

Nuclear, Missile & Space Digest

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A Fortnightly Newsletter from the Indian Pugwash Society

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- First Tu-160M newly-built strategic bomber wraps up factory tests – aircraft manufacturer
- Russian Navy to get strategic nuclear-powered sub, 12 surface ships in 2023
- IAEA experts heard sound of explosions near Zaporozhye NPP – Grossi
- Reserve power line to ZNPP damaged, shut down due to shelling Thursday – IAEA
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- Australia eyes B-21 to contain China, but will US sell its most advanced stealth bomber?
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- China launches military drills around Taiwan after US passes defence act
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D. Pakistan

- Pak minister Shazia Marri threatens India with "nuclear war"
- India will not back away if ..., Centre responds to Pakistan's nuclear threat
- Pakistan's nuclear program still an eyesore? Part 1
- Pakistan says it has provided list of nuclear facilities to India under annual practice

E. Europe

- German states oppose construction of Poland's first nuclear power plant

F. France

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- France's EDF Delays Restart of Nuclear Reactors in Blow to Energy Supply
- France Faces Lower Blackout Risk in January as Plants Return
- 25% of EU electricity production from nuclear sources
- France could reach 45 GW nuclear production output in January - CRE watchdog

G. Germany

- Germany says it sees no reason to resume Iran nuclear talks
- German residents told to prepare for nuclear emergencies

H. United Kingdom

- GE Hitachi and Holtec submit SMR designs for UK assessment
- Iran and EU signal continued work on nuclear deal in Jordan
- As EU Keeps 'Channels Open' With Iran, US Gives The Cold Shoulder
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- Update 138 - IAEA Director General Statement on Situation in Ukraine

J. Ukraine

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- A Biden admin official recently told members of Congress that Ukraine has the military capability to take back Crimea
- Ukraine updates: Kyiv takes fire from drone attacks
- Russian 'kamikaze' drones hit Kyiv, Putin has talks in ally Belarus
- Russian-installed official in Ukraine's Zaporizhzhia region says shelling of nuclear plant has almost stopped

K. United States of America

- Bill Gates-backed nuclear demonstration project in Wyoming delayed because Russia was the only fuel source
- Nuclear power has one last chance to flourish in the U.S.
- US Congress to allocate over \$17 bln on maintaining nuclear arsenal in combat readiness
- Does Biden Calling Iran Nuclear Deal Dead Reveal Real US Thinking?
- U.S. flies nuclear-capable bombers and stealth jets as show of force against North Korea
- A new era for nuclear energy post Inflation Reduction Act
- U.S. Imposes More Sanctions on Iran as Prospects Dim for Revival of Nuclear Deal

L. East Asia

- N Korea completes 'important' test of spy satellite: State media

M. Japan

- Japanese court says 45-year-old nuclear reactor can operate
- Japan approves nuclear energy U-turn to avert crisis
- Japan adopts plan to maximize nuclear energy, in major shift

N. North Korea

- North Korea to finish preparations for spy satellite by April
- North Korea slams Japan's military buildup, promises action
- North Korea launches three ballistic missiles on final day of year

O. Australia

- Leaders discuss future of nuclear-powered subs

A. India

Is that a UFO? Or a meteor? Or India's nuclear missile Agni-V?

India Today, December 16, 2022

Social media was flooded with posts from people puzzled over a bright flash seen in the skies that continued moving. The fiery tail led to speculations of meteors, comets, and even unidentified flying objects (UFOs). Relax, those alien aircraft have yet to exist, and even if they do, they are yet to find us. The bright plume of fire and flash seen in the skies was from the latest operational test of Agni-V, India's long-range, nuclear-capable, surface-to-surface ballistic missile. India successfully test-fired the nuclear-capable ballistic missile Agni-V that can strike targets at ranges up to 5,000 km, marking a significant boost to the country's strategic deterrence.

<https://www.indiatoday.in/science/story/is-that-a-ufo-or-a-meteor-no-its-indias-nuclear-missile-agni-v-2309834-2022-12-16>

PM Modi's concerns over use of nuclear weapons have impacted Russia, says CIA chief

India Today, December 18, 2022

Prime Minister Narendra Modi and Chinese President Xi Jinping's concerns about the use of nuclear weapons have had an impact on the Russians, Central Intelligence Agency (CIA) Chief William Burns said. The statement came after Russian President Vladimir Putin had acknowledged that the war in Ukraine is going to take a while, warning of the increasing threat of nuclear war. As the devastating war in Ukraine entered ten months with Russian forces retreating from most cities in Ukraine, Putin pledged that Moscow will fight by 'all available means at their disposal'. Ruling out the first use of nuclear weapons, Putin had said that he viewed the Russian nuclear arsenal as a deterrent rather than a provocation, CNN said in a report.

<https://www.indiatoday.in/india/story/pm-modi-xi-jinping-concerns-use-nuclear-weapons-impacted-russia-vladimir-putin-cia-chief-2310532-2022-12-18>

Union Minister Dr Jitendra Singh says, Space Sector in India is emerging as a major foreign exchange earner through launch of foreign satellites

PIB, December 20, 2022

Union Minister of State (Independent Charge) Atomic Energy and Space, Dr Jitendra Singh said that under Prime Minister Narendra Modi, Space Sector in India is emerging as a major foreign exchange earner through the launch of a large number of foreign satellites. In an exclusive interview with SANSAD TV, Dr Jitendra Singh informed that India has launched 385 foreign satellites so far, out of which 353 were launched in the last 8 years under this government, which is around 90 percent of all launches.

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=1885152>

Nuclear fusion may offer India a clean-energy pathway

Live mint, December 20, 2022

Earlier this month, scientists at the National Ignition Facility of the Lawrence Livermore Laboratory (LLL) in the US announced a "major scientific breakthrough" in nuclear fusion. Nuclear fusion technology is a less evolved but more promising pathway to clean energy than nuclear fission. Fission is a reaction in which the nucleus of an atom splits into smaller nuclei in such a way that a large amount of energy is released. This happens when heavy elements like uranium and plutonium split. In an opposite way, fusion is a reaction in which two or more atomic nuclei are combined in such a way that there is a release of energy. This typically happens when light elements combine in an 'exothermic' reaction. The periodic table of elements splits at about nickel (atomic weight 62); lighter elements are more 'fusible' and combine to release energy, while heavier elements are more 'fissionable' and split to release energy.

<https://www.livemint.com/opinion/columns/nuclear-fusion-may-offer-india-a-clean-energy-pathway-11671472935264.html>

India Supports Termination Of Iran's Nuclear Policy At UN

NDTV, December 20, 2022

India supports full and effective implementation of resolution 2231, which terminates United Nations resolution on Iran's nuclear policy, and encouraged the concerned parties to continue dialogue and diplomacy towards an early resolution of differences and return to full implementation of the Joint Comprehensive Plan of Action (JCPOA). While addressing the UN Security Council's meeting on non-proliferation, India's permanent representative Ruchira Kamboj said, "India supports the full and effective implementation of resolution 2231 and the Joint Comprehensive Plan of Action (JCPOA). We encourage the concerned parties to continue dialogue and diplomacy towards an early resolution of differences and return to full implementation of the JCPOA."

<https://www.ndtv.com/india-news/india-supports-termination-of-irans-nuclear-policy-at-un-3621861>

Russia's Rosatom sends 'more advanced' fuel option for India nuclear plant

Reuters, December 21, 2022

Russia's state-owned nuclear energy company Rosatom earlier this year sent a "more advanced" fuel option for a nuclear power plant in southern India, an Indian government minister told parliament on Wednesday. The fuel is for the Kudankulam nuclear power plant in Tamil Nadu state. "The first lot of TVS-2M fuel assemblies has been received in May-June 2022 from Russian Federation and loaded in Unit-1," minister Jitendra Singh said in a written reply to questions. "They are performing satisfactorily."

<https://www.reuters.com/business/energy/russias-rosatom-sends-more-advanced-fuel-option-india-nuclear-plant-2022-12-21/>

Union Minister Dr Jitendra Singh says, Indian Space Research Organisation (ISRO) of Government of India has signed 04 (four) cooperative documents specifically to collaborate in space exploration in the last five years

PIB, December 22, 2022

Union Minister of State (Independent Charge) Atomic Energy and Space, Dr Jitendra Singh today said Indian Space Research Organisation (ISRO) of Government of India has signed 04 (four) cooperative documents specifically to collaborate in space exploration in the last five years. In a written reply to a question in the Rajya Sabha today, Dr Jitendra Singh said, the agreement with the USA is for accommodating USA instruments in India's Chandrayaan-2 and Chandrayaan-3. He informed that the agreement with Japan is to conduct feasibility study for a joint lunar polar exploration mission, while with UK for conducting feasibility study for collaboration in future space science missions.

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=1885784>

Union Minister Dr. Jitendra Singh says, Russian State-owned nuclear energy corporation, Rosatom has offered a more advanced fuel option to Kudankulam Nuclear power plant

PIB, December 21, 2022

Union Minister of State (Independent Charge) Atomic Energy and Space, Dr Jitendra Singh said, Russian State-owned nuclear energy corporation, Rosatom has offered a more advanced fuel option to Kudankulam Nuclear power plant. In a written reply to a question in the Lok Sabha today, Dr Jitendra Singh said, the first lot of TVS-2M fuel assemblies has been

received in May-June 2022 from Russian Federation and loaded in Unit-1 and they are performing satisfactorily. Dr Jitendra Singh said, use of TVS-2M fuel assemblies in KKNPP reactors will allow 18-month operating cycles as against 12-month operating cycle with UTVS Fuel Assemblies presently in use in Unit-2.

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=1885328>

Power generator NTPC working on Roadmap for Nuclear Generation

The Economic Times, December 23, 2022

In what could give a significant boost to India's larger plans for developing a low carbon economy, the country's largest and state-owned powergenerator NTPC Ltd has started working on a Roadmap for Nuclear Generation which will address both near-term and longer-term nuclear options best suited for the nation. The company believes the developments across the globe are likely to accelerate the energy transition plans of nations. As part of its own energy transition programme, along with renewable energy sources, NTPC has started working on storage technologies and is under discussions for adding nuclear capacity too.

<https://energy.economictimes.indiatimes.com/news/power/power-generator-ntpc-working-on-roadmap-for-nuclear-generation/96423666>

Why Beijing's rising maritime clout calls for a joint India-Japan nuclear submarine project

The Indian Express, December 23, 2022

The announcement of the AUKUS by the US without prior warning was one of the low points in Indian foreign policy. It was most probably caused by a (mistaken) perception in Washington that Canberra was a more reliable ally against Beijing than New Delhi. The perception was probably caused by the Indian hesitancy to agree to even minimally militarise the QUAD from a purely diplomatic grouping to a more military alignment. The consequences of not being given access to US nuclear submarine technology are devastating for the Indian

Navy's plans to offensively confront Beijing in the maritime arena. Now, however, there is an opportunity to leapfrog the disappointment over the AUKUS by inviting Japan to join India in a bilateral nuclear submarine building project.

