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Contents

Russia

- **Putin pledges Russian superiority in the Arctic with new icebreakers**
- **Belarus grid-connects its first nuclear unit**
- **Leningrad II-2 cleared for pilot operation**
- **Belarusian President celebrates start-up of new reactor**
- **Belarus 1 a step closer to reaching design capacity**
- **Russia retires Leningrad 2 RBMK**
- **Rosatom delivers RPV to Akkuyu plant site**
- **Rosatom plans first land-based SMR for Russian Far East**
- **Everyone wins if New START treaty prolonged without preconditions: Russia's Lavrov**

West Asia

Iran

- **Biden, Macron discuss Iran nuclear deal**
- **Iran calls on 'new White House officials' to unconditionally return to commitments**
- **Tehran says Saudi, Israeli nuclear activities must be 'transparent'**
- **Iran placed no order to buy Russia's S-400 missile system: advisor**
- **Trump admin doing utmost to kill JCPOA: Wendy Sherman**

East Asia

North Korea

- **S. Korea, US closely monitoring activity at N. Korea's Yongbyon nuclear complex: officials**
- **North Korea building two submarines, one capable of firing ballistic missiles - lawmaker**
- **NK media stresses 'undefeatable friendship' with China on US election day**
- **North Korea yet to react to Biden victory**
- **N. Korea military builds as Japan, U.S., S. Korea try to mend own ties**

South Korea

- **N. Korea estimated to have up to 60 nuclear warheads: US think tank**
- **Moon, Biden agree to cooperate closely on N. Korean nuke issue in phone call**

Japan

- **Japan left with only one nuclear reactor working due to shutdown**
- **Atomic bomb survivors hope Biden steers U.S. away from nukes**
- **Miyagi officials to OK restart of quake-damaged nuclear plant**

- **Approval given for 1st restart of nuclear plant damaged in 3/11**

Misc/World

- **Multinational team to develop MSR-based marine reactor**
- **Cameco sees opportunities following COVID curtailments**
- **Nuclear power can speed progress in the developing world**

Op-ed

India

- **Why India Leases Some of Russia's Best Nuclear Submarines**
- **Why Russia is an ideal partner to boost India's civil nuclear energy program**

USA

- **Yes, nuclear war could still happen**
- **Why NASA wants to put a nuclear power plant on the moon**
- **'No doubt' China is upgrading its nuclear power to be on par with U.S., Russia**

Russia

- **Russia Is Rearming its Nuclear Missile Forces With Yars ICBMs**
- **How Russia's Nuclear Weapons Keep Becoming More Powerful**

Israel

- **Strategy, Plague and War: Israel's Complex Nuclear Future**

Think Tanks

- **Treaty on the prohibition of nuclear weapons set to enter into force**
- **Here's what to expect from Biden on top nuclear weapons issues**
- **Living With the Nuclear Prohibition Treaty: First, Do No Harm**
- **How Biden can make Russia's nuclear policy nonprofits great again**

India

UN General Assembly Adopts India-Sponsored Resolutions On Nuclear Disarmament

NDTV, November 4, 2020

The First Committee of the United Nations General Assembly (UNGA) on Tuesday adopted two resolutions sponsored by India which call for the prohibition of nuclear weapons and reduce the risks of accidental use of nuclear weapons in the world. The two resolutions were named "Convention on the Prohibition of the use of Nuclear Weapons" and "Reducing Nuclear Danger", under the "Nuclear Weapons" cluster.

These resolutions manifest India's commitment towards the goal of nuclear disarmament. The "Convention on the Prohibition of the use of Nuclear Weapons" was tabled by India since 1982 in the General Assembly, which requests the Conference on Disarmament in Geneva to commence negotiations on an international convention prohibiting the use or threat of use of nuclear weapons under any circumstances.

https://www.ndtv.com/india-news/united-nations-general-assembly-adopts-india-sponsored-resolutions-on-nuclear-disarmament-2320623

UN adopts resolutions sponsored by India

The New Indian Express, November 5, 2020

The United Nations General Assembly has adopted two resolutions sponsored by India which call to reduce risk of nuclear accidents and prohibition on the use of such weapons. The UNGA's first committee adopted the two resolutions. The first committee of the UNGA looks after disarmament and works in collaboration with the Conference on Disarmament and UN Disarmament Commission. The two resolutions which have been adopted are titled 'Convention on the Prohibition of the Use of Nuclear Weapons' and 'Reducing Nuclear Danger' under the 'Nuclear weapons' cluster.

The "Convention on the Prohibition of the Use of Nuclear Weapons" was backed by a majority of UN Members and has been tabled by India since 1982. It calls for Conference on Disarmament to start negotiations on an international convention prohibiting the use or threat of use of nuclear weapons under any circumstances.

https://www.newindianexpress.com/nation/2020/nov/05/un-adopts-resolutions-sponsored-by-india-2219595.html

China

China's Hualong One 3rd-gen nuclear tech meets Europe's standards

Global Times, November 10, 2020

China's Hualong One third-generation nuclear technology passed its European Utility Requirements (EUR) review, showing China's nuclear power technologies have become advanced and mature by meeting Europe's standards, according to a statement that China General Nuclear Power Group sent to the Global Times. The EUR reviewers came from 14 European power giants in countries including France, the Czech Republic, Finland, the United Kingdom, Germany, Slovenia, Ukraine, Hungary, Russia, Belgium and Turkey, in a bid to formulate general user requirements to maintain safety, economic and environmental values for European nuclear power plants.

Reviewers are responsible for reviewing and certifying imported nuclear technologies based on EUR requirements, and conducting overall inspections for the European nuclear power sector. Achieving the EUR certification has become an important condition for overseas nuclear power technologies to enter the European power market.

https://www.globaltimes.cn/content/1206377.shtml

China's military aims to use AI to dominate in cyber and outer space, Japanese think tank warns

Kyodo

South China Morning Post, November 13, 2020

The Chinese military is aiming to utilise cutting-edge technologies like private sector-developed artificial intelligence to enhance its offensive capability in domains such as cyberspace and outer space, a Japanese defence ministry think tank warned. Beijing aspires to match the United States' overall military capacity by transforming its People's Liberation Army into a world-class fighting force with the help of advanced technologies, the National Institute for Defence Studies said in its annual report on China's security strategy. The report said that until the Chinese caught up with the American military, "the PLA will build up its interference and strike capabilities to prevent the United States' military use of both the cyber and space domains".

The "China Security Report 2021" was released as rivalry between Washington and Beijing has been intensifying, and amid competition for technological hegemony. The US has restricted exports of semiconductors to Huawei Technologies, the Chinese telecoms giant that is aiming to expand its dominance of next-generation 5G technology. That technology will enable transmission of large amounts of data at extremely high speeds, allowing telecommunication devices to connect to numerous products and services, including those related to military affairs, over digital cellular networks.

https://www.scmp.com/news/china/military/article/3109803/chinas-military-aims-use-ai-dominate-cyber-and-outer-space

China's 'aircraft-carrier killer' missiles successfully hit target ship in South China Sea, PLA insider reveals

Kristin Huang

South China Morning Post, November 14, 2020

The two "aircraft-carrier killer" missiles that China launched in August travelled thousands of kilometres and hit their designated target, a moving ship, near the Paracel Islands in the South China Sea, according to a Chinese military expert. This is the first time the Chinese side has revealed details of the missile launches, which were first reported by the South China Morning Post in August. The news was later confirmed by the US military. After the launches it was reported that the missiles fell into the South China Sea, but Wang Xiangsui, a former senior colonel who now works as a professor at Beihang University in Beijing, said they hit a ship, their intended target.

https://www.scmp.com/news/china/military/article/3109809/chinas-aircraft-carrier-killer-missiles-successfully-hit-target

Pakistan

Shehryar Afridi sees nuclear war with India likely if Kashmir issue not resolved

The News International, November 11, 2020

AJK President Sardar Masood Khan has said the Islamic renaissance could only save Muslims in Southeast Asia. He was presiding over the international Kashmir Convention hosted by the World Kashmir Forum here Tuesday. Giving a graphic picture of occupied Kashmir, Sardar Masood Khan questioned what would happen if a brutal force comprising 900,000 men invades any city of Pakistan.

He said there was disequilibrium in policies of India and Pakistan on Kashmir as India has invaded the Jammu and Kashmir utilising all facets of maneuvering. He suggested a diplomatic and economic war by Pakistan and Pakistanis against India. The AJK president said it's high time that concerted efforts were made using all communication sectors to highlight the sufferings of Kashmiris and the brutalities of Indian occupied forces in Held Kashmir.

https://www.thenews.com.pk/print/742068-shehryar-afridi-sees-nuclear-war-with-india-likely-if-kashmir-issue-not-resolved

USA

Los Alamos spin-off to commercialise space reactors

World Nuclear News, November 4, 2020

Kilopower is a small, lightweight fission power system developed at the US Department of Department of Energy's National Nuclear Security Administration (NNSA) laboratory in partnership with NASA. The system was successfully demonstrated in the Kilopower Reactor Using Stirling Technology (KRUSTY) experiment, which was conducted at the NNSA's Nevada National Security Site from November 2017 to March 2018. KRUSTY used high-enriched uranium powering a heatpipe system and Stirling engine to generate electricity. SpaceNukes offers low-kilowatt reactors to power deep space missions, middle-range reactors in the tens of kilowatts to power a habitat on the Moon or Mars, and larger reactors that could make enough propellant for a rocket to return to Earth after a stay on Mars. The company is pursuing opportunities with NASA for a lunar surface reactor and has presented its ideas to the US Air Force and Space Force for reactor concepts for cislunar space.

