

Nuclear, Missile & Space Digest

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A Fortnightly Newsletter from the Indian Pugwash Society

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Convenor

Amb. Sujan R. Chinoy

Executive Council

Cdr. (Dr.) Probal K. Ghosh

Air Marshal S. G. Inamdar
(Retd.)

Dr. Roshan Khanijo

Amb. R. Rajagopalan

Dr. Rajesh Rajagopalan

Shri Dinesh Kumar
Yadvendra

Contents

A. India

- The fascinating discovery of an optical pulsar
- Fabrication of reactor, steam generators commences for Kudankulam Unit 6
- Year of hectic activity for Hyderabad-based DRDO labs
- Saab wins AT4 anti-armour weapon contract from India
- Adding radioactive substances in wearables unjustified
- The sky is the limit for astro tourism
- India flight tests Rafale-Marine for INS Vikrant
- Chandrayaan-3 set for August launch

B. Russia

- Construction of El Dabaa NPP in Egypt to begin in July - Rosatom
- Unit 2 of Belarusian NPP to be launched in February - Rosatom
- Delaying Nord Stream 2 hurts Europe's economic development, warns Kremlin
- No grounds for Western concern over joint Russian-Belarusian exercises - senior diplomat
- Russian troops receive over 5,000 advanced weapon systems in 2021 - defense chief
- Rosatom to develop micro reactor - First Deputy CEO
- Russian Navy gets three advanced submarines - top brass
- Russian Tu-160 'White Swan' strategic bombers perform 13-hour flight over Arctic
- Sibir icebreaker to head for Ob Bay on maiden voyage
- Ural icebreaker to be commissioned before November 1, Yakutia to be floated November 31
- Russian Navy to receive special-purpose sub with nuclear-armed drones in summer - sources
- Medvedev sees no need to review Russia's nuclear doctrine
- Post-INF discussion separately from common security architecture is inviable, says Kremlin
- Russia offers US, NATO to work on removing post-INF security concerns - diplomat



Indian Pugwash Society

No.1, Development Enclave,
Rao Tula Ram Marg, Near USI, Delhi-110010
Email: indianpugwashsociety@gmail.com

Tel. No (91-11) 2671-7983

Fax No. (91-11) 2615-4192

- Consensus is key for progress in nuclear arms reduction - Russian diplomat says
- Putin, Macron discussed cooperation in nuclear energy, other spheres - Kremlin
- Argentina ready to resume discussion of NPP construction project with Russia - President
- Strategic nuclear-powered sub arrives in Russia's north in transit to Pacific Fleet
- Sibir newest nuclear-powered icebreaker completes first working voyage on Yenisei
- Rosatom ready to provide help to Argentina in energy development, says Putin
- Russia, China seriously concerned over creation of AUKUS pact - joint statement
- Russia, China concerned over Japan's plans to dump Fukushima radioactive water - statement
- Russia's Defense Ministry to receive first newly-built Tu-160M strategic bomber
- Russia, China urge US to abandon plans to deploy missiles to Asia-Pacific region, Europe
- Viktor Chernomyrdin icebreaker to be upgraded to serve passengers

C. Europe

- Swedish Security Service investigates drones at three nuclear plants
- EU advisers concerned about plan for green labels on gas, nuclear investments
- Czechs want to scrap deadline for nuclear energy in EU plan -report
- Nuclear talks with Iran on right track for a final agreement, EU official says
- EU plan to label gas and nuclear as green could mislead investors, advisers say
- Analysis: Investor clash on gas and nuclear muddies EU green finance drive
- Iran nuclear talks reaching final stage - E3 negotiators
- Finland's new nuclear reactor now seen starting in early February
- EU to propose final green investment rules for gas, nuclear energy
- Four countries urge EU to drop green investment label for gas
- EU to propose green investment label for gas and nuclear energy, source says
- EU proposes rules to label some gas and nuclear investments as green
- Campaigners begin legal fight against EU green investment rules - documents
- Prosecutor finds no evidence foreign powers were behind drones at Swedish nuclear plants - Swedish Radio

D. France

- EXCLUSIVE French power policy shift has left EDF in shock, CEO says
- French nuclear sector may need "Marshall plan" of aid, says head of watchdog
- France ready to help, but not renationalise EDF as workers strike
- France looking at using more winter coal as nuclear output lags
- Macron tells Iran's Raisi nuclear talks need to speed up

E. Germany

- UK's Germany cries foul over nuclear energy in EU's green investment rule book
- Germany eyes Lockheed F-35 fighter jet; no final decision -source

F. UK

- Iran nuclear talks approaching dangerous impasse - UK's Truss
- Britain to give EDF's Sizewell C nuclear project \$135 mln support

G. U.S.A.

- U.S. deputy special envoy for Iran leaves post amid Iran nuclear talks
- U.S. asks U.N. Security Council to meet Thursday on N.Korea -diplomats

West Asia

H. Iran

- MP says Iran can use SCO capacity to neutralize sanctions
- Iran blames U.S. for slow pace of talks to revive 2015 nuclear pact
- Iran nuclear talks enter 'final stage'
- Iran moves centrifuge-parts production out of disputed workshop, IAEA says

I. Israel

- Israel says sanctions relief for Iran could mean "terror on steroids"

J. Qatar

- Qatar's top envoy visits Iran as Tehran and Washington consider direct

K. U.A.E.

- Unit 2 of UAE's nuclear plant to start operations within months
- UAE says it blocked drone attack, shadowy group claims responsibility

East Asia

L. North Korea

- North Korea fires two ballistic missiles from Pyongyang airport, South Korea says
- N.Korea tested tactical guided missiles in fresh sign of evolving arsenal
- N.Korea fires cruise missiles amid tension over lifting nuclear moratorium
- Explainer: Minds behind the missiles: N.Korea's secretive weapons developers
- North Korea fires two missiles as U.S. condemns flurry of tests
- North Korea caps month of tests with longest-range missile since 2017
- Explainer: From hypersonics to workhorse weapons, N.Korea showcases missile diversity
- Analysis: With seven tests in a month, North Korea calls for world to accept its missiles

M. South Korea

- UAE imports M-SAM2 on Moon's visit
- Lee, Yoon offer diverging views on dealing with N. Korea
- Yoon vows to secure preemptive strike capability after NK launch
- Nuke envoys of S. Korea, US, Japan hold phone talks over N. Korea's latest projectile launches
- No signs of work to restore nuclear test tunnels at Punggye-ri site: Seoul official
- Yoon vows to scrap nuclear phaseout policy
- S. Korea remains committed to nuclear phaseout scheme: energy minister
- S. Korea, UAE hold high-level talks on forming joint bidding team for nuclear energy projects

N. Japan

- Kishida to form new group to take on nuclear-free goal
- Japan's clean energy strategy to push nuclear technologies
- Call for Japan to join nuclear ban treaty on 1st anniversary
- Japan's Tepco hit by setback in clean-up of crippled Fukushima nuclear plant
- Explainer: Wall of ice at Fukushima's crippled nuclear plant
- Japan to lend U.S. technical support to build fast reactor
- EDITORIAL: Realistic debate needed instead of new push for fast nuclear reactors
- Doubts grow on water-release schedule at Fukushima plant
- Ministry to resume subsidies for stalled pluthermal plan

O. China

- PLA Xinjiang Military Command gets new air defense missiles, artillery, rocket launch systems
- Core catcher casing in place at Xudabao 3 and Tianwan 7
- UN Security Council has no plan on discussions of sanctions against N.Korea: Chinese FM
- China to start upgrading J-20 fighter engines in bid to close gap with US F-22
- China says it warned off US warship in Paracel Islands. American navy differs
- PLA expels US warship trespassing Chinese territorial waters in S.China Sea
- China, Iran, Russia carry out joint naval drills amid rising US headwinds
- China's first project applying E-beam irradiation to combat COVID-19 on cold-chain food ready for implementation
- Exclusive: Pakistan Navy inducts 1st Type 054A/P frigate developed by China
- Taiwan scrambles jets after Beijing sends 52 aircraft to island's air defense zone in two days
- US-Japan alliance restricting vital tech exports to China risks 'major impact' on trade, supply chains
- China's J-16D: a sign in the sky of a new electronic attack warplane threat to Taiwan?
- F-35C's crash on carrier in S.China Sea exposes US exhaustion in containing China: experts
- China, Russia hold joint anti-piracy drills in Arabian Sea
- PLA warplanes tie noose around neck of 'Taiwan secessionists': Global Times editorial
- How US Weaponizes NATO to Maintain Its Own Space Dominance & Deter Russia and China
- Beijing, Moscow obliged to step up green energy cooperation
- Pandemic delays start up of Fangchenggang Hualong One units
- Chinese military 'ready for any external provocation' during Winter Olympics
- Lunar research station to be inked by China and Russia this year, operational by 2035: CNSA
- China details future space ambition in white paper, calls for formulating UN-centered space rules

P. World/Misc

- Researchers achieve milestone on path toward nuclear fusion energy
- Iran moves centrifuge-parts production out of disputed workshop, IAEA says
- Russia has sent some 30,000 combat troops, modern weapons to Belarus, NATO says

A. India

The fascinating discovery of an optical pulsar

The Hindu, January 15, 2022

On January 15, 1969, theoretical astronomers John Cocks and Mike Disney made a stunning practical discovery by identifying an optical pulsar for the first time. The story of how they discovered it is an enthralling one, made even more incredible by the fact that their conversations during the key moments were actually tape recorded on the night of the discovery. A.S.Ganesh regales you with the story of how Cocks and Disney found an optical pulsar. Pulsars are celestial objects generally believed to be rapidly rotating neutron stars that emit beams of electromagnetic radiation. Packing a mass that could be more than that of our sun in the space of about a large city, pulsars are spherical and compact. Optical pulsars are a class of pulsars that can be detected in the visible spectrum. British astronomer Jocelyn Bell Burnell discovered the first pulsars in 1967.

<https://www.thehindu.com/children/the-fascinating-discovery-of-an-optical-pulsar/article38166637.ece>

Fabrication of reactor, steam generators commences for Kudankulam Unit 6

The Hindu, January 19, 2022

The fabrication of the reactor and steam generators for Unit 6 of the Kudankulam Nuclear Power Project, being executed with Russian technical knowhow, has commenced in Volgograd. Russia's Rosatom - Atomenergomash has already constructed 2x1,000 MWe VVER reactors at Kudankulam, and is building four more reactors with similar capacity at the upcoming nuclear park for the Nuclear Power Corporation of India Limited (NPCIL). The fabrication of the reactor and steam generators for Unit 6 is being carried

out by Atomenergomash, AEM-Technologies, a machine-building division of Rosatom.

<https://www.thehindu.com/news/national/tamil-nadu/fabrication-of-reactor-steam-generators-commences-for-kudankulam-unit-6/article38288515.ece>

Year of hectic activity for Hyderabad-based DRDO labs

The Hindu, January 19, 2022

Missile launches and testing of other weapon systems were meticulously planned despite the cascading effect of COVID-induced lockdown in 2020. It has been a year of an unusual spree of missile launches, testing of new weapon and defence systems by the Defence Research and Development Organisation (DRDO) labs, most of which are established here. Testing centres at Balasore, offshore site at the Kalam island, Jaisalmer and Pokhran in Rajasthan and others became a beehive of activity when at least a dozen new advanced weapon systems for the armed forces underwent trials before the induction. Senior officials, requesting anonymity, explained that the missile launches and testing of other weapon systems were meticulously planned despite the cascading effect of COVID-induced lockdown in 2020. Though defence lab works were in full swing with protocols in place, field trials which involved coordination among different agencies, movement of equipment and the likes, made it an assembly line of trial launches.

<https://www.thehindu.com/news/national/telangana/year-of-hectic-activity-for-hyderabad-based-drdo-labs/article38292304.ece>

Saab wins AT4 anti-armour weapon contract from India

The Hindu, January 20, 2022

Swedish defence major Saab's AT4 anti-armour weapon had been selected by the Indian Army and the Indian Air Force

through a competitive programme for a single-shot weapon, the company said on Wednesday. "The Indian armed forces are a new customer for AT4. This order includes the AT4CS AST, which can be fired from confined spaces such as from inside buildings, bunkers and other urban environments," Saab said in a statement. It weighs around 9 kg and has an effective range of 200m.

<https://www.thehindu.com/news/national/saab-wins-at4-anti-armour-weapon-contract-from-india/article38298354.ece>

Adding radioactive substances in wearables unjustified

The Hindu, January 24, 2022

The guidance issued by IAEA follows the usage of products exceeding safe radiation levels

Over a year ago, alert press reporters found a device hanging around Congress M.P. Shashi Tharoor's neck. Was it a GPS device, Translator or a small dictionary? He tweeted that it was "An air purifier (negative ioniser)." Its sellers claim that the device emits two million healthy negative ions per sec from the black brush on its top. These ions may impinge on pollutants, make them negatively charged and get them collected on surfaces of tables, windows, bed etc. Whether it helps to reduce pollution in real life, or not needs scientific validation. Is copious emission of negative ions from it a red flag? On December 16, 2021, the Authority for Nuclear Safety and Radiation Protection (ANVS), Netherland issued a statement identifying ten products such as (Magnetix Magnetic necklace, Magnetix Sport boost bracelet, Smiley Kids bracelet, Athletic necklace among others) as containing more radioactivity than legally permitted. The agency cautioned the public against using "Quantum Pendant," "anti-5G pendant" or "negative ion" jewellery items or sleep mask. Often, "negative ion products" may contain radioactive substances. The ANVS clarified that their warning does not apply to ionic air purifiers, "as they are known not to contain

radioactive materials." Obviously, Dr Tharoor need not worry over any red flag!

<https://www.thehindu.com/sci-tech/science/adding-radioactive-substances-in-wearables-unjustified/article38310330.ece>

The sky is the limit for astro tourism

The Hindu, January 26, 2022

In April 2022 the Phyang monastery in Ladakh will welcome stargazers. Monks here suggested promoting the site as an astro hub after visiting Astrostays, a homestay on the banks of Pangong Tso. The homestay is an initiative of the Global Himalayan Expedition (GHE), which is facilitating solar energy projects in remote Himalayan villages.

