iaea.org/newscenter/pressreleases/update-12-iaea-director-general-statement-on-situation-in-ukraine>

U.N. political chief says attacks on nuclear power plants contrary to international law

Reuters, March 5, 2022

Military operations around nuclear sites and other critical civilian infrastructure are “unacceptable” and “highly irresponsible”, U.N. political affairs chief Rosemary DiCarlo told the Security Council the United Nations on Friday. “Attacks on nuclear power facilities are contrary to international humanitarian law....Every effort should be taken to avoid a catastrophic nuclear incident,” Di Carlo told an emergency meeting of the U.N. Security Council after Russian forces in Ukraine attacked and seized Europe’s biggest nuclear power plant.

<https://www.reuters.com/world/un-political-chief-says-attacks-nuclear-power-plants-contrary-international-law-2022-03-04/>

Update 13 – IAEA Director General Statement on Situation in Ukraine

IAEA, March 6, 2022

Ukraine informed the International Atomic Energy Agency (IAEA) today that although regular staff continued to operate the Zaporizhzhya Nuclear Power Plant (NPP), the plant management is now under orders from the commander of the Russian forces that took control of the site last week, Director General Rafael Mariano Grossi said. Furthermore, Ukraine reports that any action of plant

management – including measures related to the technical operation of the six reactor units – requires prior approval by the Russian commander.

<https://www.iaea.org/newscenter/pressreleases/update-13-iaea-director-general-statement-on-situation-in-ukraine>

All Ukrainian NPPs stable, operating company says

TASS, March 6, 2022

All Ukrainian nuclear power plants (NPPs) are functioning in a regular mode, the radiation background is normal, including at the Zaporozhye NPP controlled by Russia's Armed Forces, Energoatom, the operating company of Ukraine's NPPs, reported on Sunday. "As of 10:00 (11:00 Moscow time - TASS) on March 6, 2022, Ukraine's functioning nuclear power plants continue to work stably. The current capacity of all four Ukrainian NPPs provides the necessary volumes of energy production for the country's needs," the company said on its Telegram channel. "The radiation, fire-prevention and ecological conditions at all the NPPs and adjacent territories have not changed and are within the limits of existing norms," it assured.

<https://tass.com/politics/1417791>

Update 14 – IAEA Director General Statement on Situation in Ukraine

IAEA, March 7, 2022

Ukraine told the International Atomic Energy Agency (IAEA) today that a new nuclear research facility producing radioisotopes for medical and industrial applications had been damaged by shelling in the city of Kharkiv, Director General Rafael Mariano Grossi said. The national nuclear regulator said the incident did not cause any increase in radiation levels at the site. The facility in north-eastern Ukraine is used for research and development and radioisotope production. Because the nuclear material in the facility is always subcritical and the inventory of radioactive material is very low, the IAEA's assessment confirmed that the damage reported to it

would not have had any radiological consequence, the Director General said.

<https://www.iaea.org/newscenter/pressreleases/update-14-iaea-director-general-statement-on-situation-in-ukraine>

G. France

ITER tokamak assembly put on hold by regulator

World Nuclear News, March 1, 2022

France's nuclear safety regulator, the Autorité de Sûreté Nucléaire (ASN), has ordered the start of the assembly of the tokamak of the International Thermonuclear Experimental Reactor (ITER) fusion project to be postponed until a number of safety issues have been addressed. In 2012, ASN approved the proposed ITER design and authorised the ITER Organisation and its domestic agencies to proceed with construction, manufacturing and installation of the ITER facility at Cadarache in southern France. However, as with any nuclear installation, ITER is required at each stage to demonstrate that its safety-relevant buildings, civil structures, systems and components conform to the approved design and meet the safety case in the "as-built" or "as-installed" condition.

<https://www.world-nuclear-news.org/Articles/ITER-tokamak-assembly-put-on-hold-by-regulator>

French nuclear watchdog on high alert after nuclear plant fire

Reuters, March 4, 2022

France on Friday temporarily activated the crisis centre of its ASN nuclear watchdog after a fire at the Zaporizhzhia nuclear plant in Ukraine broke out, using the country's expertise in nuclear radiation to monitor developments amid intense fighting around the plant. France's ASN watchdog later on Friday said, the crisis centre has been deactivated again at around 1700 GMT, but added that a special team of its experts would continue to actively monitor the situation in

Ukraine. The ASN said no information received so far from the Ukrainian safety agency or the Vienna-based International Atomic Energy Agency (IAEA) was cause for alarm. "We have no information suggesting a system that contribute to the plant's safety has been hit in the attack," Anne-Cecile Rigail, ASN's deputy managing director, told Reuters.

