

# Nuclear, Missile & Space Digest

Volume 10, Number 04

A Fortnightly Newsletter from the Indian Pugwash Society

December 31, 2018

**Convener (Interim)**

**&**

**Editor**

**Dr Rajiv Nayan**

**Executive Council**

**Lt Gen (Dr) B S Malik,  
PVSM, AVSM (Retd)**

**Prof Amitav Mallik**

**Prof Rajesh Rajagopalan**

**Shri M V Rappai**

**Prof Varun Sahni**

**Contents**

**A. India**

- India's oil imports from Iran rise 36% in face of US bans
- India close to sealing Rs 23,000 crore lease deal for Russian N-sub
- Cabinet approves Agreement between India and Algeria on Cooperation in the field of Space Sciences, Technologies and Applications
- Cabinet approves MoU between India and Morocco for Cooperation in the Peaceful Uses of Outer Space
- Cabinet approves MoU between India and Russia on Joint Activities under Human Spaceflight Programme
- Cabinet approves MoU between India and Tajkistan on Cooperation on Peaceful uses of Space Technology for Development
- Successful Test Firing of Long-Range Missile Agni V
- Atomic Energy Production
- Launch of Satellites
- Agreement with ROSCOSMOS
- French Minister for Europe and Foreign Affairs calls on PM
- Translation of Press Statement by External Affairs Minister after meeting with Foreign Minister of France
- Press Statement by External Affairs Minister after 9th India-Korea Joint Commission Meeting
- 15,000 tonnes of uranium needed to achieve supply security of fuel for nuclear plants

**B. US & Europe**

- UPDATE 2-France reviews fast-breeder nuclear reactor project
- US lawmakers tangle over nuclear arsenal, Russia treaties
- Trump says next meeting with North Korea's Kim likely in early 2019
- Gen. Hyten defends updating U.S. nuclear arsenal, aims to 'strike fear' in potential enemies
- Donald J. Trump? (@realDonaldTrump)
- U.S. gives Russia 60 days to comply with nuclear treaty
- Poland wants to avoid financing nuclear power with debt



**Indian Pugwash Society**

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

Tel. No (91-11) 2671-7983

Fax No. (91-11)2615-4192

- Scientists Learn How to Predict Space Radiation Levels
- Trump urges China to help with North talks
- US wants brighter future for NK after its denuclearization: official
- Bulgaria hopes to pick investor for nuclear plant by end of 2019
- TVA to keep cutting carbon with natgas, nuclear power plants: CEO
- Fusion reactions project attracts UK funding
- Index groups face fight over controversial weapons, Financial Times
- IAEA Concludes Long-Term Operational Safety Review at Armenia's Nuclear Power Plant
- Building new nuclear plants in France uneconomical -environment agency
- U.S. wants U.N. to ban nuclear ballistic missile work by Iran
- Nato is the best defence against Russian aggression, Financial Times
- Idaho test reactor is pivotal in US nuclear power strategy

### C. Russia & Central Asia

- Putin reiterates support for Iran deal
- WATCH Russia firing off upgraded nuke interceptor
- Soyuz resumes crew flights after launch failure
- Argentina, Russia expand nuclear energy cooperation
- Don't push Iran towards exiting JCPOA, Russia tells the U.S.
- America and Russia, the world's two biggest nuclear powers, are threatening to make more weapons.
- Kremlin says U.S. ultimatum on nuclear treaty is a tactical ploy
- Russia says U.S. has shown no evidence it is in breach of nuclear treaty
- Russia will build missiles if US leaves treaty, Putin warns
- Ukraine Can Create Its Own Nukes, Former Envoy to NATO Claims
- Russia to protect potential US targets if Washington pulls out of INF Treaty - official
- Russia deploys nuclear weapon carriers in occupied Crimea
- Russian nuclear-capable bomber aircraft fly to Venezuela, angering U.S.
- Russia claims US ignoring outreach on nuclear disagreement
- Russia proposes UN resolution to preserve INF treaty

### D. China

- New device to help China produce its own nano products
- CNNC launches R&D centre for fuels and materials  
China reveals breakthroughs in nuclear safety, quantum computing
- Operation Z machine: China's next big weapon in the nuclear 'arms race' could create clean fuel - or deadly bombs
- China launches world's first EPR nuclear project in Taishan
- Delayed but still a world first: new breed of nuclear reactor powers up in southern China
- China Flight Tests New Submarine-Launched Missile

