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&

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- IAEA Reportedly Inspects Iranian Warehouse | P4+1 and Iran Nuclear Deal Alert
- Iran still planning three satellite launches this year, despite ramped up U.S. pressure - minister
- Exhibition on nuclear achievements opens up in Tehran

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- Saudi Arabia reopens consulate in Iraq, pledges \$1bn in aid
- Saudi has not really demonstrated nuclear transparency: Heinonen

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- Can the Iran nuclear deal survive as the IAEA investigates Israeli allegations?
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- Iranian forces said killed in reported Israel airstrike on Syria missile factory
- Space Is Hard, Beresheet Israeli Lunar Crash Proves Again

EAST ASIA

K Japan

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- Japan confirms MSDF leader and destroyer will participate in Chinese Navy's fleet review
- Albert Einstein was right: Takeaways from first image of massive black hole
- TEPCO to start removing fuel at Fukushima's No. 3 reactor
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- Japan 'Nuclear Energy Village' website pulled after critics say it plumbed 'new level of insensitive'

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- IAEA says Iran in compliance on nuclear, but North Korea a worry
- NK restoring satellite launch site to gain leverage in negotiations: defense agencies
- Kim Jong Un's new Rolls-Royce a clear violation of U.N. sanctions
- Top U.S. diplomat 'confident' of third round of Trump-Kim nuclear talks
- G7 pushes North Korea to continue denuclearization talks with U.S.
- Powerful North Korean decision-making body set to decide 'new orientation' ahead of Trump-Moon summit
- North Korea's Kim doubles down on sanctions threat, vowing to deal 'telling blow' to those imposing them
- UN Security Council extends mandate of Panel of Experts on DPRK sanctions
- NK leader re-elected as chairman of State Affairs Commission
- Kim Jong Un charts course for socialist construction, sets forth policies
- North Korea's Kim Jong Un gives U.S. to year-end to become more flexible
- Kim to hold talks with Putin

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- SKorean ship detained for allegedly providing oil to NKorea
- S. Korea to prepare internally for inter-Korean economic projects: minister

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- Siting and Site Evaluation for Nuclear Power Plants in Focus at IAEA Workshop in Uzbekistan

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- Prospect of a nuclear war 'higher than it has been in generations', warns UN
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- Strengthening the Non-Proliferation Treaty ahead of the Review Conference in 2020
- UN Security Council reaffirms commitment to non-proliferation goals
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- Responses to Violations of the Norm Against Chemical Weapons
- 10 years after Obama's nuclear-free vision, the US and Russia head in the opposite direction
- How Nuclear Techniques Help Feed China
- NATO chief says not seeking "new arms race" with Russia
- NATO at 70, What's next?
- New Safeguards Tool Bolsters IAEA's Verification of Spent Nuclear Fuel
- Brazilian government committed to nuclear, says energy minister
- Commissioning starts at first Belarus unit
- IAEA Holds Exercise to Test International Capabilities for Assistance in the Event of Nuclear or Radiological Emergencies
- Niger and GoviEx agree Madaouela project framework
- Site approval for Egyptian nuclear power plant
- Targeting Drought with Nuclear Techniques
- National Liaison Officers from African Member States Gather in Arusha to Strengthen the IAEA Technical Cooperation Programme
- Analysing the Past with Nuclear Technology

- Concerted action for a shared future
- Brazilian nuclear policy under Bolsonaro: no nuclear weapons, but a nuclear submarine
- Report on Hypersonic Weapons - A Challenge and Opportunity
- for Strategic Arms Control
- Lawrence D. Weiler (1920-2019)
- The NPT and the Conditions for Nuclear Disarmament
- Trump Budget Boosts Nuclear Efforts

P. Op-eds/Reports

A-SAT

- Will India's Anti-Satellite Weapon Test Spark an Arms Race in Space?
- India's ASAT test is wake-up call for norms of behavior in space
- Anti-Satellite test can steel India's ballistic missile defences: Chinese blog
- Is India's anti-satellite test a game-changer? (Interview)

INDIA

- Perceptions of India's Nuclear Capability Buildup: Ghost Hunting and a Reality Check
- India-Pakistan Aren't Heading For Nuclear War, US Should Calm Down
- South Asia's Overlooked Nuclear Crisis
- Is It Hyperbolic To Compare Artificial Intelligence To Nuclear Weapons?

PAKISTAN

- India seen pursuing thermonuclear weapons

US

- Add two more legs to our nuclear triad, or we'll lose the next war
- Nuclear issues sharpen focus on US-Saudi relations
- Pennsylvania will benefit from preserving its nuclear power plants
- Retiring our nuclear plants would be a costly mistake, former federal energy official says
- Trump's Nuclear Wishlist is Overkill

EUROPE

- It's not a bad thing if European economies start embracing industrial policies again
- Viewpoint: Finland seeks to streamline licensing

RUSSIA

- Russia's Military Mission Creep Advances to a New Front: Africa

WEST ASIA

- Bad time to nuclearize Saudis: US Senators warn Trump
- Iran floods force evacuations as US denies sanctions are harming aid efforts
- Saudi nuclear program accelerates, raising tensions in a volatile region
- KAIST-KU Joint Research Center opens in UAE

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- An Uncertain Future for North Korean Talks
- Not easy for US-DPRK to make real headway

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- Concerns on alliance
- It's urgent, too

JAPAN

- INTERVIEW/ Franklin Miller: U.S. won't ask Japan to deploy new missiles
- Interview/Hirofumi Tosaki: Japan, U.S., China Need To Talk About Arms Control In Asia

A-sat

PSLV-C45 successfully launches EMISAT and 28 customer satellites

PIB Delhi, April 01, 2019

India's Polar Satellite Launch Vehicle (PSLV-C45) today successfully launched EMISAT and 28 international customer satellites from Satish Dhawan Space Centre (SDSC) SHAR in Sriharikota. This flight marked the first mission of PSLV-QL, a new variant of PSLV with four strap-on motors.

PSLV-C45 lifted off at 9:27 Hrs (IST) from the Second Launch Pad and injected India's EMISAT into a 748 km sun-synchronous polar orbit, 17 minutes and 12 seconds after liftoff. After separation, the two solar arrays of EMISAT were deployed automatically and the ISRO Telemetry Tracking and Command Network at Bengaluru assumed control of the satellite. In the coming days, the satellite will be brought to its final operational configuration.

<http://pib.nic.in/PressReleaseDetail.aspx?PRID=1569907>

Terrible thing, India's ASAT satellite test created 400 pieces of debris':

NASA *Hindustan Times*, April 02, 2019

The head of NASA Tuesday branded India's destruction of one of its satellites a "terrible thing" that had created 400 pieces of orbital debris and led to new dangers for astronauts aboard the International Space Station. Jim Bridenstine was addressing employees of the National Aeronautics and Space Administration five days after India shot down a low-orbiting satellite in a missile test to prove it was among the world's advanced space powers.

<https://www.hindustantimes.com/science/terrible-thing-india-s-asat-satellite-test-created-400-pieces-of-debris-nasa/story-VpxLTINRIGRS2fjYpdVDyJ.htm>

US state department refuses to echo NASA's criticism of ASAT test

Hindustan Times, April 03, 2019

The United States on Tuesday reiterated that it "took note" of Indian government's

statement regarding space debris resulting from its anti-satellite testing last month, refusing to join NASA's shrill criticism of the testing as a "terrible, terrible thing".

On the "issue of space debris, that is an important concern for the United States, and I would say that we took note of the Indian government's statements that the test was designed to address space debris issues", US state department spokesperson Robert Palladino told reporters Tuesday in response to a question referring to NASA administrator's remarks.

<https://www.hindustantimes.com/world-news/us-says-took-note-of-india-s-assertion-on-a-sat-test/story-z54mO3tUiuJyCN3y2FiDRJ.html>

India declines to comment on NASA's assessment that debris from ASAT test could endanger

ISS *Live Mint*, April 04, 2019

The government Wednesday declined to comment on US space agency NASA's assessment that India's anti-satellite weapon test last week led to creation of 400 pieces of space debris that could pose a threat to the International Space Station (ISS). When contacted, the spokesperson of Ministry of Defence declined to comment. On March 27, India achieved a historic feat by shooting down its own low-orbit satellite with a ground-to-space missile, making the country a space power. Only three other countries – the US, Russia and China – have ASAT capabilities.

<https://www.livemint.com/politics/policy/india-declines-to-comment-on-nasa-s-assessment-that-debris-from-asat-test-could-endanger-iss-1554321954102.html>

Pentagon says India's ASAT debris expected to burn up in atmosphere

Reuters, April 04, 2019

The Pentagon said on Thursday that it stood by its assessment that debris from an Indian anti-satellite (ASAT) weapons test would eventually burn up in the atmosphere, even after NASA's administrator warned of the danger the debris posed.

India used an indigenously developed ballistic missile interceptor to destroy one of its own satellites at a height of 300 km (186 miles), in a test aimed at boosting its defences in space.

<https://in.reuters.com/article/usa-india-debris/pentagon-says-india-debris-expected-to-burn-up-in-atmosphere-idINKCN1RG22J>

The A-SAT test restores the India-China strategic balance *Kanwal Sibal, Hindustan Times, April 04, 2019*

The Narendra Modi government's decision to conduct a live anti-satellite (A-SAT) test was bold and timely. Bold because the political leadership overcame past hesitations and authorised the Defence Research and Development Organisation (DRDO) to conduct it. While the decision was not in defiance of an established discriminatory international regime that circumscribed India strategically as was the decision in 1998 to go nuclear, taking a step that could feed into international concerns about militarisation of outer space required careful consideration.

<https://www.hindustantimes.com/analysis/the-a-sat-test-restores-the-india-china-strategic-balance/story-jkn9FsMQE3OqNdD7edCIAO.html>

NASA to resume cooperation with ISRO after 'guidance' from White House *Yashwant Raj, Hindustan Times, April 05, 2019*

Under pressure from the White House seemingly, NASA, the premier US space agency, has decided to resume cooperation with its Indian counterpart ISRO reversing a recent decision to suspend it over orbital debris resulting from the March 27 Indian anti-satellite testing.

NASA administration Jim Bridenstine, who had called the test a "terrible, terrible thing", wrote to ISRO chairman K Sivan on Thursday saying, "As part of our partnership with you, we will continue to work on issues using the NASA-ISRO Human Space Flights Working Group, Planetary Science Working Group, US-India Earth Science Working Group, and the

Heliophysics Working Group."

<https://www.hindustantimes.com/world-news/nasa-to-resume-cooperation-with-isro-after-guidance-from-white-house/story-1sZ2cZl5n0mm2vdwQVot3N.html>

Mission Shakti: ASAT test done at lower orbit to avoid damages, says DRDO chief *Elizabeth Roche, Live Mint, April 06, 2019*

India on Saturday said its anti satellite (ASAT) missile test was done in a low orbit of less than 300 kilometres and at a particular angle to ensure that minimal debris were disbursed above into space to avoid damage to other satellites or the International Space Station (ISS). India's interceptor missile used in the ASAT test on 27 March has the capability to neutralise satellites up to 1,000 km in space, Defence Research and Development Organisation chief G. Satheesh Reddy said. But the ASAT test was "intentionally done at a lower orbit of 280 km to ensure that the debris decay very fast," Reddy said.

With the test done last month, India has mastered the capability to kill satellites at 300 km above the earth, Reddy said. "We don't need any more tests at this orbit now," though he did not rule out the option of conducting more tests in the future.

<https://www.livemint.com/news/india/mission-shakti-asat-test-done-at-lower-orbit-to-avoid-damages-says-drdo-chief-1554556483148.html>

India's A-SAT mission planned in a way that debris will decay soon: DRDO chief *Live Mint, April 12, 2019*

Seeking to assuage concerns over the orbital debris created by India's A-SAT test, DRDO Chairman G Satheesh Reddy on Thursday again assured that the mission was planned in a way that the resulting fragments will decay in a few weeks and there was no threat to the ISS. Speaking at the Vivekananda International Foundation, a think-tank, Reddy said the location for the test was

“well away” from the International Space Station (ISS).

“The debris will decay in a few weeks. That’s how the whole mission was planned,” he said. Noting that the A-SAT test was an exemplary effort reflecting India’s indigenous defence technology, the Defence and Research Development Organisation chief said more than 50 industries participated in the mission contributing 200 components to make the mission a success.

<https://www.livemint.com/news/india/india-s-a-sat-mission-planned-in-a-way-that-debris-will-decay-soon-drdo-chief-1555004214903.html>

DRDO Defends ‘Shakti’ Test as Experts Say Indian ASAT Debris ‘Threatens All LEO Sats’ *The Wire*, April 06, 2019

Against the backdrop of rising criticism from space scientists, including the NASA director, that the Indian anti-satellite (ASAT) test last month had generated debris which is a menace in space, India fielded its top defence scientist to clear the air and provide more information about the mission.

In a press conference on Saturday, Satheesh Reddy, chairman of the Defence Research and Development Organisation (DRDO), disclosed further technical details of Mission Shakti, conducted on March 27, saying that it had been carefully planned to minimise the amount of debris generated.

<https://thewire.in/space/drdo-defends-shakti-test-as-experts-say-indian-asat-debris-threatens-all-leo-sats>

Strategic Experts and Technocrats Deliberate on “Mission Shakti” *PIB* Delhi, April 06, 2019

A special interaction session was organized by Defence Research and Development Organisation (DRDO), here today to present first-hand account of the mission details, development milestones including technological aspects of Mission Shakti. Many eminent serving/retired strategic experts, technocrats, diplomats, top brass of Armed forces, Scientific fraternity across

various departments participated in the deliberations. DRDO presented the objectives, mission challenges and achievements of the Anti-Satellite Test (A-SAT). DRDO had successfully conducted an Anti-Satellite Missile Test (A-SAT) ‘Mission Shakti’ from Dr APJ Abdul Kalam Island in Odisha on March 27, 2019 and made India join the select group of three nations (USA, Russia and China) possessing such capability.

<http://pib.nic.in/PressReleaseDetail.aspx?PRID=1570135>

India’s DRDO reveals additional details of recent ASAT missile test

Rahul Bedi, IHS Jane’s, April 8, 2019

Satheesh Reddy stated that the 13 m-high, three-stage interceptor missile, which was fitted with two solid-propellant rocket motor stages and a hit-to-kill capable ‘Kill Vehicle’ (KV), was employed to target the satellite under ‘Mission Shakti’ (Strength).

He said the KV’s onboard advanced terminal guidance system, which featured a strap-down (non-gimballed) imaging infrared (IIR) seeker and an inertial navigation system that used ring-laser gyroscopes (RLGs), detected and tracked the 740 kg Microsat-R Earth observation satellite at an altitude of 283 km in low-Earth orbit (LEO). The DRDO-designed satellite had been specially launched by the Indian Space Research Organisation (ISRO) two months earlier for the ASAT missile test, which had been under planning since 2016 and had also undergone numerous simulation trials.

<https://www.janes.com/article/87788/india-s-drdo-reveals-additional-details-of-recent-asat-missile-test>

STRATCOM’s Hyten Calls For Space Rules After India’s ASAT Test: Update *Colin Clark and Theresa Hitchens, Breaking Defence, April 09, 2019*

For the first time, the United States is sharing its space war plans, known as Olympic Defender, with a small number of allies, says the head of Strategic Command.

Gen. John Hyten told us in a Monday evening interview that a new version of the plan was published “last December,” he said. “Everything that is in that plan can be looked at by our allies.” (There are other space plans not included in Olympic Defender that aren’t being shared).

<https://breakingdefense.com/2019/04/stratcoms-hyten-calls-for-space-rules-after-indias-asat-test/>

US space command general defends India’s ASAT, senator adds to justification *Yashwant Raj, Hindustan Times, April 12, 2019*

US defense department on Thursday told lawmakers that India conducted an anti-satellite test because “they are concerned about threats to their nation from space”, adding to growing support and acceptance of a development that raised concerns in some quarters about the spatial debris it left behind. “The first lesson from the Indian ASAT is a simple question – why they do they do that,” General John Hyten, head of the US strategic command, said in response to a question at a congressional hearing about Space Force, a newly created wing of US military favored by President Donald Trump.

<https://www.hindustantimes.com/world-news/us-space-command-general-defends-india-s-asat-senator-adds-to-justification/story-yFglbGAaaDI3PCh7JStoXK.html>

Indian Satellite’s Pieces Unlikely to Collide With ISS - Russian Space Agency by Staff *Writers Moscow, Space Daily, April 12, 2019*

The likelihood of a collision between pieces of a destroyed Indian satellite and the International Space Station (ISS) is not high but some of these parts are small and hard to track, Sergey Krikalev, director of manned spaceflight at Russian State Space Corporation Roscosmos said in an interview with Sputnik on Thursday. “Not all these pieces are possible to track. The reflectivity of the small ones is low, so, probably, it is impossible [to track them].

http://www.spacedaily.com/reports/Indian_Satellite_Pieces_Unlikely_to_Collide_With_ISS_Russian_Space_Agency_99.html

In unprecedented support, US defends India’s space weapons test saying it understands New Delhi’s concerns *Chidanand Rajghatta, The Times of India, April 13, 2019*

US expressed unprecedented support for New Delhi’s security concern while defending its recent space weapons test Administrations spanning both Democrats and Republicans have been leery of any significant advance by New Delhi in the military technology realm.

A hearing of the powerful US Senate Armed Services Committee on the proposal to establish a United States Space Force was the forum for lawmakers and defence officials to voice understanding of India’s compulsions in going in for an anti-satellite test while seeking to establish global space norms and protocol that would include New Delhi.

<https://timesofindia.indiatimes.com/india/in-unprecedented-support-us-defends-indias-space-weapons-test-saying-it-understands-new-delhis-concerns/articleshow/68852883.cms>

B. India

India to buy 464 Russian tanks in £1.5bn deal *The Times, April 09, 2019*

India is to buy more than 450 tanks from Russia in a £1.5 billion deal that underlines its status as Moscow’s biggest arms customer. The purchase of the tanks, which are expected to equip ten armoured regiments, was approved by India’s cabinet committee on security, *Jane’s* reported, citing officials. The committee is headed by Narendra Modi, the prime minister.

A contract is expected to be signed for delivery of the T-90MS main battle tanks within the next few months.

<https://www.thetimes.co.uk/article/india-to-buy-464-russian-tanks-in-1-5bn-deal-j78qd02mr>

India’s once booming technology industry is falling behind *Robin Pagnamenta, The Telegraph, April 11, 2019*

From the remote, jungle-fringed Andaman and Nicobar Islands in the Bay of Bengal

to the giant interior states of Bihar and Uttar Pradesh, hundreds of millions of Indians will today begin casting their votes in the biggest democratic election in history.

As he blazes across the country on the campaign trail, the man at the centre of it all – Narendra Modi, who is seeking reelection after five years in his plush prime ministerial residence on Delhi's Racecourse Road – likes to position India as an emerging hi-tech powerhouse.

<https://www.telegraph.co.uk/technology/2019/04/11/indias-booming-technology-industry-falling-behind/>

Iran oil imports up 5 percent despite U.S. sanctions - sources *Reuters, April 12, 2019*

India imported about 5 percent more oil from Iran in the last fiscal year through March as companies raised purchases ahead of U.S. sanctions against Tehran from November, preliminary tanker arrival data obtained from shipping and industry sources showed.

Despite Washington restricting India's purchases from Tehran, refiners shipped in about 479,500 barrels per day (bpd) of Iranian oil in 2018/19 compared with about 458,000 bpd a year before, according to the data. The United States introduced sanctions in November but gave a six-month waiver to eight nations, including India, which allowed them to import some Iranian oil. India was allowed by Washington to continue to buy about 300,000 bpd oil until early May.

<https://in.reuters.com/article/india-iran-oil/indias-2018-19-iran-oil-imports-up-5-percent-despite-us-sanctions-sources-idINKCN1RO1FS>

India hopes to avoid US sanctions over Russian missile deal *Space War, April 13, 2019*

India is hopeful it will avoid US sanctions over its purchase of Russia's S-400 missile system, Defence Minister Nirmala Sitharaman said. New Delhi has been "heard and understood" by the US administration over its accord to buy the S-

400 missile defence system for \$5.2 billion, the minister said in an interview this week.

Indian Prime Minister Narendra Modi made the deal with Russian President Vladimir Putin in October, defying US warnings of sanctions on countries buying Russian military equipment. The sanctions were part of measures to punish Moscow for its actions in Ukraine in 2014.

<http://www.spacewar.com/afp/190413031927.mweod1ay.html>

Modi says India undermined Pakistan nuclear threat *Space War, April 14, 2019*

Prime Minister Narendra Modi said Sunday that India had called Pakistan's nuclear bluff in recent cross-border air strikes that almost triggered a new war between the nuclear-armed rivals. Modi and his Hindu nationalist Bharatiya Janata Party (BJP) have made national security the focus of their campaign for a national election now being held. The prime minister told an election rally that an air strike inside Pakistan in February had shown that warnings hostilities could escalate into nuclear conflict were false.