<https://indianexpress.com/article/opinion/columns/why-beijings-rising-maritime-clout-calls-for-a-joint-india-japan-nuclear-submarine-project-8339449/>

B. Russia

Russia, US notify each other of training ballistic missile launches in advance – commander

TASS, December 16, 2022

Russia notifies the United States at least 24 hours ahead of upcoming training launches of intercontinental ballistic missiles (ICBMs) and submarine-launched ballistic missiles (SLBMs), Russian Strategic Missile Force Commander Colonel-General Sergey Karakayev said on Friday.

"Pursuant to the existing 1988 Agreement between the USSR and the USA on Notifications of ICBM and SLBM Launches and under the effective New START Treaty, we notify the United States of a launch through the National Nuclear Risk Reduction Center," the commander said in an interview with the Krasnaya Zvezda newspaper. The notification indicates the planned date and place of a missile launch and the area of the fall of warheads. The US side also provides similar data on its ICBM and SLBM launches, Karakayev said.

<https://tass.com/defense/1551311>

Russia's Strategic Missile Force over 80% armed with advanced weapons – commander

TASS, December 16, 2022

Russia's Strategic Missile Force is over 85% armed with advanced weapons, its Commander Colonel-General Sergey Karakayev said in an interview with the Defense Ministry's Krasnaya Zvezda

newspaper published on Friday. "Considering the plans of placing advanced weapons on combat alert in 2022, their share in the [Strategic Missile] Force exceeds 85%," the commander said. The combat inventory of the Russian Strategic Missile Force includes over 60% of delivery vehicles and nuclear charges of the Russian strategic nuclear forces, which enables it along with high combat command and control capabilities to reliably accomplish assigned tasks, including nuclear deterrence, he stressed.

<https://tass.com/defense/1551317>

Top-notch Sarmat ICBMs to be mainstay of Russia's silo-based missile force – commander

TASS, December 16, 2022

Missile systems with the RS-28 Sarmat heavy intercontinental ballistic missile (ICBM) will become the mainstay of Russia's heavy silo-based missile force in the coming years, Strategic Missile Force Commander Colonel-General Sergey Karakayev said on Friday. "Today researches are being carried out, in particular, by the Russian military industrial sector under the state armaments program with the aim of boosting the combat potential of state-of-the-art missile systems and reliably providing strategic deterrence. One of the results of this work is the Sarmat missile system that will lay the basis for the force of heavy stationary silo-based missiles in the coming years, as well as the Avangard and Yars missile systems that are today arriving for the troops," the commander said in an interview with the Defense Ministry's Krasnaya Zvezda newspaper ahead of Russia's Strategic Missile Force Day celebrated on December 17.

<https://tass.com/defense/1551321>

Aerial surveillance teams equipped with short-range drones to join Russian missile units

TASS, December 16, 2022

Russia's missile units will be reinforced with aerial surveillance teams equipped with

short-range drones, Strategic Missile Forces Commander Colonel General Sergey Karakayev said in an interview with the Krasnaya Zvezda (or Red Star) newspaper ahead of Russia's Strategic Missile Forces Day celebrated on December 17. According to him, the Strategic Missile Forces are mastering the use of drones for surveillance and navigation purposes, as well as for combating terrorist threats, as part of combat training. "We link the prospects for the development of small aircraft primarily with efforts to form aerial surveillance teams equipped with short-range drones within missile units. It will make it possible to expand the boundaries of protected areas, extend aerial surveillance missions and provide units guarding strategic missile systems with the necessary information in real time," the commander noted.

<https://tass.com/defense/1551333>

Russian Strategic Missile Forces perform 60% of strategic deterrence missions – commander

TASS, December 16, 2022

Russia's Strategic Missile Forces perform more than half of strategic deterrence missions, the forces' Commander Colonel General Sergey Karakayev told the Zvezda TV channel. "Missile troops are part of the Strategic Nuclear Forces and they perform their mission. Most launchers and warheads are traditionally assigned to the Strategic Missile Forces so these forces perform 60% of strategic deterrence missions," he pointed out. According to Karakayev, the share keeps growing amid intense rearmament efforts.

<https://tass.com/defense/1551349>

Ukrainian Energy Ministry says nuclear power plants cut output due to damaged grid

TASS, December 16, 2022

Ukrainian nuclear power plants have cut electricity generation as the power grid has

been damaged, the country's Energy Minister German Galushchenko said on Friday. "Substations that transmit electricity have been damaged, which caused production cuts at plants, first of all nuclear generating ones," he said on Rada television. Galushchenko evaded a question about whether Ukrainian nuclear plants were disconnected from the grid. "We are now trying to connect nuclear plants to the system as soon as possible," the minister said. He added that about nine power generation plants had been damaged across the country, without saying which ones and where.

<https://tass.com/politics/1551759>

Russia expects answers to questions about bio laboratories in Ukraine from US – envoy

TASS, December 16, 2022

Russia will seek answers from the US to the voiced questions about its military biological operations in Ukraine, Russian Permanent Representative to the UN Office in Geneva Gennady Gatilov said Friday, answering a question from TASS. Summarizing the discussion that took place during the 9th Review Conference of the Biological Weapons Convention between November 28 and December 16 in Geneva, the Russian envoy underscored that Washington's military-biological activity in Ukraine concerns Moscow. The calls for the US to provide explanations in this regard are being left without substantial reaction, Gatilov, who led the Russian delegation to the forum, said. The envoy noted that this issue was discussed earlier during consultative meetings, a UN Security Council meeting, as well as during the last BWC conference.

<https://tass.com/politics/1551869>

Too early to say that deal Zaporozhye NPP protection zone is near – diplomat

TASS, December 17, 2022

Chances of reaching an agreement about a protection zone around the Zaporozhye nuclear power plant (NPP) still remain, but

would be too early to say that the deal is close at hand, Russia's Permanent Representative to the Vienna-based international organizations Mikhail Ulyanov has told TASS in an interview. "Last Monday, a meeting between the IAEA director-general and Ukrainian Prime Minister Denis Shmygal was held in Paris on Monday. As far as we know, this topic was discussed in detail during these talks. Therefore, the process continues and there are chances of reaching an agreement," he said.

<https://tass.com/politics/1551965>

Direct trilateral talks on Zaporozhye NPP protection zone impossible – diplomat

TASS, December 17, 2022

Direct trilateral talks of Moscow, Kiev and the International Atomic Energy Agency (IAEA) about a protection zone around the Zaporozhye nuclear power plant (NPP) are impossible due to the present-day state of Russian-Ukrainian relations, Russia's Permanent Representative to the Vienna-based international organizations Mikhail Ulyanov has told TASS in an interview. "Of course, progress on the issue could have been faster if trilateral talks were held, but this is impossible due to the current state of Russian-Ukrainian relations," he said. "That is why [IAEA Director-General] Rafael Grossi has to engage in 'shuttle diplomacy,' communicating with Russia and Ukraine in turns," the diplomat said.

<https://tass.com/politics/1551969>

New protective shield at Zaporozhye NPP withstands shelling by Ukrainian forces – official

TASS, December 18, 2022

The protective shield installed next to the dry cask storage of the Zaporozhye nuclear power plant has already helped to avoid damage to the facility during shelling by the Ukrainian armed forces, Renat Karchaa, an adviser to the director general

of the Rosenergoatom company, told TASS on Saturday. According to Karchaa, the issue of an additional shield was brought up after the Ukrainian armed forces had launched artillery attacks on the NPP in July. In particular, additional engineering structure has protected the dry cask storage, which in previous periods had been repeatedly hit by artillery strikes from the Kiev-controlled cities of Marganets and Nikopol.

<https://tass.com/defense/1552105>

Russia's Tu-160M 'White Swan' strategic bomber takes to skies in first post-upgrade flight

TASS, December 19, 2022

Another Tupolev Tu-160M strategic missile-carrying bomber took to the skies for the first time after its upgrade, Russia's United Aircraft Corporation (UAC) reported on Monday. "Another upgraded Tu-160M strategic missile-carrying bomber developed by the Tupolev Company (part of the UAC within the state tech corporation Rostec) performed its debut flight," the UAC press office said in a statement. During the flight, the bomber's pilots performed maneuvers to check the aircraft's stability and control in the air, the operating capacity of its systems and engines and onboard radio-electronic equipment, it said. The Tu-160M (NATO reporting name: Blackjack) is an upgraded version of the Tu-160 bomber developed in the Soviet era and dubbed "the White Swan" among pilots.

<https://tass.com/defense/1552369>

Russia ready to further develop nuclear cooperation with Belarus, Putin assures

TASS, December 19, 2022

Moscow is ready to continue helping Minsk develop its nuclear industry, although it could earn money by supplying additional volumes of gas, Russian President Vladimir Putin said on Monday at talks with his Belarusian counterpart Alexander Lukashenko. "We are intensively working

in almost all areas. In the energy sector - as we noted with [Belarusian President] Alexander Grigorievich [Lukashenko], Russia, to its own detriment, nevertheless continues the nuclear project - we are building a nuclear power plant. The first unit is operational," the Russian leader said. Putin explained that Russia could supply additional gas to Belarus, but instead the nuclear power plant is operating there, and the amount of energy it generates corresponds to about 4.5 billion cubic meters of gas.

<https://tass.com/economy/1552685>

Russia to train Belarusian pilots of planes refurbished for nuclear payload – Putin

TASS, December 20, 2022

Russia will continue to train crews for Belarusian Air Force planes, refurbished for potential use of ammunition with nuclear payload, Russian President Vladimir Putin said during the press conference after the meeting with his Belarusian counterpart Alexander Lukashenko Monday. "I consider it possible to continue the implementation of the Belarusian President's proposal on the training of Belarusian combat planes that have already been refurbished for potential use of air-based ammunition with a special payload," the Russian leader said. Putin underscored that "this form of cooperation is not our invention." "The US, for example, has been carrying out similar measures with their NATO allies for decades," the Russian President said.

<https://tass.com/politics/1552863>

Belarus deploys S-400, Iskander missile systems – Lukashenko

TASS, December 20, 2022

Belarus has already deployed Russian S-400 and Iskander missile systems, Belarusian President Alexander Lukashenko said Monday. "Today, we have deployed the S-400 systems and, most importantly, the Iskander system that you

have handed over to us, as you promised six months ago," he told reporters after the meeting with Russian President Vladimir Putin. He thanked Putin for "finding mutual understanding and support on all issues and making necessary decisions." Lukashenko also noted that Belarus is training crews for planes that can carry nuclear payload with Russia's aid.

<https://tass.com/world/1552869>

Envoy slams as far-fetched allegations of Russia's use of Iranian drones in Ukraine

TASS, December 20, 2022

Russian UN Ambassador Vasily Nebenzya criticized as far-fetched on Monday accusations that his country was allegedly using Iranian unmanned aerial vehicles in Ukraine. Addressing a UN Security Council meeting, Nebenzya said the story alleging that the Islamic Republic of Iran has been sending drones to Russia for use in Ukraine "has nothing to do" with work to revive the Joint Comprehensive Plan of Action (JCPOA) on Tehran's nuclear program, while it has been actively "promoted by [our] Western colleagues." Meanwhile, "such accusations are of an absolutely far-fetched and artificial nature," the Russian envoy added. He said Russia was aware that Kiev's representatives had been unable so far to provide Tehran with any evidence through diplomatic channels confirming the use of Iranian-made UAVs by the Russian military.