## E. East & South East Asia

- China, N. Korea meet amid stalled disarmament talks
- North Korean minister reaffirms denuclearization commitment in Beijing talks
- Allies' top diplomats pledge to maintain close coordination on NK
- S. Korea eyes deal to buy U.S. missiles for Aegis destroyers
- New Taipei mayor calls for nuclear waste final site solution

## F. Japan

- Japan to scrap Turkey nuclear project
- Ministry sees Monju successor reactor running by mid-century
- With fast reactor plan, ministry refuses to admit failure of Monju
- 50% in nuclear industry: Energy plan for 2030 is 'unrealistic'
- Distinguished peace leader Thurlow pleads cause in Tokyo
- Japan dropping nuclear plant export to Turkey over rising costs
- IAEA Completes Nuclear Security Advisory Mission in Japan
- Japan's Reports on Conditions at TEPCO's Fukushima Daiichi Nuclear Power Station
- Conventional SDF tactics useless against cyber-attacks
- Koizumi blasts Abe's 'judgment' in plan to revise Constitution

## G. Iran

- Salehi: Iran-Japan nuclear safety cooperation to continue
- Zarif meets top European diplomats in Geneva
- Iran responds to Pompeo: UN has not banned Iran's missile program or tests
- Zarif: U.S. foreign policy based on surrealism
- U.S. propaganda war against Iran doomed to fail
- JCPOA parties after compensating for U.S. pullout: Araqchi
- Iran vows to continue its missile tests
- Rezaee urges Europe to stand up to U.S.
- European financial mechanism with Iran to be announced soon: Araqchi
- Rouhani to U.S: No oil will be exported from Persian Gulf if Iran's oil sale halted
- U.S. made 11 attempts to negotiate with Iran in last two years
- 'EU failed to make tangible efforts to save nuclear deal'
- Iran says has no plan to have missiles capable of carrying nuclear warheads
- Iran won't discuss its OPEC quota while under sanctions
- Iran confirms ballistic missile test
- US criticized at UNSC for pulling out of Iran deal as members stress JCPOA full implementation

## H. West Asia & Africa

- Murder of Khashoggi has hardened Congress resistance to nuclear agreement with KSA: Daryl Kimball
- Netanyahu Meets Pompeo in Brussels Along With Mossad Chief
- South Africa axes board at state nuclear firm Necsa
- Two missile launchers found in Yemen appear to be from Iran: U.N
- Hezbollah Once Again Threatens Nuclear Terror against Israel

## I. Pakistan

- Kanupp-2 to come online in Dec 2020
- War between N-powers suicidal: Qureshi

## J. Misc/Global

- Bruce and Framatome sign CAD18.7 million MoU
- Nuclear industry decline inevitable global trend: expert
- Brazil energy minister favors more nuclear power but not hydro: report
- New IAEA Database to Help Countries Tackle Growing Obesity Crisis
- Global Uranium Supply Can Meet Projected Demand, NEA and IAEA Say in New Report
- Brazil take first step in program to join nuclear-powered sub club

## K. Opinion/Reports

- What was so secret? United States presents its theory of the INF violation
- Iran's missile test: a provocation, not a violation
- Incompatible with justice
- Analysis: Should Israel take its nukes out of the basement?, World Israel News
- Disarmament: The forgotten premises of non-proliferation, Tehran Times
- How Nuclear, Batteries and Energy Storage Can Build a Carbon-Free Future
- Once nuclear's strongest booster, China is growing wary about its cost and safety.
- Beijing not interested in any 'Cold War'
- New US-Russia nuclear arms race looms
- Abraham M. Denmark on Taiwan: US-China relations in search of a foundation
- Don't Tear Up This Treaty
- How the India-Pakistan Conflict Leaves Great Powers Powerless
- Commentary: Why Europe fears collapse of the Iran nuclear deal
- China's losing its taste for nuclear power. That's bad news.
- Viewpoint: The logic of nuclear power for Central Asia

## A. India

### **India's oil imports from Iran rise 36% in face of US bans** *Iran Daily, November 28, 2018*

India has reported a whopping jump in oil imports from Iran in October in face of US sanctions that officials in Washington earlier said were meant to bring the Islamic Republic's crucial sales of oil to zero. India's official figures show the country imported as much as 2.57 million tonnes of oil worth an overall of \$1.42 billion from Iran over the past month.

The figure marked an increase of 36 percent over the same period last year when a total of 1.89 million tonnes were shipped to India from Iran's Persian Gulf ports. The administration of US President Donald Trump launched the second wave of sanctions against Iran from November 5 in which a universal ban on the country's oil exports was cited as a primary objective, Presstv reported.