<http://www.spacewar.com/afp/190414130153.t9iww1zi.html>

India Did Major Damage to a New \$3 Billion Submarine By Leaving a Hatch Open *The National Interest Blog, April 13, 2019*

The modern submarine is not a simple machine. A loss of propulsion, unexpected flooding, or trouble with reactors or weapons can doom a sub crew to a watery grave. Also, it's a good idea to, like, close the hatches before you dive. Call it a lesson learned for the Indian navy, which managed to put the country's first nuclear-missile submarine, the \$2.9 billion INS Arihant, out of commission in the most boneheaded way possible.

<https://nationalinterest.org/blog/buzz/india-did-major-damage-new-3-billion-submarine-leaving-hatch-open-52292>

C. China

Nuclear plant approvals may resume after three-year pause: analyst *Global Times, April 01, 2019*

Construction work will start on more nuclear energy projects this year as China pursues the development of nuclear energy technology on the premise of ensuring safety, officials said at a forum in Beijing on Monday. The comments indicate that the government could grant approval to new nuclear reactors in 2019 after a three-year hiatus, putting the development of China's third-generation nuclear technology on a fast track, analysts said.

China has the world's largest number of nuclear reactors. The country has 45 nuclear reactors in operation with an installed capacity of 45.895 million kilowatts and 11 more under construction, said Liu Hua, director of the National Nuclear Safety Administration and vice minister of the Ministry of Ecology and Environment.

<http://www.globaltimes.cn/content/1144278.shtml>

China's new relay satellite to help video calls possible with space station *China Daily, April 01, 2019*

A new relay satellite launched late Sunday night will allow video calls to be made between China's future space station and the ground and provide data transmission and control services for various spacecraft. The Tianlian II-01 satellite was sent into orbit at an altitude of 36,000 km by a Long March-3B carrier rocket from the Xichang Satellite Launch Center in Southwest China's Sichuan province on Sunday.

The satellite, developed by the China Academy of Space Technology (CAST) under the China Aerospace Science and Technology Corporation, will provide data transmission services for satellites operating on medium- and low-Earth orbit and monitoring and control support for the launch of spacecraft. A relay satellite, regarded as the "satellite of satellites," is like

a control station moved from the ground to space, experts explained.

<http://www.chinadaily.com.cn/a/201904/01/WS5ca204eea3104842260b3c0f.html>

China's Chang'e 4 probe wakes up, mission continues *China Daily, April 01, 2019*

The rover and the lander of the Chang'e 4 probe have been awakened after the third "sleep" on the far side of the Moon, said China National Space Administration on Saturday. The lander awoke at 6:14 pm on Saturday, and the platform was in normal condition. Earlier, the rover Yutu 2 woke up at 8:28 pm on Friday. The lander and the rover will carry out planned work during the fourth lunar daytime, continuing scientific exploration.

<http://www.chinadaily.com.cn/a/201904/01/WS5ca17758a3104842260b3a80.html>

China launches new data relay satellite *China Daily, April 01, 2019*

China sent a new data relay satellite into orbit from the Xichang Satellite Launch Center in southwest China's Sichuan Province late Sunday night. The Tianlian II-01 satellite was launched at 11:51 p.m. Beijing Time by a Long March-3B carrier rocket. As the first satellite to constitute China's second-generation data relay satellite network, the Tianlian II-01 will provide data relay, measurement and control, transmission services for manned spacecraft, satellites, carrier rockets and other non-spacecraft users.

<http://www.chinadaily.com.cn/a/201904/01/WS5ca0f3c4a3104842260b3858.html>

China expected to miss target for 2020 nuclear capacity *South China Morning Post, April 02, 2019*

It is forecast to reach 53 gigawatts next year - below targeted 58GW. No new approvals for reactors have been granted in past three years amid spiralling costs, project delays and safety concerns. China

will fall short of its nuclear power generation capacity target for 2020, according to a forecast from the China Electricity Council on Tuesday. Total nuclear capacity is expected to reach 53 gigawatts next year, below a target of 58GW, council vice-chairman Wei Shaofeng told the China Nuclear Energy Sustainable Development Forum in Beijing.

China is the world's third-biggest nuclear power producer by capacity, with 45.9GW installed by the end of 2018 and 11 units still under construction, but its reactor-building programme has stalled since the 2011 Fukushima nuclear disaster in Japan.

<https://www.scmp.com/news/china/politics/article/3004316/china-expected-miss-target-2020-nuclear-capacity>

Chinese president meets The Elders delegation *People's Daily Online April 02, 2019*

President Xi Jinping on Monday met with The Elders delegation, led by its chair, former president of Ireland Mary Robinson, in the Great Hall of the People. During their meeting, Xi said the world today was facing unprecedented changes, while the prospect of international cooperation, as well as solutions to global challenges and the future of human society were being thought on by more and more insightful people.

At present, many countries have felt pressure and worries from the impact of unilateralism, but the voice of the international community in support of multilateralism has remained the dominant force. It is important to ensure that existing multilateral processes do not stall and what has been achieved is not reversed, Xi said, reiterating China's commitment in maintaining international nuclear non-proliferation regime and strengthening international cooperation on climate change and other multilateral agendas. "China always holds an open attitude towards the reform of multilateral institutions," Xi said, stressing that the reform should be discussed by all the relevant countries and accommodate the legitimate concerns of all

parties in accordance with universally recognized rules, serving the common interests of majority countries.

<http://en.people.cn/n3/2019/0402/c90000-9562822.html>

Chinese envoy calls on nuclear weapon states to abandon Cold War mentality *Yurou, Xinhua, April 03, 2019*

A Chinese UN envoy said on Tuesday that nuclear weapon states should abandon the Cold War mentality and zero-sum concept with regard to nuclear disarmament. China's Permanent Representative to the United Nations Ma Zhaoxu made the remarks at a Security Council meeting on supporting the Non-proliferation Treaty (NPT) ahead of the 2020 Review Conference.

Ma said nuclear weapon states should discard the nuclear deterrence policy based on the preemptive use of nuclear weapons and diminish the role played by nuclear weapons in their national security policies. In particular, he said China calls on Russia and the United States to continue to resolve their differences through negotiations and consultations, return to the compliance with the obligations of the Intermediate-Range Nuclear Forces Treaty as soon as possible, and explore the extension of the current U.S.-Russia nuclear disarmament treaty.

They expressed their readiness to work together and join efforts to achieve a successful outcome at the 2020 review conference.

http://www.xinhuanet.com/english/2019-04/03/c_137945052.htm

China's commercial carrier rocket finishes engine test *China Daily, April 03, 2019*

China's first carrier rocket for commercial use, the Smart Dragon-1 (SD-1), has finished its engine test, paving way for its maiden flight in the first half of 2019,

according to the China Academy of Launch Vehicle Technology. The rocket is the first member of the Dragon series commercial carrier rockets family to be produced by CALT. It has a total length of 19.5 meters, a diameter of 1.2 meters and a takeoff weight of 23.1 tonnes. It is capable of sending over 150 kg payloads to the sun-synchronous orbit at an altitude of 700 km.

It took only six months to produce the rocket and 24 hours to prepare it for launch. It can be used for launching both single satellite and multiple satellites at the time. Besides the solid-propellant Smart Dragon rocket series, the CALT will also develop liquid-propellant commercial rockets with larger payloads.

<http://www.chinadaily.com.cn/a/201904/03/WS5ca45abda3104842260b433a.html>

China sends new naval destroyer fleet to Somali waters for escort mission *Global Times, April 04, 2019*

China's 32nd convoy fleet to the Gulf of Aden and Somali waters set sail from a military port in Zhoushan, East China's Zhejiang Province on Thursday, the People's Liberation Army (PLA) Navy official WeChat account announced that same day. The naval fleet includes the guided missile destroyer Xi'an, the missile frigate Anyang and the Gaoyanghu, a comprehensive supply ship. This will be the first time that the Xi'an and Anyang have participated in an escort mission.

One of the country's new generation of self-developed Type-052C guided missile destroyers, the Xi'an, which entered into service in February 2015, possesses over-the-horizon strike capability at sea. The Anyang, a domestically developed frigate, entered into service in April 2018 and is capable of attacking surface ships and submarines alone or in conjunction with other naval forces. It also has strong long-range alert and air defense capabilities. It is part of China's new generation of main combat ships.

<http://www.globaltimes.cn/content/1144634.shtml>

Goods from Japan's nuclear-leak areas seized in South China *Global Times, April 04, 2019*

After an eight-year ban, radiation contamination concerns about imports from Japan's Fukushima Daiichi nuclear disaster region still haven't been eased in China. Local customs authorities in Maoming, South China's Guangdong Province have seized imported goods from Japanese nuclear disaster areas, including 1,682 units of snacks and 30 oral health products, domestic site chinanews.com reported Tuesday. The goods, which were imported through cross-border e-commerce platforms, have been sent back to Japan by the Maoming customs, according to the report.

China has banned imports of many Japanese food products since March 2011 due to radiation contamination concerns after a nuclear leak disaster in Japan's Fukushima prefecture, according to a statement by China's General Administration of Quality Supervision, Inspection and Quarantine. Products originating in Japan's nuclear-affected areas haven't been totally eliminated from China's market by the ban, especially via the thriving channels like e-commerce platforms.

<http://www.globaltimes.cn/content/1144605.shtml>

In snub, U.S. won't send warships or senior officials to Chinese Navy's 70th anniversary celebrations *Jesse Johnson, Japan Times, April 05, 2019*

The United States has decided not to send warships or senior military officers to celebrations marking the 70th anniversary of the founding of China's People's Liberation Army Navy later this month, a snub by Washington even as U.S. allies Japan and South Korea are expected to send their own vessels and officials. China's Defense Ministry announced last week that more than 60 countries will send naval delegations to participate in a

multinational event on April 23. This will include a fleet review inspection featuring naval vessels from a number of countries such as South Korea, the Philippines and Japan.

The PLA Navy, which has faced growing international scrutiny over its moves in the South and East China seas in recent years, is using this year's anniversary to reach out to its counterparts across the globe to present a friendlier image. But the U.S. snub, apparently made out of concerns that China could have used the presence of American warships to bolster its international standing, is expected to put a damper on any propaganda victory by Beijing.

<https://www.japantimes.co.jp/news/2019/04/05/asia-pacific/snub-u-s-wont-sent-warships-top-officials-chinese-navys-70th-anniversary-celebrations/#.XLQYyugvO7h>

Chinese scientists discover infrared stealth material *China Daily, April 08, 2019*

Chinese scientists have found a material that can hide a hot object from heat-sensing infrared cameras, according to Suzhou Institute of Nano-tech and Nano-bionics (SINANO). Hiding an object from thermal cameras could be useful for military and technology applications as well as for research. The team led by Zhang Xuetong in SINANO with Chinese Academy of Sciences found a flexible, foldable and robust film that can achieve infrared stealth.

The researchers fabricated an aerogel film with good thermal insulation performance and enhanced it by coating its fibers with polyethylene glycol (PEG) and a protective waterproof layer. PEG stores heat when it melts and releases heat when it solidifies. In simulated sunlight, the composite film covering an object soaked up heat from the sun while only slowly increasing in temperature, just like the surroundings, making the object invisible to a thermal camera.

<http://www.chinadaily.com.cn/a/201904/08/WS5cab0974a3104842260b4fcc.html>

Rainbow-4 drone finishes test flight *China Daily, April 08, 2019*

A drone called Rainbow-4 finished its geographical exploration test flight in Northwest China recently, according to China Academy of Aerospace Aerodynamics. The test flight result shows that the drone has high speed and efficiency covering a large probing area in short time. It can also cope with limits of the terrain and weather, as well as provide information for geological structures analysis and prospecting. The test flight was considered as a solid foundation for the Rainbow-4 drone conducting probing missions in future.

<http://www.chinadaily.com.cn/a/201904/08/WS5caae2eaa3104842260b4ead.html>

China's rocket-carrying ships complete maintenance *China Daily, April 09, 2019*

China's two rocket-carrying ships have recently completed their first medium maintenance after trail voyages, preparing for future missions. Docked at a port in East China's Jiangsu Province, Yuanwang-21 and Yuanwang-22 are the country's first cargo ships designed to pick up and transport Long March rockets. According to Cao Zhiyi, head of the fleet, the ship maintenance has greatly improved the power system and safety performance and strengthened the reliability and operability of onboard equipment.

<http://www.chinadaily.com.cn/a/201904/09/WS5cac6440a3104842260b53b7.html>

China's lunar rover travels over 170 meters on moon's far side *China Daily, April 10, 2019*

China's lunar rover has driven 170.92 meters on the far side of the moon to conduct scientific exploration on the virgin territory. The rover Yutu-2, or Jade Rabbit-2, took a "noon break" from April 2 to April 8, as the temperatures on the moon were extremely high, and continued its exploration, according to the Lunar Exploration and Space Program Center of the China National Space Administration.

The rover was sent to the Von Karman Crater in the South Pole-Aitken Basin on the far side of the moon on Jan 3 for the Chang'e-4 mission. It has worked longer than its three-month design life. As a result of the tidal locking effect, the moon's revolution cycle is the same as its rotation cycle, and the same side always faces the Earth.

Fuqing Nuclear Power Plant debugging approved *By Zheng Xin, China Daily, April 10, 2019*

The National Nuclear Safety Administration approved Monday the debugging of two units in Fuqing Nuclear Power Plant in Fuzhou, Fujian province. The two units, units five and six, use Hualong One technology, a domestically developed, third-generation reactor design, jointly designed by two domestic nuclear power giants, China General Nuclear Power Group and China National Nuclear Corporation. This move comes after the Ministry of Ecology and Environment on April 4 released the operating license for units one and two of Taishan Nuclear Power Plant.

Taishan Nuclear Power Plant is the largest cooperation project between China and France in the energy sector, with two 1750-megawatt EPR units in its first phase of construction. The first reactor completed a 168-hour trial run last year, putting it on course to become the world's first commercial nuclear reactor using third-generation EPR technology.

<http://global.chinadaily.com.cn/a/201904/10/WS5cadaa36a3104842260b56c4.html>

China opens fourth border crossing with North Korea, complete with radiation detectors *Japan Times, April 10, 2019*

A Chinese city has opened a new border crossing with North Korea—fitted with radiation detectors—even as talks between Washington and Pyongyang have languished over disagreements for nuclear sanctions relief.

<https://www.japantimes.co.jp/news/2019/04/10/asia-pacific/china-opens-fourth-border-crossing-north-korea-complete-radiation-detectors/#.XLQuBeguO7g>

China, EU commit to making progress on investment pact *Cao Desheng and Chen Weihua, China Daily, April 11, 2019*

China and the European Union have committed to achieving major progress this year in negotiations for a high-level bilateral investment agreement, with a view to concluding the ambitious accord next year, according to a joint statement. The two sides pledged to widen market access, eliminate discriminatory requirements for foreign investors and establish a balanced investment protection framework, according to a joint statement issued after the China-EU leaders' meeting held in Brussels, Belgium, on Tuesday.

The Chinese and EU leaders also worked on coordinating their positions on regional and international hot spot issues such as the Iran nuclear issue, the Korean Peninsula nuclear issue and the Venezuela situation. Foreign Ministry spokesman Lu Kang said on Wednesday that the joint statement demonstrates that dialogue and consultations can help resolve differences between China and the EU. It displays the high level of the China-EU comprehensive strategic partnership, the unity and cooperation between the two sides as well as the spirit of win-win and mutual benefit, Lu said at a regular news conference.

http://www.chinadaily.com.cn/global/2019-04/11/content_37457132.htm

Energy demand growth set to decline by 2040 *Zheng Xin, China Daily, April 11, 2019*

China's energy demand growth is expected to slow to 1.1 percent per annum by 2040, less than one fifth of its pace in the last 22 years of 5.9 percent per annum, according to the BP Energy Outlook 2019. This is against the backdrop that much of the increase of energy demand will be concentrated in developing Asia including India and China, where rising prosperity and improving living standards will support increased energy consumption per head. Analysts believe the slowdown

reflects the fact that the Chinese economy is shifting from the energy intensive industry to service industries with lower energy intensity.

According to Joseph Jacobelli, an independent energy analyst and Asia-Pacific CEO of clean energy producer Joule Power, the annual energy demand forecast of 1.1 percent on average through 2040 by BP economists is sensible and realistic.

<http://global.chinadaily.com.cn/a/201904/11/WS5cae7ec9a3104842260b5802.html>

China's unmanned submersible bears fruit in Indian Ocean mission

China Daily, April 12, 2019

China's unmanned submersible "Hailong III" has collected various biological and geological samples in the southwest Indian Ocean. The First Institute of Oceanography said Thursday that Hailong III, carried by its mothership Dayang Yihao (Ocean No.1), is executing its 52nd voyage in the southwest India Ocean. The submersible recently completed three dive operations in a hydrothermal area of the mid-ocean ridge in four days, with the longest near-bottom observation lasting six hours.

<http://www.chinadaily.com.cn/a/201904/12/WS5cb036d5a3104842260b5e65.html>

China-led project expected to enhance space research *Zhou Wenting, China Daily, April 12, 2019*

The ongoing China-led international collaboration project Tianqin, a space-based gravitational wave detection system scheduled to be completed by 2035, is expected to significantly improve understanding of major cosmic phenomena, including black holes, scientists said. Tianqin uses the Chinese words tian, meaning sky or heavens, and qin, meaning stringed musical instrument.

It will consist of three satellites forming an equilateral triangle around Earth at an orbit of 100,000 kilometers. Tianqin will work to detect gravitational waves, which scientists theorize are ripples in the fabric of space-

time caused by violent cosmic events, such as colliding black holes, supernovas and even the birth of the universe.

<http://www.chinadaily.com.cn/a/201904/12/WS5cafc70fa3104842260b5bb8.html>

D. Pakistan

Pak expresses 'deep concern' over space debris generated by India's ASAT test *Livemint, April 3, 2019*

Pakistan on Tuesday expressed "deep concern" over the assessment of international experts on the threats resulting from space debris generated by the recently conducted Anti-Satellite missile (ASAT) test by India. On March 27, India achieved a historic feat by shooting down its own low-orbit satellite with a ground-to-space missile, making the country a space power. Only three other countries – the US, Russia and China – have ASAT capabilities.

<https://www.livemint.com/politics/news/pak-expresses-deep-concern-over-space-debris-generated-by-india-s-asat-test-1554231426101.html>

Pakistan Summons Delhi Envoy in protest against any possible 'misadventure' *Reuters, April 7, 2019*

Pakistan, warning of a possible new attack by giant neighbor India, said on Sunday it had summoned the Indian deputy high commissioner to protest against any "misadventure". "Indian deputy high commissioner was summoned for demarche in line with Foreign Minister's briefing of today and warned against any misadventure," Pakistani Foreign Office spokesman Mohammad Faisal said in a Tweet. Pakistan had "reliable intelligence" that India would attack again this month, Foreign Minister Shah Mahmood Qureshi said earlier, as tension over a February standoff between the two nuclear-armed neighbors had appeared to ease.

<https://in.reuters.com/article/india-kashmir-pakistan-diplomat/pakistan-summons-delhi-envoy-in-protest-against-any-possible-misadventure-idINKCN1RJ0GM>

Balakot air strike: Pakistan shows off disputed site on eve of India election *BBC, April 10, 2019*

The authorities in Pakistan have allowed foreign media and defence attachés to visit the site of a disputed Indian air strike in February. They were given access to an Islamic school in Balakot, where Indian media say militants were killed in retaliation for an attack in Kashmir. The large building appeared to be fully intact and the Pakistani army denied it had been used as a terror camp. Pakistan and India have been engaged in an information war over the Balakot site, where Pakistan says the bombs on 26 February landed in an empty area and hurt no-one.

<https://www.bbc.com/news/world-asia-47882354>

India Pakistan CONFLICT: Imran Khan issues India nuclear WARNING - 'no one can predict'

Alessandra Scotto Di Santolo, The Express, April 10, 2019

Pakistan's Prime Minister Imran Khan issued a dire warning to his neighbouring country as he branded India's attack on his "nuclear-armed" country as "irresponsible" and warned Pakistan "would have no choice" but to strike back in the future. Imran Khan called on his Indian counterpart to come to a peaceful dialogue over the "oppression of Kashmir" and claimed the number one priority for the two nations should be tackling poverty. He said: "Surely the number one task of the two governments should be: how are we going to reduce poverty? And the way we reduce poverty is by settling our differences through dialogue.

<https://www.express.co.uk/news/world/1112264/India-Pakistan-news-Kashmir-Imran-Khan-nuclear-weapons-india-election>

Foolproof nuclear security mechanisms in place: FO *Khalid Mehmood, The Express Tribune, April 12, 2019*

Mehmood, The Express Tribune, April 12, 2019

The Foreign office has said that as a responsible nuclear power, Pakistan has established the most effective nuclear security system in the world and has also

made its state institutions capable of organising international training programs for the national security. To evaluate and build on the protocols and mechanisms in place, the Pakistan Center of Excellence in Nuclear Security (PCENS) organised a workshop in collaboration with the International Atomic Energy Agency (IAEA).

<https://tribune.com.pk/story/1949427/1-foolproof-nuclear-security-mechanisms-place-fo/>

Pakistan launches guidelines for UNSC 1267 sanctions

implementation Mariana Baabar, The News International, April 13, 2019

Keeping in view that Pakistan has to be mindful of fulfilling its international legal obligations, including the implementation of the United Nations Security Council sanctions which have been adopted under Chapter VII of the UN Charter, it launched "Guidelines for the Implementation of the UNSC 1267 Sanctions" on Friday. As Pakistan comes to grips with terrorism, the government says it is important to further consolidate these gains through full implementation of the National Action Plan (NAP).