<https://tass.com/politics/1552887>

US to earmark \$126.3 mln in 2023 to deal with possible nuclear accident in Ukraine

TASS, December 20, 2022

The United States' fiscal year 2023 Omnibus Appropriations bill earmarks \$126.3 mln to deal with a possible nuclear accident in Ukraine, according to the relevant document published on the website of the US Senate Committee on Appropriations. The document points out that the money would be allocated to support a nuclear non-

proliferation program "to respond to the situation in Ukraine." The \$1.7 trillion fiscal year bill, submitted to the US Congress on Monday, includes \$44.9 bln in emergency assistance to Ukraine and NATO allies.

<https://tass.com/economy/1553023>

Around 60 Ukrainian drones intercepted near ZNPP in few months

TASS, December 21, 2022

Around 60 Ukrainian combat drones have been intercepted by Russian troops near the Zaporozhye nuclear power plant (ZNPP) in the span of a few months, Vladimir Rogov, leader of the We Are Together with Russia movement, said on Tuesday. "A month ago, around 60 drones were downed near the Zaporozhye NPP alone. These were not civilian drones filming a wedding ceremony, they were carrying mines, grenades and explosives - up to 2-3 kilograms of TNT. i," he said in an interview with the Solovyov Live television channel.

<https://tass.com/politics/1553277>

Press review: Roscosmos to build more satellites and Moscow, Minsk to use new nuke tactic

TASS, December 21, 2022

Russia and Belarus will use the same nuclear strategy as the United States and NATO, Roscosmos is set to reconsider its space program and build more satellites, while Tuesday's incident on a key Russian gas pipeline will hardly affect the market, experts say. These stories topped Wednesday's newspaper headlines across Russia. Russia and Belarus will use the same nuclear strategy as the United States and NATO, according to the latest statements by Russian President Vladimir Putin and his Belarusian counterpart Alexander Lukashenko. The two leaders announced after their Minsk talks that Belarusian warplanes would be reequipped to use weapons with nuclear

warheads, while their crews are currently undergoing the necessary retraining.

<https://tass.com/pressreview/1553405>

Putin has no plans to meet with Grossi, who is to visit Moscow on December 22

TASS, December 21, 2022

Russian President Vladimir Putin will not hold a meeting with International Atomic Energy Agency (IAEA) Director General Rafael Grossi, who will be in Moscow on December 22 for consultations on the safety zone around the Zaporozhye nuclear power plant. "No, no such meeting is planned," Kremlin Spokesman Dmitry Peskov told reporters on Wednesday when asked if Putin would receive Grossi on Thursday. Russia's permanent envoy to international organizations in Vienna Mikhail Ulyanov earlier said that the consultations with Grossi would focus on the creation of a nuclear and physical safety zone around the Zaporozhye nuclear power plant.

<https://tass.com/politics/1553587>

Safety zone around ZNPP will require mechanisms to monitor situation – envoy

TASS, December 21, 2022

The establishment of a safety zone around the Zaporozhye nuclear power plant will require serious mechanisms to monitor the situation at the site, Russia's envoy to the international organizations in Vienna, Mikhail Ulyanov, said on Wednesday. "If a protection zone around the ZNPP is established, it will be needed, as part of it, to provide for something more serious in terms of compliance with the agreement to stop [the shelling] and monitor the situation," he said at a news conference. According to the diplomat, the possible implementation of the IAEA proposal for the presence of the organization's experts at Ukrainian nuclear power plants will not harm Russia's interests in any way.

<https://tass.com/politics/1553653>

Delivery of nuclear submarines to Australia to spur arms race – Russian diplomat

TASS, December 21, 2022

The idea of the AUKUS alliance, which comprises Australia, the UK and the US, to arm Australia with nuclear submarines is fueling an arms race in the region, Russia's envoy to the international organizations in Vienna, Mikhail Ulyanov, said on Wednesday. "The Americans announce that they will provide [the means] to build nuclear-powered subs to Australia. The bottom of a sub can hold up to 2 tons of highly enriched uranium. I wouldn't call it, at least for now, a violation of the Treaty on the Non-Proliferation of Nuclear Weapons, but this is a very serious challenge, this has never happened before," he said at a news conference. According to Ulyanov, "this opens a Pandora's box for those who want to build nuclear submarines."

<https://tass.com/politics/1553687>

Russia's advanced Sarmat ICBMs to go on combat alert soon, says Putin

TASS, December 21, 2022

Russia's top-notch Sarmat intercontinental ballistic missiles (ICBMs) will for the first time go on combat alert soon, President Vladimir Putin said at an enlarged Defense Ministry board meeting on Wednesday.

"Sarmat intercontinental ballistic missiles will for the first time assume combat alert shortly," the head of state said. These plans will be carried through, Putin assured. "We know that there is some schedule adjustment but this does not alter our plans and everything will be implemented," the Russian leader stressed. "Yars missile systems continue arriving for the troops," the head of state said.

<https://tass.com/defense/1553923>

Ukraine has potential to develop 'dirty bomb' – Russian diplomat

TASS, December 21, 2022

The threat of the Kiev regime creating a "dirty bomb" exists because Ukraine has the necessary capacity to do this, Russian Permanent Representative to International Organizations in Vienna Mikhail Ulyanov said at a press conference on Wednesday.

"Of course, theoretically, Ukraine has the necessary potential to create a 'dirty bomb.' Not much effort is needed for this, especially because Ukraine, since Soviet times, has been an advanced country in the nuclear sphere, as it possesses a great deal of technology and knowledge. The fact that Kiev did have such plans - here I tend to trust our officials at the Defense Ministry, they know what they are talking about. In principle, there is indeed such a threat," he said, replying to a question on the matter.

<https://tass.com/politics/1553971>

Nuclear submarine armed with Bulava missiles joins Russian Navy – defense chief

TASS, December 21, 2022

The Generalissimus Suvorov nuclear-powered submarine armed with Bulava ballistic missiles has been accepted into the Russian Navy, Defense Minister Sergey Shoigu said on Wednesday. "Nuclear submarines perform planned combat missions in their designated areas at sea. Another nuclear-powered submarine, the Borei-A class submarine Generalissimus Suvorov armed with Bulava ballistic missiles, has been accepted into the Navy," Shoigu noted at the Defense Ministry's expanded board meeting involving President Vladimir Putin.

<https://tass.com/defense/1553993>

Russian army builds 650 high-tech installations – Defense Minister

TASS, December 21, 2022

The construction sector of the Russian Defense Ministry has executed its plan to

build more than 3,000 buildings and structures for the national armed forces, Russian Defense Minister Sergey Shoigu said on Wednesday. "As regards the military construction sector, all plans have been carried out, more than 3,000 buildings and structures were built. The focus was on the development of infrastructure for strategic nuclear forces. This year, 650 high-tech facilities were constructed for them, including facilities to house the Avangard, Yars, and Sarmat missile systems," the Minister said.

<https://tass.com/defense/1554011>

Russia launches serial deliveries of Tsirkon hypersonic missiles to Naval Forces – Shoigu

TASS, December 21, 2022

Russia has launched serial deliveries of the state-of-the-art Tsirkon hypersonic missiles to the Russian Navy, Defense Minister Sergey Shoigu said at this year's final Defense Ministry board meeting with the participation of the Russian president on Wednesday. "We have launched serial deliveries of the Navy-based Tsirkon hypersonic missiles," Shoigu said. "The frigate Admiral of the Fleet of the Soviet Union Gorshkov with top-notch Tsirkon seaborne hypersonic missile systems undergoes final preparations before embarking on a mission in the world ocean." Shoigu also said that the Generalissimus Suvorov nuclear-powered submarine armed with Bulava ballistic missiles was commissioned with the Russian Navy.

<https://tass.com/defense/1554013>

Russia plans to deploy 22 Yars, Avangard, Sarmat ICBM launchers in 2023 – Shoigu

TASS, December 21, 2022

Russia has to deploy over 20 launchers with intercontinental ballistic missiles in 2023, Defense Minister Sergey Shoigu said during the Defense Ministry board meeting Wednesday. "[Russia plans to] deploy 22 launchers with Yars, Avangard and

Sarmat intercontinental ballistic missiles in the strategic missile forces,” Shoigu said. Earlier during the meeting, the Minister said that development of the strategic nuclear forces infrastructure is currently the main focus of the Defense Ministry. In particular, this year, the a total of 650 high-tech facilities were built for these forces this year, including deployment sites for Avangard, Yars and Sarmat missile systems.

<https://tass.com/defense/1554023>

Russia hopes to agree with IAEA on parameters of ZNPP protection zone – diplomat

TASS, December 22, 2022

Russia hopes that consultations with IAEA Director General Rafael Grossi on December 22 will yield an agreement about the specific parameters of a protection zone around the Zaporozhye NPP or at least help to make substantial progress in the matter, Russia’s envoy to the international organizations in Vienna, Mikhail Ulyanov, told TASS on Wednesday. “[We hope] to reach mutual understanding with the IAEA secretariat about the specific parameters of a nuclear and physical nuclear protection zone at the Zaporozhye NPP or at least make substantial progress in that area,” the diplomat said when asked about expectations for the meeting.

<https://tass.com/politics/1554117>

Navy to get more nuclear submarines in 2023 – commander

TASS, December 22, 2022

The Russian Navy will get strategic and multipurpose submarines, ocean-going ships and support ships next year, Navy commander Nikolay Yevmenov told reporters on Wednesday. “The goals set for 2023 are likewise extensive and multipronged. Next year the Navy will get more strategic and multipurpose submarines, ocean-going ships and support ships,” he said. According to the commander, the Navy accomplished all its missions in 2022. All credit for that goes first of all to the personnel, although the

equipment also delivered as it should, Yevmenov said. “The personnel showed high professionalism, courage this year, especially when completing the missions of the special military operation,” the commander said.

<https://tass.com/defense/1554123>

Rosatom, IAEA chiefs note close positions on ZNPP security zone declaration

TASS, December 22, 2022

The chief of Russia’s Rosatom corporation, Alexey Likhachev, and IAEA Director-General Rafael Grossi held consultations in Moscow on Thursday to note considerable similarity of positions on a draft declaration concerning the creation of a security zone around the Zaporozhye Nuclear Power Plant, Rosatom said on its Telegram channel. “At the meeting, approaches to the creation of a zone of nuclear and physical nuclear safety at the Zaporozhye NPP were discussed. Significant similarity of positions on the draft declaration concerning the creation of such a zone was noted. The consultations will continue based on the understanding of the need for wording a mutually acceptable draft as soon as possible,” the news release reads.

<https://tass.com/politics/1554365>

Kinzhal hypersonic system proves invulnerable to air defenses in Ukraine – military chief

TASS, December 22, 2022

The Kinzhal hypersonic missile system proved to be highly effective and invulnerable to enemy air defenses during the special military operation in Ukraine, Chief of Russia’s General Staff, First Deputy Defense Minister Valery Gerasimov told a briefing for foreign military attaches on Thursday. “For the first time, hypersonic weapons were employed in combat conditions. The Kinzhal airborne missile system proved to be highly effective and invulnerable to air defense capabilities deployed in Ukraine,”

the military chief said. Russian operational-tactical and army aviation aircraft daily conduct about 150 sorties and have wiped out over 11,000 items of the Ukrainian army's armament and military hardware. In addition, unmanned aerial vehicles have helped uncover about 8,000 facilities, of which 600 have been destroyed, Gerasimov said.