<https://www.reuters.com/world/europe/france-activates-crisis-cell-asn-nuclear-watchdog-after-fire-ukraine-nuclear-2022-03-04/>

H. Germany

German Power Operators Reject Calls to Keep Nuclear Plants Running Despite Ukraine War

Wall Street Journal, February 26, 2022

Germany's leading power utilities have declined to extend the life of their last operating nuclear power plants beyond a government-imposed deadline to shut them down by the end of the year amid calls to keep them running to reduce dependence on Russian gas in the wake of Moscow's war in Ukraine. Germany has been phasing out nuclear power since 2000 and is scheduled to shut down its last three nuclear power plants this year. Günther Oettinger, a conservative politician and former European Union commissioner, has urged Germany and the power utilities to reconsider and asked the utilities to keep their nuclear plants running beyond the deadline.

<https://www.wsj.com/livecoverage/russia-ukraine-latest-news-2022-02-26/card/german-power-operators-reject-calls-to-keep-nuclear-plants-running-despite-ukraine-war-4u3kJkDIz9CSmqYUUviA>

Germany to review nuclear exit, reactor extensions into 2023 'unlikely'

S&P Global, February 28, 2022

Germany is to review its nuclear phase-out policy but continued operation of the country's remaining three reactors into 2023 was "unlikely", energy minister Robert

Habeck said late Feb. 27. Reviewing the closure of the country's 4-GW of nuclear capacity in the light of Germany's dependency on Russian gas was part of the ministry's task now, Habeck said. "The question [of reviewing the nuclear phase-out] is relevant, I would not reject it ideologically," Habeck told German state broadcaster ARD, but "for winter 2022/23 nuclear will not help," he said. The minister noted that decommissioning plans had advanced ahead of final closure of the three reactors on Dec. 31, posing high safety risks. Operators also indicated challenges in securing fuel for the units, according to a pre-assessment. In 2021, the sector generated 65 TWh, covering almost 12% of German power demand. 4-GW were closed last December.

<https://www.spglobal.com/commodity-insights/en/market-insights/latest-news/electric-power/022822-germany-to-review-nuclear-exit-reactor-extensions-into-2023-unlikely>

Germany's Return to Nuclear Power Not on the Plate Yet

US News, February 28, 2022

Germany is considering all options to reduce its energy dependence on Russia, but it is not yet at a point where it could make a decision about extending the life of nuclear power stations, a government spokesperson said on Monday. "Of course everything is being looked at at the moment so that we can prepare for all eventualities, which we all hope will not occur," the spokesperson said in a regular news conference.

<https://www.usnews.com/news/world/articles/2022-02-28/germanys-return-to-nuclear-power-not-on-the-plate-yet>

Ukraine crisis forces Germany to change course on energy

DW News, March 1, 2022

Germany's energy dependence on Russia is enormous. Will nuclear power plants have to operate longer and the coal phase-out have to be postponed? Some see fresh

opportunities in the current crisis. The largest gas storage facility in western Europe is located 2 kilometers (1.25 miles) underground in the town of Rehden, in the northern German state of Lower Saxony. The size of 910 soccer fields, the facility can hold the annual natural gas consumption of about 2 million single-family homes. "Big. Bigger. Rehden." is the slogan on the website of the company that operates it. The facility plays a central role in the security of supply for Germany and Europe. Astora is a subsidiary of the Russian energy giant Gazprom, and it owns more than one-third of all German gas storage facilities. All the sites have one thing in common: They are currently almost empty, with levels at 10% or less of capacity.

<https://www.dw.com/en/ukraine-crisis-forces-germany-to-change-course-on-energy/a-60968585>

I. United Kingdom

Study examines impact of pandemic on UK nuclear security

World Nuclear News, February 24, 2022

A new study from King's College London explores how the UK's civil nuclear sector has responded to the challenges posed by the COVID-19 pandemic, with a focus on the organisational level. It identifies a series of lessons learnt in maintaining nuclear security and provides recommendations for managing the continuing impact of the pandemic and preparing for future crises. The study, from the Nuclear Security Culture Programme in the Centre for Science and Security Studies (C5SS), King's College London, and conducted in partnership with industry, says the COVID-19 pandemic has had a significant impact on the nuclear sector and its critical national infrastructure.

<https://www.world-nuclear-news.org/Articles/Study-examines-impact-of-pandemic-on-UK-nuclear-se>

J. United States of America

Russian invasion not a green light for Iranian nuclear weapon: US State Dept

Arab News, February 25, 2022

The US will continue to engage with Russia over efforts to prevent Iran from developing nuclear weapons, even though Moscow's invasion of Ukraine had made it a "pariah on the world stage," State Department spokesperson Ned Price said on Friday. Price said US officials would now only engage with Russia counterparts on issues of "fundamental to our national security interest." That includes the talks to revive a 2015 nuclear deal between Iran and world powers, including Russia, Price said. "The fact that Russia has now invaded Ukraine should not give Iran the green light to develop a nuclear weapon," Price added.