Patrick McClure was project lead for Kilopower at Los Alamos and is now a partner in SpaceNukes. "By creating our own company, we're hoping to be able to reach potential new sponsors who will want to take this technology to the next level and put it into space," he said. McClure is listed alongside Dave Poston, who designed the reactor at Los Alamos, as one of the inventors on the patent that forms the basis of the licensing agreement. "This licensing agreement demonstrates how tech-transfer should work: the government and national laboratories invest in technologies that are unproven and advance them far enough to make them commercially viable," Poston, who is now also a partner in SpaceNukes, said.

https://www.world-nuclear-news.org/Articles/Los-Alamos-spin-off-to-commercialise-space-reactor

3D-printed fuel parts complete initial irradiation cycle

World Nuclear News, November 5, 2020

Fuel elements produced by Framatome using 3D printing technology have completed the first cycle of irradiation at the Gösgen nuclear power plant in Switzerland. These experimental stainless steel and nickel-based alloy components were installed in the 1010 MWe pressurised water reactor in 2019 for a five-cycle programme as part of a qualification project. Framatome said the fuel elements irradiated in the Gösgen plant will be further examined to confirm behaviour in real operating conditions. The additive manufacturing project was initiated in 2015 at Framatome's prototyping laboratory in Erlangen, Germany. It focuses on additive manufacturing for stainless steel and nickel-based alloy fuel assembly components. The project involves Framatome fuel experts from France, Germany and the USA, in close collaboration with customers worldwide. Framatome said the project is also supported by the European Union and US Department of Energy programmes and relies on international laboratories and companies recognised for scientific advances in additive manufacturing.

"We are very interested in the innovation and opportunities offered by additive manufacturing of nuclear fuel," said Gaëtan Girardin, head of Nuclear Technology at the Gösgen plant. "We continually explore technological advancements that drive the efficiencies and performance of our plants. This is why we decided to be the first to introduce these experimental components in our power reactor."

https://www.world-nuclear-news.org/Articles/3D-printed-fuel-parts-complete-initial-irradiation

USA formally withdraws from Paris Agreement

World Nuclear News, November 5, 2020

Under article 28 of the Paris Agreement, a Party may withdraw at any time after three years from the date on which the accord has entered into force for that Party, and such withdrawal takes effect upon expiry of one year from the date of receipt by the Depositary of the notification of withdrawal. The USA had accepted the Paris Agreement on 3 September, 2016 and it entered into force for the country on 4 November that year. This meant it had to stay in the pact until at least 2019. On 4 August, 2017 United Nations Secretary-General António Guterres announced he had received a notification from the USA expressing its intention to withdraw from the agreement as soon as it was eligible to do so.

Yesterday's joint statement noted "with regret" that the US withdrawal from the Paris Agreement had formally come into effect, adding, "As we look towards COP26 in Glasgow, we remain committed to working with all US stakeholders and partners around the world to accelerate climate action, and with all signatories to ensure the full implementation of the Paris Agreement." The UN was this year forced to postpone COP26 - its latest global climate change conference – because of the COVID-19 pandemic. It will be held in Glasgow, Scotland, next November, hosted by the UK in partnership with Italy.

https://www.world-nuclear-news.org/Articles/USA-formally-withdraws-from-Paris-Agreement

Priority demolition completed at California legacy site

World Nuclear News, November 6, 2020

The last of 10 buildings at the Radioactive Materials Handling Facility (RMHF) at the Energy Technology Engineering Center (ETEC) in Ventura County, California have been demolished, accomplishing one of the US Department of Energy Office of Environmental Management's (EM) priorities for 2020.

ETEC, located at Area IV of the Santa Susana Field Laboratory, served as a premier nuclear research facility from the 1950s. The RMHF buildings were constructed in 1959 and used for the processing, packaging, and shipment of radioactive and mixed hazardous wastes during site operations that ended in 1988. Removing these buildings reduces the potential risk of release of hazardous substances due to wildfires or erosion from severe storms, EM said.

https://www.world-nuclear-news.org/Articles/Priority-demolition-completed-at-California-legacy

Head of U.S. agency overseeing nuclear weapons stockpile resigns

Reuters, November 9, 2020

The head of the agency that oversees the U.S. stockpile of nuclear weapons has resigned, the U.S. Energy Department's National Nuclear Security Administration said on Friday, without providing a reason. Lisa Gordon-Hagerty resigned as administrator of the NNSA, a semi-autonomous branch of the department. William Bookless is now serving as NNSA's acting administrator, it said in a statement. He had been serving as NNSA's principal deputy administrator for the last year-and-a-half.

https://www.reuters.com/article/us-usa-nuclearweapons-bookless-idUSKBN27M2SP

Contract for first two Columbia class submarines for US Navy

World Nuclear News, November 9, 2020

The US Navy has awarded General Dynamics Electric Boat a USD9.5 billion contract modification option for construction and testing of the first two Columbia class nuclear-powered submarines, as well as associated design and engineering support. Electric Boat - a wholly owned subsidiary of aerospace and defence firm General Dynamics - is the prime contractor on the Columbia programme, which will replace the aging Ohio class of ballistic missile submarines.

The US Department of Defense said the modification to the integrated product and process development contract supports the fiscal 2021 construction start of the lead ship (SSBN 826) and advance procurement, advance construction, coordinated material buys and full construction of the follow hull (SSBN 827) in fiscal 2024. Work is expected to be completed by April 2030. Electric Boat will perform about 78% of the construction of the Columbia class and recently shifted the programme to full-scale construction at the company's manufacturing complex in Quonset Point, Rhode Island. Construction of four of the six 'supermodules' will take place at Electric Boat's Quonset Point facility. The supermodules will then be transported by barge to the company's Final Test and Assembly facility in Groton, Connecticut, where the components will be assembled into a complete submarine in a facility now under construction specifically for the Columbia class.

https://www.world-nuclear-news.org/Articles/Contract-for-first-two-Columbia-class-submarines-f

US firms said to be in talks for Wylfa Newydd project

World Nuclear News, November 10, 2020

Horizon Nuclear Power, the UK project developer owned by Japan's Hitachi, was to develop two UK Advanced Boiling Water Reactor units at Wylfa, but on 16 September Hitachi announced it will end its business operations on the project, which it had suspended in January 2019. The source told the Financial Times that the consortium's plans could deliver power to the electricity grid on both a similar

timescale to that proposed by Horizon and at "a market competitive price" per megawatt hour, despite switching to a different reactor technology.

"A deal over Wylfa would be dependent on the UK government introducing a new funding model for large nuclear projects in the UK and the US consortium striking an agreement to acquire the site on Anglesey from Hitachi, which spent about GBP2 billion (USD2.6 billion) on developing the Wylfa project," the newspaper said. A decision on planning consent for the project was due to be made on 30 September, but Horizon successfully requested that this be delayed until 31 December.

https://www.world-nuclear-news.org/Articles/US-firms-said-to-be-in-talks-for-Wylfa-Newydd%C2%A0proj

BWXT completes TRISO fuel line restart

World Nuclear News, November 10, 2020

BWXT Nuclear Operations Group, Inc has completed its TRISO nuclear fuel line restart project and is actively producing fuel at its facility in Lynchburg, Virginia, BWX Technologies, Inc (BWXT) has announced. TRISO - standing for TRIstructural-ISOtropic - particles contain a spherical kernel of enriched uranium oxycarbide surrounded by layers of carbon and silicon carbide, which contains fission products. TRISO particles are stable to very high temperatures and are used to manufacture fuel for high-temperature reactors which operate at 750 to 950°C. BWXT says it is the only US company to manufacture irradiation-tested uranium oxycarbide TRISO fuel using production-scale equipment.

https://www.world-nuclear-news.org/Articles/BWXT-completes-TRISO-fuel-line-restart

Modernised safety management rule streamlines processes

World Nuclear News, November 11, 2020

A modernised nuclear safety management rule due to come into effect in the USA focuses on safety while minimising unnecessary administrative burden. The Final Rule focuses on improved clarity of requirements and will allow more attention to be paid to safety hazard challenges and less time on redundant efforts or administrative tasks, according to Garrett Smith, director of the Office of Nuclear Safety at the US Department of Energy (DOE). The DOE's overarching nuclear safety requirements are governed by rule 10 CFR part 830, Nuclear Safety Management, first published in 2001. This governs the conduct of DOE personnel and contractors who carry out activities that affect, or may affect, the safety of DOE nuclear facilities. However, since the rule was published, the department and its contract workers "adhered to what are sometimes duplicative and unnecessary administrative tasks that do little to enhance safety", Smith said in an article published by the Office of Nuclear Safety.

https://www.world-nuclear-news.org/Articles/Modernised-safety-management-rule-streamlines-proc

Biden differs from Trump on North Korea, but Kim's nukes are most likely here to stay

Alexander Smith

NBC News, November 11, 2020

President-elect Joe Biden is unlikely to declare that he's fallen in love with North Korean dictator Kim Jong Un. Instead he looks set to ditch the bromance-tinged pageantry favored by President Donald Trump and replace it with more workmanlike ground-level diplomacy. As levelheaded as this sounds, many experts say there is a danger Biden could repeat the mistakes of his old boss, Barack Obama, whose "strategic patience" as president has been criticized by some as being far too passive, allowing North Korea to build up its nuclear arsenal.