<https://www.thehindu.com/life-and-style/travel/astro-tourism-is-poised-to-grow-in-india-with-astro-villages-and-hubs-coming-up-in-ladakh-uttarakhand-and-madhya-pradesh/article38291601.ece>

India flight tests Rafale-Marine for INS Vikrant

The Hindu, February 04, 2022

India's new aircraft carrier has been designed as a ski-jump launch ship, different from many other such carriers, which use a catapult launch for their jet. The marine version of the French-made Rafale fighter jet has been successfully flight-tested at a shore-based facility in Goa where conditions similar to that on the indigenously-developed aircraft carrier INS Vikrant were simulated, a top diplomat said. The Rafale-M is pitted against the U.S.-made Super Hornet – both of which are being evaluated for a possible purchase by the Indian Navy for deployment on the 44,000-tonne INS Vikrant that is undergoing trials in the Arabian Sea and the Bay of Bengal for likely commissioning in August.

<https://www.thehindu.com/news/national/india-flight-tests-rafale-marine-for-ins-vikrant/article38364438.ece>

Chandrayaan-3 set for August launch

The Hindu, February 04, 2022

India plans to execute the Chandrayaan-3 mission this August, Minister Jitendra Singh told the Lok Sabha. It's a follow-up of Chandrayaan-2 of July 2019, which aimed to land a rover on lunar South Pole.

<https://www.thehindu.com/news/national/chandrayaan-3-set-for-august-launch/article38371017.ece>

B. Russia

Construction of El Dabaa NPP in Egypt to begin in July – Rosatom

TASS, January 18, 2022

The construction of the El Dabaa nuclear power plant (NPP) in Egypt is expected to begin in July 2022, Director General of Russia's state-run nuclear corporation Rosatom Alexey Likhachev has told. "They [the Egyptian authorities] are set to do everything to carry out the initial concreting this summer, tentatively in July," he said. In early January, Rosatom handed over documents for El Dabaa Units 3 and 4 to the Egyptian Nuclear and Radiological Regulatory Authority (ENRRA). According to the state corporation, the package of documents was submitted ahead of schedule, and, as soon as the permission is obtained, the sides can begin full-scale construction.

The El Dabaa nuclear power plant will be the first nuclear power plant in Egypt. It will be built in El-Dabaa city in the Governorate of Matrouh on the coastlines of the Mediterranean Sea. The El Dabaa NPP will comprise four units, with each of them having a capacity of 1200 MW, equipped with a Generation III+ VVER-1200 reactor, considered to be the latest technology for nuclear power plants, which has already been successfully implemented in other countries.

<https://tass.com/economy/1389379>

Unit 2 of Belarusian NPP to be launched in February – Rosatom

TASS, January 18, 2022

Unit 2 of the Belarusian NPP is expected to be launched in late February or early March, Director General of Russia's state-run nuclear corporation Rosatom Alexey Likhachev has told journalists. The construction of the nuclear power plant in Belarus is carried out according to the standard Russian AES-2006 design. BelNPP will consist of two power units with a capacity of 1,200 MW each. On June 10, 2021, the first unit of the BelNPP was officially put into commercial operation. In late December 2021, specialists began loading nuclear fuel into the reactor of Unit 2. On December 27, 2021, the Energy Ministry of Belarus announced that the process was completed.

<https://tass.com/economy/1389387>

Delaying Nord Stream 2 hurts Europe's economic development, warns Kremlin

TASS, January 19, 2022

Holding up the Nord Stream 2 gas pipeline's launch is bad for the project's participants, for consumers, and for Europe's economic development as a whole, Kremlin Spokesman Dmitry Peskov. Earlier, German Chancellor Olaf Scholz did not rule out measures against Nord Stream 2 in the event of Moscow's 'aggression' against Kiev. Commenting on these statements, the Kremlin press secretary noted that "someone regularly, on a daily basis threatens Russia with something." "It is impossible to switch off the Nord Stream 2 commercial international project, because it has not been launched yet. The fact that it has not been launched is bad both for those who are engaged in this project and for those who consume gas in Europe. It is bad for the economic development of Europe, which, by the way, is also suffering significantly in these pandemic times," Peskov highlighted.

<https://tass.com/economy/1390275>

No grounds for Western concern over joint Russian-Belarusian exercises – senior diplomat

TASS, January 19, 2022

There is no reason for the West to be concerned by the joint exercises of Russia and Belarus, Russian Deputy Foreign Minister Sergey Ryabkov said on Wednesday. “I assure you that there are no grounds for concern over these exercises. We should focus on diplomacy,” he said commenting on the statement that the joint exercises of Russia and Belarus are allegedly preparation for an invasion of Ukraine. “We have the Union State with Belarus, there are appropriate plans, these plans should be fulfilled. Various kinds of events are held, among these events there are sudden inspections, and much more. My colleague, [Russian Deputy Defense Minister Alexander] Fomin gave a comprehensive response, including to representatives of military attaches of a number of countries, about what is happening.”

<https://tass.com/defense/1390393>

Russian troops receive over 5,000 advanced weapon systems in 2021 – defense chief

TASS, January 20, 2022

The Russian troops received over 5,000 new and upgraded weapon systems in 2021, Russia’s Defense Minister Sergey Shoigu said. “Among them, there are 900 armored vehicles, three advanced submarines, including the nuclear-powered underwater cruiser Knyaz Oleg armed with Bulava ballistic missiles, four surface ships, 10 combat boats, and 17 support vessels and craft,” the defense chief said while opening the single military output acceptance day. The Russian defense industry also delivered 151 new and upgraded aircraft, including 77 planes, 29 helicopters, and 45 drone systems, Shoigu specified.

“Four upgraded Tu-95MS missile-carrying bombers, three Bastion coastal defense missile systems, Pantsyr-S anti-aircraft missile systems, S-400 ‘Triumf’ and S-350

‘Vityaz’ surface-to-air missile launchers,” the defense chief said, summing up the results of last year’s weapons deliveries. “Advanced weaponry has reached 71.2% in the Army and Navy and 89.1% in the strategic nuclear forces. The military hardware serviceability level is maintained at 95%,” he said. The new combat hardware being supplied by the defense industry “is intensively operated and has proven its worth in various combat readiness inspections, exercises, and applied military competitions,” the defense minister said. In 2021, Russia completed rearming its first regiment with Avangard intercontinental ballistic missile systems with hypersonic boost-glide vehicles, Shoigu said, summing up the results of last year. “A separate air regiment operating MiG-31I aircraft with Kinzhal hypersonic missiles was set up,” the defense minister said.

<https://tass.com/defense/1390873>

Rosatom to develop micro reactor – First Deputy CEO

TASS, January 20, 2022

Rosatom is working on the Shelf-M micro reactor project, First Deputy CEO of the Russian state nuclear corporation Kirill Komarov. “The capacity of this reactor is planned at the level of 60 MW. The service life will be about 60 years. The fuel recharge period is about eight years,” the top manager said. The future of this reactor is promising, Komarov said. “It is simple in maintenance, factory-assembled; it can be quickly transported by transportation means,” he added.

<https://tass.com/science/1391021>

Russian Navy gets three advanced submarines – top brass

TASS, January 20, 2022

he Russian Navy received two nuclear-powered underwater cruisers to bolster the country’s seaborne nuclear deterrence forces and a large diesel-electric submarine in the last quarter of 2021, Russian Deputy Defense Minister Alexey Krivoruchko said.

“Two new nuclear-powered submarines and a large diesel-electric sub were delivered to the Navy,” Krivoruchko reported to Russian Defense Minister Sergey Shoigu during the single military output acceptance day.

These are the Project 885M nuclear-powered submarine Novosibirsk, the Project 955A nuclear-powered strategic sub Knyaz Oleg and the Project 636.3 diesel-electric submarine Magadan, the defense official specified. The Russian Navy also received two new combat boats, a Monolit-BR coastal radar and missile system, four new and four repaired naval aviation aircraft, Krivoruchko said. At a ceremony directed by the Russian supreme commander-in-chief on December 21, the naval flags were solemnly raised aboard the improved Project 955A (Borei-A) first serial-built strategic nuclear-powered underwater cruiser Knyaz Oleg furnished with ballistic missiles and the Project 885M (Yasen-M) first serial-constructed nuclear-powered sub Novosibirsk armed with cruise missiles, he said.

<https://tass.com/defense/1391039>

Russian Tu-160 ‘White Swan’ strategic bombers perform 13-hour flight over Arctic

TASS, January 21, 2022

Russian Tupolev Tu-160 strategic missile-carrying bombers performed a 13-hour flight over the Arctic Ocean with mid-air refueling, Russia’s Defense Ministry reported. “Two Tu-160 strategic missile-carrying bombers performed a scheduled flight in the airspace over the neutral waters of the Arctic Ocean, the Barents and White Seas that lasted about 13 hours, the statement says. “The aircraft of Russia’s Aerospace Force perform all their flights in strict compliance with the international rules of using the airspace,” the ministry stressed. The Tu-160 ‘White Swan’ supersonic bomber is the carrier of both conventional and nuclear-tipped cruise missiles. The missiles are placed into two internal rotary launchers with six missiles each. Advanced Kh-101 cruise missiles that

the bomber can carry have an operational range of about 5,500 km.

<https://tass.com/defense/1391223>

Sibir icebreaker to head for Ob Bay on maiden voyage

TASS, January 25, 2022

The Sibir nuclear-powered icebreaker will leave for the maiden voyage on Tuesday evening. The icebreaker will head for Ob Bay and later on will be working in the Yenisei’s waters, Atomflot’s Director General Mustafa Kashka said. Russia’s national ensign was flown on the Sibir nuclear-powered icebreaker - the second vessel of Project 22220, built by the Baltic Shipyard. The icebreaker was laid on May 26, 2015 and floated on September 22, 2017. The Arktika nuclear-powered icebreaker, the project’s leading vessel, has been working in the Northern Sea Route waters.

Project 22220 universal nuclear-powered icebreakers are the world’s largest and most powerful icebreaking ships. Their main task is to provide year-round navigation in the western Arctic. In the years to come, the Project 22220 icebreakers are expected to form the backbone of Russia’s civil icebreaker fleet.

<https://tass.com/economy/1392857>

Ural icebreaker to be commissioned before November 1, Yakutia to be floated November 31

TASS, January 25, 2022

The Ural nuclear-powered icebreaker of Project 22220 will be commissioned before November 1, and the Yakutia icebreaker will be floated on November 31, the Baltic Shipyard’s Director General Alexei Kadilov told reporters. The Yakutia’s commissioning due date is 2024, the Chukotka’s - 2026, he added, saying the shipyard hopes the due dates would be observed.

Project 22220 universal nuclear-powered icebreakers are the world’s largest and

most powerful icebreaking ships. Their main task is to provide year-round navigation in the western Arctic. In the years to come, the Project 22220 icebreakers are expected to form the backbone of Russia's civil icebreaker fleet. On Tuesday, Russia's national ensign was flown on the Sibir nuclear-powered icebreaker - the second vessel of Project 22220, built by the Baltic Shipyard. The icebreaker was laid on May 26, 2015 and floated on September 22, 2017. The Arktika nuclear-powered icebreaker, the project's leading vessel, has been working in the Northern Sea Route waters.

Russian Navy to receive special-purpose sub with nuclear-armed drones in summer – sources

TASS, January 26, 2022

The Project 09852 special-purpose nuclear-powered submarine Belgorod that will carry Poseidon nuclear-capable underwater drones is set to be delivered to the Russian Navy in the summer of 2022, two sources familiar with the matter told. CEO of the Sevmash Shipyard (part of the United Shipbuilding Corporation) Mikhail Budnichenko said on December 25 that the Belgorod special-purpose nuclear-powered submarine would wrap up its state trials in 2022. Also, a TASS source close to the Russian Defense Ministry earlier said that the latest submarine would be operational in the Pacific Fleet after it was delivered to the Navy. The submarine was initially expected to be delivered to the Navy in late 2021. The Project 09852 nuclear-powered submarine Belgorod, the first carrier of Poseidon nuclear-armed underwater drones, was floated out at the Sevmash Shipyard on April 23, 2019.

<https://tass.com/defense/1393205>

Medvedev sees no need to review Russia's nuclear doctrine

TASS, January 27, 2022

There is no need to review Russia's nuclear doctrine because the document makes it possible to achieve various goals, Deputy Chairman of the Russian Security Council Dmitry Medvedev said in an interview. "As

for reviewing the nuclear doctrine, I don't think there is a need for it," he noted. Medvedev explained that all the necessary aspects were documented in the doctrine. "We have the right to use our country's strategic nuclear forces in response to an attack involving weapons of mass destruction against us or our allies and in response to any other threat to our country's existence, in other words, to a danger that threatens the very existence of our state. It is a comprehensive formula that makes it possible to achieve various goals," the Russian Security Council deputy chairman stressed. President Vladimir Putin approved the framework of Russia's state nuclear deterrence policy in the summer of 2020. The document he signed replaced a similar one, adopted ten years ago, which had remained in effect until 2020. The new document confirms that Moscow pursues a defensive policy in this field, particularly based on the principle of abiding by international obligations related to arms control.

<https://tass.com/politics/1393713>

Post-INF discussion separately from common security architecture is inviable, says Kremlin

TASS, January 27, 2022

Discussing limitations on the deployment of intermediate-and shorter-range missiles (the post-INF proposal) separately from the common security architecture is inviable, Kremlin Spokesman Dmitry Peskov said. On January 26, the United States and NATO handed over their written replies to proposals on security guarantees, which Moscow demands from Washington and Brussels. On December 17, the Russian Foreign Ministry published Russia's two draft agreements on security guarantees, which Moscow expects from Washington and NATO.