<https://www.arabnews.com/node/2031921/middle-east>

Putin escalating in unacceptable manner with nuclear high alert – U.S. ambassador to U.N.

Reuters, February 27, 2022

President Vladimir Putin's order to put Russia's deterrence forces, which include nuclear arms – on high alert is unacceptable escalation, U.S. Ambassador to the United Nations Linda Thomas-Greenfield said on Sunday. "It means that President Putin is continuing to escalate this war in a manner that is totally unacceptable and we have to continue to stem his actions in the strongest possible way,"

<https://www.reuters.com/world/europe/biden-says-russian-attack-ukraine-unfolding-largely-predicted-2022-02-24/>

Colombia, US Announce Joint Exercises With Nuclear Sub

The Defence Post, March 1, 2022

Colombia and the United States announced on Monday a nuclear submarine was taking part for the first time in joint military exercises in the Caribbean Sea as regional tensions mount. Earlier this month, Colombia accused Russia of “foreign interference” on its border with Venezuela where two left-wing guerrilla groups have been fighting deadly battles for control of lucrative drug-trafficking routes. Russia dismissed the claims from Bogota, which also accuses Venezuela of harboring armed rebels on its soil. Colombia’s defense minister Diego Molano said the exercises would strengthen the fight against drug-trafficking and protect “national sovereignty.” “For the first time, a US nuclear submarine participated in interoperability exercises in the Colombian Caribbean Sea,” said Molano in a video statement released on Monday.

<https://www.thedefensepost.com/2022/03/01/colombia-us-exercises-nuclear/>

Pentagon cancels ICBM test launch to show non-escalation

TASS, March 3, 2022

The US has cancelled a scheduled test launch of a Minuteman III intercontinental ballistic missile (ICBM) in order to demonstrate that it did not elevate the degree of alert of its nuclear forces, Pentagon Press Secretary John Kirby said at a regular briefing for journalists on Wednesday. Commenting on Russia’s decision to put its nuclear forces on high alert, he said that US Secretary of Defense Lloyd Austin ordered to postpone the ICBM test launch scheduled for this week. According to the spokesman, the US did this in order to “demonstrate that we have no intention in engaging in any actions that can be misunderstood or misconstrued.”

<https://tass.com/world/1415545>

U.S. utilities push White House not to sanction Russian uranium

Reuters, March 3, 2022

The U.S. nuclear power industry is lobbying the White House to allow uranium imports from Russia to continue despite the escalating conflict in Ukraine, with cheap supplies of the fuel seen as key to keeping American electricity prices low, according to two sources familiar with the matter. The United States relies on Russia and its allies Kazakhstan and Uzbekistan for roughly half of the uranium powering its nuclear plants - about 22.8 million pounds (10.3 million kg) in 2020 - which in turn produce about 20% of U.S. electricity, according to the U.S. Energy Information Administration and the World Nuclear Association.

<https://www.reuters.com/business/energy/exclusive-us-utilities-push-white-house-not-sanction-russian-uranium-2022-03-02/>

US to activate nuke response team

Economic Times, March 4, 2022

In response to the fire at Ukraine’s Zaporizhzhia nuclear power plant, US Secretary of Energy Jennifer Granholm said on Friday that the Department of Energy has “activated its Nuclear Incident Response Team” and is monitoring the situation. In a series of tweets, Granholm said: “I just spoke with Ukraine’s energy minister about the situation at the Zaporizhzhia nuclear plant. Russian military operations near the plant are reckless and must cease.” She added that the Department of Energy “has activated its Nuclear Incident Response Team and is monitoring events in consultation with Department of Defense, Nuclear Regulatory Commission and the White House. We have seen no elevated radiation readings near the facility”.

https://economictimes.indiatimes.com/news/international/us/us-to-activate-nuke-response-team/articleshow/89995881.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

U.S., allies slam Russia at U.N. over its seizure of Ukraine nuclear plant

Reuters, March 5, 2022

The United States and its allies heavily criticized Russia on Friday at the United Nations over its shelling and seizure overnight in Ukraine of Europe's biggest nuclear power plant, and some demanded that Moscow not let such an attack happen again. Many of the Security Council's 15 envoys expressed "grave concern" and shock, warning against the possibility of a repeat of the 1986 Chernobyl disaster - a nuclear accident in Ukraine when it was part of then Soviet Union considered to be the worst in history. "The world narrowly averted a nuclear catastrophe last night," Linda Thomas-Greenfield, U.S. Ambassador to the United Nations, told an emergency meeting of the Security Council, convened following the seizure of the Zaporizhzhia nuclear power plant in southeastern Ukraine by Russian troops. "Russia's attack last night put Europe's largest nuclear power plant at grave risk. It was incredibly reckless and dangerous. And it threatened the safety of civilians across Russia, Ukraine and Europe," Thomas-Greenfield said.