Whatever tactics Biden adopts, a central fact remains: North Korea is unlikely to ever willingly give up its nuclear weapons, which it sees as an insurance policy against foreign attempts to overthrow its dynastic regime.

https://www.nbcnews.com/news/us-news/biden-differs-trump-north-korea-kim-s-nukes-are-most-n1247260

NuScale announces SMR power uprate

World Nuclear News November 11, 2020

The NuScale Power Module is a pressurised water reactor with all the components for steam generation and heat exchange incorporated into a single integrated unit. The company said yesterday that, following value engineering efforts using advanced testing and modelling tools, it has now concluded that the unit can generate 77 MWe (gross) per module, or about 924 MWe for a 12-module power plant. The increased power output comes without any major changes to the NPM technology.

The increase in generating capacity lowers the overnight capital cost of a 12-module facility from an expected USD3600 per kilowatt to about USD2850, the company said. "Furthermore, the scalable, 12-module power plant will now approach a size that makes it a true competitor for the gigawatt-size market," it added.

https://www.world-nuclear-news.org/Articles/NuScale-announces-SMR-power-uprate

US Senate committee includes uranium reserve in FY2021 allocations

World Nuclear News, November 12, 2020

Fiscal 2021 allocations released yesterday by the US Senate Committee on Appropriations include USD150 million to initiate the uranium reserve programme to address challenges to the production of domestic uranium. The bills provide appropriations for the fiscal year running from 1 October, 2020 to 30 September, 2021 and also include continued funding for the Advanced Reactors Demonstration Program.

Senator Richard Shelby, chairman of the committee, said the 12 FY2021 funding measures and subcommittee allocations were "by and large" the product of bipartisan cooperation among members of the committee. They have not, as would normally be the case, been subjected to committee "mark ups" and consideration by the full Senate. The committee's vice chairman, Senator Patrick Leahy, said he was "disappointed" that all members had not been given the chance to publicly debate them, but agreed with Shelby on "the importance of completing our work on the 12 bills" before the 11 December deadline if a government shutdown is to be averted. The proposed funding for the uranium reserve comes from the Energy and Water Development (USD120 million) and Defense Non-proliferation provisions (USD30 million). The DOE would be required to provide a "specific program plan" for "executing" the funds, as well as plans to consolidate the programme with other "existing uranium management activities" to create efficiencies.

https://www.world-nuclear-news.org/Articles/Senate-committee-includes-uranium-reserve-in-FY202

DOE publishes strategic framework for hydrogen effort

World Nuclear News, November 13, 2020

"Hydrogen is an exciting fuel source that has the potential to integrate our nation's energy resources, but to fully recognise its potential across the economy, we need to lower costs and see a significant increase in hydrogen supply and demand," Secretary of Energy Dan Brouillette said. "This administration is excited by the Department-wide efforts and collaborations outlined in this Plan that will address these issues and help secure hydrogen as an option in the nation's energy future." According to DOE, the plan serves as the overarching document to set the strategic direction of the Hydrogen Program, and to complement the technical and programmatic multi-year plans from each DOE office engaging in hydrogen RD&D activities.

Hydrogen is a versatile fuel that offers a path to sustainable long-term economic growth, Deputy Energy Secretary Mark Menezes and the heads of the various offices said in a message to stakeholders. It can add value to multiple sectors of the economy, serve as a sustainable fuel for transportation and as input to produce electricity and heat for homes and even be exported. "But realising the true potential for hydrogen requires a commitment to continued research and development as well as ramping up demonstrations and deployments with the private sector to achieve scale. Unlike other fuels, hydrogen requires more integration of the fossil, nuclear, and renewable energy systems, and it will take an integrated approach from all energy sectors to realise the full potential and benefits of hydrogen," they said.

https://www.world-nuclear-news.org/Articles/DOE-publishes-strategic-framework-for-hydrogen-eff

Ohio AG sues Energy Harbor to stop $1.3 billion nuclear plants bailout

Sebastien Malo

Reuters, November 14, 2020

The Ohio attorney general sued Energy Harbor Corp. on Friday to block the collection of a surcharge on energy customers' bills that's part of a controversial law creating a $1.3 billion bailout for two of the company's nuclear power plants. Ohio Attorney General Dave Yost alleged in the lawsuit filed in the Court of Common Pleas for Franklin County that the surcharge totaling $150 million a year should not be solicited because it is authorized by a bill whose adoption is the result of a corrupt enterprise. The law requires collection to begin on Jan. 1.

https://www.reuters.com/article/usa-energy-lawsuit-idUSL1N2HZ2N0

Europe

MAST Upgrade achieves first plasma

World Nuclear News, November 02, 2020

The UK Atomic Energy Authority (UKAEA)'s fusion energy experiment - the Mega Amp Spherical Tokamak (MAST) Upgrade tokamak at Culham Science Centre - has achieved first plasma for the first time. MAST Upgrade will be the forerunner of the UK's prototype fusion power plant - Spherical Tokamak for Energy Production (STEP) - due for completion by 2040. It will also aid preparations for Iter - the world's largest science megaproject, under construction in the South of France, which intends to demonstrate fusion power on an industrial scale.

UKAEA CEO Ian Chapman said: "MAST Upgrade will take us closer to delivering sustainable, clean fusion energy. This experiment will break new ground and test technology that has never been tried before. It will be a vital testing facility on our journey to delivering the STEP fusion power plant." He added: "MAST Upgrade ensures the UK is in the premier league of countries working on fusion - and will be vital in achieving UKAEA's goal of building the STEP fusion power plant." Fusion energy involves fusing hydrogen particles in a hot gas known as plasma to unlock large amounts of energy. Operating fusion technologies requires a careful balancing act of controlling extreme heat, gas and powerful magnetic fields, amongst other complex systems.

https://www.world-nuclear-news.org/Articles/MAST-Upgrade-achieves-first-plasma

3D-printed fuel parts complete initial irradiation cycle

World Nuclear News, November 05, 2020

Fuel elements produced by Framatome using 3D printing technology have completed the first cycle of irradiation at the Gösgen nuclear power plant in Switzerland. These experimental stainless steel and nickel-based alloy components were installed in the 1010 MWe pressurised water reactor in 2019 for a five-cycle programme as part of a qualification project. Framatome said the fuel elements irradiated in the Gösgen plant will be further examined to confirm behaviour in real operating conditions.

The additive manufacturing project was initiated in 2015 at Framatome's prototyping laboratory in Erlangen, Germany. It focuses on additive manufacturing for stainless steel and nickel-based alloy fuel assembly components. The project involves Framatome fuel experts from France, Germany and the USA, in close collaboration with customers worldwide. Framatome said the project is also supported by the European Union and US Department of Energy programmes and relies on international laboratories and companies recognised for scientific advances in additive manufacturing. "We are very interested in the innovation and opportunities offered by additive manufacturing of nuclear fuel," said Gaëtan Girardin, head of Nuclear Technology at the Gösgen plant. "We continually explore technological advancements that drive the efficiencies and performance of our plants. This is why we decided to be the first to introduce these experimental components in our power reactor."

https://www.world-nuclear-news.org/Articles/3D-printed-fuel-parts-complete-initial-irradiation

Finland notifies fuel suppliers of final disposal plans

World Nuclear News, November 05, 2020

Finland's Radiation and Nuclear Safety Authority (STUK) has notified the authorities in charge of radiation safety in the countries that have supplied the country with uranium for its nuclear power plants of Finland's intention to begin the final disposal of used nuclear fuel in the mid-2020s. Normal verification inspections of nuclear materials cannot be performed once the materials have been finally disposed of, and so procedures related to such inspections must be specified before the initiation of final disposal. Since Finland started up its first nuclear power reactors in the early 1970s, it has mainly sourced uranium from Russia, Australia, Canada and the USA. STUK maintains a national database of nuclear materials and oversees nuclear safeguards in Finland. The International Atomic Energy Agency (IAEA) and the European Commission control Finnish operations to ensure that they comply with the Nuclear Non-Proliferation Treaty.

"STUK has developed several measurement methods for nuclear materials, which have been adopted internationally, and now we are creating procedures for new forms of supervision," said Elina Martikka, head of international cooperation at STUK. "Safeguards will continue in place when the final

disposal facility is closed after approximately one hundred years. It is important that all parties can trust that the authorities have accurate information about the nuclear materials in final disposal and that this information will continue to be accessible to the next generations."Nuclear safeguards help ensure that nuclear materials are used for peaceful purposes alone and do not end up in nuclear weapons.

https://www.world-nuclear-news.org/Articles/Finland-notifies-fuel-suppliers-of-final-disposal

Rolls-Royce and ČEZ to explore SMR deployment

World Nuclear News, November 09, 2020

British engineering company Rolls-Royce and Czech utility ČEZ have signed a Memorandum of Understanding to explore the potential for small modular reactors in the Czech Republic. Rolls-Royce is leading the UK SMR Consortium, which also includes Assystem, Atkins, BAM Nuttall, Jacobs, Laing O'Rourke, National Nuclear Laboratory, Nuclear Advanced Manufacturing Research Centre and TWI. ČEZ has already entered into similar agreements with NuScale and GE Hitachi. The UK SMR concept is a standard small pressure water reactor, with a planned operating time of 60 years and installed power of 440 MWe. The construction period of the entire facility should not exceed five years, ČEZ noted.