<https://tass.com/defense/1554559>

IAEA chief implies Zaporozhye NPP safety zone needed only to prevent nuclear accident

TASS, December 22, 2022

A safety zone around the Zaporozhye nuclear power plant should be established exclusively to prevent a nuclear accident, Rafael Grossi, Director General of the International Atomic Energy Agency (IAEA), said on Thursday. "Another round of necessary discussions on the creation of a protection zone for the Zaporizhzhya (Zaporozhye - TASS) Nuclear Power Plant. It's key that the zone focuses solely on preventing a nuclear accident," Grossi wrote on Twitter. "I am continuing my efforts towards this goal with a sense of utmost urgency," the IAEA chief said, posting a photo with Rosatom CEO Alexey Likhachev.

<https://tass.com/politics/1554575>

Decision on NPP construction technology to be made in 2023 – Kazakhstan's Ambassador

TASS, December 22, 2022

The final decision on the construction technology of the nuclear power plant (NPP) in the Alma-Ata Region may be made in Kazakhstan next year, Ambassador to Moscow Ermek Kosherbaev told TASS in an interview. A short list of contractors has already been prepared, which includes KHNP, CNNC, Rosatom and EDF, the diplomat said. "Additional requests have been sent to them to update the technical and commercial proposals and the preliminary cost of the proposed projects," Kosherbaev said. In addition, the option of

implementing the project by an international pool of investors, which should take into account all the best technologies as much as possible, is being considered.

<https://tass.com/politics/1554609>

Russia's Tambov nuclear sub begins sea trials after modernization

TASS, December 23, 2022

The Tambov nuclear submarine of Russia's Northern Fleet has begun sea trials after modernization and overhaul, two sources close to Russia's defense industry told TASS on Wednesday. "Just a few days ago, the Tambov submarine began trials after repairs and modernization" at the Zvezdochka shipyard (part of Russia's United Shipbuilding Corporation), one source said. The other source said the trials may continue for up to six months, depending on results. The sources did not comment on details of the Tambov's modernization. TASS has been unable to officially confirm this information at the time of the publication.

<https://tass.com/defense/1554877>

Situation with new START deal inseparable from current US-Russia relations

TASS, December 23, 2022

Negotiations on a new strategic arms reduction deal with the United States cannot be viewed separately from the present-day state of relations between Moscow and Washington, Russian Ambassador to the United States Anatoly Antonov said in an interview with TASS. According to him, "it is important to have a bird's eye view of the situation. The problem of convening the BCC [Bilateral Consultative Commission on the New START Treaty] cannot be isolated from the general condition of Russian-US relations. There is a war against us." "The enemy's aim is Russia's strategic defeat. Attempts at shaking the internal political and economic situation are quite obvious," he

continued. "In a situation like this, how can we be expected to let the Americans visit our inner sanctum - the system of Russia's security, in other words, the missile bases where nuclear deterrence forces are deployed?"

<https://tass.com/politics/1555275>

IAEA ready to deploy permanent missions to all Ukrainian nuke plants

TASS, December 23, 2022

The International Atomic Energy Agency (IAEA) is ready to deploy permanent missions of nuclear safety experts to all Ukrainian nuclear power plants as well as to the zone of the Chernobyl nuclear facility, according to the agency's statement published on its website on Friday. "The IAEA is preparing to deploy IAEA teams on a continual basis to four other Ukrainian nuclear facilities, the Khmelnytsky, Rivne and South Ukraine nuclear power plants (NPPs), as well as the Chernobyl site, as agreed last week by Ukrainian Prime Minister Denys Shmyhal and IAEA Director General Grossi," the document notes. These missions of the agency's experts will provide assistance to the staff of the nuclear stations "in order to help maintain a high level of nuclear safety and security."

<https://tass.com/world/1555307>

First newly-built Tupolev Tu-160M bomber to be delivered this year

TASS, December 24, 2022

The first newly-built Tupolev Tu-160M strategic missile-carrying bomber will be delivered before the end of this year, head of the United Aircraft Corporation Yury Slyusar said on Friday. "It's a highly upgraded plane based on the Tu-160 with new capabilities and functions. We do it two ways: we upgrade the existing fleet of Tu-160 planes and in parallel we have set up production in Kazan and are delivering the first production standard Tu-160M this year that will be added to the fleet of long-range aircraft," he said on Rossiya-1 television. Slyusar told TASS in August that the plans

to deliver the first newly-built Tu-160M to the Defense Ministry remained in place. The plane took to the skies for the first time on January 12, 2021, taking off from an airfield of a plane manufacturing plant in Kazan. The flight was executed at the altitude of 600 meters and lasted about 30 minutes.

<https://tass.com/defense/1555369>

Russia to do everything to prevent nuclear catastrophe, World War III – Medvedev

TASS, December 26, 2022

The world will continue to balance on the verge of World War III and a nuclear escalation, if security guarantees for Russia are not ensured; however, Moscow will do everything in order to prevent a catastrophe, Russian Security Council Deputy Chairman Dmitry Medvedev said. "New disarmament agreements are impossible and are not needed at this moment. The sooner we obtain guarantees of maximum security that will Russia will be satisfied with, the sooner the situation will normalize. If we do not obtain them - then tensions will remain indefinitely," he warned in his article for Rossiyskaya Gazeta.

<https://tass.com/politics/1555769>

Kiev's actions against Zaporozhye plant may lead to disaster, Russian diplomat warns

TASS, December 26, 2022

Kiev's actions are endangering the Zaporozhye Nuclear Power Plant and may lead to a disaster, Russian Deputy Foreign Minister Mikhail Galuzin said in an interview with TASS. "All in all, we are doing everything we can to make sure that the idea of creating a safety zone around the Zaporozhye Nuclear Power Plant is finally implemented and the risk of a disaster at the nuclear facility is negated. We hope that reason will prevail in Ukraine and Kiev will realize that it is irresponsible to endanger the nuclear power plant and its infrastructure because

such actions could lead to the most devastating consequences," Galuzin pointed out. The Russian deputy foreign minister stressed that Moscow would like the safety zone around the Zaporozhye Nuclear Power Plant to be established as soon as possible.

<https://tass.com/politics/1555835>

Kola NPP produces hydrogen in cutting-edge process – Rosatom

TASS, December 26, 2022

The Kola nuclear power plant (NPP) in Arctic Russia has produced hydrogen at a new electrolysis unit, press service of Rosatom state corporation said on Monday.

"A new domestically assembled electrolysis unit at the Kola NPP has produced the first hydrogen needed to cool down turbine generators producing electric power at the nuclear plant," the company said. Hydrogen is being produced in a cutting-edge process used for the first time on a commercial scale at the NPP site. Safety and product purity are the main advantages of the new electrolysis unit. It makes hydrogen with 99.999% purity, while unit operation is monitored by hydrogen detectors responding to the overrun of predetermined parameters, and by fire extinguishing and ventilation systems.

<https://tass.com/economy/1556129>

West's political course poses risks of direct armed clash of nuclear powers, says Lavrov

TASS, December 27, 2022

West's political course, which is aimed at the total restraint of Russia, is extremely dangerous and poses risks of direct armed clash between nuclear powers, Russian Foreign Minister Sergey Lavrov said in an interview with TASS. According to him, the West is ceaselessly hyping "with irresponsible speculations that Russia is allegedly on the brink of using nuclear weapons against Ukraine." "We are speaking about absolutely different matters here - the political course of the West, which

is aimed at the total restraint of Russia, is extremely dangerous. It bears downside risks of a direct armed clash of nuclear powers," Lavrov said.

<https://tass.com/politics/1556187>

Top diplomat says Russia calls on West to show maximal restraint in nuclear sphere

TASS, December 27, 2022

Russia calls on the West for maximum restraint in the 'highly sensitive' nuclear sphere, it is important to remain committed to the postulate of inadmissibility of nuclear war, Russian Foreign Minister Sergey Lavrov told TASS in an interview. "We continue to call on the West to show maximum restraint in this highly sensitive sphere. To minimize nuclear risks, it is important to actually remain committed to the postulate of inadmissibility of nuclear war, reaffirmed by the five nuclear-weapon states in their joint statement of January 3, 2022. In accordance with the logic of the document, any military confrontation between the nuclear powers must be prevented, since it is fraught with the potential catastrophe," he said.

<https://tass.com/politics/1556269>

Kazakhstan continues selecting contractor for nuclear power plant – state fund

TASS, December 28, 2022

Kazakhstan continues the process of choosing a contractor to build a nuclear power plant in the country, press service of the Samruk-Kazyna state fund said on Wednesday. "As Managing Director of Samruk-Kazyna Ernat Berdigulov said, the plant will be built by an international pool of contractors. Four companies are viewed as the primary one: China's CNNC, Korean KHNP, Russia's Rosatom and French EDF. One of them will create a nuclear island to be the plant core using its own technology," the press service said. The process of selecting the contractor to

build the nuclear power plant continues, the press service added.

<https://tass.com/economy/1556685>

Rosatom completes fuel shipment for Chinese fast-neutron reactor

TASS, December 28, 2022

Rosatom has shipped nuclear fuel to China for the launch of the CFR-600 fast-neutron reactor, press service of TVEL, Rosatom's fuel arm, said on Wednesday. Three batches of nuclear fuel were shipped, including all fuel assemblies for the initial core loading, as well as fuel for the first reloading. Reactor control and protection assemblies were delivered by air, the press service said. All the planned shipments to China for 2022 were completed under Russia's obligations to supply starting fuel for the CFR-600 fast-neutron reactor, the company noted.

<https://tass.com/economy/1556771>

Nuclear energy may become key area of cooperation for Russia, Uzbekistan – ambassador

TASS, December 28, 2022

Nuclear energy can become a priority area of cooperation between Russia and Uzbekistan, Russian Ambassador to Uzbekistan Oleg Malginov told a press conference on Wednesday. "The flagship area of bilateral cooperation, of course, can be interaction in nuclear energy and the construction of Russian-designed nuclear power plants in Uzbekistan," he said. "Today, the Rosatom [nuclear] state corporation and the Uzatom agency are working on a draft general contract for the construction of a nuclear power plant," the ambassador added. So now, engineering surveys have been completed at the site selected for the construction of the plant, he said.

<https://tass.com/society/1556861>

Russia sets afloat The Emperor Alexander III submarine

TASS, December 29, 2022

The nuclear-powered submarine Emperor Alexander III was set afloat on Thursday, with President Vladimir Putin partaking in the ceremony. It is a seventh missile-carrying strategic nuclear-powered submarine of the Borei-A class. Such submarines are capable of carrying 16 inter-continental ballistic missiles Bulava. The sea trials of The Emperor Alexander III are due to begin in June 2023. The previous, sixth submarine of the family (The Generalissimus Suvorov) joined the Russian Navy in a special ceremony on Thursday. Under the current program for armaments another four Borei-A class submarines are to be built.