<https://www.thenews.com.pk/print/457294-pakistan-launches-guidelines-for-uns-1267-sanctions-implementation>

Modi claims India undermined Pakistan 'nuclear threat' *The News International, April 15, 2019*

Indian Prime Minister Narendra Modi said Sunday that India had called Pakistan's nuclear threat in recent cross-border air strikes that almost triggered a new war between the nuclear-armed rivals. Modi and his Hindu nationalist Bharatiya Janata Party (BJP) have made national security the focus of their campaign for a national election now being held. The prime minister told an election rally that an air strike inside Pakistan in February had shown that warnings hostilities could escalate into nuclear conflict were false.

<https://www.thenews.com.pk/print/457982-modi-claims-india-undermined-pakistan-nuclear-threat>

E. US

4 Things to Know About the U.S. Nuclear Deterrence Strategy *C Todd Lopez, US Department of Defence, April 1, 2019*

U.S. military leaders went before lawmakers to emphasize a handful of critical, but immensely important points about America's nuclear weapons capabilities. Acting Defense Secretary Patrick M. Shanahan and Marine Corps Gen. Joe Dunford, the chairman of the Joint Chiefs of Staff, testified at a House Armed Services Committee hearing. David Trachtenberg, deputy undersecretary of defense for policy, spoke before the HASC strategic forces subcommittee. The fiscal year 2020 budget request from President Donald J. Trump was the impetus for both hearings, but America's nuclear defense strategy was clearly important to lawmakers on both days.

<https://www.defense.gov/explore/story/Article/1801797/4-things-to-know-about-the-us-nuclear-deterrence-strategy/>

US public opinion evenly split on nuclear *World Nuclear News, April 1, 2019*

The US public is evenly divided on nuclear with 49% in favour of using it as a power source and 49% opposing its use, a poll by analytics company Gallup has found. Over the long term, public views on the use of nuclear energy in the US seem to fluctuate in reaction to domestic energy prices. Questions on nuclear were posed as part of Gallup's annual environment poll, conducted on 1-10 March, which was based on a random sample of 1039 adults from all 50 US states plus the District of Columbia. A total of 17% were found to strongly favour nuclear as a US power source, with 32% somewhat in favour, while 28% were somewhat opposed and 21% were strongly opposed.

<http://www.world-nuclear-news.org/Articles/US-public-opinion-evenly-split-on-nuclear>

The U.S. Military Wants to Kill Nuclear-Armed ICBMs with Lasers *Kris Osborn, National Interest Blog, April 2, 2019*

The Missile Defense Agency is engineering air-launched, high-powered, long-range laser weapons to destroy attacking nuclear-armed Intercontinental Ballistic Missiles during launch and even as they travel through space – bringing new levels of offensive and defensive layered firepower to existing missile defense technologies. The Pentagon is, as an initial phase, looking at “laser scaling” to integrate enough laser energy and power to “burn a hole through the metal” of an ICBM, US military officials say.

<https://nationalinterest.org/blog/buzz/us-military-wants-kill-nuclear-armed-icbms-lasers-50377>

Could a U.S.-Russian Deployment Ban Avoid a Nuclear Arms Race in Europe? *National Interest, April 2, 2019*

The Intermediate Nuclear Forces (INF) Treaty expires in August when the American decision to withdraw takes effect. This will give Washington and Moscow free reign to develop and deploy land-based, intermediate-range missile (IRM) systems for the first time in more than three decades. Nuclear doves hope for a last-minute reprieve to preserve the gains of disarmament, while nuclear hawks welcome the chance to close a gap that the treaty has imposed on U.S. nuclear capabilities. Yet almost everyone agrees that, for better or worse, the demise of the INF Treaty could herald the start of a new nuclear arms race in Europe and beyond.

<https://nationalinterest.org/feature/could-us-russian-deployment-ban-avoid-nuclear-arms-race-europe-50457>

Knowing when to walk: What is the best alternative to a formal US-Saudi nuclear agreement? *Eric Brewer, Bulletin of Atomic Sciences, April 13, 2019*

For years, Washington has been working to finalize a deal with Riyadh in regard to

Saudi Arabia's planned nuclear energy program. Although negotiations for this deal—known as a “123 agreement,” which is legally required if the United States wants to transfer key nuclear technologies to any country—are continuing, there doesn't appear to be a light at the end of this tunnel. Indeed, it may be getting darker.

Thus far, the Kingdom has resisted US requests for added transparency measures and constraints on Saudi Arabia's ability to enrich and reprocess nuclear material (known as “ENR” capabilities), which can be used in creating fuel for nuclear power plants, but are also critical for creating the highly enriched uranium or plutonium used in nuclear weapons. Moreover, increasing congressional scrutiny of Saudi Arabia—including the administration's nuclear dealings with the Kingdom—means that there is a real risk that an agreement that meets the minimum legal threshold would not survive Congress.

<https://thebulletin.org/2019/04/knowning-when-to-walk-what-is-the-best-alternative-to-a-formal-us-saudi-nuclear-agreement/>

US Senate committee confirms Abizaid as Ambassador to Saudi Arabia

Joyce Karam, The National, April 4, 2019

The US Senate foreign relations committee on Wednesday confirmed that retired general John Abizaid will be the first American ambassador to Saudi Arabia in more than two years.

Washington and Riyadh have finalised a THAAD ballistic missile defence deal. The US energy department is also discussing nuclear power co-operation with Saudi Arabia, and is seeking Riyadh's help in launching the Middle East Strategic Alliance, also called the Arab Nato.

<https://www.thenational.ae/world/the-americas/us-senate-committee-confirms-abizaid-as-ambassador-to-saudi-arabia-1.844822>

U.S. test nuclear reactor may run up to 40 percent over cost:

document *Timothy Gardner, Reuters, April 5, 2019*

The flagship of the Trump administration's advanced nuclear power research program could cost up to 40 percent more than a government official estimated earlier this year, a U.S. Department of Energy document shows. Energy Secretary Rick Perry has tried to breathe life into the country's nuclear power industry, which is suffering in the face of competition from plants burning cheap natural gas as well as falling costs for wind and solar power. The VTR would let U.S. companies conduct advanced technology and fuels tests without having to go to competitors in Russia and China, Perry said. Meant to be built by late 2025, it would be the first new nuclear test reactor built by the Energy Department, or DOE, in many decades.

<https://in.reuters.com/article/usa-trump-nuclearpower/u-s-test-nuclear-reactor-may-run-40-percent-over-cost-government-document-idINKCN1RG315>

U.S. Nuclear-Armed Sub May Cost More Than Navy Says, GAO Warns

Anthony Capaccio, Bloomberg, April 8, 2019

The U.S. Navy may have to ask Congress to boost funding in fiscal 2021 to buy the first in its new 12-ship fleet of nuclear-armed submarines because of unreliable cost estimates, according to congressional auditors. The service's current procurement cost estimate and design goal are suspect and require updates before those dollars are approved, the Government Accountability Office said in a report issued Monday. The submarine also continues to have problems first identified in 2017 with the vessel's power system.

<https://www.bloomberg.com/news/articles/2019-04-08/u-s-nuclear-armed-sub-may-cost-more-than-navy-says-gao-warns>

Fresh U.S. Divide on Iran Emerges Over Expiring Nuclear Waivers *Nick Wadhams, Bloomberg, April 11, 2019*

A fresh divide is emerging between some Trump administration officials and hard-line opponents of Iran in the Senate over how far to go in the White House's "maximum pressure" campaign against the Islamic Republic. In a letter to President Donald Trump this week, a group of Republican senators demanded that Secretary of State Michael Pompeo stop letting Iran continue its limited civilian nuclear research program.

<https://www.bloomberg.com/news/articles/2019-04-11/fresh-u-s-divide-on-iran-emerges-over-expiring-nuclear-waivers>

Hypersonic weapons to play no part in U.S. nuclear deterrence, says U.S. Strategic Command chief *Military and Aerospace, April 11, 2019*

Last week, Army Space and Missile Command chief Lieutenant General James Dickinson said in congressional testimony that the U.S. armed forces were planning five test programs on hypersonic weapons systems in the Marshall Islands in the central Pacific Ocean. Space War reports. Continue reading original article

The United States is moving quickly to develop hypersonic weapons just as Russia and China are doing, U.S. Strategic Command Commander Gen. John Hyten told reporters on the sidelines of a space forum in Colorado on Tuesday. "Russia and China are going really fast in hypersonics right now, we're going to move fast to make sure we can do that," Hyten said. The official also noted that the U.S. had no intention to use hypersonic weapons in its nuclear deterrence force.

<https://www.militaryaerospace.com/articles/pt/2019/04/hypersonic-weapons-nuclear-deterrence.html>

Trump, South Korea leader mull next steps in nuclear talks *PBS, April 11, 2019*

President Donald Trump and South Korea's Moon Jae-in agreed Thursday on the

importance of nuclear talks with North Korea, but the two leaders aren't completely aligned on whether sanctions will pressure Kim Jong Un to give up his nuclear weapons or drive him away from the negotiating table. Trump, in his first meeting with Moon since the unsuccessful U.S. summit with Kim in Hanoi, said the U.S. wants to keep economic sanctions in place to pressure Kim to denuclearize. But Trump said he retains good relations with Kim and didn't rule out a third summit or taking steps to ease food or other shortages in the repressive nation.

<https://www.pbs.org/newshour/world/trump-south-korea-leader-mull-next-steps-in-nuclear-talks>

U.S. Senate bill to mandate disclosure of nuclear power approvals involving other nations *Timothy Gardner, Reuters, April 11, 2019*

A bipartisan group of U.S. senators will introduce legislation on Wednesday mandating that the executive branch disclose details about authorizations it gives companies on sharing sensitive nuclear energy information with countries looking to build reactors. Lawmakers have criticized the Trump administration for issuing seven so-called Part 810 authorizations to companies on sharing nuclear power information with Saudi Arabia and withholding information about them. They want to ensure the kingdom eventually agrees to strong nuclear power safeguards on uranium enrichment and reprocessing to avoid the risk of an arms race in the Middle East.

<https://www.reuters.com/article/usa-saudi-nuclearpower/us-senate-bill-to-mandate-disclosure-of-nuclear-power-approvals-involving-other-nations-idUSL1N21S1EF>

Will Congress Let Trump Build More Nuclear Weapons? *Lara Seligman, Foreign Policy, April 11, 2019*

President Donald Trump's plan to expand America's nuclear arsenal is encountering sharp opposition in the Democratic House of Representatives, with critics saying the

administration is creating unnecessary risks to world peace – particularly by adding new tactical nuclear weapons that can be used in a conventional war. The debate is potentially set to come to a head in June, when the House will begin marking up the annual defense policy bill.

<https://foreignpolicy.com/2019/04/11/will-congress-let-trump-expand-americas-nuclear-arsenal/>

Trump Backs Third Summit With Kim, Says Relations Very Good *Sohee Kim, Jihye Lee and Nick Wadhams, Bloomberg Quint, April 13 2019*

resident Donald Trump said relations with Kim Jong Un remain “very good” and he opened the door Saturday for a third summit, hours after the North Korean leader said he’s willing to meet as long as the U.S. offers acceptable terms for a deal by year end. “I agree with Kim Jong Un of North Korea that our personal relationship remains very good, perhaps the term excellent would be even more accurate “ Trump said Saturday in a tweet. “A third Summit would be good in that we fully understand where we each stand.”

<https://www.bloombergquint.com/business/kim-jong-un-gives-u-s-until-end-of-year-to-strike-nuclear-deal>

US Democratic Senators Urge Trump to Extend Nuclear Treaty with Russia *Sputnik, April 13, 2019*

The New START pact that limits the US and Russian nuclear arsenals to 1,550 warheads each is set to expire in 2021. Twenty-four Democratic US Senators wrote a letter to US President Donald Trump on Friday, urging him to extend the nuclear arms treaty with Russia, which will expire in two years, The Hill reports. “We write to urge your administration to extend the New Strategic Arms Reduction Treaty (New START) with Russia for another five years in order to ensure that the United States can continue to enjoy the treaty’s clear national security benefits over this period,”

<https://sputniknews.com/us/201904131074091892-new-start-renewal-lawmakers-letter/>

Trump Budget Boosts Nuclear Efforts *Kingston Reif, Arms Control Association, April 2019*

The budget submission illustrates the rising cost of the nuclear mission and the challenge those expenses may pose to the administration’s other national security priorities. A Congressional Budget Office report in February estimates that the United States will spend \$494 billion on nuclear weapons from fiscal years 2019 through 2028. That is an increase of \$94 billion, or 23 percent, from the CBO’s previous 10-year estimate of \$400 billion, which was published in January 2017. (See ACT, March 2019.)

<https://www.armscontrol.org/act/2019-04/news/trump-budget-boosts-nuclear-efforts>

Where will the nuclear waste go after Three Mile Island shuts down? *Andrew Maykuth, The Enquirer Philly News, April 14, 2019*

After the infamous Three Mile Island nuclear accident 40 years ago, most of the reactor’s partially melted uranium fuel was hauled away to the Idaho National Lab, where the radioactive waste now slowly decays in steel and concrete containers, awaiting long-term disposal.

But the formal decommissioning of the damaged Unit 2 reactor near Harrisburg, site of America’s worst commercial nuclear disaster, has not yet really begun. Its owner, FirstEnergy Corp., has said that the plant would remain dormant until the surviving reactor, owned by a different company, shuts down.

<https://www.philly.com/business/what-happened-to-three-mile-island-nuclear-waste-after-the-accident-20190414.html>

U.S.S. Thresher and Scorpion - The U.S.’s Lost Nuclear Submarines *Marcia Wendorf, Interesting Engineers, April, 14 2019*

On April 10, 1963, the nuclear powered attack submarine, USS Thresher, was undergoing deep-diving tests 220 miles

(350 km) east of the city of Boston, Massachusetts. At that time, Thresher was the fastest and quietest submarine in the world, and had the most advanced weapons system. Thresher was built to find and destroy Soviet submarines, and she was outfitted with a new sonar system that could detect other vessels at a much greater distance. She was also equipped with the U.S. Navy's newest anti-submarine missile, the SUBROC. The UUM-44 SUBROC (SUBmarine ROcket) was a type of submarine-launched rocket deployed as an anti-submarine weapon. It carried a 5 kiloton nuclear warhead.

<https://interestingengineering.com/uss-thresher-and-scorpion-the-uss-lost-nuclear-submarines>

US Military, Lawmakers Say Communication with Russia Needed to Avert Nuclear War

Sputnik, April 15, 2019

According to a number of military officials, politicians and experts, a lack of communication between Moscow and Washington could potentially devolve into a nuclear conflict. A number of US military officials have called for better communication with Russia over fears that a lack thereof could result in a military conflict that can lead to a nuclear exchange. According to Scaparrotti, much more intensive communication with Russia is needed. He personally met with the Russian chief of general staff, General Valery Gerasimov, only twice but had a number of phone conversations during his service.

<https://sputniknews.com/military/201904151074131650-usa-russia-military-communication-needed/>

F. Europe

Ma'amageddon': secret plans for Queen's nuclear address revealed

The Gaurdian, April 2, 2019

National Archives' cold war exhibition shows planned scenarios such as arrest of Michael Foot. In the apocalyptic event of a nuclear strike on Britain, the government offered householders make-do-and-mend

advice on how to create refuge shelters under stairs and tables, and knock up temporary toilets from a chair and bucket. "We want people to think, 'how would I have coped if the worst had happened?'," said Mark Dunton, the curator of the Protect and Survive exhibition, part of the National Archive's Britain's Cold War Revealed season.

Documents, posters, photographs and newsreels on display reveal how, in the corridors of power and in hidden government bunkers, contingency plans were hatched during an era of great political turbulence between 1945 and the collapse of the Soviet Union in 1991. The iron curtain came down, the Berlin Wall went up, then fell, the Cuban missile crisis rocked the world, and the advent of the atomic bomb raised the stakes to the highest level possible. Documents from Wintex-Cimex, the Nato codename for the exercises designed to test the west's responses in the event of a nuclear strike, show civil servants preparing for fictional scenarios.

<https://www.theguardian.com/uk-news/2019/apr/02/national-archives-cold-war-exhibition-secret-plans-queen-nuclear-address>

Roadmap needed for nuclear disarmament: German FM

Mu Xuequan, Xinhua, April 3, 2019

A roadmap is needed to get the world back on track with nuclear disarmament, German Foreign Minister Heiko Maas said here on Tuesday. Addressing the UN Security Council session on Supporting the Non-Proliferation Treaty ahead of the 2020 Review Conference, Maas said: "For all the successes we have achieved in recent decades, we mustn't fool ourselves. The dismantling of the nuclear arsenals has come to a standstill." "Worse still, the impending loss of the INF Treaty (Intermediate-Range Nuclear Forces Treaty) raises the prospects of a reversal - actual nuclear rearmament," he said. The German minister said that "we need a roadmap that will get us back on track with nuclear disarmament."

"We need to take tangible steps towards strategic risk reduction," he said, adding that more transparency on nuclear arsenals, crisis-proof channels of communication and revived dialogue among the five permanent members of the Security Council are needed to achieve the goal. Maas said that the world must strengthen and develop the architecture of nuclear arms control. "Whether in Europe, in Asia or anywhere else, we cannot afford any more shocks to our security and stability," he said.

http://www.xinhuanet.com/english/2019-04/03/c_137944528.htm

Switzerland postpones decision on nuclear weapons treaty *Mu Xuequan, Xinhua, April 4, 2019*

The Swiss government said Wednesday it had postponed a decision on ratifying the United Nations treaty banning nuclear weapons until 2020, rejecting calls from Parliament to sign the accord as it would like more time to reflect on it. The Federal Council said in a statement that it is seeking more time to reflect on Switzerland's accession to the Treaty on the Prohibition of Nuclear Weapons (TPNW) and take stock of the latest international developments and the security situation. "The Federal Council is committed to disarmament, particularly in the area of nuclear weapons," said the statement.

http://www.xinhuanet.com/english/2019-04/04/c_137947646.htm

Astute nuclear submarine facility Evacuated after bomb reports *Freddie Jordan, The Express UK, April 11, 2019*

Bae Systems, which runs the site in Devonshire Dock, Cumbria, confirmed the site had been closed on Wednesday. A BAE systems spokeswoman said: "Following an extensive sweep of the Devonshire Dock Complex (DDC), including the four Astute class submarines in build, nothing suspicious was found. We expect to be able to close the incident shortly. Our first priority is always the safety of employees, the site and local residents so, in accordance with our

emergency procedures, we made the decision to release personnel from the DDC earlier today.

<https://www.express.co.uk/news/uk/1112459/nuclear-submarine-bomb-video-bae-systems-barrow-shipyard-trident-dreadnought>

IAEA Mission Says Germany Is Committed to Strengthening Safety, Sees Areas for Further Enhancement *IAEA, April 12, 2019*

An International Atomic Energy Agency (IAEA) team of experts said Germany is committed to strengthening its regulatory framework for nuclear and radiation safety. The team also noted areas for further enhancement. The Integrated Regulatory Review Service (IRRS) team on 12 April concluded a two-week mission to review the regulatory safety framework in Germany. The mission was conducted at the request of the Government of Germany and hosted by the Federal Ministry for Environment, Nature Conservation and Nuclear Safety (BMU). The team of senior nuclear and radiation safety experts also met with representatives of the Federal Office for the Safety of Nuclear Waste Management, Federal Office for Radiation Protection and authorities from seven state governments.

Germany, which currently operates seven nuclear power reactors, aims to end commercial nuclear power operations by the end of 2022. The country has another 29 power reactors in permanent shutdown that will require dismantling and decommissioning and has begun a process to select a site for disposal of high level radioactive waste. Germany also operates seven research reactors for research and medical isotope production. "Germany has demonstrated a strong commitment to nuclear and radiation safety during a period of significant transition," said team leader Dan Dorman, Deputy Executive Director of the Nuclear Regulatory Commission of the United States. "This team has identified a number of opportunities to clarify guidance within the regulatory framework

to promote efficiency and consistency while maintaining a high level of safety." The final mission report will be provided to the Government in about three months. The Government plans to make the report public.

<https://www.iaea.org/newscenter/pressreleases/iaea-mission-says-germany-is-committed-to-strengthening-safety-sees-areas-for-further-enhancement>

G. Russia

Russia installs operation simulator at Beloyarsk plant *World Nuclear News, April 1, 2019*

The 789 MWe unit is fuelled by a mix of uranium and plutonium oxides arranged to produce new fuel material as it burns. Its capacity exceeds that of the world's second most powerful fast reactor - the 560 MWe BN-600 Beloyarsk 3. The simulator, which "accurately replicates" the control panel of the BN-800, was installed in the training centre of the Beloyarsk plant, which is located in Zaredskaya, in the Sverdlovsk region. It was developed by the Russian Research Institute for Nuclear Power Plant Operation (VNIIAES), its equipment was manufactured by the Urals Elektromechanical Plant, and the software by ENIKO TSO.