Tom Samson, interim CEO of the UK SMR Consortium, said: "The affordability and speed with which we can assemble the entire power station will no doubt make it a very attractive option for ČEZ as it looks to its future reliable low-carbon energy supply." Bohdan Zronek, a director of ČEZ's Nuclear Energy Division, said: "Although we are working intensively on a new reactor unit at Dukovany, we are involved in these projects with a view to further development of nuclear energy, whose position in the energy mix of our company will continue to grow."

https://www.world-nuclear-news.org/Articles/Rolls-Royce-and-CEZ-to-explore-SMR-deployment

European project to bolster earthquake protection

World Nuclear News, November 09, 2020

A new EU-funded project aims to improve confidence in nuclear safety by advancing the approach to seismic safety assessments for nuclear power plants. The 'methods and tools innovations for seismic risk assessment' (METIS) Horizon 2020 project is being led by France's EDF Group. The METIS project was officially launched after a virtual kick off meeting on 29-30 September. The project will run from September 2020 until 2024. It has a total budget of EUR5 million (USD6 million), of which EUR4 million is funded from the European Commission under its Safety margins determination for design basis-exceeding external hazards programme. The METIS project will be delivered by an international consortium consisting of 13 European partners from France, Germany, Italy, Greece, Slovenia, the UK and Ukraine, together with three organisations from Japan and the USA. The consortium brings together universities, research organisations and industrial companies.

The research will develop methods to improve the ability to define safety limits for extremely rare events, which go beyond current design analyses. The refined seismic probabilistic safety assessment is expected to provide meaningful support in defining regulations for safe design of nuclear power plants, as well as for assessing plant safety in real-time in case of temporary unavailability of relevant safety equipment or structures. EDF said the outcome of the project will allow for "risk-informed decision-making in the European context and METIS will help to optimise the use of existing and future reactors and will contribute to competitiveness of the European nuclear industry."

https://www.world-nuclear-news.org/Articles/European-project-to-bolster-earthquake-protection

CGN's Hualong One design certified for European use

World Nuclear News, November 12, 2020

China General Nuclear's (CGN's) Hualong One (HPR1000) reactor design has been formally certified as compliant by the European Utility Requirements (EUR) organisation - a technical advisory group for European utilities on nuclear power plants. CGN said EUR's assessment shows the design has a high degree of compliance with its criteria and meets the latest European nuclear power requirements. The requirements cover a broad range of conditions for a nuclear power plant to operate efficiently and safely. They include such areas as plant layout, systems, materials, components, probabilistic safety assessment methodology and availability assessment. Although still requiring regulatory design approval in each country, EUR compliance indicates that the reactor design meets a list of requirements set by the utilities for the next generation of light water reactors.

EUR's assessment of the HPR1000 was launched in August 2017 and involved CGN and EUR utility members CEZ, EDF, Fortum, Energoatom, GEN Energija, NRG, Paks II, Preussen Elektra, Rosenergoatom and Tractebel. The assessment comprised four stages: application, preparation, detailed evaluation and finalisation. The HPR1000 design has been evaluated based on the design description document, and dozens of additional design documents provided by CGN. More than 10,000 pages of demonstration and justification documents have been submitted by CGN and analysed by the EUR assessment project team. A total of 864 question sheets were issued and answered during the assessment.

https://www.world-nuclear-news.org/Articles/CGNs-Hualong-One-design-certified-for-European-use

Russia

Putin pledges Russian superiority in the Arctic with new icebreakers

Reuters, November 3, 2020

President Vladimir Putin said on Tuesday Russia wanted to retain its “superiority” in the Arctic and that it planned to renew its icebreaker fleet to bolster its presence there. Moscow has stepped up its

efforts to tap the region's commercial potential, including by increasing freight traffic on the Northern Sea Route, which runs from Murmansk in the Russian Arctic to the Bering Strait near Alaska.

In recent years Russia has also re-opened abandoned Soviet military, air and radar bases in the energy-rich region as it vies for dominance against traditional rivals Canada, the United States, and Norway as well as newcomer China.

https://www.reuters.com/article/us-russia-putin-idUSKBN27J2AU

Belarus grid-connects its first nuclear unit

World Nuclear News, November 3, 2020

Rosatom Director General Alexey Likhachev said: "The launch of the Belarusian nuclear power plant is a milestone for both Belarus and Rosatom. With the first kWh of electricity supplied to the grid Belarus has become a fully-fledged member of the nuclear energy club and joined over 30 countries operating a fleet of over 440 reactors, the largest source of low-carbon electricity on our planet which helps to prevent more than 2 billion of tonnes of carbon emissions every year. From Rosatom's perspective, it's the first VVER-1200 project successfully completed outside Russia." Currently, three VVER-1200 units are in operation: two at the Novovoronezh NPP and one at the Leningrad NPP. The fourth - Leningrad II unit 2 - was connected to the grid for the first time on 22 October.

Andrey Petrov, general director of Rosenergoatom, Rosatom's operator subsidiary, said the AES-2006 project, on the basis of which the Belarusian NPP is being built, is "one of the most promising and in demand on the international nuclear market". Bangladesh, China, Finland, Hungary and Turkey are among its other VVER-1200 reactor customers, he added. "This fact, more eloquently than any words could, confirms the reliability and efficiency of Russian nuclear technologies," said Petrov, who is also first vice president for construction at Rosatom's engineering division ASE EC JSC.

https://www.world-nuclear-news.org/Articles/Belarus-grid-connects-its-first-nuclear-unit

Leningrad II-2 cleared for pilot operation

World Nuclear News, November 6, 2020

Russian regulator Rostekhnadzor today issued a permit for the start of pilot operation at unit 2 of the Leningrad II nuclear power plant in western Russia. Pilot operation is the final and longest check of the power unit before commissioning and will last about four months, Russian state nuclear corporation Rosatom said. During this time, the power of the reactor will be increased in stages to 100% and undergo about 200 system tests.

"After reaching 100% capacity, completing all the prescribed tests at a given power level and flawless and non-stop operation for at least 15 days, the power unit will be shut down to check the equipment and put it into industrial operation, after approval from the state commission," the plant's chief engineer, Alexander Belyaev, said. Start-up operations at the unit, also known as Leningrad-6, began on 19 July, when the first fuel assemblies with fresh nuclear fuel were loaded into the reactor core. After full loading, the reactor was brought to the minimum controlled power level that gave rise to a series of tests. At the end of these, on 22 October, the unit was connected to the country's grid. When it is in commercial operation, its daily output will be about 28 MWh of electricity. The commissioning of the unit is scheduled for 2021.

https://www.world-nuclear-news.org/Articles/Leningrad-II-2-cleared-for-pilot-operation

Belarusian President celebrates start-up of new reactor

World Nuclear News, November 9, 2020

"Is the area of the construction and maintenance site larger than the plant itself? I had the impression that it is almost twice as large," Lukashenko said, according to a statement on the president's website. Energy Minister Viktor Karankevich told him that 130 different buildings and structures had been constructed and covered an area of more than 100 hectares. "With the launch of the first unit, 88 facilities will be commissioned, with the launch of the second one - 42," he added. At the BelNPP training centre, where the President was briefed on work to commission the plant and its integration into the country's economy, he said the plant's start-up was "a historic moment" for the country.

Karankevich said the plant will produce about 18 TWh annually and enable Belarus to replace about 4.5 billion cubic meters of natural gas per year, save more than USD500 million and reduce greenhouse gas emissions by more than 7 million tonnes per year. “The lifespan of the plant is 60 years with the possibility of extension to 100 years," the minister added. In total, more than 2500 specialists will work at the Belarusian nuclear power plant, about 60 of them from Russia and Ukraine with experience in working at nuclear power plants.

https://www.world-nuclear-news.org/Articles/Belarusian-President-celebrates-start-up-of-new-re

Belarus 1 a step closer to reaching design capacity

Nuclear Engineering, November 10, 2020

The power level of unit 1 at Belarusian nuclear power plant was raised up to 400MW on 7 November. The first current into the unified energy system of the republic was delivered by the generation III + Russian supplied VVER-1200 reactor on 3 November, after which a gradual increase in the reactor power to 50% began, with the implementation of planned measurements and tests. The next stage —

pilot production, with an increase in capacity up to 100% — will begin in late November or early December.

“This week Belarus became a full-fledged member of the world nuclear club - the country's first and most modern power unit began producing electricity. For Rosatom, this is also the first project equipped with the latest generation of VVER-1200 reactors successfully implemented outside Russia,” said Rosatom director general Alexei Likhachev. He noted that similar projects are being implemented in Finland, Hungary, Turkey, Bangladesh and China. Official commissioning of Belarussian 1 is scheduled for the first quarter of 2021.

https://www.neimagazine.com/news/newsbelarus-1-reaches-design-capacity-8354256

Russia retires Leningrad 2 RBMK

World Nuclear News, November 10, 2020

Russian state nuclear corporation Rosatom said Leningrad 2 was shut down for subsequent decommissioning at 12:31am Moscow time. The reactor was shut down in accordance with the technological regulations and disconnected from the unified power system of Russia without incident, Rosatom said. In accordance with federal regulations, a shutdown power unit is considered to be in operation without generation until the moment of complete removal of nuclear fuel, which is completed within four years, Rosatom said.

"As in the case of power unit 1, which was shut down in December 2018, regular operations will be carried out with the second unit. In fact, the procedures performed practically do not differ from ordinary maintenance," Vladimir Pereguda, director of Leningrad NPP said. "Now our task is also to service reliably and safely the shutdown units, unload nuclear fuel from the reactors and prepare them for transfer to the specially created enterprise Experimental Demonstration Engineering Centre." Noting the start-up of Leningrad II-2, Andrey Petrov, the general director of Rosatom's operator subsidiary Rosenergoatom, said: "The replacement of the retired capacities will be imperceptible to electricity consumers."

https://www.world-nuclear-news.org/Articles/Russia-retires-Leningrad-2-RBMK

Rosatom delivers RPV to Akkuyu plant site

World Nuclear News, November 11, 2020

The RPV weighs 330 tonnes, has a 4.5 m diameter and is 12 m high. Its manufacture took nearly three years and involved more than 750 production processes. It passed more than 300 quality control tests at various stages of its manufacture.