The agreements with the United States and the North Atlantic Treaty Organization stipulate, among other things, the US-led bloc abandoning its eastward expansion designs along with denying membership

to Ukraine, in addition to restrictions on deploying serious offensive armaments, in particular, nuclear weapons. The United States suspended its commitments under the Intermediate-Range Nuclear Forces (INF) Treaty on February 2, 2019, citing Russia's alleged violation of the pact. Washington put forward these accusations in July 2014, for the first time. According to the US administration, Russia violated the terms of the INF treaty by creating the 9M729 missile. Moscow dismissed these accusations and laid counter-claims, pointing, in particular, to US missile defense system elements being deployed in Europe. The INF Treaty ceased to exist in August 2019.

<https://tass.com/politics/1393885>

Russia offers US, NATO to work on removing post-INF security concerns – diplomat

TASS, January 27, 2022

Russia's proposals to Washington and other NATO states embrace a reciprocal moratorium on deploying land-based intermediate- and shorter-range missiles (the post-INF proposal) and work on removing mutual concerns, Director of the Russian Foreign Ministry's Department for Non-Proliferation and Arms Control Vladimir Yermako.

<https://tass.com/politics/1394053>

Consensus is key for progress in nuclear arms reduction – Russian diplomat says

TASS, January 27, 2022

Progress in further reduction of nuclear weapons is possible only if it's based on consensus among all countries, Director of the Russian Foreign Ministry's Department for Nonproliferation and Arms Control Vladimir Yermakov said in an interview. Yermakov stated that Russia holds a strong belief that there can be no winners in a nuclear war and it must never be unleashed. "For a long time, we have consistently promoted the idea of reaffirming this principle by all the states of the nuclear five," the diplomat said.

"I would like to hope that in the current difficult conditions of international security, the approval by the leaders of the nuclear powers of this type of political statement will help reduce the level of tension and curb the arms race, help build confidence and form the basis for future control over offensive and defensive arms inasmuch as they are interconnected, as well as measures to reduce risks," Yermakov said. On January 3, the leaders of the five nuclear powers, which are permanent members of the UN Security Council, adopted a joint statement. They stressed that they consider it their primary responsibility to prevent war between nuclear-weapon states and to reduce strategic risks. The leaders of the states are sure that there can be no winners in a nuclear war and it should never be unleashed. They spoke out against further proliferation of nuclear weapons and declared their desire to work with all countries to create an atmosphere of security.

<https://tass.com/politics/1394101>

Putin, Macron discussed cooperation in nuclear energy, other spheres – Kremlin

TASS, January 28, 2022

Presidents of Russia and France Vladimir Putin and Emmanuel Macron discussed in particular cooperation between the two countries in the nuclear energy sphere in the telephone conversation, the Kremlin's press service said. "Certain practical aspects of bilateral cooperation were discussed, including in the nuclear energy sphere," the Kremlin said. "Presidents of Russia and France agree to remain in a close contact," the Kremlin noted after the conversation.

<https://tass.com/politics/1394661>

Argentina ready to resume discussion of NPP construction project with Russia – President

TASS, January 29, 2022

The Argentinian leadership is ready to resume negotiations on the possibility of

building a nuclear power plant (NPP) with the participation of Russia, after the South American country managed to reach an agreement on debt settlement with the International Monetary Fund, President of Argentina Alberto Fernandez told TASS ahead of his visit to Moscow, scheduled for February 3. "Many infrastructure projects, including hydropower plants and nuclear power plants, were waiting for this agreement because they required foreign financing. Of course, this will be a topic of debate and negotiation," he said. "Nuclear energy is one of the many topics that appear in the strategic cooperation agreement with Russia. I am always ready to discuss any topics and expand cooperation as much as possible," Fernandez added.

<https://tass.com/world/1394815>

Strategic nuclear-powered sub arrives in Russia's north in transit to Pacific Fleet

TASS, February 01, 2022

The Project 955A (Borei-A) latest strategic nuclear-powered submarine Knyaz Oleg arrived at Russia's Northern Fleet during its inter-fleet transit to the Pacific Fleet for operational service, the Sevmash Shipyard's press office reported. "The Knyaz Oleg nuclear-powered submarine cruiser built at Sevmash (part of the United Shipbuilding Corporation) has arrived at the Northern Fleet. This is a temporary base for the Project Borei-A nuclear-powered submarine. The sub will operate in the Pacific Fleet," the press office said in a statement.

The advanced nuclear-powered submarine was inspected by Northern Fleet Commander Admiral Alexander Moiseyev and the Fleet's commission, the press office said. "The commander assessed the nuclear sub's condition, noted the crew's professionalism and their desire to learn to operate the nuclear-powered underwater cruiser as quickly as possible," the statement says. During their stay at the Northern Fleet, the submarine's crew will undergo a basic training course and pass course tasks at sea,

the Sevmash press office reported. "After the crew confirms its readiness for inter-fleet transit, the nuclear-powered submarine Knyaz Oleg will head to its permanent base in the Pacific Fleet. The nuclear sub will be based in Vilyuchinsk," it specified.

<https://tass.com/defense/1395995>

Sibir newest nuclear-powered icebreaker completes first working voyage on Yenisei

TASS, February 02, 2022

The Sibir nuclear-powered icebreaker, which joined Atomflot in late January, completed the escort of the Tersky Bereg vessel in the Yenisei River. It was the icebreaker's first working voyage, Atomflot's press service said. "In the Dudinka port waters, the Sibir first serial universal nuclear-powered icebreaker completed the escort of the Tersky Bereg vessel," the press service said in a release. "For the first time, a Project 22220 icebreaker entered Yenisei Bay and fulfilled the task at shallow depths."

According to Atomflot's First Deputy Director General on navigation Leonid Irlitsa, the Sibir has demonstrated it is a universal icebreaker. "Sibir has proved it is equally effective at open sea passages and in shallow waters," he said. "In Yenisei Bay, the ice thickness reached 1.5 meters, which did not affect the icebreaker's commercial speed." On January 28, in the Barents Sea, the Sibir began leading through the ice the Turukhan and the Tersky Bereg vessels, which headed for the Dudinka port. At the entrance to Yenisei Bay, the icebreaker left the Turukhan ship, and together with the Tersky Bereg sailed into the Yenisei's mouth. Soon, the icebreaker will return to the Turukhan to take the vessel to the Dudinka port. After that, the icebreaker will continue working in the Ob-Yenisei district in the Kara Sea.

<https://tass.com/society/1396513>

Rosatom ready to provide help to Argentina in energy development, says Putin

TASS, February 03, 2022

Russia can provide help to Argentina in developing its nuclear energy, Russian President Vladimir Putin said in a joint statement following the talks with his Argentine counterpart Alberto Fernandez. Fernandez told TASS ahead of his visit to Moscow that the Argentinian authorities were ready to resume negotiations on the possibility of building a nuclear power plant (NPP) with Russia's participation after the South American republic managed to reach an agreement on debt settlement with the International Monetary Fund.

"Research and peaceful use of space" is another promising area of cooperation between the two countries, Putin said, adding that an intergovernmental document on space cooperation came into force two years ago. "We also see huge potential in the expansion of cooperation in such areas as geological exploration, the construction, and maintenance service of energy, as well as oil and gas infrastructure, renewable energy, chemical industry, machine-building, and other fields," the Russian leader said.

<https://tass.com/economy/1397401>

Russia, China seriously concerned over creation of AUKUS pact – joint statement

TASS, February 04, 2022

Russia and China are seriously concerned over the creation of the AUKUS pact between the US, the UK, and Australia, which envisages deeper cooperation between its members in areas that affect strategic stability, says the joint statement of Moscow and Beijing adopted. "The sides are seriously concerned about the trilateral security partnership between Australia, the United States, and the United Kingdom

(AUKUS), which provides for deeper cooperation between its members in areas involving strategic stability, in particular their decision to initiate cooperation in the field of nuclear-powered submarines," the statement reads.

As the document says, "Russia and China believe that such actions are contrary to the objectives of security and sustainable development of the Asia-Pacific region, increase the danger of an arms race in the region, and pose serious risks of nuclear proliferation." "The sides strongly condemn such moves and call on AUKUS participants to fulfill their nuclear and missile non-proliferation commitments in good faith and to work together to safeguard peace, stability, and development in the region," the joint statement says.

<https://tass.com/politics/1398079>

Russia, China concerned over Japan's plans to dump Fukushima radioactive water – statement

TASS, February 04, 2022

Russia and China are concerned over Japan's plans to dump contaminated water from the wrecked Fukushima nuclear power plant into the ocean, both countries said in a joint statement. "Japan's plans to release nuclear contaminated water from the destroyed Fukushima nuclear plant into the ocean and the potential environmental impact of such actions are of deep concern to the sides," the statement reads. In this regard, Moscow and Beijing emphasized that "the disposal of nuclear contaminated water should be handled with responsibility" and carried out in a proper manner based on arrangements between the Japanese side, neighboring states and international organizations. Russia and China also urged to ensure transparency and "scientific reasoning" in this process.

<https://tass.com/world/1398125>

Russia's Defense Ministry to receive first newly-built Tu-160M strategic bomber

TASS, February 04, 2022

Russia's Defense Ministry will receive the first newly-built Tu-160M strategic missile-carrying bomber until the end of the second quarter of this year for subsequent state trials and operational service, Industry and Trade Minister Denis Manturov. The Tu-160M aircraft opens up prospects for implementing the new project of building the prospective complex of long-range aviation (PAK DA, Russia's next-generation strategic bomber), the industry and trade minister said.

<https://tass.com/defense/1398283>

Russia, China urge US to abandon plans to deploy missiles to Asia-Pacific region, Europe

TASS, February 04, 2022

Russia and China call on the United States to abandon its plans to deploy ground-based intermediate-range and shorter-range missiles in the Asia-Pacific region and Europe, as follows from a joint statement of Russian President Vladimir Putin and his Chinese counterpart Xi Jinping on international relations entering a new era and global sustainable development, adopted at a meeting in the Chinese capital.

<https://tass.com/world/1398337>

Viktor Chernomyrdin icebreaker to be upgraded to serve passengers

TASS, February 07, 2022

The world's biggest and most powerful non-nuclear icebreaker Viktor Chernomyrdin will be used as a passenger vessel for Arctic cruises. The icebreaker will take onboard up to 93 passengers at a time, press service of the sea port authority, Rosmorport. The upgrade is due to be completed before April 1, according to the state purchases' web portal. The contract's cost is 4.2 million rubles (\$55,000). The contractor will install on the icebreaker additional lights,

upgraded safety systems, and will do some other works, after which the Viktor Chernomyrdin will obtain the official class of a passenger vessel.

The Project 22600 icebreaker was built at the Admiralty Shipyard from December, 2012. It is the world's only project of a new-generation innovative diesel-electric icebreaker with the propulsion power of 25 megawatts, of the Icebreaker8 class. The icebreaker's speed in clean water may be up to 17.8 knots, it may break ice of up to 2 meters at the speed of 2 knots. The vessel may work in various parts of the Arctic and Antarctic. The icebreaker may work amid the ice of up to 3 meters thick.

<https://tass.com/economy/1398999>

C. Europe

Swedish Security Service investigates drones at three nuclear plants

Reuters, January 17, 2022

Sweden's Security Service has taken over an investigation regarding unauthorized drones at three Swedish nuclear power plants on Friday, it said in a statement. Police in Sweden deployed patrols and helicopters to the Forsmark nuclear plant to hunt for a drone seen flying over the site late on Friday, but were unable to catch the unmanned vehicle. L1N2TV06U Police said the drone was large and able to operate despite high winds at the Forsmark plant. The Security Service said on Monday drones had also been sighted at Sweden's two other nuclear power plants, in Oskarshamn and Ringhals. Around 30% of Sweden's total power production comes from the three plants. The incidents came a day after Sweden's military started patrolling the main town on the Baltic Sea island of Gotland amid increased tensions between NATO and Russia and a recent deployment of Russian landing craft in the Baltic.

<https://www.reuters.com/world/europe/swedish-security-service-investigates-drones-three-nuclear-plants-2022-01-17/>

EU advisers concerned about plan for green labels on gas, nuclear investments

Simon Jessop and Kate Abnett

Reuters, January 18, 2022

Experts advising on the European Union's sustainable finance taxonomy are concerned a draft plan to include gas and nuclear relies too heavily on promises to make those fuels green in future, rather than assessing their real impact today. Nathan Fabian, who chairs the expert group, said some advisers were concerned the draft risked hurting the taxonomy's mission to provide clarity to investors about the environmental impact of investments. "The new criteria do have weaknesses that mean that they're not well suited to sustainable finance products," Fabian told, ahead of a Friday deadline for the group to give feedback on the European Commission's draft proposal. Under the draft plan, seen by Reuters, gas plants can earn a green label if they meet criteria including an emissions limit of 270g of CO₂ equivalent per kWh, or if their annual emissions average 550kg CO₂e per kW or less over 20 years.

<https://www.reuters.com/markets/europe/eu-advisers-concerned-about-plan-green-labels-gas-nuclear-investments-2022-01-17/>

Czechs want to scrap deadline for nuclear energy in EU plan -report

Reuters, January 21, 2022

The Czech Republic is pushing for the European Union to scrap proposed deadlines for investment in nuclear energy, a Czech newspaper reported on Friday, as the EU tries to come up with a plan to transition to fully renewable energy. In a proposal on Dec. 31, the EU Commission allows gas and nuclear investments to facilitate an eventual transition to fully renewable output, but suggests deadlines beyond which investments in existing and new nuclear projects would not be allowed. "The Czech Republic requests to leave out the statutes which suggest a transitory nature of nuclear energy, namely the 2045 deadline for new plants operating permits,

and 2040 for the existing plants," the Czech government's response read, according to the Hospodarske Noviny daily newspaper. Industry Minister Jozef Sikela said that Prague welcomed the Commission's proposal to count nuclear and gas among sustainable sources, but asked for changes.