<http://www.world-nuclear-news.org/Articles/Russia-installs-training-simulator-at-Beloyarsk-pl>

Russia's Soyuz-2.1a carrier rocket with resupply ship installed at Baikonur spaceport *TASS, April 01, 2019*

A source in the domestic space industry said that the preparations for the rocket's launch would take one day more than usual at the cosmodrome. A Soyuz-2.1a carrier rocket with a Progress MS-11 resupply ship has been installed at the launch pad of the Baikonur Cosmodrome in Kazakhstan, Russia's Energia Space Rocket Corporation announced on Monday. "The Soyuz-2.1a carrier rocket with the Progress MS-11 space freighter has been taken from the assembly and testing facility and installed at the launch pad of site No. 31 of the Baikonur Cosmodrome. Work has been started under

the program of the first launch day," Energia said in a statement.

<http://tass.com/science/1051473>

US nuclear strikes 'most reasonable' response if Russia invades, Polish ex-army chief says *Russian Times, April 4, 2019*

War and soldiering were never far from the retired Polish army commander's mind as he talked US nuclear strikes in response to Russia's imaginary invasion and complained that NATO's eastern European buildup was not enough. Waldemar Skrzypczak, who led Poland's Land Forces until 2009, seems to have joined the chorus of the West's most belligerent military leaders who have seized on the "Russian threat" to make their case. Speaking to Wirtualna Polska, he claimed Poland has become a bulwark against the "aggression from the East."

It is likely to become a scene of potential clashes between NATO and Russia, and this is why the alliance must realize that Poland "is an extremely important state from a strategic point of view," the high-ranked retiree insisted.

<https://www.rt.com/news/455555-poland-nuclear-strike-russia/>

Chernobyl's disastrous cover-up is a warning for the next nuclear age *Kate Brown The Guardian, April 4, 2019*

In 1986, the Soviet minister of hydrometeorology, Yuri Izrael, had a regrettable decision to make. It was his job to track radioactivity blowing from the smoking Chernobyl reactor in the hours after the 26 April explosion and deal with it.

Forty-eight hours after the accident, an assistant handed him a roughly drawn map. On it, an arrow shot north-east from the nuclear power plant, and broadened to become a river of air 10 miles wide that was surging across Belarus toward Russia. If the slow-moving mass of radioactive

clouds reached Moscow, where a spring storm front was piling up, millions could be harmed. Izrael's decision was easy. Make it rain.

<https://www.theguardian.com/commentisfree/2019/apr/04/chernobyl-nuclear-power-climate-change-health-radioactivity>

New generation satellites to join GLONASS system early 2020 *TASS, April 09, 2019*

New generation satellites will join the navigation system GLONASS at the end of 2019 or the beginning of 2020, the deputy CEO, deputy general designer for development and innovations of the JSC M.F. Reshetnev Information Satellite Systems Yuri Vilkov has said.

<http://tass.com/science/1052778>

Top scientist proposes using nuclear submarines to transport Russian gas from the Arctic *Russian Times, April 10, 2019*

Nuclear submarines could be loaded with liquefied natural gas from underwater deposits in the Arctic and used to transport it to energy hubs without even resurfacing, the head of Kurchatov Institute research center said. Such vehicles could pick up gas directly at the underwater deposits and work in "shuttle mode" to deliver it to consumers, the doctor of sciences in physics and mathematics said.

<https://www.rt.com/russia/456154-nuclear-submarines-transport-gas-arctic/>

The Story of How Russia Built Nuclear Bomb Cannons To Crush NATO *The National Interest Blog, April 10, 2019*

As a result, both the United States and the Soviet Union developed a multitude of battlefield nukes, from the tiny Davy Crockett nuclear recoilless rifle to the M65 Atomic Cannon. The Soviet Union responded in kind, beginning the development of their own massive atomic howitzers and even mortars. The largest of

these pieces was the massive 406mm Soviet 2A3 "Kondensator." But in the end, this piece was a failure. It was mechanically complex and obsolete by the time it was adopted.

<https://nationalinterest.org/blog/buzz/story-how-russia-built-nuclear-bomb-cannons-crush-nato-51857>

Russia's Hypersonic Ballistic Missile and Laser System in Final Tests, Putin Says *The Moscow Times, April 11, 2019*

Russia is entering the final testing phase of its nuclear-armed intercontinental ballistic missile dubbed Satan-2, President Vladimir Putin said Thursday.

Russia announced plans in 2013 to develop the ICBM to replace a Cold War standby known in the West as "Satan," or the RS-20B Voyevoda in Russia. Putin unveiled Satan-2 with an array of other nuclear-capable weapons at his annual speech to both chambers of parliament in March 2018.

<https://www.themoscowtimes.com/2019/04/11/russias-hypersonic-ballistic-missile-laser-system-final-tests-putin-says-a65204>

Putin Announces Arctic Expansion Plans at International Forum – Highlights *The Moscow Times, April 11, 2019*

With Russia's economy faltering under an onslaught of Western sanctions, Russian President Vladimir Putin attended the 5th International Arctic Forum in St. Petersburg this week to promote the resource-rich region's development. Delegates discussed topics including the Northern Sea Route, Arctic shelf development, OPEC, the production and use of liquified natural gas (LNG), the brain drain from Russia's Arctic regions, the development of infrastructure in Arctic towns and ecotourism.

<https://www.themoscowtimes.com/2019/04/11/putin-announces-arctic-expansion-plans-international-forum-highlights-a65195>

Russia's Most Powerful Nuclear Missile Is In Final Testing Stage And These Other Weapons Are Also On Their Way

Tom Connor, The News Week, April 11, 2019

Russia's most powerful nuclear-capable intercontinental ballistic missile has been undergoing its final stage of testing, with other advanced weapons on the way and some already in service.

At a promotion and award ceremony for senior officers on Thursday, Russian President Vladimir Putin hailed recent achievements of his military, especially in forwarding ambitious plans to develop weapons said to be capable of overcoming existing and even prospective defense systems. He then revealed some of the latest progress for these "modern powerful precision weapons that are determining and will determine in the future the image of Russia's armed forces."

<https://www.newsweek.com/russia-nuclear-missile-final-stage-1393795>

Defense Ministry improves infrastructure of nuclear triad, Crimean and Arctic forces

TASS News Agency, April 12, 2019

Creation of facilities for the strategic nuclear force, as well as troops stationed in Crimea and the Arctic are priorities in the development military infrastructures, Russian Defense Minister Sergei Shoigu said on Friday. "The main efforts are focused on developing the command system of the armed forces and the creation of facilities for deploying weapons and special equipment - in the first place, strategic nuclear forces, as well as troops in Crimea and Russia's Arctic," Shoigu said.

<http://tass.com/defense/1053420>

Novovoronezh II-2 cleared for launch

World Nuclear News, April 12, 2019

Unit 2 of the Novovoronezh II nuclear power plant in southwest Russia started the

process of physical launch yesterday after having received regulatory approval to do so, Rosenergoatom, the operator subsidiary of state nuclear corporation Rosatom, has announced. The VVER-1200 reactor was brought to the minimum controlled power level on 22 March. Director of the plant, Vladimir Povarov, said that obtaining a permit from Rostekhnadzor meant that preparation for the physical start-up phase had been fully completed.

<http://world-nuclear-news.org/Articles/Novovoronezh-II-2-cleared-for-launch>

Explainer: Russia's Stealth Su-57 Fighter Might Become a Nuclear 'Bomber'

Dave Majumdar, The National Interest Blog, April 12, 2019

Russia's Sukhoi Su-57 PAK-FA fifth-generation stealth fighter is listed in the Trump Administration's new Nuclear Posture Review (NPR) as a developmental dual conventional and nuclear capable strike aircraft. If the NPR is correct, the Su-57 could potentially supplant the Su-34 Fullback bomber – which is Russia's current nuclear-capable strike aircraft – for intermediate range missions against heavily defended airspace.

<https://nationalinterest.org/blog/buzz/explainer-russias-stealth-su-57-fighter-might-become-nuclear-bomber-52392>

Putin unveils 'Unrivalled' nuclear missile in chilling threat amid Soaring Trump tensions

The Express UK, April 12, 2019

The Russian President hailed the achievements made by the military in a promotion and award ceremony for senior officers. He claimed the current batch of weapons being developed by the country will determine "the future image of Russia's armed forces" going forward. Boasting of the country's incredible new weaponry, Putin claimed these missiles being developed could penetrate any defence system but would also be unmatched by any country in the world

in a veiled threat to Donald Trump. Putin said: "New surface ships and nuclear submarines will be armed with advanced types of weapons, including the Tsirkon hypersonic missile, which has no parallels in the world in terms of range and speed."

<https://www.express.co.uk/news/world/1113184/world-war-3-news-Putin-Trump-news-Russia-nuclear-missile-US-Washington-INF>

UAE astronaut will operate Russian, US equipment on board ISS *TASS,*

April 12, 2019

An astronaut from the United Arab Emirates (UAE) who will be sent to the International Space Station (ISS) in September will carry out experiments using Russian and US equipment, Roscosmos Executive Director of Manned Programs "Now it's too late for the UAE to manufacture its own specialized equipment for new experiments, by they can take part in the ongoing experiments. They'll be using both Russian and US equipment," he explained.

<http://tass.com/science/1053434>

Putin vows all possible support to Russian space sector *TASS, April 13, 2019*

The Russian government will continue to render all possible support to the space sector, Russian President Vladimir Putin said during a concert to mark the Cosmonautics Day on Friday night. "I would like to stress once again: let's render all the required assistance and support to the Russian cosmonautics," Putin said.

<http://tass.com/science/1053525>

Putin means business: Why UK needs to worry about Russia's belligerence *Ciaran Mcgrath, The Express UK, April 13, 2019*

Russia last week staged several military drills in the Barents Sea region, and also released a drone-shot video showcasing its Northern Clover base in the Arctic circle in a clear sign

of Putin's expansionist ambitions. Additionally, the Royal Navy has had to respond to Russian vessels on the edge of British waters in recent months, with the situation deteriorating markedly since the nerve gas attack on former spy Sergei Skripal and his daughter Yulia. Emily Ferris, a Research Fellow specialising in Russia and Eurasia at the Royal United Services Institute for Defence and Security Studies (RUSI), told Express.co.uk: "Russia is a powerful country and Putin is testing UK defences."

<https://www.express.co.uk/news/world/1113653/russia-vladimir-putin-world-war-three-barents-baltic-hypersonic-britain>

Get Ready: Russia Will Soon Try to Kill a Satellite *Nathan Levine, The National Interest Blog, April 13, 2019*

On March 27 India conducted its first live anti-satellite missile test, successfully destroying one of its own satellites in low Earth orbit with a modified ballistic missile. The test shocked international observers and demonstrated the growing importance of major military powers place on anti-satellite capabilities. It also made India only the third country to conduct such a sensational demonstration of anti-satellite (ASAT) weaponry, after China and the United States. This leaves one capable military power conspicuously outside the club: Russia. But the world should not expect this absence to continue for long. India's move in fact dramatically raises the likelihood that Russia will soon test its own weapon in a similarly audacious manner.

<https://nationalinterest.org/blog/buzz/get-ready-russia-will-soon-try-kill-satellite-52232>

Russia's top diplomat says the world is losing faith in the U.S. as a global leader, accusing Washington of resorting to 'pressure and blackmail' to retain dominance *Daily mail, April 14, 2019*

Russian leaders are slamming the U.S., saying the world has lost faith in the

country as a global leader. Russian Foreign Minister Sergey Lavrov announced a shift in international power on Friday during an annual address at Moscow's diplomatic academy.

Taking hits at Washington, Lavrov declared that the U.S. is no longer a leading national power and alleged the country has resorted to pressuring and blackmailing other powers to assert its dominance. He said today's world is marked by 'multipolarity' and that 'the emergence of new centers of power to maintain stability in the world requires the search for a balance of interests and compromises'.

<https://www.dailymail.co.uk/news/article-6921583/Russias-diplomat-says-world-losing-faith-U-S-global-leader.html>

An F-35 Will Never be Alone: Russia Seems to Warn America's Stealth Fighter *The National Interest Blog, April 14, 2019*

This is perhaps the most aggressive illustration of a new Russian rhetorical approach. In a move that would raise eyebrows even by Cold War standards of political saber-rattling, the Russian Embassy in Washington seemed to threaten America's F-35 fighter with Vietnam-era propaganda footage. As observed by Foxtrot Alpha, the tweet is a direct reference to a recent Brookings Institution lecture given by Air Force chief of staff Gen. David Goldfein. During his talk, General Goldfein gave this assessment of the F-35's capabilities:

<https://nationalinterest.org/blog/buzz/f-35-will-never-be-alone-russia-seems-warn-americas-stealth-fighter-52472>

Russia warning: Kremlin threatens to END American power - 'Time for the US to step aside' *Bill McLoughlin, The Express, April 15, 2019*

Top Russian diplomat, Sergey Lavrov, insisted the US used "blackmail and pressure" techniques in order to maintain its power base. The Foreign Minister also predicted the world order will soon be led

by a "multipolarity" of power centres rather than the US. Relations between Russia and the US have broken down following Donald Trump's election, with the two powers at odds over Ukraine, Syria and the Intermediate-range Nuclear Forces (INF) treaty.

In an address to Moscow's diplomatic academy, Mr Lavrov said: "The United States can no longer – singlehandedly or with its closest allies – resolve all issues in the global economy and world affairs.

<https://www.express.co.uk/news/world/1114296/world-war-3-news-US-Russia-Trump-news-latest-Vladimir-Putin-kremlin-Washington>

WEST ASIA

H. Iran

Instead of defying U.S. 'economic terrorism' EU trio seeking to appease Trump, Iran laments *Tehran Times, April 4, 2019*

"A year after US' unlawful abrogation of JCPOA, Europe can't muster political will to defy US' #EconomicTERRORISM. Not even by setting up a single banking channel for humanitarian aid," Zarif tweeted. In a letter to UN Secretary General Antonio Guterres on Tuesday, the European trio claimed that Iran's launch of a space vehicle and the unveiling of two new missiles in February were "inconsistent" with the Resolution 2231 endorsing the JCPOA.

According to the Press TV, the three countries, which are signatories to the JCPOA along with the U.S., Russia and China, asked Guterres to "report fully and thoroughly on Iranian ballistic missile activity" in his next report, which is expected in June. In his tweet, Zarif added, "E3 are instead busy appeasing @realDonaldTrump by pressuring UN over our defensive capabilities." Iran says neither its space program nor its missile launches are banned under Resolution 2231.

<https://www.tehrantimes.com/news/434312/Instead-of-defying-U-S-economic-terrorism-EU-trio-seeking>

U.S. considering additional Iran sanctions, perhaps in May: official

Jeff Mason, Reuters, April 4, 2019

The U.S. government is considering additional sanctions against Iran that would target areas of its economy that have not been hit before, a senior Trump administration official told reporters on Monday. The official said the administration aimed to follow through with new sanctions around the first anniversary of the U.S. withdrawal from a 2015 nuclear deal between Iran and several world powers, which President Donald Trump announced last May.

<https://www.reuters.com/article/us-usa-iran-sanctions/us-considering-additional-iran-sanctions-perhaps-in-may-official-idUSKCN1RD37S>

IAEA chief Amano reaffirms Iran's commitment to nuclear deal

Tehran Times, April 4, 2019

"In my regular reports to the board I have stated that Iran is implementing those commitments," Amano insisted, Press TV reported. "Since January 2016, the agency [IAEA] has been verifying and monitoring Iran's implementation of its nuclear-related commitments under the JCPOA," the IAEA chief added.

Amano further noted that IAEA inspectors have full access to all locations required to verify the deal's implementation. Under the agreement, reached between Iran and the 5+1 group, Tehran undertook to put limits on its nuclear program in exchange for the removal of nuclear-related sanctions. Amano's remarks came as the U.S. special representative for Iran says Washington is not looking to grant any further waivers to countries importing Iranian oil.

<https://www.tehrantimes.com/news/434314/Amano-reaffirms-Iran-s-commitment-to-nuclear-deal>

IAEA Reportedly Inspects Iranian Warehouse | P4+1 and Iran Nuclear Deal Alert

Kelsey Davenport and Alicia Sanders-Zakre, Arms Control Association, April 5, 2019

The International Atomic Energy Agency (IAEA) recently inspected a warehouse that

Israeli Prime Minister Benjamin Netanyahu urged the agency to visit in September, three diplomats told Reuters in an April 4 piece. Netanyahu called on the IAEA to "immediately" inspect a warehouse in Tehran that he described as "storing massive amounts of equipment and material from Iran's secret nuclear weapons program," including an unspecified radioactive material, in his September speech to the UN General Assembly.

One diplomat told Reuters that inspectors visited the warehouse more than once last month. Two diplomats confirmed that inspections took place and reportedly said results from the inspectors' environmental samples would not be in until June. The IAEA has not publicly commented on whether or not an inspection took place, but IAEA Director-General Yukiya Amano said in an April 3 interview with CBS that "I don't see activities that are contrary to the Iran nuclear agreement." Iran has denied the existence of nuclear material at the site and has stated that the warehouse is a carpet-cleaning facility. An Iranian official quoted in the Reuters piece said Iran "has nothing to hide" and that inspections have "been in the framework of laws and regulations."

<https://www.armscontrol.org/blog/2019-04-05/iaea-reportedly-inspects-iranian-warehouse-p41-iran-nuclear-deal-alert-april-5-2019>

Iran still planning three satellite launches this year, despite ramped up U.S. pressure - minister

Reuters, April 9, 2019

Iran said on Tuesday it would press ahead with the launch of three satellites into orbit this year despite a U.S. move to curb Tehran's ballistic missile programme which Washington says has been advanced by the satellite activity. U.S. President Donald Trump said on Monday he would name Iran's elite Islamic Revolutionary Guard Corps a terrorist organization, a move partly intended to curb the Islamic Republic's development of ballistic missiles.

The United States fears long-range ballistic technology used to put satellites into orbit could also be used to launch nuclear warheads. Iranian Telecoms Minister Mohammad Javad Azari-Jahromi told Reuters in Geneva on Tuesday that Tehran would stick to its plans to launch three satellites and denied the U.S. accusation that such activity is a cover for ballistic missile development.

<https://in.reuters.com/article/usa-iran-satellites/iran-still-planning-three-satellite-launches-this-year-despite-ramped-up-u-s-pressure-minister-idINKCN1RL2AS>

Exhibition on nuclear achievements opens up in Tehran *Tehran Times, April 10, 2019*

An exhibition on 114 achievements of Iran's nuclear industry opened up in Tehran on Tuesday, according to the Mehr news agency. It came after the achievements were unveiled in a ceremony on National Nuclear Technology Day attended by President Hassan Rouhani, Atomic Energy Organization chief Ali Akbar Salehi and vice president for scientific affairs Sorena Sattari and other officials.

<https://www.tehrantimes.com/news/434565/Exhibition-on-nuclear-achievements-opens-up-in-Tehran>

I. Saudi Arabia

U.S. senators seek details on nuclear power cooperation with Saudi Arabia

Timothy Gardner, Reuters, April 2, 2019

U.S. senators from both parties on Tuesday asked Energy Secretary Rick Perry for details about recent approvals for companies to share nuclear energy information with Saudi Arabia, with the lawmakers expressing concern about possible development of atomic weapons. Saudi Arabia has engaged in "many deeply troubling actions and statements that have provoked alarm in Congress," Senators Bob Menendez, a Democrat, and Marco Rubio, a Republican, told Perry in a letter, a copy of which was seen by Reuters.

The senators said Congress was beginning to reevaluate the U.S.-Saudi relationship, and they believe Washington should not be providing nuclear technology or information to Saudi Arabia now.

<https://in.reuters.com/article/usa-saudi-nuclearpower-senate/u-s-senators-seek-details-on-nuclear-power-cooperation-with-saudi-arabia-idINKCN1RE234>

First Images of Saudi Nuclear Reactor Show Plant Nearing Finish

Jonathan Tirone, Bloomberg, April 3, 2019

Saudi Arabia is nearing completion of its first nuclear reactor, satellite images of the facility show, triggering warnings about the risks of the kingdom using the technology without signing up to the international rules governing the industry. The research facility is located in the southwest corner of the King Abdulaziz City for Science and Technology in Riyadh, according to images published by Google Earth. They're the first in the public domain to confirm that the program is advancing, showing construction nearing its finish around a columnar vessel that will contain atomic fuel.

The advancement is alarming to arms-control experts because Saudi Arabia has yet to sign up to the international framework of rules other nuclear powers follow to ensure that civilian atomic programs aren't used to build weapons. Nuclear fuel providers won't move to supply the unit until new surveillance arrangements have been sealed with the International Atomic Energy Agency in Vienna. "There's a very high probability these images show the country's first nuclear facility," said Robert Kelley, a former IAEA director who also led the U.S. Department of Energy's remote sensing laboratory. "It means that Saudi Arabia has to get its safeguards in order."

<https://www.bloomberg.com/news/articles/2019-04-03/first-images-of-saudi-nuclear-reactor-show-plant-nearing-finish>

Saudi plans to invite bids for nuclear power project in 2020:

sources *Iran Daily, April 04, 2019*

Saudi Arabia plans to issue a multi-billion-dollar tender in 2020 to construct its first two nuclear power reactors and is discussing the project with U.S. and other potential suppliers, three sources familiar with the plans said. The world's top oil exporter wants to diversify its energy mix, adding nuclear power so it can free up more crude for export. But the plans are facing Washington's scrutiny because of potential military uses for the technology, Reuters.com reported.