"Construction and installation works at the Akkuyu site are progressing at a very good pace," Sergey Butckikh, first deputy CEO and director of NPP construction at Akkuyu Nükleer AŞ, said. Arrival of the RPV follows delivery in late September of four steam generators for the unit. The 4800 MWe plant will comprise four VVER1200 reactors and is expected to meet about 10% of Turkey's electricity needs. Turkey aims to bring unit 1 online in 2023, the centenary of its foundation as a republic.

https://www.world-nuclear-news.org/Articles/Rosatom-delivers-RPV-to-Akkuyu-plant-site

Rosatom plans first land-based SMR for Russian Far East

World Nuclear News, November 11, 2020

Rosatom plans to build a nuclear power plant equipped with an RITM-200 small modular reactor in the village of Ust-Kuyga, in Yakutia, which is in Far Eastern Russia. The land-based small nuclear plant will be able to supply electricity to isolated power systems or remote areas and consumers. The latest RITM-200 design is the result of 400 reactor-years' worth of combined experience operating small reactors on ships in Russia's fleet of nuclear-powered icebreakers, Rosatom said. To date, six reactors of the RITM series have already been manufactured and installed on three new universal icebreakers. The lead icebreaker, Arktika, completed trial operations on 21 October.

https://www.world-nuclear-news.org/Articles/Rosatom-plans-first-land-based-SMR-for-Russian-Far

Everyone wins if New START treaty prolonged without preconditions: Russia's Lavrov

Reuters, November 12, 2020

Russian Foreign Minister Sergei Lavrov said on Thursday everyone would win if the New START nuclear arms control treaty was prolonged without preconditions, but added it was worth waiting for the U.S. political situation to settle.

The New START (Strategic Arms Reduction Treaty) accord, signed in 2010, limits the numbers of strategic nuclear warheads, missiles and bombers that Russia and the United States can deploy. It expires in February.

https://www.reuters.com/article/us-russia-usa-nuclear-idUSKBN27S1C9

West Asia

Iran

Biden, Macron discuss Iran nuclear deal

Tehran Times, November 11, 2020

U.S. President-elect Joe Biden has told France's President Emmanuel Macron that he would like the U.S. to once again work with its European ally on Iran nuclear policy. Biden "expressed his readiness to work together on global challenges, including security and development in Africa, the conflicts in Ukraine and Syria, and Iran's nuclear program," Biden's transition team said, according to Newsweek. Tensions soared between Tehran and Washington after the Trump administration unilaterally walked away from the 2015 nuclear deal, officially called the Joint Comprehensive Plan of Action (JCPOA), in May 2018. Under the JCPOA, which was also signed by Russia, China, France, the United Kingdom, Germany and the European Union, Iran agreed to curb its nuclear program in exchange for termination of sanctions and international investment.

Trump's withdrawal came while Iran was in full compliance with the treaty. He then reimplemented stringent sanctions against Iran. All other parties to the deal have repeatedly criticized the Trump administration's policy toward Iran.

https://www.tehrantimes.com/news/454537/Biden-Macron-discuss-Iran-nuclear-deal

Iran calls on 'new White House officials' to unconditionally return to commitments

Tehran Times, November 13, 2020

Ali Rabiei, the Iranian government spokesman, said on Thursday that Iran expects the incoming White House leader to unconditionally return to Washington's obligations, according to the Islamic Republic of Iran Broadcasting (IRIB) news agency. "We expect the new White House officials to unconditionally return to all their previous obligations and commitments," Rabiei said in an interview with the IRIB news agency. "In the first step, sanctions and barriers to the transfer of Iranian money must be lifted and the U.S. administration must be held accountable for the damage it has done to the Iranian people during this period." The spokesman said Iran is dealing with White House policies, not politicians.

He added, "Basically, when we were negotiating with the Obama administration, we were not actually negotiating with the Democratic Party, we were negotiating with the U.S. government, but it was Trump who pushed back his rival party policies and replaced them with hostile policies. Therefore, we will follow the policies, behaviors, and actions of the other party and adopt the necessary policies accordingly."Rabiei also pointed to the U.S. presidential election, noting that the American people said no to "racism and bullying".

https://www.tehrantimes.com/news/454597/Iran-calls-on-new-White-House-officials-to-unconditionally

Tehran says Saudi, Israeli nuclear activities must be 'transparent'

Tehran Times, November 13, 2020

Iran's ambassador to the United Nations said on Thursday that nuclear activities of Saudi Arabia and the Israeli regime must be "transparent". Noting that International Atomic Energy Agency (IAEA) should maintain its independence, neutrality and professionalism, Majid Takht-Ravanchi said, "If Saudi Arabia is seeking a peaceful atomic program, it should act transparently and allow IAEA inspectors to verify its nuclear work." Speaking at a meeting of the UN General Assembly on the annual report of the IAEA, Takht-Ravanchi also said the Israel has not yet joined the nuclear Non-Proliferation Treaty (NPT) and has not allowed verification of its nuclear activities. The IAEA should adopt an independent and professional approach to settle the issue, the Iranian top diplomat at the UN insisted.

Israel, which is widely believed to have stockpiled several dozens of nuclear weapons, has followed a vague policy on its nuclear program. The Iranian ambassador also rejected any restrictions on peaceful uses of nuclear energy, highlighting the important role of nuclear energy in promoting countries' economic and social development. Takht-Ravanchi said the importance of nuclear energy is stipulated in the NPT and the Statute of the IAEA. He said one of the duties of the IAEA is to promote the civilian use of nuclear energy and boost international cooperation among member states in that regard. "By making a lot of efforts and investment in this field, the Islamic Republic of Iran has secured significant achievements and, at the moment, uses nuclear energy in the domains of power generation, medicine, agriculture and industry," said Iran's UN envoy.

https://www.tehrantimes.com/news/454605/Tehran-says-Saudi-Israeli-nuclear-activities-must-be-transparent

Iran placed no order to buy Russia's S-400 missile system: advisor

Tehran Times, November 14, 2020

Mehdi Sanaei, a top advisor to Foreign Minister Mohammad Javad Zarif, says Iran has not placed an order to purchase S-400 missile systems from Russia. In a TV interview on Friday evening, Sanaei said Iran and Russia enjoy close cooperation, which has led to Iran's purchase of S-300 missile system from Russia.

He said it is claimed sometimes that the Russians did not sell their S-400 missile systems to Iran. "This is while we've never placed an order to buy the S-400," added Sanaei, Iran's former ambassador to Moscow. Back in March 2017, the Iranian Armed Forces successfully tested S-300 surface-to-air missile defense systems, which Iran imported from Russia after a decade-long delay due to sanctions over its nuclear program. Iranian experts conducted a number of tests on the Russian missile systems during the drills, which were held at the presence of several military and government officials in one

of the country's defense units. The tests included all phases of performance, namely detection, identification, interception and target shooting. Last year, Russia said it was ready to deliver its S-400 air defense missile systems to Iran but added that it had not yet received any official request from the Islamic Republic for such a sale.

https://www.tehrantimes.com/news/454624/Iran-placed-no-order-to-buy-Russia-s-S-400-missile-system-advisor

Trump admin doing utmost to kill JCPOA: Wendy Sherman

Tehran Times, November 15, 2020

Wendy Sherman, the former U.S. nuclear negotiator with Iran, has said the Trump administration is trying to do whatever they can, quite frankly, to make it more difficult for the Biden administration to return to the Iran nuclear agreement (JCPOA). "But a lot of these sanctions are going to actually be similar to things that have already been done, with new names on them. But the underlying sanctions, I think, are not fundamentally going to change," Sherman said in an interview with the PRI published on Wednesday.

"So, a Biden-Harris administration is going to have to look at where we are. The president-elect has said he wants to reenter negotiations and build back better. So this will be a very complicated puzzle," she said. The outgoing U.S. President Donald Trump has pursued the "maximum pressure" policy against Iran in order to force Tehran to succumb to its demands. The policy was implemented after Trump unilaterally pulled Washington out of the historic nuclear agreement between Iran and world powers. Washington then slapped several rounds of harsh sanctions on Iran, claiming it was pursuing to negotiate a better deal with Iran than the Joint Comprehensive Plan of Action (JCPOA), which was clinched under his predecessor Barack Obama. Meanwhile, U.S. President-elect Joe Biden has voiced support for the JCPOA, saying his administration will rejoin the deal. "We're not in 2016. We're in 2020 and almost to 2021. Time has passed. Circumstances have changed. And even though the deal was kept together by our European allies and by Russia and China, in the last year, I would say it has started to unravel a bit," Sherman said.

https://www.tehrantimes.com/news/454684/Trump-admin-doing-utmost-to-kill-JCPOA-Wendy-Sherman

East Asia

North Korea

S. Korea, US closely monitoring activity at N. Korea's Yongbyon nuclear complex: officials

Yonhap

Korea Herald, November 2, 2020

South Korea and the United States are closely watching movements at North Korea's main Yongbyon nuclear complex, military authorities said Monday, amid a report on signs of brisk activities there. Last week, 38 North, a US website monitoring North Korea, reported that activity has picked up throughout the Yongbyon site, citing commercial satellite imagery showing "smoke or vapor" emanated from a building just south of its uranium enrichment plant. "Historically, this building was used to recover and purify uranium from yellowcake and, in some cases, from leaching solutions from uranium milling facilities," the article read. "However, what is taking place now is unclear."