<https://www.reuters.com/world/china/un-security-council-hold-emergency-meeting-after-russian-attack-nuclear-plant-2022-03-04/>

West Asia

K. Iran

Iran's Deputy N. Chief Visits Vienna for Talks with IAEA

Fars News Agency, February 24, 2022

Spokesman and Deputy Head of the Atomic Energy Organization of Iran (AEOI) Behrouz Kamalvandi traveled to Vienna to hold talks with the UN nuclear watchdog officials on technical issues. Kamalvandi had also earlier this year traveled to Vienna and met and held talks with International Atomic Energy Agency (IAEA) Director-General Rafael Grossi, after which, an agreement was made to install IAEA

surveillance cameras at Karaj TESA Complex.

<https://www.farsnews.ir/en/news/14001205000404/Iran's-Deputy-N-Chief-Visits-Vienna-for-Talks-with-IAEA>

Iranian army equips helicopters with night-vision gear, missiles

Tehran Times, February 26, 2022

Iran's Army Ground Force's airborne division has outfitted its fleet of helicopters with night-vision gear and potent missiles. General Yousef Qorbani, Commander of the Army Ground Force's Airborne Division, said at a military ceremony in the northeastern city of Mashhad on Saturday that the copters at his disposal have been equipped with night-vision systems and missiles that have successfully hit targets kilometers away. He also mentioned that local knowledge-based firms have helped the Army manufacture components of military equipment and modern weaponry.

<https://www.tehrantimes.com/news/470541/Iranian-army-equips-helicopters-with-night-vision-gear-missiles>

AEOI Chief: Iran to Continue Expansion of Peaceful N. Program

Fars News Agency, February, 26, 2022

Head of the Atomic Energy Organization of Iran (AEOI) Mohammad Eslami said that his country has decided to continue progress in its peaceful nuclear program despite the obstacles and pressures imposed by the UN nuclear watchdog and the western states. Eslami said that under articles two and three of its Statute, the International Atomic Energy Agency (IAEA) is duty-bound to encourage and assist the development and practical application of peaceful atomic energy throughout the world. "Yet that is the only thing they have withheld from us," he said, adding, "Not only did they withhold help, but they also created obstacles. But with the grace of God and the support of

the Leader (Ayatollah Seyed Ali Khamenei), we have a glorious [nuclear] roadmap today, which we should expand in all dimensions.”

<https://www.farsnews.ir/en/news/14001207000604/AEOI-Chief-Iran-Cnine-Expansin-f-Peacefl-N-Prgram>

Vienna talks resume with no change in Iran’s position

Tehran Times, February 27, 2022

Iran’s top negotiator is heading back to Vienna after making consultations in Tehran with relevant officials. The consultations seem to have resulted in no significant change in Iran’s position toward a number of remaining issues. Before the departure of Bagheri Kani, Iran’s Supreme National Security Council held an important meeting on the Vienna talks to take stock of the state of the talks. The Council underlined the need to meet Iran’s legal and logical demands which are part of the country’s red lines, according to Nour News, a website close to the Council. During the meeting, it was underlined that the remaining issues, which put the negotiations on the verge of “agreement or deadlock,” should be swiftly settled. Accepting any agreement by Iran depends on the settlement of these issues, according to Nour News.

<https://www.tehrantimes.com/news/470577/Vienna-talks-resume-with-no-change-in-Iran-s-position>

Satellite photos show Iran had another failed space launch

Associated Press, March 3, 2022

Iran likely suffered another failed launch of a satellite-carrying rocket while attempting to reinvigorate a program criticized by the West, even as Tehran faces last-minute negotiations with world powers to save its tattered nuclear deal in Vienna. Satellite images from Maxar Technologies seen by The Associated Press show scorch marks at a launch pad at Imam Khomeini Spaceport in Iran’s rural Semnan province on Sunday. A rocket stand on the pad appears scorched and damaged, with vehicles surrounding it. An object, possibly part of the gantry, sits

near it. Successful launches typically don’t damage rocket gantries because they are lowered prior to takeoff. Iran also usually immediately trumpets launches that reach space on its state-run television channels, and it has a history of not acknowledging failed attempts.

<https://apnews.com/article/space-launches-technology-science-business-iran-4ed71f17a612e8aef2c9b58af4538183>

Iran says Vienna talks will continue until a good deal is reached

Tehran Times, March 5, 2022

In a Twitter message, Iranian Foreign Ministry spokesman Saeed Khatibzadeh stressed that early positive news will not substitute a good deal in the current Vienna talks aimed at removal of illegal sanctions.