Saudi Arabia, which aims to mine for uranium, says its plans are peaceful. But Crown Prince Mohammed bin Salman said in 2018 the kingdom would develop nuclear arms if Iran did. US, Russian, South Korean, Chinese and French firms are in talks with Riyadh to supply reactors, a promising deal for an industry recovering from the 2011 Fukushima nuclear disaster. Saudi officials previously said they aimed to select a vendor in late 2018, which then slipped to 2019. The sources said the tender would now be issued in 2020.

<http://www.iran-daily.com/News/240924.html>

Saudi Arabia reopens consulate in Iraq, pledges \$1bn in aid

Aljazeera, April 5, 2019

Moves come as Saudi Arabia competes with rival Iran for influence over Iraq. Saudi Arabia has reopened a consulate in Baghdad for the first time in nearly 30 years and announced a one billion dollars aid package for Iraq. The diplomatic mission in Iraqi capital's heavily fortified Green Zone was inaugurated on Thursday at a ceremony, during which Iraq's Foreign Minister Mohamed Alhakim raised a green Saudi flag over the building. Iraq is caught in a tug-of-war over influence pitting Iran against the United States and Saudi Arabia. Riyadh is seeking closer ties to Iraq to counter Iran's growing influence in the region, while Baghdad seeks to attract Saudi investments to spur economic growth.

<https://www.aljazeera.com/news/2019/04/saudi-arabia-reopen-consulate-iraq-pledges-1bn-aid-190404180418791.html>

Saudi has not really demonstrated nuclear transparency: Heinonen

Tehran Times, April 07, 2019

Olli Heinonen, the former deputy director general for safeguards at the International Atomic Energy Agency (IAEA), tells the Tehran Times that Saudi Arabia has not really demonstrated nuclear transparency, by concluding and ratifying, for example, the IAEA Additional Protocol. Heinonen, now a senior advisor on science and non-proliferation at Foundation for Defense of Democracies, also believes that "We have also not seen clear nuclear energy plans other than stating numbers of nuclear reactors to be build." "They have also not been open on their plans to construct research reactors. The statements of the Saudi authorities are also worrisome with regard to the technologies, which they may acquire," director general for safeguards at the IAEA tells to the Tehran Times.

<https://www.tehrantimes.com/news/434397/Saudi-has-not-really-demonstrated-nuclear-transparency-Heinonen>

J. Israel

Beijing Airport Selects Israeli radar technology to protect runway

Eytan Halon, Jerusalem Post, April 4, 2019

Beijing Capital International Airport, the second busiest airport in the world, has selected Rosh Ha'ayin-based Xsight Systems' foreign object debris (FOD) detection solution to improve runway safety. RunWize, which will be installed at the airport's eastern runway, continuously monitors and detects any forms of debris or other hazards that could interfere with runway operations, increasing safety and boosting runway capacity by facilitating rapid detection and removal of debris.

<https://www.jpost.com/Jpost-Tech/Business-and-Innovation/Beijing-airport-selects-Israeli-radar-technology-to-protect-runway-585765>

The Debate That Gave Birth to Israel's Nuclear Ambiguity Revealed

Ofer Aderet, Haaretz, April 5, 2019

At the beginning of a secret meeting held on July 9, 1963 in Jerusalem, the main speaker apologized to his guests. "I must first of all apologize and ask to be forgiven for the delay," said Prime Minister Levi Eshkol. He then immediately turned to the subject for which he had gathered the forum.

Those present in the room were senior journalists, members of the "editors committee," an informal forum that met from time to time with the prime minister, ministers and senior government officials to receive classified – and not for publication – information. Eshkol quoted David Ben-Gurion, whom he had replaced only two weeks earlier: "It is possible to speak about things with the newspaper editors and if you ask for the things not to be reported, they can be trusted."

<https://www.haaretz.com/israel-news/premium-the-debate-that-gave-birth-to-israel-s-nuclear-ambiguity-revealed-1.7088166>

Did Israel destroy Syria's nuclear weapons program?

Alamdar News, April 7, 2019

Israel put an end to Syria's alleged nuclear ambitions in 2006 when they bombed the country's secret site near the Iraqi border. Dubbed "Operation Orchard" or "Operation Outside the Box", Israeli F-15 and F-16 warplanes bombed an alleged nuclear site some 30 kilometers outside of Deir Ezzor city in Syria's eastern region. While Israel kept this attack quiet for over a decade, they finally broke their silence in March 2017 when they claimed responsibility for the bombing.

<https://www.almasdarnews.com/article/did-israel-destroy-syrias-nuclear-weapons-program/>

Can the Iran nuclear deal survive as the IAEA investigates Israeli allegations?

Emma Scott, Ian J. Stewart, Bulletin of the Atomic Scientists, April 8, 2019

Since last spring when Israeli Prime Minister

Benjamin Netanyahu announced that his country had seized secret Iranian nuclear files, including hundreds of documents, CDs and other media, from an undisclosed warehouse in early 2018, Israeli and US officials have pushed for the International Atomic Energy Agency (IAEA) to take action. News emerged in early April that it had done so.

Officials in Israel and to some extent the United States maintain that holding such an archive violates the Iranian nuclear deal of 2015 that offered sanctions relief to Iran in return for the country dismantling some of its nuclear capabilities. To date the agency hasn't publicly commented on the material, but it is known that Israel has shared some or all of it with officials there. Scholars at Harvard University's Belfer Center and researchers at the Institute for Science and International Security also have had limited access to the trove, but it's not clear how much. Some nuclear proliferation experts believe that the archive contains nothing new about Iran's past proliferation activities.

<https://thebulletin.org/2019/04/can-the-iran-nuclear-deal-survive-as-the-iaea-investigates-israeli-allegations/>

Netanyahu's Reveal of Iranian Nuclear Archive Damaged Israel, Senior Intelligence Officials Say

Chaim Levinson, Haaretz, April 8, 2019

Prime Minister Benjamin Netanyahu's revelation that Israel broke into an Iranian archive of nuclear-related documents a year ago has damaged the state, senior intelligence officials said. Netanyahu's office, however, calls this argument "ridiculous," saying that subsequent actions by U.S. President Donald Trump helped prove the move correct.

In a speech delivered against a background of shelves packed with binders, dozens of compact discs and a safe, the prime minister said that in 2017 Iran moved the documents to a secret site that looked like "a dilapidated warehouse" on the outskirts of Tehran.

The goal was to hide evidence of a military nuclear program.

<https://www.haaretz.com/middle-east-news/iran/.premium-netanyahu-s-reveal-of-iranian-nuclear-archive-damaged-israel-senior-intelligence-officials-say-1.7089581>

IRGC terror designation: Trump's election gift to Netanyahu *Meir*

Javedanfar, Al Monitor April 12, 2019

President Donald Trump's decision to designate Iran's Islamic Revolutionary Guard Corps (IRGC) as a foreign terrorist organization was not just an election gift to Israeli Prime Minister Benjamin Netanyahu, it was a boon for all Israelis.

The IRGC is and has been, without doubt, Israel's sworn enemy. It has been indirectly responsible for numerous terror attacks against Israeli citizens in Argentina and Bulgaria through Hezbollah. Two of the institutions that were in charge of arranging Iran's 2016 Holocaust cartoon competition were directly related to the IRGC. As if that's not bad enough, the IRGC has been planning to create a base in Syria from which to terrorize Israel's citizens. Now, with the designation by the Trump administration, the IRGC will have to be more careful about how it threatens Israeli citizens around the world and from Syria, as its designation as a terrorist organization will make Israeli retaliation more justifiable.

<https://www.al-monitor.com/pulse/originals/2019/04/trump-netanyahu-israel-election-gift-irgc-iran.html>

Israeli Spacecraft Crashes Onto Moon After Technical Failures *Ari*

Rabinovitch, The Wire, April 12, 2019

Israeli spacecraft Beresheet crashed onto the moon on Thursday after a series of technical failures during its final descent, shattering hopes of a historic controlled landing on the lunar surface. The unmanned robotic lander suffered periodic engine and communications failures during the landing sequence, which lasted around 21 minutes, the support team said.

Beresheet, whose name is Hebrew for the biblical phrase 'In the beginning', had travelled through space for seven weeks in a series of expanding orbits around Earth before crossing into the moon's gravity last week.

<https://thewire.in/space/israel-beresheet-spacecraft-landing-moon>

Iranian forces said killed in reported Israel airstrike on Syria missile factory *Times of Israel, April*

13, 2019

A number of Iranian forces were reportedly killed in an airstrike on a Syrian military position near the city of Masyaf in western Hama province overnight Friday-Saturday. Syrian state media said Israeli jets carried out the raid in the middle of the night, firing missiles while flying in Lebanese airspace. Syria's official state news agency SANA said Israel targeted a military site in the area, but that Syrian air defenses intercepted the attack, downing some of the missiles fired. The regime mouthpiece said the interception resulted in the destruction of several buildings and the wounding of three "fighters." The area is known to house Iranian forces and their Lebanese proxy, Hezbollah.

<https://www.timesofisrael.com/iranian-forces-said-killed-in-reported-israeli-airstrikes-on-syria-military-site/>

Space Is Hard, Beresheet Israeli Lunar Crash Proves Again *Meghan*

Bartels, Space.com, April 14

An unassuming spacecraft called Beresheet shot for the moon on April 11. It couldn't quite stick the landing, but it has plenty of company in its disappointing fate. Beresheet, an Israeli mission launched by a partnership between nonprofit SpaceIL and government-owned aerospace company Israel Aerospace Industries, sent back its last photograph during its descent to the lunar surface. But just a few minutes later, mission control lost contact with the spacecraft, eventually

concluding that the probe had crashed instead of slowing rapidly enough to execute the planned soft landing.

<https://www.space.com/israeli-moon-lander-crash-space-is-hard.html>

EAST ASIA

K. Japan

Tepco and Chubu transfer fossil fuel assets to Jera JV *World Nuclear*

News, April 2, 2019

The fossil fuel assets of Japanese utilities Tokyo Electric Power Company (Tepco) and Chubu Electric Company have been passed to their Jera joint venture, as a requirement of power market liberalisation, leaving them with transmission, distribution and retail businesses, and their nuclear plants. Deregulation in Japan requires that by April 2020 transmission and distribution are legally separated from generation. Tepco has achieved this by creating subsidiaries for each business function under Tepco Holdings, which keeps ownership of nuclear assets including the Fukushima Daiichi site.

<https://www.world-nuclear-news.org/Articles/Tepco-and-Chubu-transfer-fossil-fuel-assets-to-Jera>

Kansai awaits MOX return for Takahama 3 and 4 *World Nuclear News*, April 2, 2019

Kansai Electric Power Company (Kansai) will receive a shipment of MOX fuel assemblies in 2020, according to a report in Asahi Shimbun. They would be used at Takahama 3 and 4, which are among the nine reactors operating in Japan. Mixed oxide fuel, or MOX, is nuclear fuel made from reprocessed plutonium and uranium. The recycled nuclear fuel met around 5% of global demand, but given the extended shutdown of most Japanese reactors since the Fukushima accident, in March 2011, orders and shipments of MOX have been reduced. However, the Japanese government's policy is now to reduce the amounts of plutonium stocks and MOX held overseas.

MOX fuel contains plutonium recovered from used fuel by reprocessing. Used fuel from Japan, and other countries, has been routinely reprocessed in Europe, with MOX fuel and high-level waste being returned. Japan is working towards opening its own MOX fabrication facility at Rokkasho, and has not sent used fuel to Europe for reprocessing since 1998.

<http://www.world-nuclear-news.org/Articles/Kepeco-expects-MOX-return-for-Takahama-3-and-4>

Chinese envoy to Japan to be replaced by vice foreign minister

The Asahi Shimbun, April 4, 2019

Reflecting Beijing's efforts to further stabilize improving bilateral ties, China will replace its ambassador to Japan of nearly a decade with a vice foreign minister with long diplomatic experience in Japan. Kong Xuanyou, who has served on the Chinese diplomatic mission in Japan for about 15 years, will replace Cheng Yonghua, who is expected to leave Japan in early May, a diplomatic source said April 3

Kong also served as China's ambassador to Vietnam and director-general of the Chinese Foreign Ministry's Department of Asian Affairs before being promoted to vice foreign minister in 2017. When Chinese Premier Li Keqiang visited Japan in May last year, Kong accompanied him. He also served as special representative of the Chinese government for six-party talks on North Korea's nuclear program.

<http://www.asahi.com/ajw/articles/AJ201904040066.html>

'Old man squad' ends patrols of evacuated town in Fukushima *Daiki Ishizuka, The Asahi Shimbun, April 6, 2019*

A team of older residents that stayed behind to patrol this town after its residents evacuated following the March 2011 nuclear crisis has completed its mission. The "old man squad," as its six members called themselves, ended its six-

year activities on March 31 before an evacuation order is lifted for the Ogawara and Chuyashiki districts on April 10.

Okuma co-hosts the crippled Fukushima No. 1 nuclear power plant. The six members started making rounds and removing weeds in 2013 in lieu of town government officials.

The new Okuma town government office will open on April 14 in Ogawara, where 100 officials are expected to start work on May 7.

<http://www.asahi.com/ajw/articles/AJ201904060001.html>

Keidanren chief seeking longer lifespans for nuclear plants *The Asahi Shimbun, April 9, 2019*

The head of the nation's largest business group is calling on the government to extend the maximum service lifespan for nuclear reactors beyond the current 60 years, saying Japan faces an electricity crisis. The policy and action proposal was made by Keidanren (Japan Business Federation), led by Hiroaki Nakanishi, chairman of Hitachi Ltd.

In its April 8 proposal titled "Reconstructing the electricity system that supports Japan," Keidanren said periods when nuclear reactors are shut down for maintenance or other reasons should be excluded from their operational terms. Currently, nuclear power plants are allowed to have an operating life of 40 years, but a one-time extension of 20 years may be granted in exceptional cases under a law enacted after the 2011 Fukushima nuclear disaster. It is the first time for Keidanren to issue a policy recommendation pertaining to nuclear energy since fall 2017.

<http://www.asahi.com/ajw/articles/AJ201904090062.html>

Japan extending sanctions against North Korea for two more years

Tamiyuki Kihara, The Asahi Shimbun, April 10, 2019

Japan will extend its sanctions against North Korea for an additional two years because Pyongyang has taken no concrete action

toward abandoning its nuclear and missile development programs, the government said. "We will do our best to resolve the nuclear and missile issues and, above all, the abduction issue while working in close cooperation with the international community," Chief Cabinet Secretary Yoshihide Suga said at a news conference held after the decision was reached at a Cabinet meeting on April 9.

The Japanese sanctions include prohibiting North Korea-registered vessels from entering Japanese ports and banning both exports and imports with the country. The sanctions are effective until April 13. In addition to sanctions based on United Nations Security Council resolutions, Japan started imposing its own sanctions against North Korea after Pyongyang test-fired a ballistic missile in 2006. Tokyo gradually strengthened its sanctions after North Korea conducted nuclear tests.

<http://www.asahi.com/ajw/articles/AJ201904100033.html>

Evacuation partly lifted for town co-hosting Fukushima plant *The Asahi Shimbun, April 10, 2019*

The government lifted its evacuation order for parts of Okuma in Fukushima Prefecture on April 10, a first for a town co-hosting the crippled Fukushima No. 1 nuclear plant since the 2011 triple meltdown. Residents are now free to return to the Ogawara and Chuyashiki districts in the town's western area as radiation levels have dropped significantly. Even though life there will not be like what it was before, the announcement of the lifting of the evacuation order at midnight was a landmark moment.

<http://www.asahi.com/ajw/articles/AJ201904100058.html>

Boy who made explosives in '18 'refined, sold uranium online' *The Asahi Shimbun, April 10, 2019*

A high school boy accused of making and possessing materials for high-power

explosives last year is also suspected of buying and selling uranium through a Web auction site without permission. As the 16-year-old student is suspected of refining the substance at home, the Metropolitan Police Department in Tokyo is investigating him on suspicion of violating the Nuclear Reactor Regulation Law, they added. The government's Nuclear Regulatory Agency discovered in November 2017 that a substance described as "uranium 99.9 percent" was being sold on an Internet auction site, according to department investigators.

Police are also investigating several other people who bought the yellow cake from the boy. They believe that he refined and sold uranium out of an interest in science, not for ideological reasons. The Metropolitan Police Department referred the initial case on April 8 to prosecutors on charges of manufacturing erythritol tetranitrate (ETN), which is used in high-power explosives, at his house in August 2018 in violation of the explosives control law.

<http://www.asahi.com/ajw/articles/AJ201904100064.html>

Japan confirms MSDF leader and destroyer will participate in Chinese Navy's fleet review *Japan Times Kyodo, April 11, 2019*

Japan will send the head of the Maritime Self-Defense Force and a destroyer to the Chinese Navy's fleet review in late April to strengthen defense exchanges, the Japanese government confirmed Thursday.

<https://www.japantimes.co.jp/news/2019/04/11/national/politics-diplomacy/japan-send-msdf-head-destroyer-chinese-navys-fleet-review/#.XLBtMFQza01>

Albert Einstein was right: Takeaways from first image of massive black hole *Japan Times Kyodo, April 11, 2019*

Black holes are cosmic prisons, where nothing escapes, not even light. But lots did come out of Wednesday's first image of the

shadowy edge of a supermassive black hole.

Each major astrophysics discovery of the last few decades tends to confirm Albert Einstein's general theory of relativity, the comprehensive explanation of gravity that the former patent clerk thought of in 1915. On Wednesday, Einstein's predictions about the shape and glow of a big black hole proved right, and astronomer after astronomer paid homage to the master. "Today general relativity passed another crucial test," said University of Waterloo astronomer Avery Broderick, a co-discoverer. "The Einstein equations are beautiful. So often in my experience, nature wants to be beautiful."

It sounds strange to keep saying Einstein is right, but every time his general relativity theory is confirmed, "we kill a cloud of alternative theories" and gain better understanding how to create an even more comprehensive theory of physics, said Ethan Vishniac of Johns Hopkins University, who wasn't part of the discovery team. A German astronomer, Karl Schwarzschild, in 1916 predicted the theoretical possibility of black holes, based on Einstein's general relativity, though he did not believe they could actually exist.

<https://www.japantimes.co.jp/news/2019/04/11/world/science-health-world/albert-einstein-right-takeaways-first-image-massive-black-hole/#.XLBtE1Qza01>

TEPCO to start removing fuel at Fukushima's No. 3 reactor *The Asahi Shimbun, April 12, 2019*

The operator of the crippled Fukushima No. 1 nuclear power plant will start removing nuclear fuel from the No. 3 reactor as early as next week through equipment controlled remotely due to high radiation levels inside the building. This will mark Tokyo Electric Power Co.'s first attempt to remove spent fuel from one of the three reactors that experienced a meltdown during the 2011 nuclear accident. All spent fuel has already been removed from the No. 4 reactor. TEPCO

workers will use remote control to remove nuclear fuel assemblies kept in the pool on the upper floors of the No. 3 reactor building.

<http://www.asahi.com/ajw/articles/AJ201904120036.html>

Japan won't consider revising F-35A procurement plans while cause of crash still not known *Reiji Yoshida,*

Japan Times, April 12, 2019

The Defense Ministry is not considering a revision to its plan to procure a total of 105 F-35A stealth fighters despite the crash Wednesday of one of the jets into the sea off Aomori Prefecture, Defense Minister Takeshi Iwaya said Friday. "We don't know the cause (of the crash) yet, so we are not thinking of revising the procurement plan now," Iwaya told a news conference Friday morning. Given the depth of the water in the area, it is "probably possible" to recover the jet, which is believed to have sunk to the bottom of the sea, if it is ever found, Iwaya added.

"But first we need to confirm the situation." The F-35A, one of the first 13 jets of this model deployed in Japan, is believed to have crashed into the sea Tuesday night. The pilot, Maj. Akinori Hosomi, who has 3,200 hours of flight experience, including 60 hours in the F-35A, was still missing as of Friday afternoon.

<https://www.japantimes.co.jp/news/2019/04/12/national/japan-wont-consider-revising-f-35a-procurement-plans-cause-crash-still-not-known/#.XLBpWVQza00>

Japan 'Nuclear Energy Village' website pulled after critics say it plumbed 'new level of insensitive'

Japan Times Kyodo, April 12, 2019

A website created by the Japan Atomic Industrial Forum to educate the next generation on nuclear energy was taken down Friday after drawing criticism on social media, with some Twitter users calling the effort "inappropriate" given that the Fukushima No. 1 nuclear disaster happened "just a few years ago."

The website, published Monday by JAIF, which is a nuclear energy lobby group, was called "Atsumare! Genshiryoku Mura," which roughly translates to "Come gather! Nuclear Energy Village" and its homepage was adorned with warlords, ghosts and clowns along with a slew of colorful characters and other comical touches. The site came down on Friday, to be replaced by an apology message from JAIF saying the site had been pulled due to "inappropriate language." The lobby group added, "We apologize for any inconvenience or unpleasantness you may have experienced."