<http://www.iran-daily.com/News/234966.html>

### **India close to sealing Rs 23,000 crore lease deal for Russian N-sub** *Sandeep Unnithan, India Today, December 4, 2018*

The photo backdrop to Admiral Sunil Lanba's annual Navy Day press conference on December 3 was a timely one. It showed a submerged Akula class nuclear powered attack submarine, firing a missile. Talks of leasing another Akula-1 class SSN from Russia to replace the INS Chakra at the end of its ten year lease, have reached a crescendo within the Navy in recent weeks.

Last week, a naval delegation led by Inspector General (Nuclear Safety) Vice Admiral Soonil V Bhokare returned after a tour of Russia. They inspected two Akula-1 class submarines, the Bratsk and the Samara, laid up for a deep refit at the Zvezdochka shipyard in the Arctic port of Severodvinsk. The delegation also included a Joint Secretary (Finance) in the MoD discussed the lease of one of these submarines reportedly for USD 3.3 billion (Rs 23,000 crore).

The Indian side is believed to have agreed to this amount and this could be the biggest defence deal after the two countries following the USD 5.4 billion (Rs 40,000 crore) purchase of five S-400 air defence missile systems in October and a USD 1.5 billion deal to buy two Admiral Grigovich class frigates from Russia.

<https://www.indiatoday.in/india/story/india-close-to-sealing-rs-23-000-crore-lease-deal-for-russian-n-sub-1401875-2018-12-04>

### **Cabinet approves Agreement between India and Algeria on Cooperation in the field of Space Sciences, Technologies and Applications** *PIB Delhi, December 6, 2018*

The Union Cabinet chaired by Prime Minister Shri Narendra Modi has been apprised of Agreement between India and Algeria on Cooperation in the field of Space Sciences, Technologies and Applications. The Agreement was signed at Bengaluru on 19<sup>th</sup> September 2018. This Agreement shall enable pursuing the following potential interest areas of cooperation such as, space science, technology and applications including remote sensing of the earth; satellite communication and satellite based navigation; Space science and planetary exploration; gse of spacecraft and space systems and ground system; and application of space technology.

The Agreement would lead to set up a Joint Working Group, drawing members from DOS/ISRQ, and the Algerian Space Agency (ASAL), which will further work out the plan of action including the time-frame and the means of implementing this Agreement. Signing of the Agreement will strengthen the cooperation between India and Algeria, and provide impetus to explore newer research activities and application possibilities in the field of remote sensing of the earth, satellite navigation, space science and exploration of outer space. The Agreement would lead to development of joint activity in the field of application of space technologies for the benefit of humanity. Thus all sections and regions of the country will get benefited.

India and Algeria have been pursuing 'commercial' interactions in the field of space, Antrix Corporation Limited has been interacting with Algerian officials towards establishment of ground station, and launch of satellites (3 micro-satellites and one nano-satellite of Algeria were launched by PSLV during 2010-2016). Algeria expressed interest to pursue space cooperation with India through diplomatic channels. In December 2014, MEA requested tSRO / DOS to consider Algeria's proposal for entering into an Inter-Governmental Agreement (IGA) for space cooperation and forwarded the draft agreement, provided by Algeria.

<http://pib.nic.in/PressReleaseDetail.aspx?PRID=1554946>

### **Cabinet approves MoU between India and Morocco for Cooperation in the Peaceful Uses of Outer Space**

*PIB, December 6, 2018*

The Union Cabinet chaired by Prime Minister Shri Narendra Modi has been apprised of Memorandum of Understanding (MoU) between India and Morocco for Cooperation in the Peaceful Uses of Outer Space. The MoU was signed at New Delhi on 25<sup>th</sup> September 2018.

This MoU shall enable the following potential interest areas of cooperation such as, space science, technology and applications including remote sensing of the earth; satellite communication and satellite based navigation; Space science and planetary exploration; use of spacecraft and space systems and ground system; and application of space technology; and The MoU would lead to set up a Joint Working Group, drawing members from DOS/ISRO and Royal Centre for Remote Sensing (CRTS) and the Royal Centre for Space Research and Studies (CRERS), which will further work out the plan of action including the time-frame and the means of implementing the MoU.