“Vienna Talks still continue. Premature good news does not substitute good agreement,” Khatibzadeh tweeted on Thursday. “Nobody can say the deal is done, until all the outstanding remaining issues are resolved. Extra efforts needed. Everybody is now focused on the final critical steps,” he added.

<https://www.tehrantimes.com/news/470720/Iran-says-Vienna-talks-will-continue-until-a-good-deal-is-reached>

IRGC’s Aerospace Force Unveils New Missile, Drone Bases

Fars News Agency, March 5, 2022

Islamic Revolution Guards Corps Aerospace Force unveiled two missile and drone bases in the presence of IRGC Commander Major General Hossein Salami. The tunnel bases, built in the heart of high mountains, are home to surface-to-surface missile systems with advanced equipment, as well as offensive drones which are able to penetrate the enemy’s radar and defense network systems. UAVs with a range of 2,000 kilometers, dual-missile launchers and Multiple-UAV launchers are present at these bases. The

unveiled weapons and military equipment included various types of surface-to-air missiles, helicopter carriers, UAVs with various specifications and coordinates to suit the defense requirements, as well as artillery and mortars' long-range smart ammunition with precision-striking power.

<https://www.farsnews.ir/en/news/14001214000941/IRGC's-Aerspace-Frce-Unveils-New-Missile-Drne-Bases>

Iran and IAEA agree on steps to move forward

World Nuclear News, March 7, 2022

The International Atomic Energy Agency (IAEA) and the Atomic Energy Organisation of Iran (AEOI) have agreed a series of steps, to be conducted over the coming months, to accelerate and strengthen their cooperation and dialogue aimed at the resolution of outstanding safeguards issues related to three particular locations in Iran. In his Introductory Statement to the IAEA Board of Governors on 13 September last year, IAEA Director General Rafael Mariano Grossi said the presence of multiple uranium particles of anthropogenic origin at three locations in Iran not declared to the Agency, as well as the presence of isotopically altered particles at one of these locations, is "a clear indication that nuclear material and/or equipment contaminated by nuclear material has been present at these locations". Following a meeting in Tehran on 5 March between Grossi and Vice-President of Iran and AEOI President Mohammad Eslami, a joint statement was issued by the two organisations.

<https://www.world-nuclear-news.org/Articles/Iran-and-IAEA-agree-on-steps-to-move-forward>

UN N. Watchdog Removes Site from List of Remaining Issues with Iran

Fars News Agency, March 7, 2022

The International Atomic Energy Organization (IAEA) removed one of the locations in Iran which was in the list of remaining issues, a senior diplomat said.

Iran's Permanent Representative to the Vienna-based International Organizations Mohammad Reza Qae'bi said on Sunday that a new report by the IAEA has removed one of the Iranian locations under question from the list of remaining issues. The new report, issued by IAEA Director-General Rafael Grossi, is due to be read out in a seasonal meeting of the agency's Board of Governors which will begin on Monday.

Qae'bi said that the report also welcomes a joint statement on Saturday by Grossi and Head of the Atomic Energy Organization of Iran (AEOI) Mohammad Eslami.

<https://www.farsnews.ir/en/news/14001216000492/UN-N-Wachdg-Remves-Sie-frm-Lis-f-Remaining-Isses-wih-Iran>

L. Saudi Arabia

Prince Mohammed bin Salman warns against agreeing to weak nuclear deal with Iran

The National, March 4, 2022

Saudi Arabia's Crown Prince Mohammed bin Salman said he does not view Israel as an enemy and warned world powers against agreeing to a weak nuclear deal with Iran. On Iran, Prince Mohammed said that, as it is a neighbour, the two countries should find a way to coexist. World powers are now engaged in a final bout of intense diplomacy in an effort to restore the 2015 nuclear deal with Iran. "I believe any country around the world that has a nuclear bomb — that's dangerous, regardless if it's Iran or any other country. So we don't want to see that. "And also, we don't want to see a weak nuclear deal, because that's going to end up with the same conclusion." he said.

<https://www.thenationalnews.com/gulf-news/2022/03/03/prince-mohammed-bin-salman-warns-against-agreeing-to-weak-nuclear-deal-with-iran/>

M. United Arab Emirates

UAE's lone nuclear plant 'well protected', regulator says amid Houthi threats

Reuters, February 23, 2022

The United Arab Emirates' only nuclear power plant is "well protected" against security threats, the regulator said on Wednesday, following a series of unprecedented drone and missile attacks on the Gulf state. Yemen's Iran-aligned Houthis said in 2017 they fired a cruise missile towards the Barakah plant, a report which the UAE denied. The group has repeatedly threatened to target critical infrastructure in the UAE. "The nuclear power plant is designed according to high security principles and we have issued regulations for physical and cyber security," Federal Authority for Nuclear Regulation (FANR) Director General Christer Viktorsson said. "The sensitive parts of the power plant are well protected for any event," he told reporters. The UAE overall has "robust security", he added.