<https://www.reuters.com/world/europe/czechs-want-scrap-deadline-nuclear-energy-eu-plan-report-2022-01-21/>

Nuclear talks with Iran on right track for a final agreement, EU official says

Reuters, January 21, 2022

The nuclear talks with Iran in Vienna are moving in the right direction and a final agreement may be within reach, a senior European Union official said. "My assessment is that we are on the right track for a final agreement," the official, who spoke on the condition of anonymity, said, referring to "small" progress in a number of issues. "My concern, more than in the substance, is about the timing. There I have a feeling that we are going too slow. It would be an incredible mistake if, because of timing, we would not get a good solution," the official said without elaborating. "Still, I think that we will have an agreement...and I think that it will be rather sooner than later."

<https://www.reuters.com/world/middle-east/nuclear-talks-with-iran-right-track-final-agreement-eu-official-says-2022-01-21/>

EU plan to label gas and nuclear as green could mislead investors, advisers say

Reuters, January 24, 2022

The European Union's draft plan to label gas and nuclear plants as green investments risks causing confusion and misstated financial disclosures, expert advisers to the bloc said amid criticism of the proposal from some lawmakers and nations. In feedback due to be published on Monday, the experts urged EU authorities to rewrite the draft rules,

which they said would label gas plants with relatively high CO2 emissions as sustainable, as well as new nuclear plants launched too late to help meet the bloc's 2050 climate target.

<https://www.reuters.com/markets/europe/eu-plan-label-gas-nuclear-green-could-mislead-investors-advisers-say-2022-01-24/>

Analysis: Investor clash on gas and nuclear muddies EU green finance drive

Simon Jessop and Kate Abnett

Reuters, January 26, 2022

European efforts to reach a common definition of sustainable investments risk fragmenting the market they aimed to unify, as investors are deeply divided over which energy sources should count as green. A Reuters survey of 16 fund managers with \$6 trillion in assets found investors were at odds over Brussels' plan, drafted at the end of last year, to class investments in some natural gas and nuclear power as environmentally sustainable.

<https://www.reuters.com/markets/europe/investor-clash-gas-nuclear-muddies-eu-green-finance-drive-2022-01-26/>

Iran nuclear talks reaching final stage - E3 negotiators

Reuters, January 28, 2022

Nuclear talks between Iran and Western powers are reaching their final stage and now require political input, E3 negotiators said in a statement. "January has been the most intensive period of these talks to date," said the statement from the so-called E3: France, Britain and Germany. "Everyone knows we are reaching the final stage, which requires political decisions. Negotiators are therefore returning to capitals for consultation."

<https://www.reuters.com/world/middle-east/iran-nuclear-talks-reaching-final-stage-e3-negotiators-2022-01-28/>

Finland's new nuclear reactor now seen starting in early February

Reuters, January 31, 2022

Finland's much delayed Olkiluoto 3 nuclear reactor is now estimated to be connected to the national power grid in early February, operator Teollisuuden Voima (TVO) (POHVOT.UL) said on its website. The reactor was scheduled to go onto the grid on but a disturbance in a synchronisation test over the weekend pushed back the connection date, a TVO spokesperson told Reuters. The plant will begin regular power production at 25% of its capacity and is expected to reach its full 1.6 gigawatt output in June 2022, TVO has said.

<https://www.reuters.com/business/energy/finlands-new-nuclear-reactor-now-seen-starting-early-february-2022-01-31/>

EU to propose final green investment rules for gas, nuclear energy

Reuters, February 01, 2022

The European Commission will on Wednesday unveil its final proposal for rules on whether gas and nuclear energy should be labelled as green investments in the EU, a spokesperson said. "Tomorrow the college will be looking at the Commission's delegated regulation on taxonomy, and this file will be the subject of the report tomorrow," Commission chief spokesperson Eric Mamer told a regular news briefing, referring to the weekly "college" meeting where the Commission adopts legislative proposals.

<https://www.reuters.com/business/sustainable-business/eu-propose-final-green-investment-rules-gas-nuclear-energy-2022-02-01/>

Four countries urge EU to drop green investment label for gas

Reuters, February 01, 2022

Austria, Denmark, Sweden and the Netherlands have urged the European

Union not to label gas energy projects as green investments, as Brussels attempts to finalise divisive rules on whether the fuel deserves a sustainable badge. The European Commission drafted plans late last year to label gas and nuclear energy as green investments, an issue that has split the bloc's 27 countries as they disagree on how the fuels should contribute to Europe's shift to clean energy "The lack of scientific evidence for including fossil gas in the Taxonomy should lead to a reconsideration of the proposal by the European Commission," the four countries said in a letter to the EU's financial services chief.

<https://www.reuters.com/world/europe/four-countries-urge-eu-drop-green-investment-label-gas-2022-02-01/>

EU to propose green investment label for gas and nuclear energy, source says

Reuters, February 02, 2022

The European Commission is set to propose rules to allow some gas and nuclear power plants to be labelled as green investments, with minor changes to a previous draft proposal, a Commission source told Reuters. Brussels has been attempting for more than a year to settle whether gas and nuclear energy should be labelled as green in the EU's taxonomy, a rulebook that defines which investments can be marketed as climate-friendly.

<https://www.reuters.com/business/energy/eu-propose-green-investment-label-gas-nuclear-energy-source-says-2022-02-01/>

EU proposes rules to label some gas and nuclear investments as green

Reuters, February 02, 2022

Investments in some gas and nuclear power plants would be labelled as sustainable under rules proposed by European Commission on Wednesday, a plan that has split countries and investors, and which some lawmakers will attempt to block. Brussels has taken more than a year to decide if gas and nuclear energy should count as green investments in the EU's taxonomy, an

investor rulebook designed to help raise massive amounts of private capital to meet EU climate change targets. In final rules published on Wednesday, gas power plants would be labelled green this decade if they emit less than 270g of CO₂ equivalent per kWh, or have annual emissions below 550kg CO₂e per kW over 20 years. That could include gas plants with relatively high CO₂ emissions today, provided they switch to low-carbon gas or reduce their running hours in later years. Gas plants must switch to run on low-carbon gases by 2035. A requirement in a previous draft, for plants to start switching in 2026, was dropped.

<https://www.reuters.com/business/sustainable-business/eu-proposes-rules-label-some-gas-nuclear-investments-green-2022-02-02/>

Campaigners begin legal fight against EU green investment rules - documents

Reuters, February 04, 2022

Climate campaigners have started the process of a legal challenge against the European Union over the labelling of investments in bioenergy and plastics as green in its flagship sustainable finance rulebook. The challenges concern the EU's sustainable finance taxonomy, a system that restricts which investments can be labelled as climate-friendly, and which the EU hopes investors will use to guide more capital to low-carbon projects.

<https://www.reuters.com/world/europe/campaigners-begin-legal-fight-against-eu-green-investment-rules-documents-2022-02-04/>

Prosecutor finds no evidence foreign powers were behind drones at Swedish nuclear plants - Swedish Radio

Reuters, February 04, 2022

There is no evidence that foreign powers were behind drones sighted at Swedish nuclear plants in January, the prosecutor leading the investigation told publicly funded Swedish Radio. Police in Sweden deployed patrols and helicopters in mid-

January to the Forsmark nuclear plant to hunt for a drone seen flying over the site, but were unable to catch the unmanned vehicle. Drones were also observed at Sweden's two other plants, Oskarshamn and Ringhals. Forsmark and Ringhals are run by state-owned Vattenfall while Oskarshamn is operated by German energy company Uniper SE (UN01.DE). The three nuclear plants account for around 30% of Sweden's total power production. Prosecutor Hans Ihrman told Swedish Radio there was no evidence that foreign powers were behind the drones, and said it was unclear what had actually been observed. The incidents occurred around the same time as Sweden's military started patrolling the main town on the Baltic Sea island of Gotland amid increased tensions between NATO and Russia.

<https://www.reuters.com/world/europe/prosecutor-finds-no-evidence-foreign-powers-were-behind-drones-swedish-nuclear-2022-02-04/>

D. France

EXCLUSIVE French power policy shift has left EDF in shock, CEO says

Benjamin Mallet

Reuters, January 18, 2022

The CEO of EDF (EDF.PA) broke with the convention that bosses of French state companies don't criticise the government to express "real shock" and indignation after the utility was told to sell more power to rivals at below-market prices. In a memo to managers seen by Reuters, Jean-Bernard Levy said he had tried to persuade ministers to adopt a different course, and was now looking at steps to defend EDF's interests. Shares in the firm slumped as much as 25% on Friday after the government of President Emmanuel Macron - facing a re-election battle in three months and keen to head off public anger over rising power bills - ordered the utility to sell more cheap nuclear power to rivals. "This is not what we had proposed to the government," Levy said in the internal memo. Instead, he said, the firm had

recommended targeted help for small businesses and the most vulnerable industrial users.

<https://www.reuters.com/business/energy/edf-says-government-power-price-measures-will-weigh-heavily-results-2022-01-17/>

French nuclear sector may need "Marshall plan" of aid, says head of watchdog

Reuters, January 19, 2022

France's nuclear sector, which lately came under additional pressure due to newly discovered corrosion problems at some EDF (EDF.PA) sites, may need a "Marshall plan" to survive, said the head of France's ASN nuclear watchdog. Difficulties also increased at Orano's Melox site which produces nuclear elements for plants, adding to EDF's problems, ASN President Bernard Doroszczuk told reporters.

<https://www.reuters.com/business/energy/french-nuclear-sector-may-need-marshall-plan-aid-says-head-watchdog-2022-01-19/>

France ready to help, but not renationalise EDF as workers strike

Reuters, January 26, 2022

The French government is ready to support electricity group EDF (EDF.PA) if needed, but has no plans to renationalise the largely state-owned company, finance ministry sources said on Wednesday after a strike hit production. EDF workers began protests over a government plan to increase the amount of cheap energy EDF must sell to rivals at less than the market price, and to call for higher pay and pensions. Without the plan, the government said households and companies would see their power bills jump 35% from next month. The prospect is especially troubling for the government less than three months from a presidential election. One finance ministry source, speaking on condition of anonymity, said that when power prices were low the state had supported the

group, so it was reasonable to help consumers now they are high.

<https://www.reuters.com/business/energy/french-power-output-reduced-by-ongoing-strike-2022-01-26/>

France looking at using more winter coal as nuclear output lags

Forrest Crellin

Reuters, January 27, 2022

The French government is looking to temporarily raise the cap on allowed coal usage to ensure coal plants stay online this winter and limit a power price surge that is partly due to the limited nuclear availability, a government document showed. France traditionally relies less on coal than neighbouring countries but it has recently had to turn to the polluting fuel to offset outages at nuclear reactors and strong demand.

About 2.5 gigawatts (GW) of coal-fired production capacity is available in France which can reach peak-load during times of low temperatures and low renewable availability. A public consultation on a decree to temporarily raise the cap ended on Jan. 20, but it has yet to be confirmed in the official journal. A carbon emissions cap for power generators means coal plants under current law can operate for approximately 700 hours annually, but that could be lifted to 1,000 hours between Jan. 1 and Feb. 28 under the decree. The carbon emissions threshold would be lowered for the remainder of 2022 to compensate for the increase during the winter months, which could affect total supply in the fourth quarter of 2022.

<https://www.reuters.com/world/europe/france-looking-using-more-winter-coal-nuclear-output-lags-2022-01-27/>

Macron tells Iran's Raisi nuclear talks need to speed up

Reuters, January 30, 2022

French President Emmanuel Macron has told his Iranian counterpart Ebrahim Raisi that a deal lifting sanctions on Iran in return for curbs on its nuclear activities is still

possible but talks need to accelerate, Macron's office said. France, Germany and Britain, known as E3, and the United States are trying to save the 2015 Vienna agreement with Iran but Western diplomats have said negotiations, which have been in their eighth round since Dec. 27, were moving too slowly. Iran has rejected any deadline imposed by Western powers. "The President of the Republic reiterated his conviction that a diplomatic solution is possible and imperative, and stressed that any agreement will require clear and sufficient commitments from all the parties," the Elysee palace said in a statement after a telephone call with Raisi on Saturday. "Several months after the resumption of negotiations in Vienna, he insisted on the need to accelerate in order to quickly achieve tangible progress in this framework," it added.

<https://www.reuters.com/world/middle-east/macron-tells-irans-raisi-more-effort-needed-nuclear-talks-2022-01-30/>

E. Germany

Germany cries foul over nuclear energy in EU's green investment rule book

Michael Nienaber

Reuters, January 22, 2022

German Chancellor Olaf Scholz's three-party coalition government has voiced its objections to a European Union draft plan to label nuclear power plants as a sustainable energy source in a formal letter to Brussels, ministers said. The EU taxonomy aims to set a gold standard for green investments, helping climate-friendly projects to pull in private capital and stamping out "greenwashing", where investors and companies overstate their eco-credentials. "As the federal government, we have once again clearly expressed our rejection of the inclusion of nuclear energy. It is risky and expensive," Vice Chancellor and Economy Minister Robert Habeck said in a joint statement with Environment Minister Steffi Lemke, both senior members of the Greens party. In its letter to Brussels, published by the

Economy Ministry on its web page, the German government also pointed to the lack of any safety requirements regarding nuclear power plants.

<https://www.reuters.com/business/sustainable-business/germany-cries-foul-over-nuclear-energy-eus-green-investment-rule-book-2022-01-22/>

Germany eyes Lockheed F-35 fighter jet; no final decision -source

Reuters, February 04, 2022

Germany is leaning toward purchasing the U.S. fighter jet F-35 built by Lockheed Martin (LMT.N) to replace its ageing Tornado in the role of nuclear sharing, a German defence source told Reuters on Thursday, but a final decision has not been taken. Another source, close to the German military, said a possible F-35 purchase was "back on the table", but no decisions were expected anytime soon. "There have been recent efforts to inform Germany of how to move ahead with a potential F-35 purchase," a third source involved in the effort told Reuters.