Morocco expressed interest in cooperation with India in the field of space in early 1990s, ISRO and Centre Royal de Tele detection Spatial (CRTS-Royal Centre for Remote

Sensing) have exchanged draft and arrived at a mutually agreed version of the Memorandum of Understanding for space cooperation in 1998, However, this has not materialized due to the cancellation of the visit by VVIP from Morocco side. Subsequent attempts by MEA to sign this MoU did not fructify.

Indian Ambassador to Morocco has negotiated an updated version of this MoU at Government level and shared with ISRO, The draft inter-Governmental MoU was by ISRO and expressed its readiness to sign this MoU on September 25, 2018 during the visit of Moroccan Minister in charge of Defence Administration

<http://pib.nic.in/PressReleaseDetail.aspx?PRID=1554948>

### **Cabinet approves MoU between India and Russia on Joint Activities under Human Spaceflight Programme**

*PIB, December 6, 2018*

The Union Cabinet chaired by Prime Minister Shri Narendra Modi has been apprised of Memorandum of Understanding (MoU) between India and Russia on Joint Activities under Human Spaceflight Programme. The MoU was signed on 15<sup>th</sup> October 2015 at New Delhi.

Signing of the MoU will strengthen the cooperation between India and Russia and would provide impetus to develop the technologies and advanced systems required for the human space flight programme like radiation shielding, life support systems, crew module, rendezvous and docking systems, space suit, training for astronauts etc.

The MoU would lead to develop a joint activity in the field of application of space technologies for the benefit of humanity. It will lead to setting up of a Joint Working Group, which will further work out the plan of action including the time-frame and the means of implementing the provisions of this Agreement.

<http://pib.nic.in/PressReleaseDetail.aspx?PRID=1554954>

## **Cabinet approves MoU between India and Tajkistan on Cooperation on Peaceful uses of Space Technology for Development** *PIB,*

*December 6, 2018*

The Union Cabinet chaired by Prime Minister Shri Narendra Modi has been apprised of Memorandum of Understanding (MoU) between India and Tajkistan on Cooperation on Peaceful uses of Space Technology for Development. The MoU was signed on 8<sup>th</sup> October 2018 at Dushanbe, Tajkistan.

This MoU shall enable pursuing the following potential interest areas of cooperation such as, remote sensing of the earth; satellite communication and satellite based navigation; Space science and planetary exploration; use of spacecraft and space systems and ground system; and application of space technology. The MoU would lead to set up a Joint Working Group, drawing members from DOS/ISRO and the State Committee of Land Management and Geodesy of Republic of Tajikistan, which will further work out the plan of action including the time-frame and the means of implementing this MoU.

The signed MoU will provide impetus to explore newer research activities and application possibilities in the field of remote sensing of the earth, satellite navigation, space science and exploration of outer space. The MoU would lead to development of joint activity in the field of application of space technologies for the benefit of humanity. It will lead to setting up of a Joint Working Group, which will further work out the plan of action including the time-frame and the means of implementing the provisions of this Agreement.

<http://pib.nic.in/PressReleseDetail.aspx?PRID=1554958>

## **Successful Test Firing of Long-Range Missile Agni V** *PIB, December 10, 2018*

Agni V, a long-range surface-to-surface Nuclear Capable Ballistic missile, was

successfully launched from a canister on a road mobile launcher at the Dr Abdul Kalam Island off the coast of Odisha, today.

The launch operations were carried out and monitored by the Strategic Forces Command (SFC) in presence of Scientists from Defence Research and Development Organisation (DRDO) and other associated officials.

All the mission objectives were successfully achieved. This launch comes after a series of successful launches of the missile. It further strengthens the country's deterrence capability, which has been developed indigenously by assiduous efforts of scientists.

<http://pib.nic.in/newsite/pmreleases.aspx?mincode=33>

## **Atomic Energy Production**

*Department of Atomic Energy, PIB, December 12, 2018*

The targets for nuclear power generation are set on an annual basis, as a part of annual Memorandum of Understanding (MoU) between Nuclear Power Corporation of India Limited (NPCIL), a Public Sector Undertaking under Department of Atomic Energy (DAE). However, the Government has planned to increase the installed capacity base of nuclear power in the country for increased electricity production from nuclear power. The present installed nuclear power capacity of 6780 MW would reach 13480 MW by the year 2024-25 with the completion of projects under construction (including 500 MW Prototype Fast Breeder Reactor (PFBR), being implemented by Bhartiya Nabhikiya Vidhyut Nigam Limited (BHAVINI).