<https://www.reuters.com/world/middle-east/uaes-lone-nuclear-plant-well-protected-regulator-says-amid-houthi-threats-2022-02-23/>

N. Israel

Israel accuses Iran of providing munitions for drones supplied to Venezuela

Arab News, February 22, 2022

Israel accused Iran on Tuesday of planning to arm drones supplied to Venezuela with precision-guided munitions, remarks that appeared aimed at raising American alarm as world powers try to conclude a new nuclear deal with Tehran. Venezuela said in 2012 that Iran was helping it build drones for self-defense. The two countries, both OPEC members and long at loggerheads with Washington, also cooperate on oil exports. Briefing US-Jewish leaders in Jerusalem, Israeli Defense Minister Benny

Gantz showed photographs of what he described as an Iranian MoHajjer UAV (unmanned aerial vehicle) in Venezuela. "Our assessments show that Iranian PGMs (precision-guided munitions) are being delivered for these UAVs and other similar models," Gantz said. Iran denies supplying military drones to any of its allies and has denied seeking nuclear arms or supporting terrorism. Venezuela's information ministry did not immediately reply to an email seeking comment on Gantz's remarks.

<https://www.arabnews.com/node/2029911/middle-east>

O. East Asia

Philippines relaunches nuclear energy programme

World Nuclear News, March 3, 2022

President Rodrigo Duterte has signed an executive order that outlines the government's position for the inclusion of nuclear energy in the Philippines' energy mix, taking into account economic, political, social and environmental objectives. Duterte signed Executive Order No.164, dated 28 February, following the recommendation of the Nuclear Energy Programme Inter-Agency Committee (NEP-IAC), which conducted a pre-feasibility study and public consultation on the matter. The NEP-IAC, created in 2020, is composed of 17 agencies studying the potential of nuclear power in the country. "For the country to achieve its sustained growth targets, it must ensure that it has a reliable, secure, sustainable, quality and affordable electricity supply, including sufficient reserve to guarantee that there will be no disruptions in the power supply," the executive order says.

<https://www.world-nuclear-news.org/Articles/Philippines-relaunches-nuclear-energy-programme>

P. Japan

Russia's Ukraine invasion forces Japan to confront its nuclear taboo – but while Abe's keen on a US umbrella, Japanese public is 'simply not ready'

South China Morning Post, March 2, 2022

The spectre of nuclear weapons being deployed in Ukraine, combined with the leaps that both China and North Korea have made in recent years in atomic weaponry, has emboldened some on the right in Japan to call for the nation's non-nuclear principles to be reconsidered. The question of Japan developing and deploying its own nuclear weapons has long been an undercurrent in the nation's security discussions, but came to the fore this week when former prime minister Shinzo Abe proposed that Tokyo open discussions with the United States on a nuclear-sharing agreement, similar to the way in which non-nuclear members of Nato are able to rely on the organisation's nuclear-capable states. Speaking on television on Sunday, Abe said, "It is necessary to understand how the world's security is maintained. We should not put a taboo on discussions about the reality that we face."

<https://www.scmp.com/week-asia/politics/article/3168919/russias-ukraine-invasion-forces-japan-confront-its-nuclear-taboo>

Q. North Korea

North Korea conducts ninth missile test of the year ahead of South Korea election

CNBC, March 5, 2022

North Korea conducted its ninth weapons test of the year on Saturday, firing a suspected ballistic missile toward the sea to the east of the Korean peninsula just days before South Korea's presidential election. The launch drew condemnation from governments in the United States, South Korea, and Japan, which fear the North is preparing to conduct a major weapons test

in the coming months. With denuclearisation talks stalled, North Korea conducted a record number of missile launches in January, and after a pause for most of February, resumed tests with a launch on Feb. 27. It appears to be preparing to launch a spy satellite in the near future and has suggested it could resume testing of nuclear weapons or its longest-range intercontinental ballistic missiles (ICBMs) for the first time since 2017.

<https://www.cnn.com/2022/03/05/north-korea-conducts-ninth-missile-test-of-the-year-ahead-of-south-korea-election.html>

Experts Discover North Korean ICBM Base

Arms Control Association, March, 2022

The discovery of what is likely a new North Korean base for launching intercontinental ballistic missiles (ICBMs) is further evidence of the country's expanding military capabilities and is heightening concerns that Pyongyang could soon end its moratorium on ICBM testing. The Hojung-ni missile operating base is underground and just 15 miles from the Chinese border, a location that analysts surmise was chosen to deter preemptive strikes by the United States and other adversaries. A strike against the base would invariably affect Chinese entities, said Victor Cha, one of the analysts at the Center for Strategic and International Studies who publicly identified the location in a Feb. 7 report. They wrote that "[t]he Hojung-ni missile operating base will, according to informed sources, likely house a regiment-sized unit equipped with [ICBMs]." "[S]hould operational ICBMs not become available in the near term, it is likely that intermediate-range ballistic missiles will be deployed," the experts added.