<https://www.reuters.com/world/europe/germany-eyes-lockheed-f-35-fighter-jet-no-final-decision-source-2022-02-03/>

F. U.K.

Iran nuclear talks approaching dangerous impasse - UK's Truss

Reuters, January 25, 2022

Talks to revive a 2015 nuclear deal between Western powers and Iran are approaching a dangerous impasse, British Foreign Secretary Liz Truss said. "This negotiation is urgent and progress has not been fast enough. We continue to work in close partnership with our allies but the negotiations are reaching a dangerous impasse," Truss told parliament. "Iran must now choose whether it wants to conclude a deal or be responsible for the collapse of the JCPOA (nuclear deal). And if the JCPOA collapses, all options are on the table."

<https://www.reuters.com/world/uk/iran-nuclear-talks-approaching-dangerous-impasse-uks-truss-2022-01-25/>

Britain to give EDF's Sizewell C nuclear project \$135 mln support

Reuters, January 27, 2022

Britain will give 100 million pounds (\$135 million) of support to France's EDF (EDF.PA) to help it build the Sizewell C nuclear plant in Suffolk, England and encourage new investors in the project, the government said on Thursday. Britain aims to reach net zero emissions by 2050, which will require a huge increase in low-carbon power generation such as wind, solar and nuclear, but new nuclear projects have struggled to secure funding due to the large up-front costs.

<https://www.reuters.com/world/uk/britain-give-edfs-sizewell-c-nuclear-project-135-mln-support-2022-01-27/>

G. U.S.A

U.S. deputy special envoy for Iran leaves post amid Iran nuclear talks

Reuters, January 25, 2022

A senior member of the U.S. team negotiating with Iran has left the role amid a report of differences of opinion on the way forward, as the urgency to salvage the 2015 Iran nuclear deal intensifies. A State Department official confirmed that Richard Nephew, U.S. Deputy Special Envoy for Iran, is no longer on the negotiating team, but was still a State Department employee. The official did not give a reason for the change but said personnel moves were 'very common' a year into an administration. The Wall Street Journal earlier reported that Nephew left after differences of opinion within the U.S. negotiating team on Iran. The paper said he had advocated a tougher posture in the current negotiations. The departure comes at a critical time as the United States and its European allies last week said there were just weeks to salvage the 2015 Iran nuclear deal, formally called the Joint Comprehensive Plan of Action (JCPOA). Indirect talks between Iran and the United

States resumed almost two months ago. Western diplomats have indicated they were hoping for a breakthrough over the next few weeks, but sharp differences remain. Iran has rejected any deadline imposed by Western powers. Diplomats and analysts say the longer Iran remains outside the deal, the more nuclear expertise it will gain, shortening the time it might need to race to build a bomb if it chose to, thereby undermining the accord's original purpose. Tehran denies it has ever sought to develop nuclear arms.

<https://www.reuters.com/world/middle-east/us-repeats-its-willing-meet-iran-directly-nuclear-issue-2022-01-24/>

U.S. asks U.N. Security Council to meet Thursday on N.Korea - diplomats

Michelle Nichols

Reuters, February 02, 2022

The United States, supported by Britain and France, has asked the U.N. Security Council to meet behind closed-doors on February 03 over North Korea's launch of an intermediate-range ballistic missile, diplomats said. North Korea confirmed it had launched a Hwasong-12 ballistic missile, the same weapon it had once threatened to target the U.S. territory of Guam with, sparking fears the nuclear-armed state could resume long-range testing. The launch of the intermediate-range ballistic missile was first reported by South Korean and Japanese authorities on Sunday. It was the seventh test conducted by North Korea last month and the first time a nuclear-capable missile of that size has been launched since 2017. U.N. Secretary-General Antonio Guterres on Tuesday condemned the launch and urged Pyongyang "to desist from taking any further counter-productive actions," a U.N. spokesman said.

<https://www.reuters.com/world/asia-pacific/un-chief-urges-north-korea-stop-counterproductive-actions-2022-02-01/>

West Asia

H. Iran

MP says Iran can use SCO capacity to neutralize sanctions

Tehran Times, January 16, 2022

A member of the National Security and Foreign Policy Committee of the parliament has said that Iran can use the capacity of the 25-year cooperation program with China and membership in the Shanghai Cooperation Organization (SCO) for economic, trade, monetary and banking exchanges to neutralize sanctions. China and Russia are two heavyweight members of the SCO. They are also permanent members of the United Nations Security Council. "China and Russia are both members of the United Nations Security Council and have veto power," "Our relationship with these two countries is a strategic one. Iran cooperates with Russia and China on regional, international and global security issues." Hossein Nooshabadi told IRNA on Sunday. The representative of Varamin in the parliament emphasized that these two countries, which play influential roles at the in the international stage can defend and support the positions of Iran, and this has happened many times.

<https://www.tehrantimes.com/news/469142/MP-says-Iran-can-use-SCO-capacity-to-neutralize-sanctions>

Iran blames U.S. for slow pace of talks to revive 2015 nuclear pact

Reuters, January 24, 2022

Iran blames the United States for the slow pace of indirect talks on reviving a 2015 nuclear deal, Iranian Foreign Ministry Spokesman Saeed Khatibzadeh said. "The main reason behind the slow pace of the Vienna nuclear talks is the United States' lack of readiness," he said.

<https://www.reuters.com/world/middle-east/iran-blames-us-slow-pace-talks-revive-2015-nuclear-pact-2022-01-24/>

Iran nuclear talks enter 'final stage'

Tehran Times, January 16, 2022

Talks to restore the Iran nuclear deal are entering their "final stage," officials say, as negotiators head back to their capitals to receive political guidance on what moves to take in the coming days, Politico said. Western diplomats are facing a self-imposed mid-February deadline to try and revive the 2015 agreement, which restrained Iran's nuclear program in exchange for sanctions removal. Some Western officials are concerned about Iran's rapid nuclear advances since the U.S. abandoned the deal in 2018, as well as a looming report from the United Nations' atomic watchdog that is expected to detail further Iranian nuclear advancements, likely generating new frictions. That means the next few weeks are critical in determining whether the deal is restored — or talks fall apart altogether. "January has been the most intensive period of these talks to date," said a statement Friday from the three European countries involved in the negotiation: France, Germany and the UK. "Everyone knows we are reaching the final stage, which requires political decisions."

<https://www.tehrantimes.com/news/469644/Iran-nuclear-talks-enter-final-stage>

Iran moves centrifuge-parts production out of disputed workshop, IAEA says

Reuters, January 31, 2022

Iran has moved production of parts for advanced centrifuges, used to enrich uranium, out of a workshop only a month after agreeing to allow the U.N. nuclear watchdog to reinstall surveillance cameras there, the watchdog said. The move adds to uncertainty over Iran's nuclear activities while indirect talks between Tehran and Washington on saving the 2015 Iran nuclear deal are at a delicate stage. Western powers say there are only weeks left before Iran's atomic advances have hollowed out the deal completely.

<https://www.reuters.com/world/middle-east/iran-moves-centrifuge-parts-production-karaj-isfahan-iaea-says-2022-01-31/>

I. Israel

Israel says sanctions relief for Iran could mean "terror on steroids"

Reuters, January 18, 2022

Israeli Prime Minister Naftali Bennett said funding for Iran could lead to "terror on steroids", in an apparent warning against world powers easing sanctions against Tehran as they seek a new nuclear deal. "The last thing you want to do ... is pour tens of billions of dollars into this apparatus. Because what will you get? Terror on steroids," Bennett said in a video address to the World Economic Forum in Davos.

<https://www.reuters.com/world/middle-east/israel-says-sanctions-relief-iran-could-mean-terror-steroids-2022-01-18/>

J. Qatar

Qatar's top envoy visits Iran as Tehran and Washington consider direct nuclear talks

Parisa Hafezi and Andrew Mills

Reuters, January 27, 2022

Qatar's top diplomat visited Iran, Iranian state media reported, days before Qatar's ruling emir holds talks in Washington at a crucial time for efforts by Tehran and major powers to revive a 2015 nuclear pact. The visit by Qatari Foreign Minister Sheikh Mohammed bin Abdulrahman Al-Thani's comes after his Iranian counterpart Hossein Amirabdollahian on Monday said Tehran is ready to consider direct talks with Washington if it feels it can get a "good nuclear deal". However, Iran's state news agency IRNA said the visit was not intended to help set up direct talks with Washington.

"Although Doha and Tehran are experiencing good and close relations, this visit ... has fuelled some misconceptions. Some are fabricating it to facilitate direct talks with the United States," IRNA said. The United States and Iran have held eight rounds of indirect talks in Vienna since

April aimed at reinstating the pact that lifted sanctions against Tehran in exchange for restrictions on its nuclear programme.

<https://www.reuters.com/world/middle-east/qatars-top-envoy-visits-iran-tehran-washington-consider-direct-nuclear-talks-2022-01-27/>

K. UAE

Unit 2 of UAE's nuclear plant to start operations within months

Reuters, January 19, 2022

The second unit of the United Arab Emirates' Barakah nuclear power plant is set to begin commercial operations in coming months, the Emirates Nuclear Energy Corporation's (ENEC) CEO said. The third unit of the plant's planned four reactors will start operations in late 2022, Mohammed al-Hammadi told a sustainable fiance conference in Abu Dhabi. Barakah's Unit 1 was connected to the national power grid in August 2020, and Unit 2 in September 2021.

<https://www.reuters.com/world/middle-east/unit-2-uaes-nuclear-plant-start-operations-within-months-2022-01-19/>

UAE says it blocked drone attack, shadowy group claims responsibility

Reuters, February 03, 2022

The United Arab Emirates said late it intercepted three drones that entered its airspace over unpopulated areas earlier in the day, in the latest attack on the Gulf commercial and tourism hub in the past few weeks. The first three assaults, including a missile attack during a visit by Israel's president, were launched by Yemen's Iran-aligned Houthis in an escalation with a military coalition led by Saudi Arabia and which includes the UAE.

<https://www.reuters.com/world/middle-east/uae-says-it-destroyed-3-drones-that-penetrated-its-airspace-wednesday-2022-02-02/>

East Asia

L. North Korea

North Korea fires two ballistic missiles from Pyongyang airport, South Korea says

Josh Smith

Reuters, January 17, 2022

North Korea fired two suspected short-range ballistic missiles (SRBM) from an airport in its capital city of Pyongyang, South Korea's military reported, the fourth test this month to demonstrate its expanding missile arsenal. Japan also reported the launch, with chief cabinet secretary Hirokazu Matsuno condemning it as a threat to peace and security while China urged all sides to preserve for stability. "We call on relevant sides to keep in mind the overall peace and stability on the peninsula," Chinese foreign ministry spokesman Zhao Lijian told a daily briefing in Beijing when asked about the suspected launch. Nuclear-armed North Korea had already conducted three other missile tests in less than two weeks before Monday, an unusually rapid series of launches.

It said two of them involved single "hypersonic missiles" capable of high speed and manoeuvring after launch, while a test on Friday involved a pair of short-range ballistic missiles fired from train cars. The launch appeared to involve two SRBMs fired east from Sunan Airfield in Pyongyang, South Korea's Joint Chiefs of Staff (JCS) said in a statement. North Korea used the airport to test fire the Hwasong-12 intermediate-range ballistic missile (IRBM) in 2017, with leader Kim Jong Un in attendance. The missiles fired on Monday travelled about 380 km (236 miles) to a maximum altitude of 42 km (26 miles), the JCS said in a statement.

<https://www.reuters.com/world/asia-pacific/nkorea-fires-suspected-ballistic-missile-japan-2022-01-17/>

N.Korea tested tactical guided missiles in fresh sign of evolving arsenal

Hyonhee Shin

Reuters, January 19, 2022

North Korea fired tactical guided missiles, state media KCNA said, the latest in a series of recent tests that highlighted its evolving missile programmes amid stalled denuclearisation talks. The missile test was the North's fourth in 2022, with two previous launches involving "hypersonic missiles" capable of high speed and manoeuvring after lift-off, and another test on Friday using a pair of SRBMs fired from train cars. The U.N. Security Council is likely to meet behind closed-doors on Thursday on the continued missile launches, diplomats said. The United States, Britain, France, Ireland and Albania made the request for a Council discussion. South Korea's military said on Monday that North Korea launched two short-range ballistic missiles (SRBMs) from an airport in its capital, Pyongyang, which flew about 380 km (236 miles) to a maximum altitude of 42,000 meters (137,800 feet).

<https://www.reuters.com/world/asia-pacific/nkorea-tested-tactical-guided-missiles-monday-kcna-2022-01-17/>

N.Korea fires cruise missiles amid tension over lifting nuclear moratorium

Cynthia Kim and Hyonhee Shin

Reuters, January 25, 2022

North Korea fired two cruise missiles into the sea off its east coast on Tuesday, South Korea's military said, amid rising tension over a recent series of weapons tests. South Korea's Joint Chiefs of Staff did not specify the missiles' range or trajectory, but said it was conducting an analysis together with U.S. authorities. The launch was North Korea's fifth of the year, following tests of a tactical guided missile, two "hypersonic missiles" capable of high speed and manoeuvring after lift-off, and a railway-borne missile system. Tension has been growing, with leader Kim Jong Un vowing

last week to bolster the military and warning he could lift a self-imposed moratorium on testing atomic bombs and long-range missiles. [read more](#)

A spokesperson the U.S. State Department said the United States was aware of the latest launch reports and was assessing them with South Korea and Japan. The official offered no details but reiterated that Washington remained open to dialogue with Pyongyang. "Broadly speaking, as we have said our goal remains the complete denuclearisation of the Korean peninsula. We remain prepared to engage in serious and sustained diplomacy without preconditions to make tangible progress." At the same time, the spokesperson said, the United States would continue efforts in coordination with the international community to prevent the advancement of North Korea's weapons of mass destruction and ballistic missile programs. North Korea has not launched intercontinental ballistic missiles or nuclear weapons since 2017, but began testing a slew of shorter-range missiles after denuclearisation talks stalled following a failed summit with the United States in 2019. The flurry of recent tests sparked a U.S. push for fresh U.N. sanctions, followed by heated reaction from Pyongyang.