The Government has also accorded administrative approval and financial sanction for 12 nuclear power reactors aggregating a total capacity of 9000 MW, which are scheduled to be completed progressively by the year 2031. On their completion, the total nuclear power capacity would reach 22480 MW. More

reactors, based on both indigenous technologies and with foreign cooperation are planned in the future. With the increase in the nuclear installed capacity base, the electricity generation from nuclear power would also increase.

This information was provided by the Union Minister of State (Independent Charge) Development of North-Eastern Region (DoNER), MoS PMO, Personnel, Public Grievances & Pensions, Atomic Energy and Space, Dr Jitendra Singh in written reply to a question in Lok Sabha today.

<http://www.pib.nic.in/newsite/erelease.aspx>

### **Launch of Satellites** *PIB, December 12, 2018*

ISRO is planning to launch more state-of-the-art satellites in the near future encompassing, optical remote sensing, microwave remote sensing, Infra Red remote sensing (IR). Also making scientific missions to moon and the communication satellites to provide high throughput communication links as well as Direct To Home (DTH) applications. These satellites will address various user requirements.

These satellites will be realized and launched by the coming three years.

The details of the financial allocations are as following:

		(Rs in Crore)
Sl. No.	Programme	BE 2018-19
1.	Communication Satellites	403.10
2.	Earth Observation Systems	510.35
3.	Satellite Navigation	50.00
4.	Space Science & Planetary Exploration	214.10
	Total	<b>1177.55</b>

The proposed satellites will provide better Earth imaging with day and night capabilities, improved weather predictions, better handling of disaster situations, facilitate navigational applications and will

also improve communication connectivity.

This information was provided by the Union Minister of State (Independent Charge) Development of North-Eastern Region (DoNER), MoS PMO, Personnel, Public Grievances & Pensions, Atomic Energy and Space, Dr Jitendra Singh in written reply to a question in Lok Sabha today.

<http://pib.nic.in/PressReleaseDetail.aspx?PRID=1555664>

### **Agreement with ROSCOSMOS** *PIB, December 12, 2018*

ISRO and ROSCOSMOS have signed a Memorandum of Understanding (MoU) on 5<sup>th</sup> October 2018 on 'Joint Activities in the field of Human Spaceflight Programme'. Specific missions to International Space Station on Soyuz have not been included in the MoU.

This information was provided by the Union Minister of State (Independent Charge) Development of North-Eastern Region (DoNER), MoS PMO, Personnel, Public Grievances & Pensions, Atomic Energy and Space, Dr Jitendra Singh in written reply to a question in Lok Sabha today.

<http://pib.nic.in/PressReleaseDetail.aspx?PRID=1555667>

### **French Minister for Europe and Foreign Affairs calls on PM**

*Ministry of External Affairs, Government of India, December 15, 2018*

H. E. Mr. Jean-Yves Le Drian, Minister for Europe and Foreign Affairs of France, called on Prime Minister Narendra Modi.

The Prime Minister welcomed the strengthening of bilateral ties in all spheres, including defence, space, counter-terrorism, maritime security, and civil nuclear cooperation.

[https://www.mea.gov.in/press-releases.htm?dtl/30759/French\\_Minister\\_for\\_Europe\\_and\\_Foreign\\_Affairs\\_calls\\_on\\_PM](https://www.mea.gov.in/press-releases.htm?dtl/30759/French_Minister_for_Europe_and_Foreign_Affairs_calls_on_PM)

**Translation of Press Statement by External Affairs Minister after meeting with Foreign Minister of France** *Ministry of External Affairs, Government of India, December 15, 2018*

Both sides are working towards starting the Jaitapur Nuclear Power Project as soon as possible. We are happy that both sides have made considerable progress in pursuance of the Industrial Way Forward Agreement in 2018 between NPCIL and EDF. We have also adopted the Status of Progress for Implementation of Industrial Way Forward Agreement today.

Joint Vision of Space Cooperation is also the cornerstone of space cooperation between us. Space Agencies of both our countries are working hard in this direction. Recent launch of India's heaviest Satellite GSAT-11 is an outstanding example of our partnership in the space sector. On this occasion, I thank the Government of France and the Arianespace Satellite for all possible help provided to ISRO in successfully launch of this satellite.

France has consistently supported India's bid for membership in the United Nations Security Council and the Nuclear Suppliers Group and we thank them for this support.