<https://www.japantimes.co.jp/news/2019/04/12/national/japan-lobby-groups-nuclear-energy-village-website-plumbs-new-level-insensitive-say-critics/#.XLBs7VQza00>

L. North Korea

Trump can't wait too long for cutting NK deal *Zhang Yun, Global Times, April 1, 2019*

North Korea's system of government is completely different from that of the US' that has led to different expectations from the summit. If Washington and Pyongyang reach an agreement too quickly, US allies may feel left out and almost betrayed. But the third Kim-Trump summit will not come too late. Major US diplomatic breakthroughs always happen in the years before elections. If the incumbent president wants diplomatic headway, he needs to accomplish it before election year to leave time for hectic campaigning. Besides, diplomatic accomplishments can be used as a bargaining chip for the campaigns.

<http://www.globaltimes.cn/content/1144243.shtml>

IAEA says Iran in compliance on nuclear, but North Korea a worry

North Korea Times, April 3, 2019

The threat of a nuclear weapon being used is "higher than it has been in generations"

Use of nuclear weapons, "intentionally, by accident, or through miscalculation," is

one of the greatest threats to international peace. The upcoming Non-Proliferation Treaty (NPT) Review Conference in 2020 will be a “defining moment” In a world defined by “competition over cooperation, and the acquisition of arms, prioritized over the pursuit of diplomacy”, the threat of a nuclear weapon being used is “higher than it has been in generations,” the Security Council heard on Tuesday. The warning came from Izumi Nakamitsu, the UN High Representative for Disarmament Affairs, in a meeting convened in support of the Non-Proliferation Treaty (NPT), ahead of the next conference to review the historic accord, scheduled for 2020

The Treaty, she said, is widely acknowledged as “the cornerstone of the international non-proliferation regime and the essential foundation of nuclear disarmament. Its role as a pillar of our collective security is likewise an accepted fact.” The disarmament chief described the two pillars of the NPT – disarmament and non-proliferation -- as “two sides of the same coin”, adding that “backward movement on one will result in backward movement on the other.”

<https://www.northkoreatimes.com/news/260249100/iaea-says-iran-in-compliance-on-nuclear-but-north-korea-a-worry>

NK restoring satellite launch site to gain leverage in negotiations: defense agencies *Kim So-hyun, Korea Herald, April 4, 2019*

Herald, April 4, 2019

North Korea’s move to restore a satellite launching site appears to be aimed at using it as leverage in nuclear negotiations, defense authorities said. Seoul’s Defense Intelligence Agency and the South Korea-US Combined Forces Command said that North Korea was working on rebuilding the Tongchang-ri site even before the second summit between Washington and Pyongyang on Feb. 28, according to Rep. Lee Hye-hoon of the Bareunmirae Party, who leads the National Assembly’s Intelligence Committee.

http://www.koreaherald.com/view.php?ud=20190404000563&ACE_SEARCH=1

Kim Jong Un’s new Rolls-Royce a clear violation of U.N. sanctions

Ryuichi Kanari, The Asahi Shimbun, April 4, 2019

North Korean leader Kim Jong Un clearly likes to be driven around in style, even if it means brazenly thumbing his nose at U.N. sanctions. A U.N. panel monitoring whether sanctions against North Korea are working concluded that Kim is in clear violation of the measures by having a luxury Rolls-Royce at his disposal. The U.N. Security Council slapped a ban on exports of luxury goods to North Korea to put pressure on Pyongyang to curtail its missile and nuclear programs.

According to the expert panel’s latest report, when U.S. Secretary of State Mike Pompeo visited Pyongyang last October for talks with Kim, the chairman of the ruling Workers’ Party of Korea arrived at the venue in a chauffeur-driven Rolls-Royce. The vehicle was a Phantom, the brand’s flagship and a model used by Britain’s Queen Elizabeth II for her official duties. It carries a starting price of about 350,000 pounds (\$462,500). When the panel queried the manufacturer, it was learned that the vehicle was made at a factory in Goodwood, England, between August 2012 and February 2017.

<http://www.asahi.com/ajw/articles/AJ201904040009.html>

Top U.S. diplomat ‘confident’ of third round of Trump-Kim nuclear talks *Jesse Johnson, Japan Times, April 6, 2019*

U.S. Secretary of State Mike Pompeo has said he is “confident” there will be a third summit between President Donald Trump and North Korean leader Kim Jong Un, noting that talks with Pyongyang are continuing after a February nuclear summit in Hanoi failed to yield a deal.

<https://www.japantimes.co.jp/news/2019/04/06/asia-pacific/politics-diplomacy-asia-pacific/top-u-s-diplomat-confident-third-round-trump-kim-nuclear-talks/#.XLQuRugvO7g>

G7 pushes North Korea to continue denuclearization talks with U.S. *Ko Hirano, Japan Times, Kyodo, April 7, 2019*

Foreign ministers of Group of Seven nations on Saturday pushed North Korea to continue denuclearization negotiations with the United States while vowing to maintain pressure on Pyongyang to encourage it to give up its nuclear weapons and ballistic missile programs.

<https://www.japantimes.co.jp/news/2019/04/07/world/politics-diplomacy-world/g7-pushes-north-korea-continue-denuclearization-talks-u-s/#.XLQuLOgvO7g>

Powerful North Korean decision-making body set to decide 'new orientation' ahead of Trump-Moon summit *Jesse Johnson, Japan Times, April 10, 2019*

North Korea has announced that the Central Committee of its ruling Workers' Party of Korea (WPK) was set to hold a meeting Wednesday to discuss and decide what it called a "new orientation" just days ahead of South Korean leader Moon Jae-in's visit to the White House.

<https://www.japantimes.co.jp/news/2019/04/10/asia-pacific/politics-diplomacy-asia-pacific/powerful-north-korean-decision-making-body-set-decide-new-orientation-ahead-trump-moon-summit/#.XLQuFOgvO7g>

North Korea's Kim doubles down on sanctions threat, vowing to deal 'telling blow' to those imposing them *Jesse Johnson, Japan Times, April 11, 2019*

North Korean leader Kim Jong Un has doubled down on his regime persevering through tough sanctions that have choked his economy, urging his country to deal a "telling blow" to those imposing the sanctions and pitching self-reliance as an "eternal lifeline," state-run media reported Thursday.

<https://www.japantimes.co.jp/news/2019/04/11/asia-pacific/politics-diplomacy-asia-pacific/north-koreas-kim-doubles-sanctions-threat-vows-deal-serious-blow-imposing/#.XLVy6egvO7h>

UN Security Council extends mandate of Panel of Experts on DPRK sanctions *China Daily, April 11, 2019*

The Security Council on Wednesday adopted a resolution to extend the mandate of the Panel of Experts, which assists a Security Council sanctions committee against the Democratic People's Republic of Korea (DPRK). The resolution requests the Panel of Experts to submit to the Security Council a midterm report on its work by Sept 6, 2019, and submit a final report, with its findings and recommendations, by March 6, 2020.

The resolution urges all states, relevant UN bodies and other interested parties to cooperate fully with the DPRK sanctions committee and the Panel of Experts, in particular, by supplying any information at their disposal on the implementation of the sanctions imposed by a string of Security Council resolutions since 2006. The Security Council expresses its intent to review the mandate of the Panel of Experts and take appropriate action regarding further extension no later than March 27, 2020.

<http://global.chinadaily.com.cn/a/201904/11/WS5caea627a3104842260b59a2.html>

NK leader re-elected as chairman of State Affairs Commission *Korea Herald, April 12, 2019*

North Korean leader Kim Jong-un has been re-elected as chairman of the State Affairs Commission, the communist state's highest seat of power, in a key parliamentary meeting, state media reported Friday. The North's Premier Pak Pong-ju has also been replaced with Kim Jae-ryong, a senior member of the ruling Workers' Party of Korea, during the first session of the 14th Supreme People's Assembly on Thursday, the Korean Central News Agency said.

"The election of the Supreme Leader as chairman of the State Affairs Commission of the DPRK is the great political event of

crucial historical significance," the KCNA said.

http://www.koreaherald.com/view.php?ud=20190412000138&ACE_SEARCH=1

Kim Jong Un charts course for socialist construction, sets forth policies *Pyongyang Times, April 13, 2019*

Leader Kim Jong Un delivered a policy speech On Socialist Construction and the Internal and External Policies of the Government of the Republic at the Present Stage at the First Session of the 14th Supreme People's Assembly of the DPRK on April 12. "Economic self-sufficiency is a material guarantee and prerequisite for building an independent State. Recently, the United States has grown fearful of the threats posed by our rapidly-developing nuclear armed force to the security of its mainland. At the negotiating table, it has made much ado about improved relations and peace.

We have the capabilities and foundations for independent development to revitalize the national economy and raise it to the advanced international level in the shortest possible period. The foundations of our self-supporting economy that have been laid for several decades, able scientific and technical personnel, and the creative strength of the heroic people who have made self-reliance part of their mental qualities and are brimming with patriotic enthusiasm—these constitute our valuable strategic resources. By making the most of these enormous and unlimited potentialities, we must create another legendary tale of world-startling, miraculous successes and go ahead of others by making a greater leap forward."

<http://www.pyongyangtimes.com.kp/?bbs=29741>

North Korea's Kim Jong Un gives U.S. to year-end to become more flexible **Josh Smith, Joyce Lee, Reuters, April 13, 2019**

North Korean leader Kim Jong Un said the breakdown in talks with the United States has raised the risks of reviving tensions, and he is only interested in meeting President

Donald Trump again if the United States comes with the right attitude. Kim said he will wait "till the end of this year" for the United States to decide to be more flexible, according to KCNA. "It is essential for the U.S. to quit its current calculation method and approach us with a new one," Kim said in a speech to the Supreme People's Assembly on Friday, KCNA said.

<https://www.reuters.com/article/us-northkorea-usa/north-koreas-kim-jong-un-says-u-s-must-change-stance-gives-deadline-idUSKCN1RO2PI>

Kim to hold talks with Putin *North Korea Times, April 15, 2019*

North Korea leader Kim Jong-un is expected to hold his first-ever summit with Russia President Vladimir Putin next week, reports Yonhap news agency. Russian President Vladimir Putin is expected to make a trip to the Far East region around April 24. Chances are fairly high that a summit between Russia and North Korea could take place around that time," the news agency quoted a government official who did not wish to be identified, as saying.

The Russian President is visiting China to take part in One Belt One Road forum, which is scheduled to take place on April 26-27. He is expected to meet Kim on the sideline of the forum. Reportedly, the senior officials of Pyongyang and Moscow are travelling to each other's country for the preparation of the Summit. Earlier this month, Russia's interior minister Vladimir Kolokoltsev had visited Pyongyang.

<https://www.northkoreatimes.com/news/260474988/kim-to-hold-talks-with-putin>

M. South Korea

Moon hopes North Korea responds positively to U.S.-S.Korea efforts *Josh Smith, Reuters, April 1, 2019*

South Korean President Moon Jae-in said on Monday he hopes North Korea responds positively when he meets U.S. President Donald Trump this month as part of efforts to restart denuclearization

talks with the North. Speaking to his cabinet, Moon said he would use the April 11 summit in Washington to discuss restarting U.S.-North Korea talks, advancing a peace process and creating a “virtuous cycle” of improving relations with Pyongyang. “I hope North Korea will respond positively to the efforts of Seoul and Washington,” he said.

The summit in Vietnam’s capital was cut short after Trump and Kim failed to reach a deal on the extent of economic sanctions relief for North Korea in exchange for its steps to give up its nuclear program.

<https://www.reuters.com/article/us-usa-southkorea-summit/moon-hopes-north-korea-responds-positively-to-u-s-south-korea-efforts-idUSKCN1RD1PL>

SKorean ship detained for allegedly providing oil to NKorea *Kim Tong-hyung, AP News, April 3, 2019*

A South Korean ship is being held at a domestic port over suspicions that it illegally provided oil to heavily sanctioned North Korea, officials said Wednesday. The revelation comes amid growing concerns over wide-ranging efforts by North Korea to evade U.N. Security Council sanctions over its nuclear weapons and missiles program. A South Korean coast guard official said the 5,160-ton P-PIONEER has been prevented from leaving Busan port since October over allegations that it was used to supply diesel to North Korea through two ship-to-ship transfers in September 2017 in international waters in the East China Sea. He did not confirm how much was supplied.

<https://www.apnews.com/9556c1456e6c4e10aae331b6c95a61a3>

S. Korea to prepare internally for inter-Korean economic projects: minister *Yonhap, Korea Herald, April 13, 2019*

South Korea’s finance minister said Friday that Seoul will make internal preparations

to carry out economic projects with North Korea when the conditions are right. Hong Nam-ki, the minister of economy and finance, was in the U.S. capital to attend a meeting of the Group of 20 finance ministers and central bank governors.

Speaking to reporters on the margins, Hong said he believes Thursday’s summit in Washington between South Korean President Moon Jae-in and U.S. President Donald Trump created momentum to restart nuclear disarmament talks with North Korea. Moon’s push to expand economic cooperation with the North has been largely obstructed by the deadlock in denuclearization negotiations between Washington and Pyongyang.

http://www.koreaherald.com/view.php?ud=20190413000025&ACE_SEARCH=1

N. Central, South and Southeast Asia

Siting and Site Evaluation for Nuclear Power Plants in Focus at IAEA Workshop in Uzbekistan

International Atomic Energy Agency, April 8, 2019

Uzbekistan, the latest country to launch a nuclear power programme, has initiated the process to select a site for a nuclear power plant and aims to grant a site licence in September 2020, local officials have confirmed. Uzbekistan is among about 30 countries that are considering, planning or actively working to include nuclear power into their energy mix. At the request of Uzbekistan’s Government, the IAEA and the newly established Nuclear Energy Development Agency Uzatom held a workshop in February in Tashkent on safety and non-safety aspects to be considered in siting and site evaluation for nuclear power plants.

<https://www.iaea.org/newscenter/news/siting-and-site-evaluation-for-nuclear-power-plants-in-focus-at-iaea-workshop-in-uzbekistan>

O. World/Misc

Prospect of a nuclear war 'higher than it has been in generations', warns UN *UN News, april 2, 2019*

The warning came from Izumi Nakamitsu, the UN High Representative for Disarmament Affairs, in a meeting convened in support of the Non-Proliferation Treaty (NPT), ahead of the next conference to review the historic accord, scheduled for 2020. Ms. Nakamitsu said that the use of nuclear weapons, "either intentionally, by accident, or through miscalculation", is one of the greatest threats to international peace and security, and that "the potential consequences of a nuclear war would be global and affect all Member States." The Treaty, she said, is widely acknowledged as "the cornerstone of the international non-proliferation regime and the essential foundation of nuclear disarmament. Its role as a pillar of our collective security is likewise an accepted fact."

<https://news.un.org/en/story/2019/04/1035941>

First Canadian SMR licence application submitted *World Nuclear News, April 2, 2019*

The Canadian Nuclear Safety Commission (CNSC) has received the first licence application for a small modular reactor. The application from Global First Power (GFP), with support from Ontario Power Generation and Ultra Safe Nuclear Corporation (USNC), supports a proposal to deploy a Micro Modular Reactor plant at Chalk River in Ontario.

The companies today announced their submission of the application, which is in response to an invitation issued in April 2018 by Canadian Nuclear Laboratories (CNL) to SMR project proponents for the construction and operation of an SMR demonstration unit at a CNL-managed site. GFP's proposal in February became the first to advance to the third stage of CNL's four-step review process, meaning the partners have been invited by CNL to take part in preliminary, non-exclusive discussions regarding land

arrangements, project risk management, and contractual terms.

<https://www.world-nuclear-news.org/Articles/First-Canadian-SMR-licence-application-submitted>

Strengthening the Non-Proliferation Treaty ahead of the Review Conference in 2020 *IAEA, April 2, 2019*

The IAEA now implements safeguards in 182 countries, 179 of which are NPT States Parties. Non-nuclear-weapon States are required under the NPT to conclude a comprehensive safeguards agreement with the IAEA. They must declare all nuclear material in peaceful nuclear activities. The safeguards conclusions drawn by the Agency, which are based on our independent verification and findings, provide credible assurance to the international community that States are abiding by their safeguards obligations.

The nuclear programmes of Iran and the DPRK remain among the top items on the Agency's agenda. The IAEA has focused on Iran's nuclear activities since 2002. In December 2015, I presented a Final Assessment on past and present outstanding issues regarding Iran's nuclear programme to the IAEA Board. I hope that the 2020 NPT Review Conference will be a success and will make an important contribution to strengthening international peace and security.

<https://www.iaea.org/newscenter/statements/strengthening-the-non-proliferation-treaty-ahead-of-the-review-conference-in-2020>

UN Security Council reaffirms commitment to non-proliferation goals *Xinhua, April 3, 2019*

The UN Security Council on Tuesday reaffirmed its commitment to advance the goals of the Non-Proliferation Treaty (NPT), the only treaty that contains legally-binding commitments to nuclear

disarmament. The council members made the reaffirmation after meeting on supporting the Non-proliferation Treaty ahead of the 2020 Review Conference.

In a press statement after the meeting, they reaffirmed “their commitment to advance the goals of the NPT as the cornerstone of the nuclear non-proliferation regime and the foundation for the pursuit of nuclear disarmament and the peaceful uses of nuclear energy.” They underscored the viability and the mutually reinforcing character of all the commitments taken under the treaty, the need for its full implementation and the importance of achieving universal adherence to the treaty.

http://www.xinhuanet.com/english/2019-04/03/c_137944482.htm

Tracing Radioactive Material with Nuclear Forensics *IAEA, April 3, 2019*

When any suspected radioactive material is found, for example at a border crossing or in a police raid, it is time to call in the nuclear forensic experts.

<https://www.iaea.org/newscenter/multimedia/videos/tracing-radioactive-material-with-nuclear-forensics>

Responses to Violations of the Norm Against Chemical Weapons

Arms Control Association, April 3, 2019

The use of chemical weapons throughout the eight-year conflict in Syria has challenged the international norm against the well-established chemical weapons ban and horrified the international community. Despite multiple UN reports confirming Syrian President Bashar al-Assad’s responsibility for sarin nerve agent and chlorine gas attacks, Assad has continued to use these terrifying weapons against his own people.

The international community has constructed a number of investigative bodies to uncover the facts of these atrocious crimes, but attribution and accountability gaps remain. In order to hold Assad accountable for his violation of international

law in the future, investigations into responsibility for chemical weapons use must restart as soon as possible.

<https://www.armscontrol.org/issue-briefs/2019-04/responses-violations-norm-against-chemical-weapons>

10 years after Obama’s nuclear-free vision, the US and Russia head in the opposite direction

Steven Pifer, Brookings, April 4, 2019

April 5 marks the 10th anniversary of the speech in which Barack Obama laid out his vision for a world without nuclear weapons. It did not gain traction. Instead, the United States and Russia are developing new nuclear capabilities, while the nuclear arms control regime is on course to expire in 2021. The result will be a world that is less stable, less secure, and less predictable

<https://www.brookings.edu/blog/order-from-chaos/2019/04/04/10-years-after-obamas-nuclear-free-vision-the-us-and-russia-head-in-the-opposite-direction/>

How Nuclear Techniques Help

Feed China *Miklos Gaspar, IAEA, April 4, 2019*

With 19% of the world’s population but only 7% of its arable land, China is in a bind: how to feed its growing and increasingly affluent population while protecting its natural resources. The country’s agricultural scientists have made growing use of nuclear and isotopic techniques in crop production over the last decades. In cooperation with the IAEA and the Food and Agriculture Organization of the United Nations (FAO), they are now helping experts from Asia and beyond in the development of new crop varieties, using irradiation.

While in many countries, nuclear research in agriculture is carried out by nuclear agencies that work independently from the country’s agriculture research establishment, in China the use of nuclear techniques in agriculture is integrated into the work of the Chinese Academy of

Agricultural Sciences (CAAS) and provincial academies of agricultural sciences. This ensures that the findings are put to use immediately.

<https://www.iaea.org/newscenter/news/how-nuclear-techniques-help-feed-china> \

NATO chief says not seeking “new arms race” with Russia *Yurou, Xinhua, April 4, 2019*

NATO Secretary General Jens Stoltenberg (Front) addresses a joint meeting of the U.S. Congress in Washington D.C., the United States, on April 3, 2019. Jens Stoltenberg said on Wednesday that the military alliance does not want a “new arms race” with Russia while urging Moscow to keep compliance with a landmark arms control treaty.

http://www.xinhuanet.com/english/2019-04/04/c_137947805_2.htm

NATO at 70, What’s next? *Liu, Xinhua, April 4, 2019*

The North Atlantic Treaty Organization (NATO) turns 70 on Thursday. As one of the longest-lived military alliances in modern history, perhaps it’s a good time for NATO to pause and ponder on its path. An alarming tendency is that NATO now seems to have shifted its focus back to its original to confront Russia. Its realignment to the east has intensified since 2014 Crimea incident amid rising rhetoric about the return of the great power politics. But many see NATO’s moves as arguably self-fulfilling, as its presence among Moscow’s immediate neighbors would be regarded as provocative and therefore invites dangerous counteractions.