<https://www.armscontrol.org/act/2022-03/news/experts-discover-north-korean-icbm-base>

R. World/Misc.

Nuclear power in space is focus of IAEA and UN events

World Nuclear News, February 21, 2022

Future space missions could have new options opened up by nuclear technology, experts attending an International Atomic Energy Agency event have said. "Nuclear technology has long played a vital role in prominent space missions, but future missions could rely on nuclear-powered systems for a much broader spectrum of applications - our pathway to the stars runs through the atom," said Mikhail Chudakov, IAEA deputy director general. He was speaking at the IAEA virtual event - *Atoms for Space: Nuclear Systems for Space Exploration* - attended by 500 people from 66 countries. "Crewed interplanetary missions of the future will almost certainly require propulsion systems with performance levels greatly exceeding that of today's best chemical engines," said William Emrich, former lead project engineer at NASA. Hui Du of the Beijing Institute of Spacecraft System Engineering, citing a China Academy of Space Technology study, said: "For space missions that need high electric power output, such as a human Mars mission or space ferries, a fission reactor-based power system can be a very competitive choice."

<https://www.world-nuclear-news.org/Articles/Nuclear-power-in-space-is-focus-of-IAEA-and-UN-eve>

S. Opinions

The Most Immediate Nuclear Danger in Ukraine Isn't Chernobyl

James Acton

Carnegie Endowment for International Peace, February 24, 2022

Putin stated that Russia "is today one of the most powerful nuclear powers in the world." He added that "no one should have any doubts that a direct attack on our country will lead to defeat and dire consequences for any potential aggressor." The most

immediate nuclear danger, however, comes from Ukraine's nuclear power plants. Risk comes from the potential for fighting around Ukraine's four active nuclear power plants, which contain fifteen separate reactors and generated over half of the country's electricity in 2020. Chernobyl is inside a large exclusion zone, and the uninhabited space would mitigate the consequences of a second nuclear accident there. Moreover, much of the fuel in these other reactors is substantially more radioactive than the fuel at Chernobyl. To put it simply, nuclear power plants are not designed for war zones.

<https://carnegieendowment.org/2022/02/24/most-immediate-nuclear-danger-in-ukraine-isn-t-chernobyl-pub-86521>

How likely is the use of nuclear weapons by Russia?

Dr. Patricia Lewis

Chatham House, March 1, 2022

On 21 February, as part of his televised speech that heralded the Russian invasion of Ukraine, President Vladimir Putin issued what was interpreted as a threat to use nuclear weapons against NATO countries should they interfere in Ukraine. Then on 27 February, Putin ordered Russia to move nuclear forces to a 'special mode of combat duty', which has a significant meaning in terms of the protocols to launch nuclear weapons from Russia. Putin portrayed this as a defensive response to the imposition of economic sanctions, but outside Russia it is seen as a pathway for Russia to use its nuclear weapons in a first strike surprise attack. Putin recently supervised an exercise focusing on the readiness of military command and control, combat crews, warships, and strategic missile carriers, as well as the reliability of strategic nuclear and non-nuclear weapons. The drill involved Russia's Aerospace Forces, its Southern Military District, Strategic Missile Forces, Northern Fleet, and Black Sea Fleet. Any movement to ready and deploy Russian nuclear weapons would be seen and monitored by US and others' satellites,

which can see through cloud cover and at night.

<https://www.chathamhouse.org/2022/03/how-likely-use-nuclear-weapons-russia>

How to prevent nuclear war: Give Putin a way out

James Acton,

Washington Post, March 1, 2022

The likelihood of a nuclear war, while still low, is rising. Putin's unprovoked war of aggression has, so far at least, not played out as he might have hoped, and this nuclear threat is unlikely to change the war's dynamics. If the conflict drags on, desperation could lead him to cross the nuclear threshold. Ukraine, the United States and its NATO allies will have to try to create an off-ramp for Putin to avoid that catastrophic outcome. Putin's problem is clear. Russia's armed forces are making much slower progress than he likely anticipated, their losses are mounting, and his war appears to be proving unpopular at home. The West is unified and has agreed to levy truly severe sanctions, including against Russia's central bank. Right now, the best case for Russia would be the eventual defeat of Ukraine in a drawn-out bloodbath that leaves NATO more united and resolute than before. We can only speculate about Putin's worst fears, but given his public expressions of "disgust" over the killing of the Libyan dictator Moammar Gadhafi, he may worry about incurring the same fate. Putin likely has some general sense that a nuclear threat, backed by Russia's vast arsenal, offers a way out of this quandary.