[https://www.mea.gov.in/Speeches-Statements.htm?dtl/30757/Translation\\_of\\_Press\\_Statement\\_by\\_External\\_Affairs\\_Minister\\_after\\_meeting\\_with\\_Foreign\\_Minister\\_of\\_France](https://www.mea.gov.in/Speeches-Statements.htm?dtl/30757/Translation_of_Press_Statement_by_External_Affairs_Minister_after_meeting_with_Foreign_Minister_of_France)

**Press Statement by External Affairs Minister after 9th India-Korea Joint Commission Meeting** *Ministry of External Affairs, Government of India, December 19, 2018*

I reiterated Government of India's continued support to the efforts being made by President Moon to address the Korean nuclear issue and promote inter-Korean ties through dialogue and negotiation, and expressed our sincere hopes that these efforts will bear fruits to usher in a new era

of peace and stability in the Korean peninsula.

[https://www.mea.gov.in/Speeches-Statements.htm?dtl/30774/Press\\_Statement\\_by\\_External\\_Affairs\\_Minister\\_after\\_9th\\_IndiaKorea\\_Joint\\_Commission\\_Meeting](https://www.mea.gov.in/Speeches-Statements.htm?dtl/30774/Press_Statement_by_External_Affairs_Minister_after_9th_IndiaKorea_Joint_Commission_Meeting)

**'15,000 tonnes of uranium needed to achieve supply security of fuel for nuclear plants'** *The Economic Times, December 30, 2018*

NEW DELHI: A stockpile of 15,000 tonnes of uranium is required for achieving supply security of fuel for nuclear plants in the country, the Department of Atomic Energy (DAE), which manages atomic energy installations, has told a parliamentary panel.

The panel report, which was tabled before the Lok Sabha in the on-going Parliament session, also recommended that necessary steps should be taken to ensure new uranium mines are opened as soon as possible to reduce the dependence on the imported uranium.

[//economictimes.indiatimes.com/articleshow/67309739.cms?utm\\_source=contentofinterest&utm\\_medium=text&utm\\_campaign=cppst](https://economictimes.indiatimes.com/articleshow/67309739.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst)

**B. US & Europe**

**UPDATE 2-France reviews fast-breeder nuclear reactor project** *Reuters, Nov. 29, 2018*

\* Once-promising looking nuclear technology now in question

\* ASTRID reactor could be radically downsized (Adds CEA comment, detail)

France's state-run nuclear agency said on Thursday it had presented options on a new generation of fast-breeder nuclear reactors to the French government and talks were underway but dismissed reports in Japan that it had taken a decision. The Nikkei business daily reported that France had informed Japan it would halt research

into the ASTRID (Advanced Sodium Technological Reactor for Industrial Demonstration) project in 2019, with no plans to allocate a budget from 2020.

A spokesman for the CEA nuclear agency said one option it had discussed was to reduce ASTRID's capacity to a 100-200 megawatt (MW) research model from the commercial-sized 600 MW originally planned. Japan's Chief Cabinet Secretary Yoshihide Suga said on Thursday he had not been informed about any French plans to freeze the project and that nothing has been decided. In 2016, after decades of development, Japan pulled the plug on its own \$8.5 billion Monju prototype fast-breeder project.

<https://in.reuters.com/article/france-nuclearpower-astrid/update-2-france-reviews-fast-breeder-nuclear-reactor-project-idINL4N1Y41OU>

### **US lawmakers tangle over nuclear arsenal, Russia treaties** *Joe Gould,*

*Defence News, Nov. 30, 2018*

Half of all Republican senators are urging President Donald Trump to take heed of Russia's growing nuclear weapons capability as the New Strategic Arms Reduction Treaty's expiration date approaches — just one of many partisan salvos this week in Washington's fight over the nuclear arsenal and its scope.

In a letter Thursday to Trump led by Sen. Jon Kyl, R-Ariz, the 25 senators committed to funding the U.S. nuclear weapons modernization program with an eye toward maintaining "a true balance of nuclear capabilities between the parties to the Treaty." The lawmakers argue Russia has developed nuclear torpedoes and tactical nuclear weapons, which are not covered by the accord and should be included if the treaty is revised.