A Brookings report examined 63 major military alliances over the last 500 years, finding that 47 has disintegrated. Celebrating its longevity, NATO also needs to reassess its purpose and clarify its path forward. If NATO seeks to help build peace and stability, regionally or worldwide at large, it should not make itself a source of problems or provoke others in the name of

safeguarding security. Transforming itself from a legacy of the Cold War to a modern multilateral pro-development body might be a good idea.

http://www.xinhuanet.com/english/2019-04/04/c_137948523.htm

New Safeguards Tool Bolsters IAEA’s Verification of Spent Nuclear Fuel *Matt Fisher, IAEA, April 5, 2019*

For all States with a Comprehensive Safeguards Agreement in force, the IAEA seeks to verify that all nuclear material remains in peaceful activities. It achieves this through the application of technical measures known as safeguards. The new Passive Gamma Emission Tomography (PGET) tool, which utilizes a technique known as passive gamma emission tomography, will enable the IAEA to verify the number of fuel rods – or pins – in spent nuclear fuel assemblies.

Unlike other tools used for verifying the content of spent nuclear fuel, such as the Digital Cherenkov Viewing Device and the Spent Fuel Attribute Tester, the PGET tool can also confirm the absence of missing pins from a spent fuel assembly in a closed container. This is very useful for applying safeguards at nuclear power plants, underwater storage facilities and encapsulation plants at geological repositories. According to Tim White, an IAEA technology expert, the use of passive gamma emission tomography to verify nuclear material will be a “very valuable addition to the IAEA safeguards toolkit”.

<https://www.iaea.org/newscenter/news/new-safeguards-tool-bolsters-iaeas-verification-of-spent-nuclear-fuel>

Brazilian government committed to nuclear, says energy minister

World Nuclear News, April 5, 2019

Brazil’s national energy plan to 2050 will consider new nuclear power plants including generation IV technology and small modular reactors to meet growing

national electricity demand, Minister for Mines and Energy Bento Albuquerque said. The Brazilian government is “strongly committed” to resuming the Angra 3 project, which will play an “important role” in the country’s future electricity system, the minister said at a high-level meeting alongside the World Nuclear Spotlight Brazil conference in Rio de Janeiro. The project will assure baseload security of supply for an interconnected grid of continental dimensions, he added.

Brazil’s National Energy Plan 2050 (PNE 2050), to be made public by the end of the year, will consider new nuclear power plants for baseload generation. Brazil has a large installed hydro power capacity - in 2016, this accounted for 66% of its gross electricity production, according to World Nuclear Association - but this will not be enough to assure baseload generation and security of supply in the face of growing electricity demand and a growing renewable energy capacity, he said. In the period 2020-2030, Brazil would consider “existing technologies”, but advanced technologies such as Generation IV and SMRs must be considered in the period from 2040 to 2050, he said.

<https://www.world-nuclear-news.org/Articles/Brazilian-government-committed-to-nuclear-minister>

Commissioning starts at first Belarus unit *World Nuclear News, April 8, 2019*

Unit 1 of the first nuclear power plant to be built in Belarus has started the commissioning phase, AtomStroyExport (ASE), the engineering subsidiary of Russian state nuclear corporation Rosatom, has announced. The plant, near Ostrovets in the Grodno region of Belarus, is being built using the Russian VVER-1200 reactors to give 2340 MWe net capacity online. The first unit is scheduled for commissioning this year, with the second unit to be brought online in 2020.

ASE, general contractor for the project, said on 5 April the first stage of commissioning had started and that this comprised testing

of equipment of the first and second circuits of the reactor facility, which will include hydraulic tests and circulation flushing. The programme for commissioning water-cooled power reactors consists of four stages, ASE said. These are: pre-commissioning; physical start-up; energy start-up; and experimental-industrial operation. An intergovernmental agreement between Russia and Belarus specifically on cooperation in the construction of a nuclear power plant in Belarus was signed in March 2011.

<https://www.world-nuclear-news.org/Articles/Commissioning-starts-at-first-Belarus-unit>

IAEA Holds Exercise to Test International Capabilities for Assistance in the Event of Nuclear or Radiological Emergencies *Sinead Harvey, IAEA, April 9, 2019*

The IAEA Incident and Emergency Centre tested international emergency preparedness and response capabilities with 39 Member States and 3 international organizations over three days in March 2019. The exercise is held once a year as part of an annual schedule of exercises and tests Member States’ and international organizations’ procedures to request or offer international assistance in the event of a nuclear or radiological emergency. The organizers sent the authorities at Member States participating in the exercise a set of scenarios of nuclear or radiological emergencies.

“The exercise started on Tuesday 26 March with the first exercise trigger message,” said Kilian Smith, IAEA Response and Assistance Network (RANET) Officer. “From this point, participants practiced their emergency response procedures, first notifying the IAEA of a simulated emergency situation. Then participants from some Member States simulated requests for international assistance, while exercise participants from other Member States simulated offers to address the requested assistance. The exercise engages responders through

emergency scenarios and identifies opportunities to improve their national emergency response procedures.”

<https://www.iaea.org/newscenter/news/iaea-holds-exercise-to-test-international-capabilities-for-assistance-in-the-event-of-nuclear-or-radiological-emergencies>

Niger and GoviEx agree Madaouela project framework *World Nuclear News, April 9, 2019*

The government of Niger and GoviEx have agreed on a framework to jointly develop GoviEx’s Madaouela uranium project that will see the government purchase another 10% share. GoviEx’s existing Madaouela 1 mining permit will also be expanded to include previous mineral resources discovered by GoviEx in the Agaliouk permit, adding a further 5.96 million pounds U3O8 (2292 tU) in measured and indicated resources. The company will also be granted renewed nine-year terms for its exploration permits for Madaouela 2, 3 and 4, which had reached the end of their exploration periods under the 2006 Niger mining code.

Govind Friedland, executive chair of Vancouver, Canada-based GoviEx, said the agreement was the culmination of more than 12 years of “relentless work and millions of man hours” by the company’s management and its Nigerien community.

<http://world-nuclear-news.org/Articles/Frame-work-agreement-plans-for-Madaouela-project-de>

Site approval for Egyptian nuclear power plant *World Nuclear News, April 10, 2019*

Egypt’s Nuclear Power Plants Authority (NPPA) has received a site approval permit for the El Dabaa site from the Egyptian Nuclear Regulation and Radiological Authority (ENRRA). The permit acknowledges that the site and its specific conditions comply with national and international requirements. The site approval permit is issued for four nuclear units. All other permits within the nuclear licensing process are issued for each unit separately, the NPPA said. The site approval

permit is a condition for obtaining the next licensing document: a construction permit authorising the implementation of any nuclear related works at the El Dabaa site.

Four Russian-designed VVER-1200 pressurised water reactors are planned for El Dabaa, which is on the Mediterranean coast, 170 kilometres west of Alexandria and Zafraana on the Gulf of Suez. Russian State Atomic Energy Corporation Rosatom is to develop the plant, which will be owned and operated by the NPPA. With a nameplate capacity of 4.8GWe, the plant is expected to account for up to 50% of Egypt’s power generation capacity to meet the country’s increasing demand for electricity, according to Rosatom.

<http://world-nuclear-news.org/Articles/Site-approval-for-Egyptian-nuclear-power-plant>

Targeting Drought with Nuclear Techniques *Katy Laffan, Martin Klingenboeck, IAEA, April 10, 2019*

A global project to read the fingerprints of raindrops is harnessing the power of big data to monitor water supplies for our thirsty planet. Using isotope hydrology, scientists in Austria, Costa Rica, and around the world are analysing rain and river water to see which raindrops end up in which rivers. This helps avoid drought, especially in the light of climate change. Nuclear scientists, at the IAEA labs and around the world, are using insights gained from studying life at the atomic level, to develop these innovative tools that will drive progress towards the UN’s Sustainable Development Goals.

<https://www.iaea.org/newscenter/multimedia/videos/targeting-drought-with-nuclear-techniques>

National Liaison Officers from African Member States Gather in Arusha to Strengthen the IAEA Technical Cooperation Programme *Solomon Haile, IAEA, April 10, 2019*

From 11 to 15 March, the IAEA’s Technical Cooperation Division for Africa

held its annual meeting of National Liaison Officers (NLOs) in Arusha, United Republic of Tanzania to explore and finalize strategies to further enhance the delivery of the Agency's TC programme in the region. National Liaison Officers and Assistants (NLAs) from 40 African Member States attended the event, which was officially launched by William Tate Ole Nasha, Deputy Minister of Education, Science and Technology of Tanzania.

"Tanzania is particularly delighted to be associated with the level of achievement that African Member States have attained, and with the continued support by the IAEA," said Minister Nasha. "To meet the growing need, an increasing number of fellowships, scientific visits and training courses have been offered by the IAEA. The Government of the United Republic of Tanzania appreciates these ongoing IAEA efforts, through its TC programme, to emphasize the development of human resources for the peaceful uses and applications of nuclear science and technology."

<https://www.iaea.org/newscenter/news/national-liaison-officers-from-african-member-states-gather-in-arusha-to-strengthen-the-iaea-technical-cooperation-programme>

Analysing the Past with Nuclear Technology *Alejandra Silva, Martin Klingenböck, IAEA, April 11, 2019*

Scientists around the world use radiation to understand and preserve history. In the Albanian National Museum of History, researchers are working with non-destructive methods such as x-rays to study old portraits and metal objects.

<https://www.iaea.org/newscenter/multimedia/videos/analysing-the-past-with-nuclear-technology>

Concerted action for a shared future *Muhammad Asif Noor, China Daily, April 11, 2019*

At this year's Boao Forum for Asia, Premier Li Keqiang called for Asian countries to work together for a prosperous, peaceful and stable region. The 2019 Boao Forum for Asia with the theme "Shared Future,

Concerted Action, Common Development" recently concluded with a strong call for multilateralism, better cooperation, shared prosperity and a common future.

While acknowledging the strength of Asia as a region having the power and resilience to maintain world peace, and stability and give a boost to the global economy, Chinese Premier Li Keqiang also said in his speech at the opening of the forum that improving people's lives and livelihoods and economic growth are the common goals for all Asian countries. He envisioned a future where Asian states work together to collectively resist risks and challenges.

The US has threatened to disarm the Democratic People's Republic of Korea of its nuclear assets by force if necessary, whereas China has consistently advocated negotiations, even brokered them. The US withdrew unilaterally from the Joint Comprehensive Plan of Action with Iran and announced sanctions against it, whereas China stands by the international agreement. China widely acknowledges the role of Pakistan in fighting against terrorism. As Chinese State Councilor and Foreign Minister Wang Yi stated after the first Pakistan-China Foreign Ministers Strategic Dialogue in March, 2019, the world should put an end to the double standard it displays toward Pakistan.

http://www.chinadaily.com.cn/global/2019-04/11/content_37457137.htm

Brazilian nuclear policy under Bolsonaro: no nuclear weapons, but a nuclear submarine *The Bulletin of Atomic Scientists, April 12, 2019*

Last October, with 55 percent of the vote, Brazilians elected former army captain Jair Bolsonaro to a four-year term as president. He not only represents an ideological shift after 13 years of center-left administrations but also brings back members of the armed forces to a position of power more than 30 years after the end of Brazil's military dictatorship.

Media coverage has focused on Bolsonaro's populism, his disregard for environmental policies, and his controversial statements about women, homosexuality, and race—which have earned him the nickname “Trump of the tropics.” Once in office, Bolsonaro pushed this reputation even further through his extensive use of social media and the privileged role given to his sons in his administration. But what does his election mean for Brazilian nuclear policy? Brazil's nuclear capabilities. Brazil houses a well-developed nuclear program and is one of the few countries in the world to control the full uranium cycle. It possesses large reservoirs of uranium, graphene, and niobium—materials with possible use in the nuclear industry—and it has two operational atomic power

<https://thebulletin.org/2019/04/brazilian-nuclear-policy-under-bolsonaro/>

Report on Hypersonic Weapons - A Challenge and Opportunity for Strategic Arms Control *UN, April 2019*

A Study Prepared on the Recommendation of the Secretary-General's Advisory Board on Disarmament Matters, In launching his new agenda for disarmament, Securing Our Common Future, Secretary-General António Guterres made the case for the cooperative pursuit of collective security, noting that global insecurity is the paradoxical but inevitable result of each country pursuing security individually.

This paradox is evident in the race, between a small number of States, to attain new long-range delivery systems, namely hypersonic boost-glide systems (commonly known as hypersonic weapons), we are witnessing today. This blinkered pursuit of a novel technology with as yet unproven military utility could have potentially far-reaching and damaging ramifications. Those ramifications remain largely unexamined and almost wholly undiscussed within the multilateral disarmament machinery. This study urges the international community to take steps to remedy this inattention as a priority. Strategic arms control is in crisis.

Despite the clear benefits of cooperative arms limitation endeavours, some influential actors have seemingly turned away from this concept as the surest way to achieve security.

<http://unidir.org/files/publications/pdfs/hypersonic-weapons-a-challenge-and-opportunity-for-strategic-arms-control-en-744.pdf>

Lawrence D. Weiler (1920–2019)

Daryl G. Kimball, Arms Control Association, April 2019

Lawrence D. Weiler, an architect of the first major nuclear arms control, risk reduction, and nonproliferation agreements, died February 24. Throughout his 98 years, Weiler was often in the right place at the right time, including during his service to six presidents, from Dwight Eisenhower to Jimmy Carter.

In the 1960s, Weiler helped establish the Arms Control and Disarmament Agency, and he was a key member of the U.S. negotiating team that concluded the 1963 Hotline Agreement, the first legally binding nuclear risk reduction agreement of its kind. Weiler participated in negotiating the nuclear Nonproliferation Treaty (NPT) from 1966 to 1968. Fifty years later, he shared his thoughts on the NPT's legacy with Arms Control Today.

<https://www.armscontrol.org/act/2019-04/features/lawrence-d-weiler-1920%E2%80%932019>

The NPT and the Conditions for Nuclear Disarmament *Daryl G.*

Kimball, Arms Control Today, April 2019

Fifty years ago, shortly after the conclusion of the 1968 nuclear Nonproliferation Treaty (NPT), the United States and the Soviet Union launched the Strategic Arms Limitation Talks (SALT). Negotiated in the midst of severe tensions, the SALT agreement and the Anti-Ballistic Missile (ABM) Treaty were the first restrictions on the superpowers' massive strategic offensive weapons, as well as on their emerging strategic defensive systems. The SALT agreement and the ABM Treaty

slowed the arms race and opened a period of U.S.-Soviet detente that lessened the threat of nuclear war.

<https://www.armscontrol.org/act/2019-04/features/creating-environment-nuclear-disarmament-striding-forward-stepping-back>

Trump Budget Boosts Nuclear Efforts *Kingston Reif, Arms Control Today, April 2019*

Consistent with the recommendations of the 2018 Nuclear Posture Review (NPR), the Trump administration's fiscal year 2020 budget request would continue plans to expand U.S. nuclear weapon capabilities. The budget submission illustrates the rising cost of the nuclear mission and the challenge those expenses may pose to the administration's other national security priorities.

A Congressional Budget Office report in February estimates that the United States will spend \$494 billion on nuclear weapons from fiscal years 2019 through 2028. That is an increase of \$94 billion, or 23 percent, from the CBO's previous 10-year estimate of \$400 billion, which was published in January 2017. (See ACT, March 2019.) The Trump administration's budget proposal contains increases for several Defense and Energy department nuclear weapons systems. The request does not change the planned development timelines for these programs.

The largest increase sought is for the nuclear weapons account of the Energy Department's semiautonomous National Nuclear Security Administration (NNSA). The budget request calls for \$12.4 billion, an increase of \$1.3 billion above the fiscal year 2019 appropriation and \$530 million above the projection in the fiscal year 2019 budget request. The request includes funds for the continued development of two missile systems with ranges prohibited by the INF Treaty, but despite numerous queries by Arms Control Today and other outlets, the Pentagon has yet to divulge the amount.

<https://www.armscontrol.org/act/2019-04/news/trump-budget-boosts-nuclear-efforts>

P. Op-eds/Reports

A-SAT

Will India's Anti-Satellite Weapon Test Spark an Arms Race in Space? *Malcolm Davis, National Interest, April 3, 2019*

the Trump administration's decision to fast-track US strategy for a return to the moon, aiming for American astronauts to land at the lunar south pole by 2024 (instead of the earlier plan of 2028) caught everyone by surprise—including NASA. The announcement generated intense debate about whether the new timeline is practicable, what it means for NASA's behind-schedule and over-budget Space Launch System rocket, and whether Congress will fully fund such a move. It's clearly designed to achieve a lunar landing in time for the end of what would be Donald Trump's supposed second term in office and, as explained by Vice President Mike Pence, it's set in the context of a new space race against China.

For space watchers, that was exciting enough. But the more dramatic news, which broke late Wednesday evening, was India's test of an anti-satellite weapon (ASAT) in low-earth orbit (LEO). Promoted as a great achievement for India, 'Mission Shakti' involved the destruction of a 740-kilogram microsatellite by a missile carrying an ASAT.

<https://nationalinterest.org/blog/buzz/will-india%E2%80%99s-anti-satellite-weapon-test-spark-arms-race-space-50547>

India's ASAT test is wake-up call for norms of behavior in space

Brian Weeden and Victoria Samson, Space News, April 8, 2019

On March 27, Indian Prime Minister Narendra Modi announced that his country had successfully conducted an anti-satellite (ASAT) test from a launch site on Abdul Kalam Island in the Bay of Bengal. Hailed by Modi as a moment of "utmost pride" and with "a historic impact on generations to come," Mission

Shakti was seen domestically as proof India was a space power on par with the United States, Russia and China. Yet internationally, the test is further evidence of the more complex space domain, the lack of progress on developing norms of behavior for space, and the challenges of ensuring its long-term sustainability.

<https://spacenews.com/op-ed-indias-asat-test-is-wake-up-call-for-norms-of-behavior-in-space/>

Anti-Satellite test can steel India's ballistic missile defences: Chinese blog *Atul Aneja, The Hindu, April 11, 2019*

India's test of an anti-satellite weapon last month has made some experts in China conclude that the trial will feed into New Delhi's bid to firm up its ballistic missile defences.

The article, penned by Shi Yang, described as a foreign relations and military observer, says that so far India has shown the capacity to intercept short-range ballistic missiles at heights ranging from 30 km to 150 km. Its capability to target mid-range missiles has been limited.

The article says that there is an overlap in the ASAT and anti-ballistic missile technology - destroying medium-range missiles is much harder. It is easier to strike a satellite, as its movement along its orbit is predictable and can be monitored over time. But the tasks involved in downing incoming ballistic missiles are far more complex.

<https://www.thehindu.com/news/international/anti-satellite-test-can-steel-indias-ballistic-missiledefences-chinese-blog/article26803333.ece>

Is India's anti-satellite test a game-changer?(Interview) *D. Raghunandan, and Rajeswari Pillai Rajagopalan, The Hindu, April 12, 2019*

On April 1, the Indian Space Research Organisation (ISRO) successfully launched a PSLV C45 rocket with a payload of 29 satellites. Days before this, on March 27, in an operation called 'Mission Shakti', the Defence Research & Development Organisation demonstrated India's ability in

offensive defence capability, using a missile to destroy a satellite in Low Earth Orbit. In a discussion moderated by V. Sudarshan, D. Raghunandan and Rajeswari Pillai Rajagopalan look at India's options and its role in the global governance of outer space. Excerpts

<https://www.thehindu.com/opinion/op-ed/is-indias-anti-satellite-test-a-game-changer/article26810081.ece>

INDIA

Perceptions of India's Nuclear Capability Buildup: Ghost Hunting and a Reality Check

Manpreet Sethi, The Diplomat, April 2, 2019

The basic philosophy of nuclear deterrence in India has not changed, despite recent arguments.

<https://thediplomat.com/2019/04/perceptions-of-indias-nuclear-capability-buildup-ghost-hunting-and-a-reality-check/>

India-Pakistan Aren't Heading For Nuclear War, US Should Calm Down *Shriya Misra, The Quint, April 3, 2019*

It is only natural to be a bit alarmed by the tensions between the nations in light of the airstrikes and counter airstrikes that followed the 14 February Pulwama attack. However, there are some rather emphatic echoes that this will lead to nuclear detonation. These echoes believe that an escalation towards nuclear war is ominously looming in the horizon. A lot of this narrative has petered down from a body of literature by those who believe that nuclear proliferation by developing countries, especially South Asia, is far more dangerous than nuclear proliferation per se.

<https://www.thequint.com/voices/opinion/india-pakistan-tension-airstrikes-potential-nuclear-war-united-states>

South Asia's Overlooked Nuclear Crisis *Dilip Hiro, The Nation, April 4, 2019*

While few were watching, India and

Pakistan may have just narrowly avoided a nuclear confrontation. The casus belli would undoubtedly be the more than seven-decades-old clash between India and Pakistan over the contested territory of Kashmir. Like a volcano, this unresolved dispute rumbles periodically – as it did only weeks ago – threatening to spew its white-hot lava to devastating effect not just in the region but potentially globally as well.