As the North's mainstay nuclear complex located north of Pyongyang, the Yongbyon facility is home to a 5-megawatt nuclear reactor that was the source of weapons-grade plutonium for the North. "The South Korean and the US intelligence authorities are carefully monitoring related movements while maintaining close coordination," JCS spokesperson Col. Kim Jun-rak told a regular briefing. "As of now, there is nothing to be noted for further explanation." Another military official said that such signs of activity at the facility have been detected since last year, and any fresh indications do not appear to have been spotted.

http://www.koreaherald.com/view.php?ud=20201102000749&ACE_SEARCH=1

North Korea building two submarines, one capable of firing ballistic missiles - lawmaker

Sangmi Cha

Reuters, November 3, 2020

North Korea is building two new submarines, including one capable of firing ballistic missiles, a South Korean lawmaker said on Tuesday, following a closed-door briefing by the South's National Intelligence Service. North Korea has a large submarine fleet but only one known experimental submarine capable of carrying a ballistic missile. "One of the submarines North Korea is building can carry a submarine-launched ballistic missile (SLBM)," Ha Tae-keung, an opposition party lawmaker on parliament's intelligence committee, told Reuters. "One is a modified Romeo Class and the other is a new medium-large size one."

North Korea has been subject to U.N. Security Council sanctions since 2006 over its nuclear and ballistic missile programmes. North Korean leader Kim Jong Un and U.S. President Donald Trump have met three times since 2018, but failed to make progress on U.S. calls for Pyongyang to give up its nuclear weapons and North Korea's demands for an end to sanctions. In July 2019 state media showed Kim inspecting a large, newly built submarine. While North Korea did not describe the submarine's weapons systems, analysts said the apparent size of the vessel indicated it was designed to carry missiles. Later that year North Korea said it had successfully test-fired a new SLBM from the sea, and last month it showcased a new SLBM design during a military parade in Pyongyang. Kim's

vow to unveil new strategic weapons this year also led to speculation that North Korea could soon deploy an operational ballistic missile submarine.

https://www.reuters.com/article/northkorea-missiles/update-2-nkorea-building-two-submarines-one-capable-of-firing-ballistic-missiles-lawmaker-idUSL1N2HP0J4

NK media stresses 'undefeatable friendship' with China on US election day

Yonhap

Korea Herald, November 4, 2020

A North Korean propaganda outlet stressed the country's strengthening ties with China on the day of the US presidential election, calling it an "undefeatable friendship." "The North Korea-China ties are drawing global attention as an unprecedented and special relationship and an undefeatable friendship that cannot be broken by anything," the Tongil Sinbo, the North Korea's propaganda weekly, said in an article.

"The two countries share a long history and tradition of closely supporting and cooperating with one another in the road to common achievements, including the struggle for national liberation and establishment of socialism," the article said, mentioning the 1950-53 Korean War, in which China fought alongside the North against South Korean, US and United Nations troops. It added that the bilateral ties have recently developed further to "a new height to meet the needs of the era and common interests of the people." Pyongyang has been seeking to maintain closer ties with its traditional ally amid an impasse in nuclear negotiations with Washington and multiple internal challenges, including the fallout of the prolonged antivirus campaign, devastation caused by recent typhoons and economic woes from crippling global sanctions.

http://www.koreaherald.com/view.php?ud=20201104000669&ACE_SEARCH=1

North Korea yet to react to Biden victory

Park Han-na

Korea Herald, November 8, 2020

Now that Democrat Joe Biden has won the US presidential election, how the new president-elect and his administration will cope with North Korea is attracting keen attention here. During his election campaign rallies, Biden called North Korean leader Kim Jong-un a “dictator” and a “thug,” and criticized his rival President Donald Trump for befriending Kim. But Biden left the door open for a possible summit, with the condition being that Pyongyang work to make the Korean Peninsula a “nuclear-free zone.” North Korea also has criticized

Biden, who served two terms as vice president to President Barack Obama from 2009 to 2017, calling him a “low IQ individual” who is “seized by ambition for power.” The exchange of harsh rhetoric between Kim and Biden contrasts with the personal relationship the North Korean leader developed

with Trump. Trump and Kim have met three times and exchanged letters since June 2018 to try to reach a deal on dismantling the North's nuclear weapons program in exchange for sanctions relief. The meetings ended without substantial results.

http://www.koreaherald.com/view.php?ud=20201108000192&ACE_SEARCH=1

N. Korea military builds as Japan, U.S., S. Korea try to mend own ties

Yoshihiro Makino

The Asahi Shimbun, November 12, 2020

The military power of the increasingly reclusive state has strengthened, and Japan, the United States and South Korea have been struggling to build an effective system to respond to the threat from Pyongyang. At an Oct. 10 military parade in Pyongyang, North Korea unveiled large ballistic missiles and other new weaponry, drawing considerable attention from the international community. The most eye-catching exhibit was a seemingly new intercontinental ballistic missile (ICBM) that was slightly larger than the Hwasong-15 ICBM. The Hwasong-15 is believed capable of traveling more than 12,000 kilometers to reach the U.S. east coast.

A submarine-launched ballistic missile (SLBM) that may have been newly developed was also on display that day. Still, many questions have been raised over those "new weapons." The mobile launcher carrying the new ICBM had as many as 11 axles, meaning the system cannot run on rough or sloping roads. Therefore, the launching unit cannot travel long distances, making it difficult to use in combat. Some experts also doubt that Pyongyang has the technology to build a submarine that can fire an SLBM. In past military parades, North Korea carefully selected weapons that it wanted to show the global community while intentionally keeping some important technologies secret. One of North Korea's confidential achievements that was recently confirmed is the introduction of solid fuel for missiles.

http://www.asahi.com/ajw/articles/13881806

South Korea

N. Korea estimated to have up to 60 nuclear warheads: US think tank

Yonhap

Korea Herald, November 11, 2020

North Korea is believed to have up to 60 nuclear warheads that can threaten regional stability, according to a recent estimate by a research institute affiliated with the US National Defense University. The Institute for National Strategic Studies said in its Strategic Assessment 2020 report that the North is assumed to have between 15 and 60 nuclear warheads and approximately 650 ballistic

missiles capable of threatening cities in South Korea, as well as in Japan and eastern China. "Through the development of weapons of mass destruction, use of chemical weapons, and aggressive posturing of its conventional forces, the DPRK threatens regional stability and global norms," the report said, referring to the North by its official name. "It has also tested intercontinental ballistic missiles that could be capable of striking the United States," it added.

The report pointed out that an overwhelming estimate of 1.2 million North Korean soldiers are "forward-deployed toward the Demilitarized Zone in an offensive posture" and continue to pose a conventional threat to South Korea and Japan. Pyongyang has engaged in sales and transfer of military technology with Iran, helping to advance its ballistic missile programs, according to the report. "Currency counterfeiting and narcotics trafficking have helped the regime generate funds and offset the effects of sanctions," it said. An annual estimate of $1.25 million to $250 million of counterfeit US currency have been put into circulation by Pyongyang, the report said, adding that there is "a high degree of uncertainty regarding the value of this activity."

http://www.koreaherald.com/view.php?ud=20201111000921&ACE_SEARCH=1

Moon, Biden agree to cooperate closely on N. Korean nuke issue in phone call

Yonhap

Korea Herald, November 12, 2020

South Korean President Moon Jae-in and his incoming US counterpart, Joe Biden, agreed to work closely together to resolve the North Korean nuclear issue, as they had a 14-minute phone conversation Thursday, Cheong Wa Dae said. Biden described South Korea as a "linchpin" of security and prosperity in the Indo-Pacific region, according to Moon's spokesman Kang Min-seok.

Moon asked Biden to "communicate closely" for the forward-looking development of the Seoul-Washington alliance, denuclearization of the Korean Peninsula and establishment of lasting peace here. The president cited the allies' 70 years of partnership for the protection of such shared values as democracy and human rights, Kang said. Biden reaffirmed Washington's firm security commitment to South Korea and said that he would "closely cooperate" for a resolution to the North Korean nuclear issue, he added.

http://www.koreaherald.com/view.php?ud=20201112000073&ACE_SEARCH=1

Japan

Japan left with only one nuclear reactor working due to shutdown

Hiroki Hashimoto

The Asahi Shimbun, November 4, 2020

Japan will have to limp by on just one nuclear reactor for the next six weeks after Kansai Electric Power Co. shut down the No. 4 reactor at its Oi nuclear plant in Fukui Prefecture, western Japan, for regular maintenance on Nov. 3. That task will fall to the No. 4 reactor of Kyushu Electric Power Co.'s Genkai nuclear power plant in Genkai, Saga Prefecture. All nuclear power plants shut down in Japan in the aftermath of the 2011 earthquake and tsunami disaster that crippled the Fukushima No. 1 nuclear power plant in Fukushima Prefecture.

Since then, the Kansai, Shikoku and Kyushu electric power utilities restarted operations of nine reactors at five nuclear power plants. This is the first time since May 2017 that all nuclear reactors operated by Kansai Electric remain suspended. Electric power companies are required to construct an anti-terrorism facility at their nuclear power plants under stringent new safety regulations imposed after the triple meltdown at the Fukushima plant. But Kansai Electric failed to meet the deadline at the Takahama nuclear power plant in Takahama, Fukui Prefecture, forcing it to take its No. 3 and No. 4 reactors offline. In addition, pipes need to be replaced at its Oi nuclear power plant's No. 3 reactor.

http://www.asahi.com/ajw/articles/13900336

Atomic bomb survivors hope Biden steers U.S. away from nukes

The Asahi Shimbun, November 9, 2020

Following Joe Biden's victory in the U.S. presidential election, atomic bomb survivors in Hiroshima and Nagasaki expressed hopes the country will get back on track working toward a world without nuclear arms. "I hope it will be a step forward in reviving the stalled momentum toward nuclear disarmament," Masao Tomonaga, 77, told The Asahi Shimbun, after Biden was reported to have won. Biden, the Democratic nominee for president, issued a statement on Aug. 6 to mark the 75th anniversary of the atomic bombing of Hiroshima.