[https://www.defensenews.com/congress/2018/11/30/us-lawmakers-tangle-over-nuclear-arsenal-russia-treaties/?utm\\_source=AM+Nukes+Roundup&utm\\_campaign=05a78fe426-EMAIL\\_CAMPAIGN\\_2018\\_07\\_25\\_12\\_19\\_COPY\\_01&utm\\_medium=email&utm\\_term=0\\_547ee518ec-05a78fe426-391847513](https://www.defensenews.com/congress/2018/11/30/us-lawmakers-tangle-over-nuclear-arsenal-russia-treaties/?utm_source=AM+Nukes+Roundup&utm_campaign=05a78fe426-EMAIL_CAMPAIGN_2018_07_25_12_19_COPY_01&utm_medium=email&utm_term=0_547ee518ec-05a78fe426-391847513)

### **Trump says next meeting with North Korea's Kim likely in early 2019** *REUTERS, December 2, 2018,*

*Roberta Rampton*

U.S. President Donald Trump said on Saturday he is likely to meet North Korean leader Kim Jong Un in January or February and that three sites for their second meeting are under consideration. "We're getting along very well. We have a good relationship," Trump told reporters aboard Air Force One on his return from a G20 summit in Argentina.

Trump added that at some point he will invite Kim to the United States. The White House said in a statement on Saturday after Trump's meeting with Chinese President Xi Jinping that they and Kim will strive "to see a nuclear free Korean Peninsula."

<https://www.reuters.com/article/us-usa-northkorea/trump-says-next-meeting-with-north-koreas-kim-likely-in-early-2019-idUSKCN1O103Q>

### **Gen. Hyten defends updating U.S. nuclear arsenal, aims to 'strike fear' in potential enemies, Omaha**

*World Herald* *By Steve Liewer, Omaha World Herald, Dec. 2, 2018*

Gen. John Hyten badly wants to rebuild the aging nuclear force he commands, which carries a price tag estimated at more than \$400 billion over the next 10 years.

Lately, though, there are political threats to the wide consensus that supported his plans to replace the 50-year-old gravity bombs, 30-year-old ballistic-missile submarines and bombers and 50-year-old ICBMs. The U.S. Strategic Command chief commands the nuclear force from Offutt Air Force Base south of Omaha. Hyten gave a full-throated defense of nuclear modernization in a recent interview with The World-Herald. He said the U.S. relies on those defenses to deter attacks by nuclear-armed adversaries such as Russia, China and North Korea.

Hyten said that U.S. adversaries are updating their nuclear arsenals at a rapid clip. The U.S. can't stop improving its nuclear arsenal unless those countries do, too. "The world demands that we be able to respond to the threats we're facing," he said.

Rep. Adam Smith, D-Wash., in line to become the new chairman of the House Armed Services Committee, has said nuclear spending must be reined in. He wants a new Nuclear Posture Review, which is a full-scale assessment of nuclear needs, even though the last one was published less than a year ago. And he wants to scrap Hyten's plans for new "low-yield" nuclear weapons launched from submarines, which are being developed to match new Russian capabilities.

[https://www.omaha.com/news/military/gen-hyten-defends-updating-u-s-nuclear-arsenal-aims-to/article\\_acbed90e-f083-5122-9e12-e09d87f8f299.html](https://www.omaha.com/news/military/gen-hyten-defends-updating-u-s-nuclear-arsenal-aims-to/article_acbed90e-f083-5122-9e12-e09d87f8f299.html)

### **Donald J. Trump? (@realDonaldTrump)**

*Twitter December 3, 2018*

I am certain that, at some time in the future, President Xi and I, together with President Putin of Russia, will start talking about a meaningful halt to what has become a major and uncontrollable Arms Race. The U.S. spent 716 Billion Dollars this year. Crazy!

<https://twitter.com/realDonaldTrump/status/1069584730880974849>

### **U.S. gives Russia 60 days to comply with nuclear treaty** *Reuters, December 4, 2018*

The United States delivered Russia a 60-day ultimatum on Tuesday to come clean about what Washington says is a violation of a arms control treaty that keeps missiles out of Europe, saying only Moscow could save the pact.

NATO allies led by Germany pressed U.S. Secretary of State Mike Pompeo at a meeting in Brussels to give diplomacy a final push before Washington pulls out of the 1987

Intermediate-range Nuclear Forces Treaty, fearing a new arms race in Europe. "Russia has a last chance to show in a verifiable way that they comply with the treaty ... but we also have to start to prepare for the fact that this treaty may break down," NATO Secretary-General Jens Stoltenberg told reporters.

<https://www.reuters.com/article/us-nato-russia-pompeo/u-s-gives-russia-60-days-to-comply-with-nuclear-treaty-idUSKBN1O32C3>

### **Poland wants to avoid financing nuclear power with debt** *REUTERS, December 4, 2018*

Poland is reluctant to finance the construction of nuclear power stations with debt and hopes to continue talks about the project with the United States, Piotr Naimski, the government official responsible for key energy infrastructure, said on Tuesday.