<https://www.reuters.com/world/asia-pacific/north-korea-appears-have-fired-cruise-missiles-report-2022-01-25/>

Explainer: Minds behind the missiles: N.Korea's secretive weapons developers

Josh Smith

Reuters, January 27, 2022

North Korea's flurry of new missile tests, including what it calls "hypersonic" weapons, has underscored the importance of the country's missile engineers and scientists, a group that is high profile within his government but opaque to outsiders. Analysts say Kim Jong Un appears to be taking steps to institutionalize the missile forces, signalling

his likely intent to make them a long-term, operational part of his military plans. Here's what we know – and what we don't – about these key personnel.

<https://www.reuters.com/world/asia-pacific/minds-behind-missiles-nkoreas-secretive-weapons-developers-2022-01-24/>

North Korea fires two missiles as U.S. condemns flurry of tests

Josh Smith

Reuters, January 27, 2022

Nuclear-armed North Korea fired what appeared to be two short-range ballistic missiles on Thursday, drawing condemnation from the United States for what would be the sixth round of missile tests this month. The series of tests is among the most missiles ever launched by North Korea in a month, analysts said, as it begins 2022 with a dizzying display of new and operational weapons. South Korea's Joint Chiefs of Staff said it had detected the launch of what it presumed were two ballistic missiles at about 8 a.m. (2300 GMT) from near Hamhung, on the east coast of North Korea. They travelled for about 190 km to an altitude of 20 km, JCS added. North Korea said this month it would bolster its defences against the United States and consider resuming "all temporally-suspended activities", an apparent reference to a self-imposed moratorium on tests of nuclear weapons and long-range missiles.

<https://www.reuters.com/world/china/nkorea-fires-projectile-into-sea-off-east-coast-skorea-says-2022-01-26/>

North Korea caps month of tests with longest-range missile since 2017

Josh Smith and Cynthia Kim

Reuters, January 30, 2022

North Korea conducted its largest missile test since 2017 on Sunday, sending a suspected intermediate-range ballistic missile soaring into space, seen as taking the nuclear-armed country a step closer to resuming long-range testing. South Korea's Joint Chiefs of Staff

reported that a projectile believed to be a single ballistic missile was launched about 7:52 a.m. (2252 GMT) from North Korea's Jagang Province toward the ocean off its east coast. South Korea's National Security Council (NSC), which convened a rare emergency meeting presided over by President Moon Jae-in, said the test appeared to involve an intermediate-range ballistic missile (IRBM), which North Korea has not tested since 2017. The launch takes North Korea a step closer to fully scrapping a self-imposed moratorium on testing its longest-range intercontinental ballistic missiles (ICBMs), Moon said.

<https://www.reuters.com/world/asia-pacific/north-korea-fires-projectiles-into-sea-off-east-coast-yonhap-2022-01-29/>

Explainer: From hypersonics to workhorse weapons, N.Korea showcases missile diversity

Josh Smith

Reuters, January 31, 2022

North Korea capped one of its busiest months of missile tests ever with the launch of its Hwasong-12 intermediate-range ballistic missile on Sunday, highlighting efforts to ensure it has reliable systems for delivering nuclear warheads. January's testing schedule began with the launch of a new "hypersonic missile," and went on to include long-range cruise missiles, and short-range ballistic missiles launched from railcars and airports, underscoring the nuclear-armed state's rapidly expanding and advancing arsenal amid stalled denuclearisation talks.

<https://www.reuters.com/world/asia-pacific/hypersonics-workhorse-weapons-nkorea-showcases-missile-diversity-2022-01-31/>

Analysis: With seven tests in a month, North Korea calls for world to accept its missiles

Reuters, January 31, 2022

North Korea's unusually active month of missile testing appears aimed in part at securing global acceptance of its

sanctioned weapons programmes, analysts said, whether through concessions or simply winning tired acquiescence from a distracted world. North Korea appears to be taking advantage of a period when the world is preoccupied with the pandemic and other crises to test an increasingly wide range of weapons, analysts and officials said.

“The world’s distraction on other issues actually seems to be working to North Korea’s benefit right now,” Markus Garlauskas, a senior fellow with the Atlantic Council think tank and former U.S. national intelligence officer for North Korea. North Korea tested an intermediate-range ballistic missile for the first time since 2017, its seventh test in the past month. U.S. and South Korean officials say they fear the launch could be a step toward fully resuming tests of its longest-range missiles or nuclear weapons.

<https://www.reuters.com/world/asia-pacific/with-seven-tests-month-nkorea-calls-world-accept-its-missiles-2022-01-31/>

M. South Korea

UAE imports M-SAM2 on Moon’s visit

Korea Herald, January 16, 2022

President Moon Jae-in, who is visiting the United Arab Emirates, met with Prime Minister Mohammed bin Rashid Al Maktoum at the Dubai Expo on Sunday and discussed ways to strengthen cooperation in defense, nuclear power plants and Korea’s plan to host the 2030 Busan Expo. During the meeting, the UAE decided to import the Korean interceptor missile Cheongung II, or M-SAM2, becoming the first country to operate the missile other than Korea. The UAE Ministry of Defence announced a plan to import M-SAM2 in November last year, but the purchase contract was finalized after the meeting between the top leaders of the two countries. The contract is worth 4 trillion won (\$3.3 billion), the largest export in the history of Korea’s defense industry. The mid-range anti-aircraft missile was developed by the state-run Agency for Defense

Development and two private firms, LIG Nex1 and Hanwha System, to replace the old mid-range surface-to-air missile Hawk. M-SAM2, which was judged to be suitable for combat in June 2017, was first supplied to the Korean military in early November 2020.

http://www.koreaherald.com/view.php?ud=20220117000654&ACE_SEARCH=1

Lee, Yoon offer diverging views on dealing with N. Korea

Korea Herald, January 17, 2022

Ruling party presidential candidate Lee Jae-myung has called for simultaneously pursuing North Korea’s denuclearization and sanctions relief, while his main opposition rival Yoon Suk-yeol has vowed to strengthen the extended deterrence provided by the United States. Lee of the liberal ruling Democratic Party and Yoon of the conservative People Power Party detailed their plans for dealing with North Korea’s nuclear weapons program in written interviews with the Korean-American Club, a group of former and current South Korean correspondents to the US.

http://www.koreaherald.com/view.php?ud=20220117000761&ACE_SEARCH=1

Yoon vows to secure preemptive strike capability after NK launch

Korea Herald, January 17, 2022

Main opposition presidential candidate Yoon Suk-yeol on Monday vowed to secure a preemptive strike capability after North Korea conducted its fourth missile test this year. Yoon of the conservative People Power Party previously mentioned the need to carry out a preemptive strike in the event North Korea appears ready to fire a nuclear-tipped missile at the South.

http://www.koreaherald.com/view.php?ud=20220117000895&ACE_SEARCH=1

Nuke envoys of S. Korea, US, Japan hold phone talks over N. Korea's latest projectile launches

Korea Herald, January 17, 2022

The top nuclear envoys of South Korea, the United States and Japan held a discussion Monday about North Korea's latest apparent missile test and agreed to maintain the close trilateral cooperation in the region, Seoul's foreign ministry said. Noh Kyu-duk, special representative for Korean Peninsula peace and security affairs, had the emergency consultations with his American and Japanese counterparts – Sung Kim and Takehiro Funakoshi – hours after the North lobbed two suspected short-range ballistic missiles into the East Sea, the fourth show of force this year.

http://www.koreaherald.com/view.php?ud=20220117000900&ACE_SEARCH=1

No signs of work to restore nuclear test tunnels at Punggye-ri site: Seoul official

Korea Herald, January 25, 2022

South Korea has detected no signs of North Korea trying to restore underground tunnels at its purportedly demolished Punggye-ri nuclear test site despite indications of maintenance work there, a Seoul official said Tuesday. The official's assessment came after Olli Heinonen, a former deputy director-general at the International Atomic Energy Agency, told the Voice of America (VOA) earlier this week that the North is maintaining the site as evidenced by "trails of the cars and cleaning of snow." In May 2018, the North claimed to have demolished the site in a show of willingness to denuclearize. The following month, it committed to work toward the "complete denuclearization" of the Korean Peninsula at the first-ever summit with the United States in Singapore. "We have identified the reported maintenance activities at part of the facilities there, but we have not detected any signs of activities to restore tunnels," the official told reporters on condition of anonymity.

http://www.koreaherald.com/view.php?ud=20220125000702&ACE_SEARCH=1

Yoon vows to scrap nuclear phaseout policy

Korea Herald, January 25, 2022

Main opposition presidential candidate Yoon Suk-yeol said Tuesday he will scrap the nuclear phaseout policy and reduce the proportion of fossil fuel generation by a third to cut fine dust emissions by more than 30 percent. Yoon of the conservative People Power Party made the remarks while announcing his election pledges on the environment and agriculture at the party's headquarters in Seoul. Yoon said he, if elected president in March, will do his utmost to reduce fine dust pollution by abolishing the Moon Jae-in government's policy to phase out nuclear energy and expediting the reduction of coal-fired power generation as much as possible.

http://www.koreaherald.com/view.php?ud=20220125000698&ACE_SEARCH=1

S. Korea remains committed to nuclear phaseout scheme: energy minister

Korea Herald, January 25, 2022

South Korea remains committed to its policy of phasing out nuclear power plants as part of efforts to achieve carbon neutrality, the country's energy minister said. Moon Sung-wook, minister of trade, industry and energy, reaffirmed there will be no change in the Moon Jae-in government's nuclear phaseout policy hours after main opposition presidential candidate Yoon Suk-yeol said he will scrap the plan if elected and seek to increase nuclear power generation. "The basic direction of the energy transition plan that the government decided in 2017 is not to increase nuclear power plants from the current level," the minister said in a new year press meeting. South Korea has pushed to boost the supply of power from clean and renewable energy sources while weaning the country off nuclear and coal-fired plants.

http://www.koreaherald.com/view.php?ud=20220125000995&ACE_SEARCH=1

S. Korea, UAE hold high-level talks on forming joint bidding team for nuclear energy projects

Korea Herald, January 26, 2022

South Korea and the United Arab Emirates held a high-level meeting on Wednesday and agreed to establish a joint bidding team for nuclear energy projects in third-party countries, the foreign ministry said. The agreement was reached in the fourth session of their high-level consultation on nuclear energy, led by Seoul's Second Vice Foreign Minister Choi Jong-moon and Suhail Mohamed Al Mazrouei, the UAE minister of energy and industry, held through video links, according to the ministry. Both sides also agreed to conduct joint research on aging of concrete structures, taking into consideration the UAE's climate conditions, and begin separate performance analysis research on accident tolerant fuel, which prevents hydrogen from exploding in a nuclear accident.

http://www.koreaherald.com/view.php?ud=20220126001015&ACE_SEARCH=1

N. Japan

Kishida to form new group to take on nuclear-free goal

Asahi Shimbun, January 18, 2022

Prime Minister Fumio Kishida declared he will set up an international group of "eminent persons" to achieve his dream of a world free of nuclear weapons. He made the announcement Jan. 17 during a policy speech in the Diet. Kishida said he hoped the group will convene its first meeting in Hiroshima Prefecture within this year. His aim is to gather current and former political leaders from both nuclear states and non-nuclear states to move forward on dialogue toward nuclear disarmament. Kishida, whose constituency is in Hiroshima Prefecture, has long advocated nuclear disarmament. Late last year, he created a new post called prime minister's aide in charge of nuclear disarmament issues. He had also intended to attend the Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons

due to be held this month in the United States that was called off because of the COVID-19 pandemic.

<https://www.asahi.com/ajw/articles/14524640>

Japan's clean energy strategy to push nuclear technologies

Asahi Shimbun, January 19, 2022

Prime Minister Fumio Kishida instructed his Cabinet on Jan. 18 to draw up a new clean energy strategy for the country that will lay out the government's vision to achieve a carbon-neutral society. Kishida intends to promote the development of nuclear technology, not just renewable energy through the strategy, which he hopes to make a key element of his flagship policy platform, which he is calling "new capitalism." "Climate change is an issue where negative aspects of capitalism, including a lack of sustainability, are concentrated," Kishida said in a meeting with experts held in the prime minister's office the same day, and told them he would like to share with them the overall picture of changes occurring in this field. Kishida added that he intends to at least double investment in this area. Japan is aiming to reach net-zero carbon emissions by 2050, but that target will heap extra burden on businesses that use a lot of fossil fuel, for example, by requiring them to overhaul their operations.

<https://www.asahi.com/ajw/articles/14525409>

Call for Japan to join nuclear ban treaty on 1st anniversary

Asahi Shimbun, January 23, 2022

Supporters of a U.N. treaty banning nuclear weapons gathered Jan. 22 in Hiroshima and Nagasaki to mark the first anniversary of the pact going into force, stepping up their calls on Japan to sign it. Standing in front of the symbolic Atomic Bomb Dome in Hiroshima, 10 or so members of a Hiroshima-based group calling for the abolition of nuclear weapons hoisted a banner that read the "whole world should join the Treaty on the Prohibition of Nuclear Weapons."

“Unless Japan, the only country in the world to have been ravaged by atomic bombing, speaks out in the international community, it will be impossible to eliminate nuclear weapons,” said Shuichi Adachi, a lawyer representing the group. Participation in the rally was kept to a minimum as a safety precaution against the COVID-19 pandemic. Tomoyuki Mimaki, a representative of the association of A- and H-bomb sufferers in Hiroshima Prefecture, expressed disappointment with a joint statement released Jan. 21 by Tokyo and Washington on the issue of nuclear weapons. “They treated the question with kid gloves,” he said dismissively, noting that although the statement encouraged the world’s political leaders and youth to visit Hiroshima and Nagasaki, it made no reference to the treaty.

<https://www.asahi.com/ajw/articles/14528449>

Japan’s Tepco hit by setback in clean-up of crippled Fukushima nuclear plant

Reuters, January 23, 2022

The operator of Japan’s crippled Fukushima nuclear power plant has found that a coolant solution, used to create an ice wall halting the seepage of groundwater into reactor buildings, has leaked from two storage tanks. The leakage has had no impact on the wall or environment, said Tokyo Electric Power Co Holdings Inc (Tepco) (9501.T). Still, it underscores the unpredictable challenges in the clean-up of the site, nearly 11 year after an earthquake and tsunami ravaged Japan’s northeastern coast, causing the world’s worst nuclear disaster since Chernobyl, Ukraine, in 1986.