The trigger for renewed rumbling is always a sensational terrorist attack by a Pakistani militant group on an Indian target. That propels India's leadership to a moral high ground. From there, bitter condemnations of Pakistan are coupled with the promise of airstrikes on the training camps of the culprit terrorist organizations operating from the Pakistan-controlled part of Kashmir. As a result, the already simmering relations between the two nuclear-armed neighbors are quickly raised to a boiling point. This, in turn, prompts the United States to intervene and pressure Pakistan to shut down those violent jihadist groups. To placate Washington, the Pakistani government goes through the ritual of issuing banning orders on those groups, but in practice, any change is minimal.

<https://www.thenation.com/article/south-asia-overlooked-nuclear-crisis-india-pakistan-kashmir/>

Is It Hyperbolic To Compare Artificial Intelligence To Nuclear Weapons? *Akshaya Asokan, Analytics*

India, April 9, 2019

As development in the field of artificial intelligence witnesses revolutionary changes, several noted names and visionaries have warned the world about the grave consequences of AI. In fact, the reliance of AI is being likened to something as lethal as nuclear weapons. Reiterating his position on the dangers of AI, founder and former CEO of Microsoft, Bill Gates, in a recent interaction at Stanford University compared AI to nuclear weapons. Stating that technology to be both promising and dangerous Gates said, "The world hasn't had that many technologies that are both promising and dangerous. We had nuclear

weapons and nuclear energy, and so far so good."

<https://www.analyticsindiamag.com/is-it-hyperbolic-to-compare-artificial-intelligence-to-nuclear-weapons/>

PAKISTAN

India seen pursuing thermonuclear weapons *Hasan Ehtisham, Daily Times, April 9, 2019*

India continues to adhere to an unrealistic strategy of massive retaliation as the corner-stone of its so-called No First Use doctrine. Experts in New Delhi are suggesting that a fully fledged thermonuclear weapons programme is a crucial part of making deterrence more flexible. India claimed on May 11, 1998, to have detonated a thermonuclear bomb as a part of its Operation Shakti-1. However, several international experts suspect that the test was a failure at that the fusion stage. Some Indian scientists too believe that the fusion device failed to produce the anticipated results.

<https://dailytimes.com.pk/374589/india-seen-pursuing-thermonuclear-weapons/>

US

Add two more legs to our nuclear triad, or we'll lose the next war

Peter Pry, The Hill, April 4, 2019

The strategic Nuclear Triad of bombers, land-based intercontinental ballistic missiles (ICBMs) and ballistic missile submarines for decades has deterred World War III, and remains indispensable. But today, Triad survivability is doubtful. The Triad should become a strategic "pentagon," including active and passive defenses to ensure Triad and societal survivability, about which more later. Each Triad leg has unique characteristics contributing to deterrence. For example: Bombers, unlike launched missiles, can be recalled and their nuclear mission canceled.

ICBMs, the most responsive leg of the

Triad, can be re-targeted most quickly, launched most quickly and arrive on target fastest. Submarines are the most survivable leg of the Triad, ensuring a U.S. retaliatory capability, even if bombers and ICBMs are destroyed. Collectively, the three legs make a deterrent even greater than the sum of their parts, because of the complexity of coordinating a successful attack on all three simultaneously, and enabling U.S. responses to a broad range of scenarios.

<https://thehill.com/opinion/national-security/438161-add-two-more-legs-to-our-nuclear-triad-or-well-lose-the-next-war>

Nuclear issues sharpen focus on US-Saudi relations *Simon Henderson, The Hill, April 4, 2019*

A nuclear war is in prospect between Congress and the Trump administration. Tension is high. Skirmishes have begun. But the political battle is not being fought with nukes. Rather, it is about nukes — Saudi nukes. The word “Saudi” is cropping up in many headlines these days. Perhaps too many. The Saudis likely are players in the “deal of the century” — the yet-to-be-announced Middle East plan, where their financial weight, regional prestige and religious significance could be crucial to U.S. diplomacy.

But this role runs in parallel with the challenge of coping with the notoriety gained by imprisoning and allegedly abusing women political activists, and the cause celebre of the murder and dismemberment of dissident Saudi journalist Jamal Khashoggi.

<https://thehill.com/opinion/international/436799-nuclear-issues-sharpen-focus-on-us-saudi-relations>

Pennsylvania will benefit from preserving its nuclear power plants *John Parsons and Jacopo Buongiorno, Penn Live, April 5, 2019*

Pennsylvania confronts a vital decision about the place nuclear power will have in the state’s future. Today, five nuclear plants

supply nearly 40% of the state’s electricity generation. Importantly, they supply about 90% of the zero-carbon generation. However, structural problems in the market for electricity are forcing the imminent closure of two of the plants. The Three Mile Island plant is scheduled to close this September. The owner of the Beaver Valley plant is currently in bankruptcy and has announced a 2021 closure; others are projected to follow.

<https://www.pennlive.com/opinion/2019/04/pennsylvania-will-benefit-from-preserving-its-nuclear-power-plants.html>

Retiring our nuclear plants would be a costly mistake, former federal energy official says *Susan Tierney, New Jersey, April 9, 2019*

New Jersey has seen the effects of the changing climate, and the state is stepping up to address it in a big way. The state’s new clean energy law positions renewable energy and energy efficiency as priority climate solutions. These technologies are central to reducing carbon emissions and limiting the worst effects of climate change.

The prospect of a world powered by renewables is exciting, especially as costs keep falling. Since 2000, U.S. wind and solar capacity has grown 45-fold and 80-fold, respectively. But even so, transitioning to 100 percent renewables is easier said than done. Solar and wind together account for just 8 percent of the nation’s power supply, and scaling them up will take time and money. By contrast, America’s nuclear plants provide one-fifth of total electricity and nearly two-thirds of carbon-free power. Nuclear plants operate around the clock, and provide needed electricity supply as entrepreneurs and investors come up with new ways to meet consumers’ needs when the wind isn’t blowing or the sun isn’t shining, and as other carbon-free technologies emerge.

<https://www.nj.com/opinion/2019/04/retiring-our-nuclear-plants-would-be-a-costly-mistake-former-federal-energy-official-says.html>

Trump's Nuclear Wishlist is Overkill *Global Zero, April 10, 2019*

The Trump Administration released its Fiscal Year (FY) 2020 budget, requesting \$750 billion for national security, a 4.7 percent increase over last year. The administration's request keeps the U.S. on track to spend an estimated \$1.7 trillion modernizing the nuclear arsenal and adheres to the guidance of the 2018 Nuclear Posture Review (NPR) to expand the U.S. nuclear arsenal. The request for the National Nuclear Security Administration, the agency overseeing U.S. nuclear warheads (the explosive packages), alone includes \$12.4 billion for nuclear weapons research and production, a dramatic 11.8 percent increase from the previous year's budget.

In 2018, Global Zero released its Alternative Nuclear Posture Review (Alt-NPR), outlining a realistic U.S. nuclear arsenal based on a deterrence-only role, meaning the sole purpose of the nuclear force would be to deter a nuclear attack against the United States and its allies, and that the United States would commit to never using nuclear weapons first. With a deterrence-only strategy, the United States can meet any reasonable definition of deterrence with approximately one-third of the current force, pending the elimination of all nuclear weapons. This would not only reduce the risk of nuclear use, but it would free up billions of dollars in unnecessary spending.

<https://www.globalzero.org/updates/trump-nuclear-wishlist/>

EUROPE

It's not a bad thing if European economies start embracing industrial policies again *Ding Yifan, Global Times, April 1, 2019*

Many Western media have recently reported that the EU is embracing industrial policy again, saying that the EU is inclined to accept the French proposal to carry out European industrial policies to reinvigorate its industry and strengthen the foundation of Europe's economic recovery.

Under the guidance of the state intervention theory of "Gaullism," the French

government provided loan interest rate subsidies to select companies and established state-owned enterprises to encourage technological development since the 1960s. Thanks to this policy, France successfully developed new technologies, including high-speed rail, civil nuclear power plants, aerospace and aviation in the 1970s, quickly becoming a global leader in many industrial sectors, just two or three decades after the World War II.

<http://www.globaltimes.cn/content/1144285.shtml>

Viewpoint: Finland seeks to streamline licensing *World Nuclear News, April 8, 2019*

Finnish power companies are looking for ways to streamline licensing and qualification processes through a new project started last year called KELPO. The first part of the project has been completed and it is moving ahead to the pilot phase, writes Tuomo Huttunen, senior advisor on nuclear power at Finnish Energy, which represents about 260 companies that produce, acquire, transmit and sell electricity, gas, district heat and district cooling and offer related services. The Finnish nuclear fleet is well-known for its high safety standards and continuous improvements in plant safety and reliability during the past decades of plant operation. As nuclear fleets are facing lifetime extensions and modernisation, it's evermore necessary to be able to exploit standard components, such as valves and motors, used in other safety and reliability-critical industries.

The Finnish nuclear industry, along with its European counterparts, wants to secure an efficient and working supply chain for the modernisation and replacement of safety related structures, systems and components in its nuclear power plants. Furthermore, the heavy and long licensing process, even for components in lower safety classes, needs further development in order to be more efficient.

<http://world-nuclear-news.org/Articles/VIEWPOINT-Finland-seeks-to-streamline-licensing>

RUSSIA

Russia's Military Mission Creep Advances to a New Front: Africa *Eric Schmitt, NY Times, April 1, 2019*

Russia has been steadily expanding its military influence across Africa, alarming Western officials with increasing arms sales, security agreements and training programs for unstable countries or autocratic leaders. In the Central African Republic, where a Russian has been installed as the president's national security adviser, the government is selling mining rights for gold and diamonds at a fraction of their worth to hire trainers and buy arms from Moscow. Russia is seeking to ensconce itself on NATO's southern flank by helping a former general in Libya fight for control over his government and vast oil market.

<https://www.nytimes.com/2019/03/31/world/africa/russia-military-africa.html>

WEST ASIA

Bad time to nuclearize Saudis: US Senators warn Trump *Iran Daily, April 3, 2019*

In a letter drafted to US Energy Secretary Rick Perry on Tuesday, Senators Robert Menendez, the senior Democrat on the Senate Foreign Relations Committee, and Republican committee member Marco Rubio questioned the recent approvals for American companies to share nuclear energy information with Saudi Arabia, Press TV reported. The senators specifically pointed to Riyadh's insistence on forgoing Washington's so-called 123 agreement, a set of nonproliferation standards required by Section 123 of the US Atomic Energy Act of 1954. In its never ending quest for more money, the Trump administration resumed the talks and is reportedly considering a deal that would allow Riyadh to enrich and reprocess uranium and pave the way for American companies to build nuclear reactors in the kingdom. Financially, the deal is assumed to be lucrative enough to match the money-driven politics of Trump, a businessman-turned-politician who is not afraid of overstepping boundaries for more dollars.

Rubio and Menendez warned in their letter that it was not a good idea to provide Saudis with nuclear technology or know-how amid Congress' attempts to reevaluate ties with the kingdom in the wake of its "many deeply troubling actions." "The Kingdom has engaged in many deeply troubling actions and statements that have provoked alarm in Congress and led lawmakers to begin the process of reevaluating the US-Saudi relationship and our long-term stability and interests in the region," read the letter.

<http://www.iran-daily.com/News/240885.html>

Iran floods force evacuations as US denies sanctions are harming aid efforts *The National, April 3, 2019*

Iranian authorities ordered scores of villages to be evacuated on Tuesday as the effects of severe flooding spread further across the country. Meanwhile, Washington denied claims by Tehran that US sanctions were slowing aid work. At least 47 people were killed in the past two weeks by flash floods after the worst rain in Iran for at least a decade. The armed forces had intensified their relief work, with military and Red Crescent helicopters taking part in rescue operations.

"Blocked equipment includes relief choppers. This isn't just economic warfare, it's economic terrorism," Mr Zarif said on Twitter. In a response that Mr Zarif described as fake news, US Secretary of State Mike Pompeo said Washington was ready to help through the Red Cross and Red Crescent. Mr Pompeo accused Iran's clerical establishment of "mismanagement in urban planning and emergency preparedness". "The regime blames outside entities when, in fact, it is their mismanagement that has led to this disaster," he said. Germany and Britain, also signatories to the nuclear deal, offered humanitarian aid including 40 boats, Irna reported.

<https://www.thenational.ae/world/mena/iran-floods-force-evacuations-as-us-denies-sanctions-are-harming-aid-efforts-1.844405>

Saudi nuclear program accelerates, raising tensions in a volatile region

Tim Lister and Tamara Qiblawi, CNN, April 7, 2019

On the outskirts of Riyadh, a building site is quickly being transformed into the birthplace of Saudi Arabia's quest for nuclear power, a bid that has sparked concern in the US Congress and fury in Tehran. New satellite imagery shows that construction on an experimental reactor is making "expeditious" progress – just three months after the Kingdom announced plans to build it, according to former director for nuclear inspections at the International Atomic Energy Agency (IAEA), Robert Kelley.

Kelley estimated that the reactor could be completed in "nine months to a year."

The Kingdom has been open about its nuclear program with the IAEA, which sent a team to Saudi Arabia last July to check on building plans. It has repeatedly pledged that the program is peaceful. But Crown Prince Mohammed bin Salman said last year that "without a doubt if Iran developed a nuclear bomb, we will follow suit as soon as possible." Also raising concern among industry experts and some in Congress is the Saudi insistence that it should be allowed to produce its own nuclear fuel, rather than import it under strict conditions. In an interview last year, Saudi Energy Minister Khalid al Falih said: "It's not natural for us to bring enriched uranium from a foreign country to fuel our reactors," citing the country's uranium reserves.

<https://edition.cnn.com/2019/04/06/middleeast/saudi-arabia-nuclear-reactor-iran-tensions-intl/index.html>

KAIST-KU Joint Research Center opens in UAE

Ock Hyun-ju, April 9, 2019

Korea Advanced Institute of Science and Technology and United Arab Emirates' Khalifa University of Science and Technology opened the KAIST-KU Joint Research Center in Abu Dhabi, as part of their efforts to enhance cooperation in the wake of "Industry 4.0," KAIST said Tuesday. The two universities plan to

actively pursue joint research projects in sectors such as smart health care and smart transportation platforms to better prepare for the challenges of the era of artificial intelligence.

http://www.koreaherald.com/view.php?ud=20190409000738&ACE_SEARCH=1

NORTH KOREA

An Uncertain Future for North Korean Talks

Kelsey Davenport, Arms Control Today, April 2019

North Korean leader Kim Jong Un may be losing interest in diplomacy with the United States, according to officials in Pyongyang, creating uncertainty around the future of U.S.-North Korean negotiations. If the two sides do resume talks, diplomats will need to overcome persistent differences that contributed to the abrupt end of the second summit between Kim and U.S. President Donald Trump in Hanoi. Trump and Kim initially expressed interest in continuing diplomacy after the Hanoi meeting, but Choe Son Hei, North Korea's vice minister for foreign affairs, said on March 15 that Pyongyang might halt negotiations because Kim may have "lost the will" to continue talks. She also raised the prospect of North Korea resuming intercontinental ballistic missile (ICBM) tests, which are prohibited by UN Security Council resolutions, if Washington does not reward the North's current testing freeze with a reciprocal step that addresses North Korean concerns.

North Korea announced in April 2018 a voluntary moratorium on nuclear and long-range missile tests. Trump has highlighted the testing suspension as an indicator of successful talks and announced on Feb. 28 that Kim had agreed to continue abiding by the moratorium. Choe's remarks implied that North Korea would undo additional steps it took as part of the process, including the partial dismantlement of its satellite launch facility and nuclear test site, if the United States refuses to take any actions. Satellite imagery from early March reportedly

appears to show that North Korea has already reconstructed elements of the Sohae Satellite Launch facility that were dismantled last year. Imagery also suggested that North Korea may be preparing for a launch at the site, but South Korean Defense Minister Jeong Kyeong-doo said on March 18 that the activity at the site “should not be judged as activity preparing for a missile launch.”

“The nuclear and ballistic missile programs of [North Korea] remain intact and the country continues to defy Security Council resolutions,” the report says.

<https://www.armscontrol.org/act/2019-04/news/uncertain-future-north-korean-talks>

Not easy for US-DPRK to make real headway *China Daily, April 14, 2019*

Democratic People’s Republic of Korea leader Kim Jong-un has said he is only interested in meeting US President Donald Trump again if the United States comes to talks with the right attitude. Pyongyang demands is Washington forsaking its “maximum pressure” and demonstrating sufficient goodwill by relieving, or completely rolling back, sanctions, putting an end to the state of war, or, even better, offering economic incentives.

After making a couple of reconciliatory gestures, such as freezing nuclear and missile tests and demolishing some test sites, Pyongyang wants something in return. Which is not unreasonable, but so far has not been forthcoming. Washington should not anticipate Pyongyang denuclearizing in a wholesale, one-off manner. After all, its nuclear missile programs are the sole bargaining chip it has in its hands. Rather than surrender its nuclear arsenal in a wholesale manner, it is in Pyongyang’s best interests to turn its engagement with Washington into an arms control regime between two nuclear states. It may be that a third Trump-Kim summit happens. But meaningful headway in denuclearization entails more than what the two sides appear ready to offer at the moment.

<http://www.chinadaily.com.cn/a/201904/14/WS5cb339eca3104842260b61b5.html>

SOUTH KOREA

Concerns on alliance *Korea Herald, April 3, 2019*

The Korea-US military alliance is showing signs of abnormality. The US Marine Corps deployed 14 aircraft from Hawaii to the Korean Peninsula for training last month. This came to light through a statement released by Lt. Gen. Lewis A. Craparotta, commander of the US Marine Forces Pacific, for a security seminar in Seoul on Tuesday. Military authorities in Seoul did not disclose the training. The exercise was exceptional. The US Marine Corps usually dispatches aircraft to the Korean Peninsula from US bases on the Japanese island of Okinawa or its own territory of Guam. Military experts here regard the training as an effectively independent US Marine exercise.

US President Donald Trump once said he would cancel military exercises between the US and South Korea because they were “tremendously expensive,” but now the US conducts effectively independent military training and activity at its own expense. Washington may be considering multiple objectives, but whatever its intentions are, such a move is undesirable for South Korea, as it could loosen its alliance with the US. A military alliance between two states is a pledge to fight together if either side is attacked. To win a fight, they should train together and maintain combat readiness.

http://www.koreaherald.com/view.php?ud=20190403000444&ACE_SEARCH=1

It’s urgent, too *Korea Herald, April 7, 2019*

South Korea should not ignore N. Korean refugees, human rights issues. The North Korean nuclear threat should be tackled as soon as possible. However, the security issue should not distract South Korea and the international community from addressing refugee and human rights problems in the North.

Incidents involving defectors have raised concerns that the South Korean

government is not paying enough attention to the plight of North Koreans trying to escape tyranny and poverty in their country. A worrisome case occurred in Vietnam early this month. Three North Korean defectors who attempted to enter the Southeast Asian country on their way to South Korea were caught on the border with China.

http://www.koreaherald.com/view.php?ud=20190407000113&ACE_SEARCH=1

JAPAN

INTERVIEW/ Franklin Miller: U.S. won't ask Japan to deploy new missiles *Kenji Minemura, The Asahi Shimbun, April 9, 2019*

Q: Japan could be a strong candidate for the U.S. deployment of their INFs.

A: U.S. proposal to put INF-type weapons on Japanese soil would create a huge problem for the Japanese government, huge political problem. It would be a very difficult fight for the government, and it would create divisions in Japanese society about pro-U.S. and anti-U.S. That's not very helpful to either Washington or Tokyo. Nobody wants to do that. It's obviously not going to be new missiles in Japan. Even without nuclear warheads.

Q: How could Japan and the U.S. counteract Chinese missiles?

A: If we continue to proceed, as I think we will, with boost-glide vehicles. There's a new test, I think, next year, 2020. We can have those things in the force by 2025. Those are powerful conventional weapons.

<http://www.asahi.com/ajw/articles/AJ201904090041.html>

Interview/ Hirofumi Tosaki: Japan, U.S., China Need To Talk About Arms Control In Asia *The Asahi Shimbun, April 9, 2019*

Q: How do you view the concerns about arms expansion as well as the possibility of creating a new arms control framework?

A: It is China that is posing a challenge to the existing international/regional order by strengthening its military capabilities, so the United States and Japan need to implement countermeasures. On the other hand, if the United States and Japan bolster their defense capabilities, there is the possibility that China could take additional measures.

But for the near future, it is difficult to foresee the creation in Asia of an arms control framework that would place numerical limits or reductions on missiles. It would be inconceivable for China to abandon its superiority to the United States in terms of intermediate-range missile capability. Meanwhile, the United States possesses sea-launched cruise missiles as well as air power. China would argue that those capabilities also be included in any arms control framework in Northeast Asia, but the United States would resist such a proposal. The most urgent issue is to reduce the risk of the use of missiles by, among others, increasing transparency of China's nuclear weapon and missile capabilities and building up a sense of trust and confidence among the countries involved in security issues in this region.

Q: What role should Japan play?

A: If the INF Treaty should become invalidated, a situation would arise that could lead to the United States deploying missiles in Northeast Asia. There would be a need for strategic discussions between Japan, the United States and China in light of a new strategic situation. Dialogue should be started to talk about such issues, for example, the threat posed by missiles, the possibility of unintended risks as well as the objective of missile development. No progress will be made in creating a new arms control framework without the start of dialogue.

<http://www.asahi.com/ajw/articles/AJ201904090053.html>

Contribute Articles

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