<https://www.washingtonpost.com/outlook/2022/03/01/putin-russia-nuclear-alert/>

Signal and noise: What Russia's nuclear threat means for Europe

Gustav Gressel

European Council on Foreign Relations, March 2, 2022

On 27 February, in a televised meeting with Minister of Defence Sergei Shoigu and Chief

of the General Staff Valery Gerasimov, President Vladimir Putin ordered Russia's nuclear forces to adopt a higher level of readiness. This led to alarmed reporting in the West, as some journalists confused the status of the forces with a "high alert", one they would adopt if Russia believed that a nuclear threat or attack was imminent. In contrast, higher readiness than in peacetime is not a state of high alert or any indication of an attack. In fact, Russia's nuclear forces were already at a higher state of readiness because they were conducting the Grom 2022 exercise, scheduled for this time of the year. There is no evidence of any unusual activity by the Russian nuclear forces beyond this exercise. In 2014, during its invasion and annexation of Crimea, Russian leaders used the same tools of nuclear signalling to tell the world: 'we will do our thing and you will stay out of it - or else'. It has long been an open secret that, during an all-out invasion of Ukraine, Russia would use nuclear signalling to deter the West. This has been implied in all major Russian security documents of recent decades. Nobody, at this stage, should be surprised by it.

<https://ecfr.eu/article/signal-and-noise-what-russias-nuclear-threat-means-for-europe/>

We must take an increasingly 'unhinged' Putin's nuclear threats seriously

Irwin Redlener

The Hill, March 3, 2022

What should the world make of Vladimir Putin's provocative statement last Friday that his country's nuclear forces are being placed on high alert just in case NATO were to consider military intervention to counter Russia's invasion of Ukraine? The last thing we should do is assume that Putin's nuclear reference was some kind of idle bluster. The chilling reality is that Russia has both a vast nuclear arsenal and a leader increasingly described as "unhinged" – a truly toxic and dangerous mix. Some

analysts suggest that Putin, a former KGB officer who is now Russia's presumptive president for life, is pining for a magical restoration of the glory days of the Soviet Union which was dissolved in 1991. But whatever Putin's aspirations for the future of Russia, it's worth remembering what's at stake if a nuclear option is actually on the table. For one thing, once started, a nuclear confrontation would be exceedingly difficult to stop. A slippery slide to full-scale nuclear attacks and counterattacks is not out of the question – with consequences for the world that are unimaginable.

<https://thehill.com/opinion/national-security/596721-we-must-take-an-increasingly-unhinged-putins-nuclear-threats/>

OPCW Confirms Two Chemical Incidents in Syria

Leanne Quinn

Arms Control Association, March, 2022

The international chemical weapons watchdog agency has confirmed two occasions of chemical weapons use in Syria, in 2015 and 2016. The Organisation for the Prohibition of Chemical Weapons (OPCW) fact-finding mission concluded in two recent reports that a blister agent and industrial chlorine were used as chemical weapons during the two attacks in Syria's ongoing civil war. After an extensive investigation of environmental samples, digital evidence, and witness interviews, the mission concluded in its Jan. 26 report that a blister agent from Schedule 1.A.04 of the Chemical Weapons Convention was used as a weapon in Marea, Syria, on Sept. 1, 2015. According to testimonials from victims and medical staff, approximately 50 individuals developed symptoms indicative of exposure to a blister agent during the attack. A second incident in Marea on Sept. 3, 2015, was also investigated, but insufficient evidence prevented the mission from reaching a conclusion about whether chemical agents were used as a weapon.

<https://www.armscontrol.org/act/2022-03/news/opcw-confirms-two-chemical-incidents-syria>

The U.S. Cold War-Era Chemical Weapons Stockpile

Leanne Quinn

Arms Control Association, March, 2022

In 1990, on the heels of the Cold War, the United States possessed the world's second largest chemical weapons arsenal after Russia, consisting of more than 31,500 U.S. tons (28,577 MT) of lethal chemical agents and munitions. Following years of bilateral talks with Russia and multilateral negotiations in the Conference on Disarmament in Geneva on chemical weapons disarmament, the United States decided in 1986 to take unilateral action to begin the destruction of its chemical weapons stockpile. The demilitarization effort was prompted by Congressional legislation (Public Law 99-145) calling for the safe destruction of the United States' stockpile of nonbinary lethal chemical agents and related facilities. By 1997, when the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction (also known as the Chemical Weapons Convention or the CWC) entered into force, the United States had destroyed only 1,434 MTs of its chemical agents and munitions. As a member state of the CWC, the United States committed to the destruction of its remaining chemical weapons inventory.

<https://www.armscontrol.org/factsheets/us-chemical-weapons-stockpile>

Contribute Articles

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

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

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