Only last year, Japan’s government approved the release of over 1 million tonnes of irradiated water from the site after treatment, starting around spring 2023. Tepco last month said it would build a tunnel reaching into the sea for the operation.

<https://www.reuters.com/world/asia-pacific/japans-tepco-hit-by-setback-clean-up-crippled-fukushima-nuclear-plant-2022-01-23/>

Explainer: Wall of ice at Fukushima’s crippled nuclear plant

Reuters, January 25, 2022

The operator of Japan’s crippled Fukushima nuclear power plant said this month that two storage tanks had leaked about four tonnes of coolant solution used to create an ice wall that prevented groundwater from seeping in. The operator, Tokyo Electric Power Co Holdings (9501.T) (Tepco), said the leak had no impact on the wall or the environment, however. But the incident highlights its struggle to clean up the plant nearly 11 years after a massive earthquake and tsunami set off meltdowns in the worst nuclear disaster since Chernobyl in 1986. It also comes just as the utility is readying to build a tunnel to the sea to release more than 1 million tonnes of irradiated water from the site, after treatment, in an effort set to start around the spring of 2023.

<https://www.reuters.com/world/asia-pacific/wall-ice-fukushimas-crippled-nuclear-plant-2022-01-25/>

Japan to lend U.S. technical support to build fast reactor

Asahi Shimbun, January 27, 2022

The Japan Atomic Energy Agency and Mitsubishi Heavy Industries Ltd. have agreed to provide technical support to a fast nuclear reactor development project in the United States led by a U.S. firm. “We hope it will help maintain and improve Japan’s technologies to develop fast reactors,” said an agency official. The agency and Mitsubishi Heavy Industries announced on Jan. 26 that they will join TerraPower LLC’s project to build a 345-megawatt fast reactor in the U.S. state of Wyoming. TerraPower plans to finish construction in 2028. The reactor uses sodium as a coolant, just like Japan’s Monju prototype fast breeder reactor in Fukui Prefecture, which in 2016 was decided to be scrapped. Details on the

technical support will be decided in future discussions, but the U.S. firm is showing an interest in Japan's sodium-cooling technologies, according to sources. The Japanese government has no plans to build a successor to the Monju reactor but intends to continue with its research and development on fast reactors. It is apparently aiming to train personnel who can develop these kinds of reactors by participating in the TerraPower project.

<https://www.asahi.com/ajw/articles/14533453>

EDITORIAL: Realistic debate needed instead of new push for fast nuclear reactors

Asahi Shimbun, January 28, 2022

Japan has agreed to work with a U.S. company in technological cooperation to develop a sodium-cooled fast reactor. People involved in the project stress that the new technology will contribute to the goal of a carbon-free society. But the government should not eschew reality-based debate on the future of existing nuclear power reactors. The Japan Atomic Energy Agency, Mitsubishi Heavy Industries Ltd. and other Japanese entities will cooperate with TerraPower LLC's project to build a fast reactor in the U.S. state of Wyoming. Fast reactors are more resource efficient as they can burn types of nuclear fuel that cannot be used at conventional reactors. TerraPower's reactor will use liquid sodium as a cooling agent such as the Monju prototype fast-breeder reactor, which Japan decided to decommission after a series of accidents. Japan can provide meaningful support to develop a new type of reactor and maintain related technology by offering what it has learned from its experiences including failures. Japan has been promoting the concept of recycling separated plutonium back into fuel for nuclear power generation. Fast reactor technology to burn plutonium is at the core of this strategy.

<https://www.asahi.com/ajw/articles/14534098>

Doubts grow on water-release schedule at Fukushima plant

Asahi Shimbun, January 31, 2022

Shovel loaders digging pits at the Fukushima No. 1 nuclear power plant on Jan. 17 were a rare sign of progress in the government's contentious water-discharge plan at the stricken site. Under the plan, millions of tons of treated but still contaminated water stored at the plant will be released into the sea over decades starting in spring 2023. However, opposition to the plan remains fierce among local residents, the fishing industry and even overseas governments. The pits being dug will temporarily hold radioactive water right before the release. But other preparatory work has already been stalled. The government plans to create an undersea tunnel through which the treated and diluted radioactive water will be released into the sea about 1 kilometer from the plant. Drilling work for the tunnel was initially scheduled to start early this year, but it was delayed to June. Some government officials now doubt that the tunnel can be completed in time for the planned water release. "It would be impossible to construct the underwater tunnel in less than a year," one official said.

<https://www.asahi.com/ajw/articles/14536446>

Ministry to resume subsidies for stalled pluthermal plan

Asahi Shimbun, February 02, 2022

The economy ministry plans to bring back its subsidy program for areas that host pluthermal generation facilities in an attempt to break the logjam in the nuclear fuel recycling program. The funds will be offered by the end of fiscal 2022. The pluthermal program is part of the government's nuclear fuel cycle policy, in which plutonium extracted from spent nuclear fuel produced at power plants in Japan is processed into plutonium-uranium mixed oxide (MOX) fuel and

reused at reactors. The Federation of Electric Power Companies of Japan plans to start pluthermal power production at 12 or more reactors by fiscal 2030. But the technology has been in service at only four reactors: the No. 3 and No. 4 reactors in Kansai Electric Power Co.'s Takahama plant in Fukui Prefecture; the No. 3 reactor of Shikoku Electric Power Co.'s Ikata plant in Ehime Prefecture; and the No. 3 reactor of Kyushu Electric Power Co.'s Genkai plant in Saga Prefecture.

By distributing the local-revitalization subsidies, the ministry hopes to accelerate the formation of regional agreements on the fuel cycle project. A reprocessing facility operated by Japan Nuclear Fuel Ltd. in Aomori Prefecture to recover plutonium is scheduled for completion in the first half of fiscal 2022, but the treatment plant cannot be put in full operation unless pluthermal generation spreads. Unable to expand the use of MOX fuel, Japan now has 46 tons of plutonium stuck in storage, which has raised international concerns over its potential use in nuclear weapons.

<https://www.asahi.com/ajw/articles/14526390>

O. China

PLA Xinjiang Military Command gets new air defense missiles, artillery, rocket launch systems

Liu Xuanzun

Global Times, January 18, 2022

The Chinese People's Liberation Army (PLA) Xinjiang Military Command recently commissioned a large batch of advanced air defense missiles, artillery and multiple rocket launch systems, which analysts said are expected to enhance the troops' emergency response capabilities under complicated situations. A regiment affiliated with the PLA Xinjiang Military Command recently held a commissioning ceremony for the new additions to its arsenal, including the HQ-17A air defense missile system, the PCL-181 155-millimeter-caliber (155mm) self-propelled howitzer and the PHL-11 122-millimeter-caliber (122mm) modularized multiple rocket launcher systems.

The latest upgraded version of the HQ-17 made its public debut during the National Day military parade in Beijing in 2019. The HQ-17A air defense missile system integrated search radar, guidance radar, air defense radar and command system on a single vehicle, and is characterized by its high mobility, large detection range and high accuracy, eastday.com reported, noting that the vehicle can launch missiles while moving. The PCL-181 155mm self-propelled howitzer also made its first appearance at the military parade in 2019. Since then, it has become a favorite of the PLA mechanized artillery forces thanks to its outstanding performance and high lethality, the report said. Dubbed the "Iron Rain" due to its rapid firepower, the PHL-11 122mm multiple rocket launcher system has long range, high accuracy, high mobility and is highly intelligent. As a mid-to-long-range suppression weapon, it can pour dozens of rockets on a large area in the hostile position within a dozen seconds, according to the report.

<https://www.globaltimes.cn/page/202201/1246301.shtml>

Core catcher casing in place at Xudabao 3 and Tianwan 7

World Nuclear News, January 18, 2022

The core catcher casing has been installed for two Russian-supplied VVER-1200 reactors being constructed in China. The 156-tonne casing is part of the core catcher, which is intended to prevent release of radioactive substances in the event of a severe accident.

<https://www.world-nuclear-news.org/Articles/Core-catcher-casing-in-place-at-Xudabao-3-and-Tian>

UN Security Council has no plan on discussions of sanctions against N.Korea: Chinese FM

Global Times, January 19, 2022

The UN Security Council has no plans to discuss a draft resolution on sanctions against North Korea, Chinese Foreign Ministry spokesperson Zhao Lijian said, calling on members of the

Security Council to focus on advancing the political settlement process of the Peninsula issue. The Biden administration imposed its first sanctions on North Korea on January 12, in response to North Korea's missile tests earlier this month, according to a report from the BBC. On January 17, North Korea fired two short-range missiles into waters off the coast of Japan, the latest in an unusual flurry of tests, the BBC cited South Korea's military as saying. In response, a foreign ministry spokesperson in Pyongyang said that the sanctions launched by the US were "intentionally escalating" the situation, and if "the US adopts such a confrontational stance, the DPRK will be forced to take stronger and certain reaction to it".

<https://www.globaltimes.cn/page/202201/1246401.shtml>

China to start upgrading J-20 fighter engines in bid to close gap with US F-22

Minnie Chan

South China Morning Post, January 20, 2022

China will start upgrading the engines of its most advanced stealth fighter jet, the J-20, this year to bring its performance closer to the American F-22 Raptor, according to a military source. The performance of the fighter, also known as the Mighty Dragon, had been limited because it has been using a stopgap engine, the WS-10C, the latest model of an engine used in earlier Chinese warplanes.

<https://www.scmp.com/news/china/military/article/3163986/china-start-upgrading-j-20-fighter-engines-bid-close-gap-us-f>

China says it warned off US warship in Paracel Islands. American navy differs

Cyril Ip

South China Morning Post, January 20, 2022

The Chinese and US militaries have exchanged sharp words after an American warship sailed through the Paracel Islands in the disputed South China Sea. China's

People's Liberation Army (PLA) said that its air and naval forces had warned off the Arleigh Burke-class guided-missile destroyer USS Benfold after it entered the chain, known in China as the Xisha Islands and claimed by Beijing, Taipei and Hanoi. However, the US Navy denied that it had been warned off. The PLA said that the American ship had entered China's territorial waters, without providing a precise track of its passage. It issued a statement in which PLA Southern Theatre Command spokesman Tian Junlin called the passage "another piece of ironclad evidence of [the US] pursuit of navigational hegemony and militarisation of the South China Sea".

<https://www.scmp.com/news/china/diplomacy/article/3164125/china-says-it-warned-us-warship-paracel-islands-american-navy>

PLA expels US warship trespassing Chinese territorial waters in S.China Sea

Liu Xuanzun

Global Times, January 20, 2022

The Chinese People's Liberation Army (PLA) expelled a US warship that trespassed Chinese territorial waters in the South China Sea, a move experts said displays the PLA's capability to safeguard national sovereignty and territorial integrity amid several other recent US muscle-flexing moves in the region. On January 20, the USS Benfold guided missile destroyer illegally entered the Chinese territorial waters of Xisha Islands without authorization from the Chinese government, Senior Colonel Tian Junli, spokesperson at the PLA Southern Theater Command, said in a statement on the day. The PLA Southern Theater Command organized naval and air forces who tracked, monitored and warned the US warship away, Tian said. This is the first time a US warship has trespassed Chinese territorial waters in the South China Sea in 2022.

<https://www.globaltimes.cn/page/202201/1246499.shtml>

China, Iran, Russia carry out joint naval drills amid rising US headwinds

Amber Wang

South China Morning Post, January 21, 2022

China, Iran and Russia have carried out three days of joint naval drills in the Gulf of Oman, their second such exercise since 2019. "China sent the guided-missile destroyer Urumqi, the comprehensive supply ship Taihu, ship-borne helicopters and 40 members of the Marine Corps of the PLA Navy to take part in the drills," the defense ministry in Beijing announced. The exercise, held from January 18 to January 20, aimed to demonstrate the capability of the three nations to "jointly safeguard maritime security" and promote regional peace and stability, the ministry said in a statement on its website.

<https://www.scmp.com/news/china/military/article/3164278/china-iran-russia-carry-out-joint-naval-drills-amid-rising-us>

US lambasted for double standards on nonproliferation

Leng Shumei and Yu Xi

Global Times, January 22, 2022

Chinese Foreign Ministry slammed the US' recent "missile proliferation" sanctions on three Chinese military enterprises, saying it is a typical "bullying behavior" aimed to contain Chinese enterprises out of political motives, and reflects US double standards. Foreign Ministry spokesperson Zhao Lijian urged the US to revoke the sanctions and stop suppressing and smearing China and Chinese enterprises, noting that China will reserve the right to take further action. A spokesperson for China's Ministry of Commerce said on January 22 that China firmly opposes US' sanctions on Chinese companies, which are totally groundless, and urged the US to correct its wrongdoings.

<https://www.globaltimes.cn/page/202201/1246593.shtml>

China's first project applying E-beam irradiation to combat COVID-19 on cold-chain food ready for implementation

Global Times, January 24, 2022

A Chinese nuclear company has finished research of the country's first installation used for disinfecting cold-chain food's outer package and is working on the project's implementation, the company's board secretary disclosed in response to an inquiry from investors. The company, namely the CGN Nuclear Technology Development Co (CGNNT), a subsidiary of China's state-owned nuclear power giant China General Nuclear Power Corp (CGN), said that the company's project, which applies electron beam (E-beam) irradiation technology to fight against coronavirus on the outer package of cold-chain food has passed the review of expert group in March, 2021.

The company is currently pushing for the landing of this pilot project, the person said. According to information sent by CGN, the project has carried out 11 batches of experiments on 190 samples, and found that 5-10 KGy E-beams are enough to kill live coronavirus viruses on the surface of filter paper, and the results won't turn positive after three generations of blind transmission.