<https://tass.com/defense/1557339>

Russia's new nuclear-powered missile carriers unrivaled globally – Putin

TASS, December 29, 2022

Russia's latest nuclear-powered missile cruisers have no analogues in the world, Russian President Vladimir Putin said on Thursday as he addressed a naval commissioning ceremony. Commenting on the contribution of the Rubin Design Bureau and the Sevmash Shipyard to building the country's nuclear submarines, Putin said, "The latest nuclear-powered missile carriers being designed and built there have no analogues in the world in many characteristics." He said they were equipped with cutting-edge navigation, communication and underwater acoustics systems as well as high-precision weapons and robotic complexes. The head of state congratulated Russian naval officers on the nuclear submarine Generalissimus Suvorov and the small missile ship Grad and the minesweeper Anatoly Shlemov joining the Navy as well as the launch of

the nuclear submarine Emperor Alexander III.

<https://tass.com/defense/1557341>

Russian nuclear fuel supplier Tvel expects \$1.18 bln of export revenue in 2022

TASS, December 29, 2022

The export revenue of the Russian nuclear fuel supplier Tvel (Rosatom's fuel division) for 2022 will grow by 56%, to \$1.18 bln, the company said on Thursday. "Year-on-year growth surpassing planned values is anticipated for a variety of financial and economic indices. The fuel division's revenue in 2022 is estimated to reach 273 bln rubles, which is 16% more than in 2021. Export foreign exchange revenues are expected to increase by over 56% year-on-year, surpassing \$1.18 bln," the statement said. The report noted that the company's portfolio of foreign orders for 10 years reached almost \$18.7 bln, showing a 4% year-on-year growth.

<https://tass.com/economy/1557359>

Three combat ships join Russia's Navy in special ceremony Dec 29

TASS, December 29, 2022

Russia's naval flag was hoisted on The Generalissimus Suvorov nuclear-powered submarine, The Grad small missile ship and The Anatoly Shlemov sea-going minesweeper on Thursday. Taking part in the ceremony was President Vladimir Putin, who issued the order to hoist the flag.

The hoisting of the flag heralds the acceptance of the ships into the Russian Navy. "The ships have been accepted into the Navy," Defense Sergey Shoigu said at the end of the ceremony.

<https://tass.com/defense/1557361>

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TASS, December 29, 2022

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submarine, The Grad small missile ship and The Anatoly Shlemov sea-going minesweeper on Thursday. Taking part in the ceremony was President Vladimir Putin, who issued the order to hoist the flag.

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<https://tass.com/defense/1557361>

Russia to increase shipbuilding pace, volume for Navy – Putin

TASS, December 29, 2022

Russia will increase the pace and volume of construction of various kinds of ships, Russian President Vladimir Putin said. "We will increase the pace and volume of construction of ships of various designs, equip them with the most modern weaponry, conduct operational and combat training of sailors taking into account the experience gained, including during the special military operation," the head of state said on Thursday at the commissioning ceremony of new ships in the Russian Navy. He stressed that the country's authorities would "do everything necessary to reliably ensure Russia's security" and protection of its national interests in the world's oceans.

<https://tass.com/defense/1557369>

Russia to ramp up Tu-160M strategic bomber production in coming years – Rostec

TASS, December 30, 2022

The Russian state tech corporation Rostec is set to ramp up the production of Tupolev Tu-160M strategic missile-carrying bombers in the coming years, Rostec Chief Sergey Chemezov said on Friday. "The Tu-160 is a major part of Russia's nuclear triad and, therefore, the upgrade of the operational aircraft and the resumption of the production of these strategic bombers are our priority task. The

upgraded missile-carrying bombers outshine their predecessors in terms of their characteristics and have received new onboard radio-electronic equipment, NK-32-02 engines and other systems. The production of these aircraft will be ramped up in the coming years," the press office of the United Aircraft Corporation (UAC) within Rostec quoted Chemezov as saying.

<https://tass.com/defense/1557695>

First Tu-160M newly-built strategic bomber wraps up factory tests – aircraft manufacturer

TASS, December 30, 2022

The first Tupolev Tu-160M strategic missile-carrying bomber built anew has completed factory tests, the press office of the United Aircraft Corporation (UAC) reported on Friday. "In December, a newly-built prototype of the Tu-160M strategic missile-carrying bomber engineered by the Tupolev Aircraft Company (part of the UAC within Rostec) performed a new flight. The aircraft completed the program of factory tests," the press office said. During its test flight, the strategic bomber conducted maneuvers to check the aircraft stability and control in the air, the working capacity of its airborne systems and engines and the onboard radio-electronic equipment, it said.

<https://tass.com/defense/1557745>

Russian Navy to get strategic nuclear-powered sub, 12 surface ships in 2023

TASS, December 30, 2022

The Russian Navy will receive the Project 955A (Borei-A) strategic nuclear-powered submarine cruiser Emperor Alexander III, four submarines and 12 surface combatants next year, Navy Commander-in-Chief Admiral Nikolay Yevmenov said on Friday. "In 2023, the Navy will face large-scale and important tasks that include the priority goals of accepting the strategic cruiser Emperor Alexander III with ballistic missiles, four submarines and twelve surface ships and support vessels into the Navy,"

Admiral Yevmenov said in his New Year address to the Navy's personnel.

<https://tass.com/defense/1558025>

IAEA experts heard sound of explosions near Zaporozhye NPP – Grossi

TASS, December 30, 2022

Experts of the International Atomic Energy Agency heard the sound of loud explosions on Friday that seemed to come from a distance of a few hundred meters from the Zaporozhye NPP, IAEA Director General Rafael Grossi said in a statement on the organization's website. "While there has been no shelling directly at the site of Europe's largest NPP since last month, the IAEA experts reported that they heard the sound of loud explosions today that appeared to come from a distance of a few hundred meters from the facility, in the area of the water channel connecting the nearby Zaporozhye thermal power station with the Dnieper River," the statement said.

<https://tass.com/world/1558085>

Reserve power line to ZNPP damaged, shut down due to shelling Thursday – IAEA

TASS, December 30, 2022

The reserve power line to the Zaporozhye Nuclear Power Plant was damaged and shut down due to a shelling Thursday, International Atomic Energy Agency Director General Rafael Grossi announced on the IAEA website Friday. "A 330 kilovolt (kV) back-up power line to the [...] ZNPP was disconnected late yesterday due to damage caused by shelling, in the latest incident underlining the facility's fragile supplies of electricity from the grid," the statement reads. "The extent of damage was not yet clear but work to repair the line is already under way." In this regard, Grossi noted that he "is continuing his consultations with Ukraine and Russia aimed at agreeing and implementing a

nuclear safety and security protection zone around the ZNPP as soon as possible.”

<https://tass.com/world/1558091>

Damage to ZNPP’s backup power line to have no impact on plant’s operation – Rosenergoatom

TASS, December 31, 2022

The damage to the Zaporozhye nuclear power plant’s backup power line will not affect the plant’s operation, since its second line is operational, Renat Karchaa, an adviser to the head of Russia’s Rosenergoatom nuclear power engineering company, said on Friday. “The 330kV line has been damaged, the 750kV line is operational,” he told TASS. “The second line is operating, the damage will have no effect on the plant’s operation.” According to Karchaa, right now it is difficult to say how gravely the plant has been damaged. “From the point of view of safety and insurance, of course, a reserve line is needed. The power supply must be restored via this line in any case,” he added.

<https://tass.com/world/1558101>

Disconnection of backup line at ZNPP hasn’t affected power supply to Energodar – report

TASS, December 31, 2022

Damage to the backup power transmission line to the Zaporozhye NPP hasn’t disrupted electricity supply to Energodar and all utility services continue work as usual, the Telegram channel called Zaporozhsky Telegram reported on Friday, citing city officials. “The damage hasn’t affected the electricity grid that feeds the city,” the report said. “All utility services in the city work as usual.” International Atomic Energy Agency Director General Rafael Grossi said earlier that the backup transmission line to the Zaporozhye NPP was damaged and disconnected on Thursday due to shelling.

<https://tass.com/ukraine/1558131>

C. China

China-India tensions simmer after missile test, troop border brawl

Kawala Xie

South China Morning Post, December 16, 2022

China is hopeful tensions with India can be eased, but will remain cautious after New Delhi’s latest missile test and a troop brawl at a disputed border point, analysts said. India said it successfully conducted another test of its Agni-5 missile, a nuclear-capable intercontinental ballistic missile. It is believed to have a range of more than 5,000km (3,100 miles), which according to Indian reports, puts almost all of China within its reach. The Agni-5 is seen by many as Delhi’s attempt to strengthen its nuclear deterrence against China. India’s Ministry of Defence said the test built on “credible minimum deterrence” that underpinned the state’s commitment to its “no first use” nuclear policy, according to Indian news agency ANI, citing defence sources.

<https://www.scmp.com/news/china/diplomacy/article/3203621/china-india-tensions-simmer-after-missile-test-troop-border-brawl>

China launches one more space experiment satellite

Global Times, December 16, 2022

China launched a Long March-11 rocket, placing a satellite in space. The rocket blasted off from the Xichang Satellite Launch Center in southwest China and sent the satellite Shiyan-21 into preset orbit. Shiyan means “experiment” in Chinese. The newly launched Shiyan satellite will be used for in-orbit verification of new space technologies. It was the 456th flight mission of the Long March series rockets, said the launch center.

<https://www.globaltimes.cn/page/202212/1282027.shtml>

Australia eyes B-21 to contain China, but will US sell its most advanced stealth bomber?

Kristin Huang

South China Morning Post, December 19, 2022

America's newest stealth bomber, the B-21 Raider, was unveiled at an air force base in California this month after years of secret development. While the planes have yet to enter service, defence analysts are already debating whether Australia should – or could – buy the cutting-edge bombers in an attempt to contain China's growing military presence in the Indo-Pacific. Speculation about Australia's B-21 ambitions has grown since Australian Defence Minister Richard Marles acknowledged in August that Canberra was examining the possibility of buying a fleet of the bombers as part of the government's defence strategic review, which will provide recommendations on military spending priorities for the next decade and beyond.

<https://www.scmp.com/news/china/military/article/3203773/australia-eyes-b-21-contain-china-will-us-sell-its-most-advanced-stealth-bomber>

China's Liaoning carrier strike group makes show of force in western Pacific

Minnie Chan

South China Morning Post, December 19, 2022

China's first aircraft carrier, the Liaoning, is leading the navy's most powerful strike group to the western Pacific Ocean for a major year-end naval drill. Japan's Maritime Self-Defence Force (MSDF) said that the Liaoning was escorted by three of the country's most powerful destroyers and two other vessels. Chinese defence experts said the departure indicated the People's Liberation Army remained combat ready despite a surge in coronavirus cases throughout the country.

<https://www.scmp.com/news/china/military/article/3203740/chinas-liaoning-carrier-strike-group-makes-show-force-western-pacific>

China calls on US to lift Iran sanctions to revive nuclear talks

Laura Zhou

South China Morning Post, December 20, 2022

China has urged the United States to lift sanctions on Iran and stop threatening Tehran to revive stalled negotiations on the 2015 nuclear deal. Geng Shuang, China's deputy permanent representative to the United Nations, also told a Security Council session that a new resolution passed by the International Atomic Energy Agency (IAEA) to press Iran to cooperate would do nothing but "escalate conflict, undermine trust and cast a shadow over the negotiations". "All parties should look at the long-term and overall situation and avoid any move that could escalate the situation and undermine the negotiation process," Geng said, according to China News Service.