"I will work to bring us closer to a world without nuclear weapons, so that the horrors of Hiroshima and Nagasaki are never repeated," the statement read. Tomonaga, who heads the Nagasaki Hibakusha Techo Tomo no Kai, a group of survivors of the Aug. 9, 1945, atomic bombing in Nagasaki, said he is relieved Biden secured victory since he has vowed to carry on the work of former U.S. President Barack Obama toward realizing a nuclear-free world. Donald Trump beat Hillary Clinton in the 2016 U.S. presidential election, running on an "America First" policy. After Trump took office, the United States withdrew from the Intermediate-Range Nuclear Forces Treaty with Russia and unilaterally pulled out of the 2015 Iran nuclear deal. Media outlets also reported in May that the Trump administration discussed resuming nuclear tests.

http://www.asahi.com/ajw/articles/13914950

Miyagi officials to OK restart of quake-damaged nuclear plant

The Asahi Shimbun, November 10, 2020

Local governments in Miyagi Prefecture neared approval for the planned restart of the No. 2 reactor at the Onagawa nuclear power plant that was damaged in the 2011 Great East Japan Earthquake and tsunami. A meeting of all mayors in the prefecture was held on Nov. 9 to hear their views on resuming operations. Some mayors said it was still too early to bring the reactor online, but the general consensus was in favor of the plan of Tohoku Electric Power Co., the operator of the nuclear plant.

The meeting ended with approval to let Miyagi Governor Yoshihiro Murai and the mayors of Onagawa and Ishinomaki, where the nuclear plant is located, make the decision on behalf of all the mayors. The three local leaders are expected to hold a meeting on Nov. 11 to approve the resumption of operations, sources said. After gaining local government consent, Tohoku Electric Power will still have to complete various safety measures before the reactor can go back online, such as building a 29-meter-high seawall to protect the plant from tsunami. The reactor is now expected to be operating again in 2023. It would be the first reactor to restart after being damaged by the 2011 natural disaster.

http://www.asahi.com/ajw/articles/13917522

Approval given for 1st restart of nuclear plant damaged in 3/11

The Asahi Shimbun, November 12, 2020

Citing expected economic benefits, local governments approved the first restart of a nuclear power plant damaged in the 2011 Great East Japan Earthquake and tsunami. Miyagi Governor Yoshihiro Murai on Nov. 11 said the decision on resuming operations of the No. 2 reactor at the Onagawa nuclear plant was “not an easy one.”

Required safety measures must still be completed at the plant, and questions remain about the evacuation route that will be used in the event of a disaster at the plant, which straddles the municipalities of Onagawa and Ishinomaki on the Pacific coast. However, residents near the nuclear plant have requested a resumption of nuclear power operations to revive their depleted communities.

http://www.asahi.com/ajw/articles/13920420

Misc/World

Multinational team to develop MSR-based marine reactor

World Nuclear News, November 4, 2020

Over the next few decades, as many as 60,000 ships must transition from combustion of fossil fuels to zero-emission propulsion, London-based Core Power said. The United Nations International Maritime Organisation has mandated that shipping must reduce emissions by 50% of the 2008 total, before 2050, it said, which will mean an actual emission reduction of almost 90% by that time. MSR technology

being developed by the consortium could achieve that goal, by powering production of green sustainable fuels for smaller ships and providing onboard electric power for large ships, "with zero emissions as standard", Core Power said.

https://www.world-nuclear-news.org/Articles/Multinational-team-to-develop-MSR-based-marine-rea

Cameco sees opportunities following COVID curtailments

World Nuclear News, November 5, 2020

The pandemic prompted a five-month suspension of production from the Cigar Lake mine from March. The mine restarted in September, taking about two weeks to achieve initial production. Cameco's share of production from the restarted mine in the last quarter was 0.2 million pounds U3O8 (77tU), the company said, and it continues to target a total share of 2020 production of up to 5.3 million pounds. The company reported a net loss of CAD61 million (USD46.6 million) for the quarter. This was driven by normal quarterly variations in contract deliveries but also impacted by ongoing purchase activity and care and maintenance costs of CAD18 million resulting from decision to suspend production at Cigar Lake, it said.

Trade policy, such as the recent amendment to the Russian Suspension Agreement in the USA, will create opportunities for commercial suppliers like Cameco, CEO Tim Gitzel said. "We see demand for nuclear growing driven by an increasing focus on electrification and the recognition that to achieve this while still meeting clean-air and climate change goals, nuclear will be needed in the toolbox. And this is occurring precisely while there is growing uncertainty and risk around global uranium supply. We believe these fundamentals will lead to security of supply concerns and will allow us to layer in the long-term contracts necessary to support the restart of our McArthur River/Key Lake operations and solidify our role as a low-cost, safe, reliable, commercial supplier of the uranium fuel needed for carbon-free nuclear electricity generation," he said.

https://www.world-nuclear-news.org/Articles/Cameco-sees-opportunities-following-COVID-curtailm

Nuclear power can speed progress in the developing world

World Nuclear News, November 12, 2020

Africa's population is projected to double by 2050 and the International Energy Agency's (IEA's) African Energy Outlook 2019 foresees a quadruple to eightfold increase in the continent's electricity demand. Nuclear energy is "already a reality" in Africa and many African countries are planning or contemplating the deployment of reactor units, Costes said. Nuclear power is "part of the solution"

along with other clean energy sources that can provide for "a quicker and more cost-effective energy transition". It also provides "huge socio-economics benefits" that sustain national and regional growth.

"Nuclear power is enjoying a sustained growth in capacity at the fastest rate in 25 years," he said. "A lot of that growth is and will take place in China and India, where nuclear is directly avoiding some fossil use. Many countries are introducing it for the first time - Bangladesh, Belarus, the UAE and Turkey. They are already in the process of building their first reactors and many more countries, especially in Africa, are considering nuclear for their electricity needs." To sustain a strong industry and economic development, electricity has to be available on a 24/7 basis, and neither industry nor households can bear the intermittency of system failure in supply, he stressed.

https://www.world-nuclear-news.org/Articles/Nuclear-power-can-speed-progress-in-the-developing

Op-ed

India

Why India Leases Some of Russia's Best Nuclear Submarines

Mark Episkopos

National Interest Blog, November 12, 2020

In the latest instance of long-standing military cooperation between Moscow and New Delhi, India is set to rent additional Russian nuclear-powered attack submarines as a stepping stone on its path to acquiring an indigenous nuclear submarine force.

The Putin administration, in 2008, negotiated the lease of another nuclear attack submarine, this time the K-152 from the Akula-class. Under the $900 million lease agreement, Indian engineers and sailors traveled to Russia to receive training on how to operate and service the submarine. The K-152, commissioned as the INS Chakra II, was partly meant to check Chinese expansion in the Indian Ocean. Despite significant operational differences between the submarines (one is an attack sub, and the other a ballistic missile submarine), the Indian navy used Chakra II to prepare its submarine crews for the introduction of its nuclear-powered Arihant-class submarine line in 2016. New Delhi was apparently much more interested in renting a submarine from Russia’s new Yasen cruise missile submarine line, but there were none available-- other than the older Severodvinsk, all of the new Yasen-M submarines remain in various stages of testing and construction.

https://nationalinterest.org/blog/buzz/why-india-leases-some-russias-best-nuclear-submarines-172463

Why Russia is an ideal partner to boost India’s civil nuclear energy program

CNBC TV18, November 15, 2020

Russia has featured extensively in the news over the last several weeks, all for the right reasons. Union Defence Minister Rajnath Singh visited Moscow twice within the last three months. External Affairs Minister S Jaishankar went to Moscow once in the second week of September 2020. All these visits underscore the special and privileged strategic partnership between India and Russia. The country supplies more than 60 percent of India's total defence imports. In addition to defence and strategic partnership, nuclear power is another critical sector in which cooperation between the two countries continues to grow rapidly.

The year 2020 marks the 75th anniversary of the Russian nuclear industry. Russia has often been a pioneer in the peaceful use of atomic energy. In 1954, Russian scientists launched the first nuclear power station, and today there are three units with the latest 3+ generation reactors in Russia. Many more are being built in other countries. Over the last three-quarters of a century, thanks to the Russian nuclear industry, nuclear units have appeared in many foreign countries, including India.

https://www.cnbctv18.com/energy/why-russia-is-an-ideal-partner-to-boost-indias-civil-nuclear-energy-programs-7488501.htm

USA

Yes, nuclear war could still happen

John Dale Grover

The Hill, November 2, 2020

The recent anniversary of the Cuban Missile Crisis should be a reminder to American citizens and policymakers that nuclear war is not impossible. For 13 days from Oct. 16, 1962, to Oct. 28, 1962, America and the Soviet Union nearly killed each other in a nuclear war. Today, the passing of that anniversary should warn us that through a crisis that spirals out of control, sheer accident, or miscommunication, Washington could still find itself in a nuclear exchange with Moscow, Beijing, or Pyongyang.

Today, relations with China are strained and tensions with North Korea — though on an uneasy pause — will likely resume sooner rather than later. America's relationship with Russia is also contentious and only one arms control treaty remains in place between Washington and Moscow. The 2011 New Strategic Arms Reduction Treaty (New START) is set to expire in February 2021, but last-minute negotiations are underway to extend that treaty for another year.

https://thehill.com/opinion/white-house/523951-yes-nuclear-war-could-still-happen

Why NASA wants to put a nuclear power plant on the moon

Daniel Bukszpan

CNBC, November 15, 2020

NASA and the U.S. Department of Energy will seek proposals from industry to build a nuclear power plant on the moon and Mars to support its long-term exploration plans. The proposal is for a fission surface power system, and the goal is to have a flight system, lander and reactor ready to launch by 2026. Anthony Calomino, NASA's nuclear technology portfolio lead within the Space Technology Mission Directorate, said that the plan is to develop a 10-kilowatt class fission surface power system for demonstration on the moon by the late 2020s. The facility will be fully manufactured and assembled on Earth, then tested for safety and to make sure it operates correctly.