<https://www.globaltimes.cn/page/202201/1246724.shtml>

Exclusive: Pakistan Navy inducts 1st Type 054A/P frigate developed by China

Liu Xuanzun

Global Times, January 24, 2022

The Pakistan Navy on January 24 inducted the PNS Tughril, the first of four Type 054A/P frigates developed by China, in the Pakistan Navy Fleet, with the president of Pakistan hailing the

friendship between the two countries and announcing that the Type 054A/Ps will serve to safeguard the sea routes of the China-Pakistan Economic Corridor (CPEC). The induction ceremony of the PNS Tughril multi-role frigate was held at the Pakistan Navy Dockyard in Karachi, according to a press release the Pakistan Navy sent to the Global Times on the day.

President of Pakistan Dr Arif Alvi said at the ceremony that the Type 054A/P project is yet another manifestation of the deep friendship with China, and the collaboration shows a time-tested brotherly fraternity that is emerging between the two countries and continues to get stronger and stronger every day, which is focused on promoting security, stability and peace.

<https://www.globaltimes.cn/page/202201/1246789.shtml>

As PLA threat grows, Taiwan's bid to boost defense 'may lead to conflict'

Kristin Huang

South China Morning Post, January 25, 2022

Taiwan is boosting defense in the face of growing pressure from Beijing, a move mainland Chinese analysts say could worsen tensions across the strait. The self-ruled island lives with

the threat of invasion by Beijing, which claims Taiwan as its own territory to be taken back - by force if necessary. It has stepped up military intimidation of Taiwan, sending a record number of People's Liberation Army fighter jets and bombers into the island's air defense zone last year - and doing so on an almost daily basis.

<https://www.scmp.com/news/china/military/article/3164304/pla-threat-grows-taiwans-bid-boost-defence-may-lead-conflict>

Taiwan scrambles jets after Beijing sends 52 aircraft to island's air defense zone in two days

Lawrence Chung

South China Morning Post, January 25, 2022

The People's Liberation Army has sent 52 warplanes into Taiwan's air defense zone in the past two days, prompting the island's air force to scramble jets and aim missiles to disperse them. According to Taiwan's defense ministry, 13 warplanes - 10 J-16 fighter jets, two H-6 bombers and a Y-8 anti-submarine aircraft - entered the southwest of the island's air defense identification zone (ADIZ) on January 24. The sorties followed 39 PLA warplanes - 34 fighter jets, four electronic warfare planes and a bomber - that flew into the island's ADIZ on January 23.

<https://www.scmp.com/news/china/military/article/3164494/beijing-sends-39-aircraft-taiwan-air-defence-zone-pushing>

US-Japan alliance restricting vital tech exports to China risks 'major impact' on trade, supply chains

Amanda Lee

South China Morning Post, January 25, 2022

An alliance between the United States and Japan to ban exports of sensitive technology to China risks upending trade ties between Beijing and Tokyo and would be "complex" to implement, analysts say, as the global battle for tech supremacy intensifies. Japan and the US are mulling the establishment of a multilateral framework to regulate the trade of advanced technology, which includes semiconductor manufacturing equipment, quantum cryptography and artificial intelligence, according to a report by

Japan's Yomiuri newspaper earlier this month, citing unidentified sources. The two countries are also planning to work with allies in Europe on the issue amid heightened concern about Beijing's military-civil fusion strategy.

<https://www.scmp.com/economy/china-economy/article/3164537/us-japan-alliance-restricting-vital-tech-exports-china-risks>

China's J-16D: a sign in the sky of a new electronic attack warplane threat to Taiwan?

Lawrence Chung and Amber Wang

South China Morning Post, January 25, 2022

The appearance of two PLA electronic warfare jets in a Taiwan air defense fly-by on January 24 signals a new possible threat to the island – an aircraft capable of launching direct strikes and interfering with radar systems at short-range, observers said. The island's defense ministry reported that 13 PLA warplanes entered the southwest of Taiwan's air defense identification zone (ADIZ). The aircraft included eight J-16 fighter jets, two H-6 bombers and a Y-8 anti-submarine aircraft. But there were also two J-16Ds, the electronic warfare version of the J-16 multirole strike fighter developed by Shenyang Aircraft Corp.

<https://www.scmp.com/news/china/military/article/3164678/chinas-j-16d-sign-sky-new-electronic-attack-warplane-threat>

F-35C's crash on carrier in S.China Sea exposes US exhaustion in containing China: experts

Liu Xuanzun and Guo Yuandan Global Times, January 25, 2022

A day after a US dual aircraft carrier group entered the South China Sea attempting to flex its muscles against China, an F-35C stealth fighter jet had a landing mishap on one of the carriers during flight operations, with analysts saying that the accident exposed the exhaustion of the US military, which has been flaunting its prowess against China at the cost of the physical and mental health of its troops and high technical risks.

An F-35C stealth fighter jet had a landing mishap on the deck while the USS Carl Vinson was conducting routine flight operations in the South China Sea, the US Navy announced in a statement.

The pilot safely ejected from the aircraft and was recovered by a US military helicopter and is in stable condition, the statement said, noting that seven sailors were injured, three of them required evacuation to a medical treatment facility in Manila, Philippines, while the other four were treated by on-board medical personnel. These operations put US military personnel under high tension and exhaust them physically and mentally, Zhang said. "Accidents would be unavoidable under this situation." The US military should stop its trouble-stirring, stop violating other countries' sovereignty and security, or more accidents are bound to happen, Zhang warned.

<https://www.globaltimes.cn/page/202201/1246898.shtml>

China, Russia hold joint anti-piracy drills in Arabian Sea

Global Times, January 25, 2022

The navies of China and Russia on January 22 conducted joint anti-piracy drills in the northern part of the Arabian Sea with the aim of enhancing the capabilities of the two countries' militaries in safeguarding strategic maritime routes, the Chinese Defense Ministry stated. A total of five warships plus vessel-based helicopters and marines took part in the exercise, China's Ministry of National Defense stated. During the drills, the Chinese-Russian flotilla practiced training courses including joint manoeuvre, saving hijacked vessels and transporting injured personnel with helicopters in a mock joint anti-piracy operation, the Chinese Defense Ministry said.

The drills further enriched the meaning of the China-Russia comprehensive strategic partnership of coordination for a new era and gathered beneficial experiences for the two sides to conduct

anti-piracy missions together. It also enhanced the two militaries' capabilities in dealing with maritime threats and safeguarding the security of strategic maritime routes, the press release said.

<https://www.globaltimes.cn/page/202201/1246883.shtml>

PLA warplanes tie noose around neck of 'Taiwan secessionists': Global Times editorial

Global Times, January 25, 2022

The Chinese People's Liberation Army (PLA) sent warplanes near the island of Taiwan on January 21 and January 22. On January 21, 39 aircraft flew, the largest daily number this year. The Democratic Progressive Party (DPP) authority appeared very nervous and upset. They should be. It has become normal for PLA warplanes to fly around Taiwan and approach the island for patrols. A sword of Damocles is hung over the head of "Taiwan secessionists," and at the same time, it concretizes and materializes the warning and deterrence of the Chinese mainland.

<https://www.globaltimes.cn/page/202201/1246812.shtml>

How US Weaponizes NATO to Maintain Its Own Space Dominance & Deter Russia and China

Global Times, January 26, 2022

NATO released its "overarching" space policy on 17 January, stipulating that any space-based attack on an ally could trigger the alliance's collective defense policy under the bloc's Article 5. What's behind the renewed US focus on space and expansion of NATO activities there? NATO's newly released space doctrine expands on the alliance's 2019 Space Policy - which recognised space as a new "operational domain", alongside air, land, sea, and cyberspace - and vows to help make its members' space capabilities compatible and interoperable. According to NATO, space is becoming more "crowded and competitive"

with satellites being vulnerable to interference from certain countries, including Russia, China, Iran, and North Korea, which have developed and tested a wide range of counter-space and anti-satellite technologies (ASAT). The alliance proclaims that attacks in space against its members could lead to the invocation of NATO's Article 5, but falls short of defining what exactly constitutes an "attack". Instead, the doctrine says that decisions about this will be made on a "case-by-case" basis.

<https://www.globaltimes.cn/page/202201/1246939.shtml>

Beijing, Moscow obliged to step up green energy cooperation

Guo Xiaoqiong

Global Times, January 26, 2022

The 2022 Beijing Winter Olympic Games will commence on February 4. Based on the concept of "green Olympics," all of the 26 venues for the Games will be powered with 100 percent renewable energy. The idea of "green Olympics" provides Chinese wisdom on how to deal with the relationship between development and conservation. In order to meet the serious challenge of global warming, both China and Russia have set the strategic goal of low carbon and green gas emissions reduction, which puts forward new requirements for energy transformation in both countries, while creating new opportunities for green energy cooperation between Beijing and Moscow. China and Russia also have a good foundation for nuclear energy cooperation. Russia has gathered rich experiences in the field of nuclear energy development, and China and Russia have been engaging in nuclear energy cooperation for many years.

Tianwan and Xudapu nuclear power plants of China are two successful examples. Apart from deepening cooperation in traditional fields such as nuclear power, nuclear fuel and fast neutron reactors, China and Russia

should actively explore the potential for cooperation in new fields such as nuclear medicine, nuclear environmental protection, and digitalization of renewable energy development. Moreover, both countries need to explore various cooperation models, such as joint research and development, construction, as well as implementation and transformation of scientific and technological achievements.

<https://www.globaltimes.cn/page/202201/1246959.shtml>

Pandemic delays start up of Fangchenggang Hualong One units

World Nuclear News, January 26, 2022

Operation of the two demonstration Hualong One (HPR1000) reactors under construction at the Fangchenggang site in China's Guangxi Autonomous Region has been put back due to delays caused by COVID-19. Unit 3 will start up later in this year than previously planned and unit 4 will now not begin operating until 2024, China General Nuclear (CGN) said.

<https://www.world-nuclear-news.org/Articles/Pandemic-delays-start-up-of-Fangchenggang-Hualong>

Chinese military 'ready for any external provocation' during Winter Olympics

Amber Wang

South China Morning Post, January 28, 2022

China's navy has embarked on a series of military exercises in its waters this week, saying it is prepared for any kind of provocation during the Winter Olympics. Defense ministry spokesman Wu Qian said that China would ensure the Games were safe and "splendid", and the People's Liberation Army stood ready for any situation. "The Chinese military is also fully prepared for any external provocation and contingency," Wu said.

<https://www.scmp.com/news/china/diplomacy/article/3165141/chinese-military-ready-any-external-provocation-during-winter>

Lunar research station to be inked by China and Russia this year, operational by 2035: CNSA

Deng Xiaoci

Global Times, January 28, 2022

China released further details surrounding the construction of the International Lunar Research Station (ILRS), saying that the open and inclusive project jointly proposed by China and Russia is expected to become operational by 2035, China National Space Administration (CNSA) deputy head Wu Yanhua told. Wu made the remarks when speaking at a press conference for the release of China's fifth white paper on space activities, officially titled China's Space Program: A 2021 Perspective, commenting on inquiries by the Global Times on the project's status. At all stages, at all levels of construction, and in terms of sharing of research data and space-ground support system, we have set no limits, and welcome the world to join in its construction, Wu said. Just like the Antarctic and Arctic research stations, we are inclined to build such a facility at the lunar south pole, and construct a scientific laboratory facility on the moon's surface as well as in lunar orbit, in order to conduct multi-discipline research work.

<https://www.globaltimes.cn/page/202201/1250142.shtml>

China details future space ambition in white paper, calls for formulating UN-centered space rules

Deng Xiaoci

Global Times, January 28, 2022

With 207 orbital launches in the past five years, China's space industry has expanded to new horizons in the starry ocean of the vast cosmos, a newly released white paper on the country's space plans showed. It is the fifth of its kind following those issued in 2000, 2006, 2011 and 2016. In the next five years, China will start a new journey toward building a space power. The space industry will contribute

more to China's development, to global consensus and common efforts in outer space exploration and utilization, and to human progress, its preface noted.

<https://www.globaltimes.cn/page/202201/1250171.shtml>

P. World/Misc.

Researchers achieve milestone on path toward nuclear fusion energy

Will Dunham

Reuters, January 27, 2022

U.S. government scientists said on Wednesday they have taken an important step in the long trek toward making nuclear fusion - the very process that powers stars - a viable energy source for humankind. Using the world's largest laser, the researchers coaxed fusion fuel for the first time to heat itself beyond the heat they zapped into it, achieving a phenomenon called a burning plasma that marked a stride toward self-sustaining fusion energy. The energy produced was modest - about the equivalent of nine nine-volt batteries of the kind that power smoke detectors and other small devices. But the experiments at a Lawrence Livermore National Laboratory facility in California represented a milestone in the decades-long quest to harness fusion energy, even as the researchers cautioned that years of more work are needed.

<https://www.reuters.com/business/energy/researchers-achieve-milestone-path-toward-nuclear-fusion-energy-2022-01-26/>

Russia has sent some 30,000 combat troops, modern weapons to Belarus, NATO says

Reuters, February 03, 2022

Russia has been moving some 30,000 combat troops and modern weapons to Belarus over the last days, Moscow's biggest military deployment to the country since the end of the Cold War, NATO Secretary-General Jens Stoltenberg said. The deployment included Speznaz special

operations forces, SU-35 fighter jets, dual capable Iskander missiles and S-400 air defence systems, he told reporters in Brussels. "All this will be combined with Russia's annual nuclear forces exercise," he added. The term dual capable, which Stoltenberg used for the Iskander missiles, is used to describe weapons meant for conventional and nuclear warfare.

<https://www.reuters.com/world/europe/russia-has-sent-some-30000-combat-troops-modern-weapons-belarus-nato-says-2022-02-03/>

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Prepared by :

Ms Archita Anand

Indian Pugwash Society

No.1, Development Enclave,
Rao Tula Ram Marg, Near USI, Delhi-110010
Tel. No (91-11) 2671-7983
Fax No. (91-11)2615-4192
Email: indianpugwashsociety@gmail.com