<https://www.scmp.com/news/china/diplomacy/article/3203962/china-calls-us-lift-iran-sanctions-revive-nuclear-talks>

China says it ready to work with Australia to improve relations as foreign ministers meet after years of tension

Kawala Xie

South China Morning Post, December 21, 2022

China has said it is ready to reset relations with Australia as both sides agreed to step up talks on issues such as trade, security and human rights. Chinese Foreign Minister Wang Yi met his Australian counterpart Penny Wong in Beijing for talks following a meeting between the two countries' leaders last month. The visit by Wong, the first Australian foreign minister to visit China since 2018, comes amid signs of a thaw following years of frosty relations and coincided with the 50th anniversary of the establishment of formal diplomatic relations. In a Chinese foreign ministry statement, Wang said lessons should be learned from previous

“setbacks”, calling for the two sides to “set off” again.

<https://www.scmp.com/news/china/diplomacy/article/3204169/china-says-it-ready-work-australia-improve-relations-foreign-ministers-meet-after-years-tension>

China launches military drills around Taiwan after US passes defence act

Kathrin Hille

Financial Times, December 26, 2022

China staged its largest military manoeuvres near Taiwan over the weekend since the Taiwan Strait crisis in August, days after the US passed an annual defence spending bill that authorised up to \$10bn in security assistance to the country for the first time. In the 24 hours to Monday morning, 47 People’s Liberation Army aircraft entered the country’s air defence identification zone, with at least 41 flying across the Taiwan Strait median line, Taiwan’s defence ministry said. This marks China’s third-largest number of single-day violations of Taiwan’s ADIZ, a self-declared buffer zone, and the most since August 5, during week-long exercises that Beijing staged to retaliate against US House Speaker Nancy Pelosi’s visit to Taipei.

<https://www.ft.com/content/ffc493bb-001f-47f9-b5d0-b44e9bf8b375>

China sets space mission record in 2022 with over 50 rocket launches, 100% success rate

Fan Anqi

Global Times, December 29, 2022

China drew a perfect ending to this year’s rocket launch mission as a Long March-3B carrier rocket successfully lifted off from the Xichang Satellite Launch Center in Southwest China’s Sichuan Province, sending an experimental satellite into preset orbit. The launch, the 53rd for the Long March family this year, marks the first time

that launch vehicles developed by China Aerospace Science and Technology Corporation (CASC) have delivered over 50 successful missions in a year, sending more than 140 spacecraft into space with a 100 percent success rate. The record has laid a solid foundation for China to become a strong global space power, China Space News reported. While the number of annual launches has reached at an all-time high, the proportion of launches by new-generation vehicles is also increasing, reaching about 27 percent in 2022, leading Chinese rocket scientist Long Lehao said, Science and Technology Daily reported.

<https://www.globaltimes.cn/page/202212/1282943.shtml>

D. Pakistan

Pak minister Shazia Marri threatens India with “nuclear war”

ANI, December 17, 2022

A day after India slammed Pakistan’s Foreign Minister Bilawal Bhutto-Zardari for his “uncivilized outburst” at Prime Minister Narendra Modi, Pakistan Peoples Party leader Shazia Marri threatened New Delhi with nuclear war. In a news conference with Bol News, she said, “India should not forget that Pakistan has an atom bomb. Our nuclear status is not meant to remain silent. We will not back down if the need arises.”

She was holding a press conference in support of Bilawal Bhutto and spewed venom against India.

Shazia threatened India and said that if the Modi government will fight, then he will get the answer. The status of a nuclear state given to Pakistan has not been given to remain silent. Pakistan also knows how to answer.

<https://www.aninews.in/news/world/asia/pak-minister-shazia-marri-threatens-india-with-nuclear-war20221217215731/>

India will not back away if ..., Centre responds to Pakistan's nuclear threat

Livemint, December 19, 2022

India has the capacity to deal with nuclear threats, union minister Muraleedharan warned Pakistan only a day after a senior leader from the neighbouring country threatened with nuclear war. "India has the capacity to deal with all these threats. India is not a nation that will back away from anyone's threats. India has the capacity to deal with all these threats. No one should have any doubts about that," the Union minister of state for External Affairs said on Sunday. For the uninitiated, Pakistan People's Party leader Shazia Marri on Saturday said during a press conference, "India should not forget that Pakistan has an atom bomb. Our nuclear status is not meant for keeping silent. We will not back down if the need arises."

<https://www.livemint.com/news/india/india-will-not-back-away-if-centre-responds-to-pakistan-s-nuclear-threat-11671407196512.html>

Pakistan's nuclear program still an eyesore? Part 1

Asif Haroon Raja

Global Village Space, December 26, 2022

After cutting Pakistan into two parts in 1971, expansionist India under Indira Gandhi thought that truncated Pakistan was down and out. With no other South Asian country posing any threat to it, India started seeing itself as the superpower of South Asia and future global power. The victory in East Pakistan bolstered its imperialist ambitions and it believed that its age-old dream of creating Akhand Bharat was achievable. Since India achieved outstanding success in the 1971 war on account of its weapon of sabotage & subversion, it decided to continue using this tool in the smaller provinces of shrunken Pakistan with a focus on Baluchistan and Sindh. It also started to expand and modernize its armed forces with the help of the former USSR, which became India's biggest arms supplier.

<https://www.globalvillagespace.com/pakistans-nuclear-program-still-an-eyesore-part-1/>

Pakistan says it has provided list of nuclear facilities to India under annual practice

Zawya, December 31, 2022

Pakistan said it had handed a list of nuclear installations and facilities in the country to the Indian mission in Islamabad on Sunday under a decades-old agreement between the two nuclear-armed rivals. The neighbours have fought three wars and have had a number of military skirmishes in recent years. Last year an Indian missile launched accidentally landed in Pakistan, setting off alarms across the world. "The list of nuclear installations and facilities in Pakistan was officially handed over to a representative of the Indian High Commission in Islamabad at the Ministry of Foreign Affairs today," Pakistan's foreign office said in a statement.

<https://www.zawya.com/en/world/indian-sub-continent/pakistan-says-it-has-provided-list-of-nuclear-facilities-to-india-under-annual-practice-uqbjw1k>

E. Europe

German states oppose construction of Poland's first nuclear power plant

Notes From Poland, December 16, 2022

Four eastern German states – Mecklenburg-Western Pomerania, Brandenburg and Saxony, which border Poland, as well as Berlin – have formally expressed opposition to the Polish government's plans to develop the country's first nuclear power station. "Together, the federal states speak out against the construction and operation of the first nuclear power plant in Poland and [are] in favour of abandoning the project," reads a statement by Brandenburg's consumer protection ministry published earlier this week.

<https://notesfrompoland.com/2022/12/16/german-states-oppose-construction-of-polands-first-nuclear-power-plant/>

F. France

Energy Crisis Deepens as Nuclear Reactors Remain Offline in France

Power Mag, December 19, 2022

Major French utility Electricite de France SA (EDF) said it will again extend maintenance outages at some of its nuclear reactors by several months, meaning France will continue to import power and putting more strain on the country's supply of electricity. EDF has returned some nuclear units to service in the past several weeks, but has said it expects its older reactors will run well below their capacities this winter. The utility on Dec. 19 said restart of its Penly 2 unit will be pushed back to June 11 of next year. The unit originally was scheduled to return to service on Jan. 29, 2023. The utility, in a message to France's grid operator RTE on Monday, said the restart of its Golfech 1 unit also has been delayed until June 11, about four months beyond its original Feb. 18 restart. EDF also said the Cattenon 3 unit's restart has been delayed by about one month, and will now restart March 26. The restart of the Civaux 2 unit has been pushed back from early January until Feb. 19.

<https://www.powermag.com/energy-crisis-deepens-as-nuclear-reactors-remain-offline-in-france/>

France's EDF Delays Restart of Nuclear Reactors in Blow to Energy Supply

Bloomberg, December 19, 2022

Electricite de France SA extended maintenance halts at two nuclear reactors by four months and warned it may have to carry out lengthy repairs at seven others next year, further straining European power supplies. The world's largest nuclear fleet has suffered prolonged shutdowns this year that have left Europe even more reliant on natural gas at a time of record prices. While EDF has returned many units to service in recent weeks, its aging plants look set to run far below optimal capacity this winter. That could worsen an energy supply crisis that's

already cost Europe \$1 trillion to try to contain.

<https://www.bloomberg.com/news/articles/2022-12-19/edf-delays-restart-of-nuclear-reactors-in-blow-to-energy-supply?leadSource=verify%20wall>

France Faces Lower Blackout Risk in January as Plants Return

Bloomberg, December 20, 2022

France's grid operator said the risk of an electricity shortfall in January has receded because of rebounding nuclear and hydroelectric output and lower demand. There's now only a moderate risk that France will have to send a red alert urging people to reduce energy consumption to avoid blackouts in the first part of January, operator RTE said in its monthly update on Tuesday. It had previously said the risk of such measures was high.

<https://www.bloomberg.com/news/articles/2022-12-20/france-sees-lower-risk-of-blackouts-in-jan-as-reactors-restart?leadSource=verify%20wall>

25% of EU electricity production from nuclear sources

Eurostat, December 21, 2022

In 2021, 13 EU Member States with nuclear electricity production generated 739 701 gigawatt hours (GWh) of nuclear electricity (+7% compared with 2020; +48 189 GWh). This accounts for over 25% of the EU's total electricity production. The largest producer of nuclear power in the EU in 2021 was France (52% of the EU total nuclear energy production; 379 361 GWh), followed by Germany (9%; 69 130 GWh), Spain (8%; 56 564 GWh), Sweden (7%; 52 965 GWh) and Belgium (7%; 50 326 GWh). These five countries together accounted for more than 83% of the total amount of electricity generated in nuclear facilities in the EU.

<https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20221221-4>

France could reach 45 GW nuclear production output in January - CRE watchdog

Zawya, December 28, 2022

France's nuclear fleet, currently dragged down by maintenance and repair works, is expected to reach a production capacity of 45 gigawatts (GW) in January, the energy watchdog said, without ruling out that it could go as far as EDF's projection of nearly 50GW. "We should reach 45 GW in January. Fifty (GW) are probably within reach," CRE chief Emmanuelle Wargon told France Inter radio. In a previous forecast earlier this month, Wargon had said she expected 40GW in production in January.

<https://www.zawya.com/en/world/uk-and-europe/france-could-reach-45-gw-nuclear-production-output-in-january-cre-watchdog-rg07qi96>

G. Germany

Germany says it sees no reason to resume Iran nuclear talks

Anadolu Agency, December 28, 2022

Germany said on Wednesday that it sees no reason to revive the stalled talks on the 2015 Iran nuclear deal. "From our point of view, there are currently no indications or reasons for a resumption of the Iran nuclear negotiations," Foreign Ministry spokesman Christofer Burger told media representatives in Berlin. Germany has repeatedly made it clear that "these negotiations are not taking place at the moment," he added. Burger stressed that Berlin's main concentration was on supporting the Iranian protest movement rather than jump-starting the Iran nuclear talks.