Afterwards, it will be integrated with a lunar lander, and a launch vehicle will transport it to an orbit around the moon. A lander will lower it to the surface, and once it arrives, it will be ready for operation with no additional assembly or construction required. The demonstration is expected to last for one year, and could ultimately lead to extended missions on the moon, Mars, and beyond.

https://www.cnbc.com/2020/11/15/why-nasa-wants-to-put-a-nuclear-power-plant-on-the-moon.html

'No doubt' China is upgrading its nuclear power to be on par with U.S., Russia

Bill Gertz

Washington Times, November 15, 2020

China is rapidly building up its nuclear forces, including the expansion of plutonium and uranium plants as part of a secretive, crash program to add warheads to its growing missile and bomber forces, according to declassified U.S. briefing slides obtained by The Washington Times.

The four slides were part of a recent briefing for NATO allies in the past month on Chinese nuclear forces and show three facilities that appear to have sharply increased in size since 2010. One plutonium production area, the Jiuquan Atomic Energy Complex, doubled in size at a nuclear reprocessing zone in the past two years alone and added another reactor in the past year.

https://www.washingtontimes.com/news/2020/nov/15/no-doubt-china-upgrading-its-nuclear-power-be-par-/

Russia

Russia Is Rearming its Nuclear Missile Forces With Yars ICBMs

Peter Suciu

National Interest Blog, November 3, 2020

In the next four years Russia will complete the rearming of its Strategic Missile Force with Yars silo-based and mobile intercontinental ballistic missiles (ICBMs).The first regiment armed with Yars road-mobile ICMBs assumed combat duty at the Teikovo missile division in central Russia in March 2011, and it was reported that the entire force is on schedule to receive the upgrade.

"I believe everything is moving towards the situation that the old grouping will be fully rearmed with Yars missile systems by 2024," Chief Designer of the Moscow Institute of Thermal Technology, the Yars developer, Yuri Solomonov, told TASS on Monday. To date six missile divisions have been rearmed with the Yars mobile ICBMs, and according to the Russian Defense Ministry, in September the Strategic Missile Force's missile division stationed in Irkutsk in Siberia had been reequipped with the platform.

https://nationalinterest.org/blog/buzz/russia-rearming-its-nuclear-missile-forces-yars-icbms-171868

How Russia's Nuclear Weapons Keep Becoming More Powerful

Peter Suciu

The National Interest November 14, 2020

This week Russian President Vladimir Putin said that Russia has considerably expanded the analytical and operational capabilities of its strategic nuclear forces' command and control systems. "Over the past few years, much has been done to maintain all of the strategic nuclear forces' command and control components at the highest level," the Russian head of state said at a defense industry meeting on Wednesday, according to Tass.

"[Russia] has considerably modernized stationary and mobile command and control centers, expanded their analytical and operational capabilities, including information provision, monitoring and situational analysis," Putin added. "The quality of such a major parameter as jamming resistance has increased. Today all the command and control centers allow receiving comprehensive data on the situation in real time, assess the situation based on this information and make substantiated decisions."

https://nationalinterest.org/blog/buzz/how-russia%E2%80%99s-nuclear-weapons-keep-becoming-more-powerful-172624

Israel

Strategy, Plague and War: Israel's Complex Nuclear Future

Louis René Beres

Modern Diplomacy, November 5, 2020

Despite the noise and aggressive self-promotion, Trump administration diplomacy in the Middle East and Africa has always been a net-negative for Israel. While Israelis have generally been grateful to the Trump White House for providing America's "good offices" with Bahrain, UAE and Sudan, this gratitude is shortsighted and misplaced. In essence, negotiated pacts with these second-tier adversaries were designed only for the personal benefit of an unworthy American president

For Israel, even meaningfully improved relations with these states will likely do nothing to reduce the probability of major or minor wars in the region. More significantly, such alleged "improvements are apt to revive the portent of accelerating Palestinian terrorism. This enlarged prospect of insurgent Arab offensives, stemming from the new Trump-negotiated impediments to Palestinian statehood, could sometime involve weapons of mass destruction and/or attacks on Israel's nuclear reactor at Dimona. Moreover, these sub-state aggressions against Israel could be undertaken singly, or together with various state allies.

https://moderndiplomacy.eu/2020/11/05/strategy-plague-and-war-israels-complex-nuclear-future/

Think Tanks

Treaty on the prohibition of nuclear weapons set to enter into force

Rajeswari Pillai Rajagopalan

Observer Research Foundation, November 5, 2020

The Treaty on the Prohibition of Nuclear Weapons (TPNW), or the Nuke Ban Treaty, is set to enter into force soon. In 2016, the U.N. General Assembly, through resolution 71/258, decided to hold a conference for the negotiation of the treaty. The conference took place in March 2017. The treaty was subsequently adopted by a vote with 122 states in favor (with one vote against and one abstention) at the United Nations on July 7, 2017 and was opened for signature by the U.N. Secretary General on September 20, 2017. When Honduras ratified the treaty in late October, it reached the requisite 50 ratifications, and is set to enter into force on January 22, 2021. The TPNW contains provisions that prohibit states from participating in any nuclear weapons-related activities including development, testing, possession, stockpile, use, or threat of use of nuclear weapons. Signatories are required "to prevent and suppress any activity prohibited under the TPNW undertaken by persons or on territory under its jurisdiction or control."

https://www.orfonline.org/research/treaty-on-the-prohibition-of-nuclear-weapons-set-to-enter-into-force/

Here's what to expect from Biden on top nuclear weapons issues

Sara Z. Kutchesfahani

Bulletin of Atomic Scientists, November 9, 2020

In a statement released over the weekend shortly after news organizations declared he had won, President-elect Joe Biden said, “It’s time for America to unite.” Unite it must, and not just domestically, but also in the realm of global nuclear policy. Because, to put it mildly, Biden will have a lot to do to fix the nuclear mess left by his predecessor.

During his one term as president, Donald Trump singlehandedly destroyed decades worth of hard work done by previous US administrations in establishing trust, confidence, and diplomacy—on nuclear and non-nuclear issues—among both friends and foes. In four years, he made the prospect of nuclear proliferation, a new nuclear arms race, and even the use of nuclear weapons more likely. His nuclear legacy will be tainted by a series of failures including, but not limited to: eviscerating decades of trust-building between the United States and Russia, withdrawing from the landmark multilateral deal to stop Iran from obtaining nuclear weapons, engaging in a series of handshakes and photo ops with dictators that resulted in naught, and a sheer disregard and contempt for diplomacy, science, expertise, and professionalism.

https://thebulletin.org/2020/11/heres-what-to-expect-from-biden-on-top-nuclear-weapons-issues/

Living With the Nuclear Prohibition Treaty: First, Do No Harm

George Perkovich

Carnegie, November 10, 2020

Now that fifty countries have ratified the UN Treaty on the Prohibition of Nuclear Weapons (TPNW), it will enter into force in January 2021. The treaty proclaims that signatories will “never under any circumstances develop, test, produce, manufacture, or otherwise acquire, possess or stockpile nuclear weapons or other nuclear explosive devices.” Allies are specifically prohibited from stationing or deploying nuclear weapons from other states.

Here’s the rub: since the 1950s, at least five NATO states have hosted U.S. nuclear weapons on their territory as part of the alliance’s collective security strategy. Many fear—and some hope—that public and parliamentary support for the treaty will drive Germany, the Netherlands, and perhaps others to quit hosting these weapons.

https://carnegieendowment.org/2020/11/10/living-with-nuclear-prohibition-treaty-first-do-no-harm-pub-83198

How Biden can make Russia’s nuclear policy nonprofits great again

Aleksandr S. Kolbin

Bulletin of Atomic Energy, November 12, 2020

On August 12, 1992, several months after the Soviet Union had bit the dust, Boris Yeltsin, the first president of Russia, signed Special Order no. 873, providing the DC-based Carnegie Endowment for International Peace office space in Moscow on the famed Tverskaya Street. It was one of several moves that would pave the way for establishing Russia as a huge underserved "market" for US academic programs, private foundations, and governmental agencies focused on nonproliferation research and advocacy for a world free of nuclear weapons. But more important was that the activities (and funding) of those programs and foundations helped establish several Russian nongovernmental organizations (NGOs) focused on nonproliferation—something that would have hardly been possible in Soviet times. These organizations included the PIR Center; the Center for Energy and Security Studies; the Center for Arms Control, Energy, and Environmental Studies; the Siberian Interuniversity Center for Non-Proliferation and Security Studies; and a number of others. And they truly relied on the financial and ideological support of the US and global nonproliferation community during that time.

Other new domestic policies opened the door even further. For example, a 1990 law "On public associations" allowed the Ministry of Justice to register 3,214 new NGOs in the five-year period of 1991 to 1996 alone. NGOs also received major tax breaks and were allowed to receive foreign financing. And undergirding all of these policies was the new Russian leadership's readiness for dialogue with the United States and the West in general. In short, it was a once-in-a-lifetime opportunity for these nonprofits to directly influence and shape Russia's official nonproliferation and arms control policies and discourse.

https://thebulletin.org/2020/11/how-biden-can-make-russias-nuclear-policy-nonprofits-great-again/

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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