<https://www.aa.com.tr/en/europe/germany-says-it-sees-no-reason-to-resume-iran-nuclear-talks/2774743>

German residents told to prepare for nuclear emergencies

Global Village Space, December 29, 2022

German Residents must make preparations for nuclear emergencies, the President of the Federal Office for Radiation Protection, Inge

Paulini, warned on Wednesday. In an interview with Funke media group newspapers, Paulini pointed out that "radiation does not stop at the borders," and claimed that the ongoing military conflict between Moscow and Kiev has "made it clear to the German residents that we have to be and remain prepared for a wide variety of nuclear emergencies." Russia has repeatedly insisted that it does not intend to use atomic weapons in Ukraine and has referred to its nuclear doctrine which only allows the use of such munitions in a retaliatory fashion or in the case the country is faced with an existential threat from conventional warfare.

<https://www.globalvillagespace.com/german-residents-told-to-prepare-for-nuclear-emergencies/>

H. United Kingdom

GE Hitachi and Holtec submit SMR designs for UK assessment

World Nuclear News, December 20, 2022

GE Hitachi Nuclear Energy (GEH) has submitted a Generic Design Assessment (GDA) entry application for its BWRX-300 small modular reactor (SMR) to the UK Department for Business, Energy and Industrial Strategy (BEIS). Meanwhile, Holtec International said it intends to soon submit an application for its SMR-160 design. GDA is a process carried out by the Office for Nuclear Regulation (ONR) and the Environment Agency (EA) to assess the safety, security, and environmental protection aspects of a nuclear power plant design that is intended to be deployed in Great Britain. Successful completion of the GDA culminates in the issue of a Design Acceptance Confirmation from the ONR and a Statement of Design Acceptability from the EA. In May 2021, BEIS opened the GDA process to advanced nuclear technologies, including SMRs.

<https://www.world-nuclear-news.org/Articles/Two-vendors-submit-SMR-designs-for-UK-assessment>

Iran and EU signal continued work on nuclear deal in Jordan

Aljazeera, December 20, 2022

The top foreign policy representatives of Iran and the European Union have signalled that efforts to restore the country's 2015 nuclear deal will continue, after they held a meeting in Jordan. Iran's Foreign Minister Hossein Amirabdollahian and the bloc's foreign policy chief Josep Borrell sat down on the sidelines of the second meeting of the Baghdad Conference for Cooperation and Partnership hosted by Jordan's King Abdullah on Tuesday. Iran's top negotiator in the nuclear talks, Ali Bagheri Kani, and the bloc's coordinator, Enrique Mora, were also present. Borrell wrote on Twitter following the meeting that it was a "necessary" talk amid "deteriorating Iran-EU relations".

<https://www.aljazeera.com/news/2022/12/20/iran-and-eu-signal-continued-work-on-nuclear-deal-in-jordan>

As EU Keeps 'Channels Open' With Iran, US Gives The Cold Shoulder

Iran International, December 21, 2022

United States officials have played down but not contradicted remarks by President Joe Biden calling the 2015 Iran nuclear deal "dead." Shortly before European Union foreign policy chief Joseph Borrell met Iranian Foreign Minister Hossein Amir-Abdollahian in Jordan Tuesday a video emerged on social media late Monday of Biden making the remark on a walkabout November in California during Congressional elections. Asked about the president's comments in a press briefing Wednesday, Ned Price, the State Department spokesman, stopped short of endorsing them, saying it was "certainly the case that the Iranians killed the opportunity for a swift return to mutual compliance with the JCPOA." Security spokesman John Kirby told journalists: "We simply don't see a deal coming together anytime soon."

<https://www.iranintl.com/en/202212212047>

UK Ramps Up Outreach to Develop Small Nuclear Reactor Fleet

ENR, December 30, 2022

The U.K. government's push to develop more nuclear power as a cleaner energy alternative is going beyond its November buyout of China's interest in the planned 3.3-GW Sizewell C plant and a new 50% stake in the firm developing the megaproject on England's east coast. The government also is seeking proposals from developer and construction sector teams for small modular nuclear reactor (SMR) technology to expedite its fossil fuel transition. As part of an energy strategy announced last spring, Britain has committed to greater SMR investment and has formed Great British Nuclear to bring forward new projects to help meet a target of up to 24 GW of nuclear energy production capacity by 2050. This would represent an increase from 15% to about 25% of forecasted electricity demand, it said.

<https://www.enr.com/articles/55677-uk-ramps-up-outreach-to-develop-small-nuclear-reactor-fleet>

UK plans a fleet of small nuclear reactors to fight energy crisis

Interesting Engineering, December 31, 2022

The U.K.'s desire to expand nuclear energy as greener power has gone beyond its November acquisition of China's nuclear power plant and a 50 percent share in the company planning the megaproject on England's east coast. The government is also looking for proposals from teams in the construction and development sectors for small modular nuclear reactor (SMR) technologies, according to a report published by Engineering News-Record on Friday. "The United Kingdom is at a turning point as it navigates through this energy crisis," said Richard M. Springman, senior vice president of Holtec International. "It will need multiple,

complementary nuclear power plant designs based on proven pressurized water reactor technology already operating ... to assure carbon-free energy security in ten years, and we have to start now.”

<https://interestingengineering.com/innovation/uk-fleet-small-nuclear-reactors>

I. IAEA

Update 137 – IAEA Director General Statement on Situation in Ukraine

IAEA, December 23, 2022

Diplomatic efforts to establish a nuclear safety and security protection zone around Ukraine’s Zaporizhzhya Nuclear Power Plant (ZNPP) are making headway, with the aim to agree and implement the much-needed measure soon, Director General of the International Atomic Energy Agency (IAEA) Rafael Mariano Grossi said today after a new round of talks on his proposal. Director General Grossi spoke after meeting senior Russian government officials in Moscow yesterday, including Alexey Likhachev, Director General of Russian state nuclear company Rosatom. He has earlier on several occasions discussed the proposed zone with senior Ukrainian officials in Kyiv. The consultations with both sides will continue in the near future.

<https://www.iaea.org/newscenter/pressreleases/update-137-iaea-director-general-statement-on-situation-in-ukraine-0>

Update 138 – IAEA Director General Statement on Situation in Ukraine

IAEA, December 30, 2022

A 330 kilovolt (kV) back-up power line to Ukraine’s Zaporizhzhya Nuclear Power Plant (ZNPP) was disconnected late yesterday due to damage caused by shelling, in the latest incident underlining the facility’s fragile supplies of electricity from the grid, Director General of the International Atomic Energy Agency (IAEA) Rafael Mariano Grossi said today. The ZNPP, whose six reactors are all in shutdown, continues to

receive the off-site electricity it needs for reactor cooling and other essential nuclear safety and security functions from the plant’s only remaining operational 750 kV external power line, out of four such lines before the current conflict in Ukraine.

<https://www.iaea.org/newscenter/pressreleases/update-138-iaea-director-general-statement-on-situation-in-ukraine>

J. Ukraine

Nuclear plants at risk from Russia’s missile strikes: Ukraine energy minister

Politico, December 16, 2022

Western countries must send more advanced air defense systems to Ukraine to reduce the risk of Russian missile strikes hitting a nuclear power plant, the country’s energy minister said, after Ukraine endured a ninth “massive” wave of missile strikes against its energy infrastructure. Speaking to POLITICO from his office in Kyiv following Russia’s latest bombardment, German Galushchenko said that Ukraine expected no let-up in President Vladimir Putin’s assault on the country’s energy supply and warned that a nuclear facility could easily be hit either deliberately or accidentally in future attacks. Friday’s bombardment damaged at least eight heating or electricity generating facilities, as well as electricity substations throughout the country, affecting power supply for millions of Ukrainians, he added.

<https://www.politico.eu/article/nuclear-plant-ukraine-russia-war-at-risk-from-russias-missile-strikes-ukraine-energy-minister/>

A Biden admin official recently told members of Congress that Ukraine has the military capability to take back Crimea

NBC News, December 16, 2022

A Biden administration official recently told members of Congress that Ukraine has the military capability to retake Crimea, but some officials are

concerned any large-scale offensive that threatens Russia's hold on the peninsula could push Vladimir Putin to use nuclear weapons, say two U.S. officials familiar with the matter. The late November Ukraine briefing to some members of Congress included discussion of the reasons Ukraine will continue to need U.S. weapons and equipment for the foreseeable future. The two officials said a Biden official, when asked during the briefing about continued support for the Ukrainian military and whether it would try to retake Crimea, responded that Ukraine now has the ability to take it back.

<https://www.nbcnews.com/politics/national-security/biden-official-told-congress-ukraine-can-retake-crimea-rcna61755>

Ukraine updates: Kyiv takes fire from drone attacks

DW News, December 19, 2022

The Ukrainian capital Kyiv was targeted once again by so-called kamikaze drone on Monday. An alert was first declared in the middle of the night. "The enemy is attacking the capital with 'Shahed' barrage ammunition," the Kyiv military administration wrote on Telegram. "The air defense is working." Kyiv officials said 18 out of 23 drones were shot down over the city of 3.6 million. A witness in the city told Reuters that they had heard loud blasts during the early hours, but it was not clear if this came from strikes landing or from air defenses downing the drones. According to the Ukrainian Air Force, Russia unleashed 35 drones on Ukraine in the early hours of Monday as many people slept, hitting critical infrastructure in and around Kyiv in Moscow's third air attack on the Ukrainian capital in six days. The Ukrainian military also said that air defenses shot down 30 incoming drones.

<https://www.dw.com/en/ukraine-updates-kyiv-takes-fire-from-drone-attacks/a-64144756>

Russian 'kamikaze' drones hit Kyiv, Putin has talks in ally Belarus

Reuters, December 20, 2022

Russian "kamikaze" drones hit key energy infrastructure in and around Kyiv on Monday and President Vladimir Putin visited Belarus for the first time since 2019, fuelling Ukrainian fears he will pressure his ally to open a new invasion front.

<https://www.reuters.com/world/its-time-negotiated-peace-ukraine-kissinger-says-2022-12-18/>

Russian-installed official in Ukraine's Zaporizhzhia region says shelling of nuclear plant has almost stopped

Reuters, December 23, 2022

The top Russian-installed official in Ukraine's Zaporizhzhia region said on Friday that shelling of the Russian-controlled nuclear power plant there had "almost stopped".

<https://www.reuters.com/world/europe/russian-installed-official-ukraines-zaporizhzhia-region-says-shelling-nuclear-2022-12-23/>

K. United States of America

Bill Gates-backed nuclear demonstration project in Wyoming delayed because Russia was the only fuel source

CNBC, December 16, 2022

TerraPower's advanced reactor demonstration will face delays of at least two years because its only source of fuel was Russia, and the Ukraine war has closed the door on that trade relationship. The Bill Gates-backed company is planning to build its first reactor in the frontier-era coal town of Kemmerer, Wyoming and

had hoped to finish it by 2028. "In February 2022, Russia's invasion of Ukraine caused the only commercial source of HALEU fuel to no longer be a viable part of the supply chain for TerraPower, as well as for others in our industry," Chris Levesque, the CEO of TerraPower, said in a written statement sent to the company's newsletter recipients on Wednesday. "Given the lack of fuel availability now, and that there has been no construction started on new fuel enrichment facilities, TerraPower is anticipating a minimum of a two-year delay to being able to bring the Natrium reactor into operation," Levesque said.

<https://www.cnn.com/2022/12/16/bill-gates-backed-nuclear-demonstration-delayed-by-at-least-2-years.html>

Nuclear power has one last chance to flourish in the U.S.

The Japan Times, December 19, 2022

Once again, we are on the cusp of a nuclear renaissance. Actually realizing one requires something nuclear power isn't known for: Speed. Nuclear plants produce carbon-free power, don't rely on fossil fuels subject to bad stuff like European wars, and run at high capacity factors. Hence, in these troubled, climate-conscious times, the renewed interest. As it is, the U.S. hosts the world's largest fleet, generating 18% of the country's electricity overall and almost half of its zero-carbon electricity. The vast majority were built in two waves through the 1970s and 1980s, with an average age of 36 years.

<https://www.japantimes.co.jp/opinion/2022/12/19/commentary/world-commentary/u-s-nuclear-reactors/>

US Congress to allocate over \$17 bln on maintaining nuclear arsenal in combat readiness

TASS, December 20, 2022

US lawmakers plan to allocate \$17.116 bln to maintain the country's nuclear arsenal in combat readiness in the 2023 fiscal year, according to a budget bill published on the US Senate's website on Tuesday. The bill

raises research spending to \$8.1 bln. Another \$200 mln will be allocated to ensure the nuclear sector's cybersecurity, while a sum of \$2.49 bln is expected to be spent on efforts to prevent the spread of nuclear weapons, and \$2.08 bln will be allocated to develop nuclear reactors for the Navy. According to Director of the Nuclear Information Project with the Federation of American Scientists (FAS) Hans Kristensen and his colleague Matt Korda, as of the beginning of 2022, the Pentagon maintained 3,708 warheads with yields ranging between five and 455 kilotons, both deployed and held in reserve.

<https://tass.com/world/1553047>

Does Biden Calling Iran Nuclear Deal Dead Reveal Real US Thinking?

Iran International, December 20, 2022

A video of United States President Joe Biden saying the 2015 Iran nuclear deal is "dead" jars with US policy as reiterated recently by leading officials. In the video clip, posted to social media Tuesday, shows Biden apparently at a campaign walk-about during November's Congressional elections. Asked about the 2015 agreement, the JCPOA (Joint Comprehensive Plan of Action), the president clearly replies: "It is dead, but we're not going to announce it."

This is for "a lot of reasons," Biden says. Replying to an apparently Iranian woman asking him about "mullahs," he says he is aware the Iranian government "don't represent you," but he adds that if they acquire atomic weapons they will represent a nuclear Iran .

<https://www.iranintl.com/en/202212200645>

U.S. flies nuclear-capable bombers and stealth jets as show of force against North Korea

CBS News, December 20, 2022

The United States flew nuclear-capable bombers and advanced stealth jets in a

show of force against North Korea on Tuesday, as the powerful sister of North Korean leader Kim Jong Un derided doubts about her country's military and threatened a full-range intercontinental ballistic missile test. The deployment of the U.S. B-52 bombers and the F-22 stealth fighter jets for joint drills with South Korean warplanes was part of an agreement to protect South Korea with all available means, including nuclear, South Korea's Defense Ministry said.

<https://www.cbsnews.com/news/us-bombers-stealth-jets-show-of-force-against-north-korea/>

A new era for nuclear energy post Inflation Reduction Act

Reuters, December 21, 2022

Nuclear power has been pushing electrons onto the U.S. energy grid since 1957, with little fanfare touting its steadfast reliability and carbon free attributes. However, with increasing focus on decarbonization initiatives and an influx of public and private-sector investments, nuclear energy is sharing the stage with wind, solar, and other low-carbon projects as an indispensable asset in the fight against climate change.

<https://www.reuters.com/legal/legalindustry/new-era-nuclear-energy-post-inflation-reduction-act-2022-12-21/>

U.S. Imposes More Sanctions on Iran as Prospects Dim for Revival of Nuclear Deal

Democracy Now, December 22, 2022

The Biden administration has enacted another round of sanctions against Iranian officials, targeting individuals and groups involved in the crackdown on anti-government protests. Iran has executed at least two people in connection with the uprising, sparked by the September death of 22-year-old Mahsa Amini in police custody. Meanwhile, a recently surfaced video shows President Biden telling someone in a crowd at a November campaign event the Iran nuclear deal was "dead." Biden's comment has further dashed hopes of

reviving the landmark agreement, which Biden pledged to do when he was running for the presidency. Earlier this week, a top European foreign policy official said the EU is still working with Iran to restore the 2015 deal, which collapsed after the U.S. unilaterally withdrew from it under Trump in 2018.

https://www.democracynow.org/2022/12/22/headlines/us_imposes_more_sanctions_on_iran_as_prospects_dim_for_revival_of_nuclear_deal

L. East Asia

N Korea completes 'important' test of spy satellite: State media

Reuters, December 19, 2022

North Korea has conducted an "important, final phase" test in the development of a military reconnaissance satellite, which the country plans to complete by April 2023, North Korean state media has reported. The Korean Central News Agency (KCNA) reported on Monday that North Korea's National Aerospace Development Administration conducted the test on Sunday at the country's Sohae satellite launching station in Cholsan, in North Pyongan Province. A rocket carrying what was described as a "test-piece satellite" – including multiple cameras, image transmitters and receivers, a control device and a storage battery – was launched at a "lofted angle" to an altitude of 500km (311 miles), according to KCNA. According to KCNA, the test was designed to review satellite imaging capabilities, data transmission, and a ground control system.

<https://www.aljazeera.com/news/2022/12/19/n-korea-completes-important-test-of-spy-satellite-state-media>

M. Japan

Japanese court says 45-year-old nuclear reactor can operate

Deccan Herald, December 20, 2022

A Japanese court ruled Tuesday that a 45-year-old nuclear reactor in central Japan can continue to operate, rejecting

demands by residents that it be suspended because of safety risks, a decision supportive of the government's push for greater use of nuclear energy because of possible global fuel shortages and the country's pledge to reduce carbon emissions. The Osaka District Court's decision came just days before Prime Minister Fumio Kishida's Cabinet is expected to approve a new nuclear energy policy that would accelerate restarts of reactors that were idled after the 2011 Fukushima nuclear power plant disaster and extend the operating life of aging reactors.

<https://www.deccanherald.com/international/world-news-politics/japanese-court-says-45-year-old-nuclear-reactor-can-operate-1173564.html>

Japan approves nuclear energy U-turn to avert crisis

Financial Times, December 22, 2022

Japan has approved a plan to revive the use of nuclear energy, redrafting an energy policy that has been paralysed since the 2011 Fukushima crisis to address a serious electricity shortage. The U-turn in nuclear policy, first signalled by Prime Minister Fumio Kishida in August, follows softening public opposition to restarting reactors after repeated blackout scares in Tokyo this year along with rising electricity bills. Under a new policy outlined by an advisory panel for the government on Thursday, the country would "maximise the use of existing nuclear reactors" by accelerating restarts in a reversal of a post-Fukushima plan to phase out the use of nuclear power plants.

<https://www.ft.com/content/721b66c6-fd73-432f-ae9-fe59befba2cf>

Japan adopts plan to maximize nuclear energy, in major shift

AP News, December 22, 2022

Japan adopted a plan on Thursday to extend the lifespan of nuclear reactors, replace the old and even build new ones, a major shift in a country scarred by the Fukushima disaster that once planned to phase out atomic power. In the face of global fuel shortages, rising prices and pressure to reduce carbon emissions, Japan's leaders

have begun to turn back toward nuclear energy, but the announcement was their clearest commitment yet after keeping mum on delicate topics like the possibility of building new reactors. Under the new policy, Japan will maximize the use of existing reactors by restarting as many of them as possible and prolonging the operating life of aging ones beyond a 60-year limit. The government also pledged to develop next-generation reactors.

<https://apnews.com/article/russia-ukraine-business-japan-climate-and-environment-02d0b9dfec8cdc197d217b3029c5898>

N. North Korea

North Korea to finish preparations for spy satellite by April

The Japan Times, December 19, 2022

North Korea has conducted "an important final-stage test" for the development of a spy satellite that it plans to complete by next April, state-run media reported Monday, a day after it fired two ballistic missiles toward the Sea of Japan. Pyongyang fired off the two medium-range ballistic missiles just days after Japan approved wide-ranging changes to its security policy, including a commitment to acquiring a so-called counterstrike capability, which would allow it to strike enemy bases and command sites — including inside North Korea. A spokesman for the North's National Aerospace Development Administration said the tests, mainly aimed at evaluating its satellite photography, data-transmission and ground-control capabilities, had been carried out from the Sohae Satellite Launching Ground, the official Korean Central News Agency said in a report.

<https://www.japantimes.co.jp/news/2022/12/19/asia-pacific/north-korea-spy-satellite/>

North Korea slams Japan's military buildup, promises action

Aljazeera, December 20, 2022

North Korea has condemned Japan's planned military build-up and pledged action against what it described as Tokyo's

“wrong and dangerous choice” to bolster its defence sector. The statement on Tuesday from North Korea’s foreign ministry comes just days after Japan unveiled a new \$320bn security strategy that outlined plans for Japan’s military to mount “counter-strike capabilities”, and to respond to the threats posed by China, Russia and North Korea. Japan’s sweeping, five-year military strategy will see the country become the world’s third-largest military spender after the United States and China.

<https://www.aljazeera.com/news/2022/12/20/n-korea-slams-japans-military-buildup-ovows-practical-action>

North Korea launches three ballistic missiles on final day of year

The Japan Times, December 31, 2022

North Korea fired three apparent short-range ballistic missiles on Saturday to cap a record-breaking year of launches as leader Kim Jong Un looked set to conclude a key ruling party meeting on the country’s policy for 2023. Japan’s Defense Ministry said the missiles all traveled about 350 kilometers, hitting a maximum altitude of 100 km before falling into waters of the Sea of Japan outside Japan’s exclusive economic zone, which extends 200 nautical miles (370 km) from its coast. Tokyo strongly protested the latest launches, part of what it said were a series of recent actions by North Korea that “threaten the peace and security of Japan, the region and the international community.”

<https://www.japantimes.co.jp/news/2022/12/31/asia-pacific/north-korea-missile-december-31/>

O. Australia

Leaders discuss future of nuclear-powered subs

Australian Government, December 23, 2022

Opportunities and challenges involved in Australia’s acquisition of nuclear-powered submarines were discussed at the 11th biennial Submarine Institute of Australia conference hosted in Canberra in November. Opening the conference, Minister for Defence Richard Marles said it

was important to explain why submarines were a key component of Australia’s strategic and defence capability requirements. “Continuing to promote discussion about this capability, its place within the broader defence capabilities and the role it has building Australia’s strategic space is vitally important,” Mr Marles said. “Submarines are pretty mysterious to be honest. For the broader public - what they do, why they matter, is not clear.”

<https://www.defence.gov.au/news-events/news/2022-12-23/leaders-discuss-future-nuclear-powered-subs>

Contribute Articles

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

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

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