The energy ministry expects its first nuclear power station to start operating in 2033, it said in a draft to its long-term strategy published in November, which still needs government approval. "I can say one thing - the financing model should be based on capital and not debt," Naimski told reporters, adding that he would like the financing structure to be worked out in the coming year.

The energy ministry plan to have a total of 6-9 GW of nuclear power by 2043 surprised analysts and came shortly after U.S. Energy Secretary Rick Perry visited Poland. Warsaw and Washington signed a declaration on enhanced energy security cooperation, including nuclear power.

<https://www.reuters.com/article/us-poland-nuclear-power/poland-wants-to-avoid-financing-nuclear-power-with-debt-idUSKBN1O31K6>

### **Scientists Learn How to Predict Space Radiation Levels** *Global Times, December 4, 2018*

Experts from the National Research Nuclear University MEPhI, the University

of Oulu, Finland, and the St. Petersburg-based Ioffe Physical-Technical Institute of the Russian Academy of Sciences have compared the effect of cosmic ray solar modulation, as recorded by neutron monitors and the PAMELA satellite experiment. According to scientists, this will make it possible to more accurately predict radiation levels in near-Earth space, an important aspect of planning space missions. The results of this project were published in the *Journal of Geophysical Research: Space Physics*.

Launched in 2006, the PAMELA (Payload for Antimatter Matter Exploration and Light-Nuclei Astrophysics) international satellite experiment aims to locate and record antimatter and to measure the spectrum bands of various cosmic-radiation components, as well as near-Earth radiation conditions, and to establish the origin of dark matter.

<http://www.globaltimes.cn/content/1130313.shtml>

### **Trump urges China to help with North talks** *Korea JoongAng Daily, December 5, 2018*

U.S. President Donald Trump Tuesday played up the role of China in getting North Korea to denuclearize following his bilateral talks with Chinese President Xi Jinping. "President Xi and I have a very strong and personal relationship," Trump wrote over Twitter Monday. "He and I are the only two people that can bring about massive and very positive change, on trade and far beyond, between our two great Nations. A solution for North Korea is a great thing for China and ALL!" Trump and Xi's bilateral summit Saturday on the sidelines of a G-20 leaders' summit in Argentina resulted in a 90-day delay in new U.S. tariffs, possibly giving leeway for progress in diplomatic affairs.

Trump said aboard Air Force One that a second summit with North Korean leader Kim Jong-un is likely to take place in January or February, with three possible venues discussed thus far. Trump said about his talks with Xi, "He is agreeing to work with

me 100 percent on North Korea, and that's a big thing, too."

<http://koreajoongangdaily.joins.com/news/article/article.aspx?aid=3056499>

### **US wants brighter future for NK after its denuclearization: official** *By Yonhap, The Korea Herald, December 6, 2018*

WASHINGTON — The United States is ready to offer a brighter future to North Korea, but only after it completely abandons its nuclear weapons program, a senior US official said. The two sides have been trying to negotiate the terms of North Korea's denuclearization since the historic June summit between US President Donald Trump and North Korean leader Kim Jong-un.

But talks have stalled over US demands for a full inventory of the North's nuclear arsenal and Pyongyang's demands for reciprocal measures, including sanctions relief. "As President Trump said in Seoul last November at the South Korean National Assembly, we sincerely hope for a brighter future for North Korea," Marc Knapper, acting deputy assistant secretary of state for Korea and Japan, said at an end-of-year event organized by the Korea Foundation. "This is a goal that we share with (South Korea's) Moon (Jae-in) administration, but the path to a brighter future goes through denuclearization," he said, adding that the message has been made clear in public and in conversations with North Korean officials.

[http://www.koreaherald.com/view.php?ud=20181206000551&ACE\\_SEARCH=1](http://www.koreaherald.com/view.php?ud=20181206000551&ACE_SEARCH=1)

### **Bulgaria hopes to pick investor for nuclear plant by end of 2019** *REUTERS, December 7, 2018*

Bulgaria plans to open a tender to pick a strategic investor for its revived Belene nuclear power project on the Danube next month and to pick a winner by the end of 2019, Energy Minister Temenuzhka

Petkova said. China's state-owned CNNC, France's Framatome - a unit of EDF - and state-run Korea Hydro & Nuclear Power Co (KHNP) have expressed interest in the project to build two 1,000 megawatt nuclear reactors at Belene.

In November, Petkova said an invitation to become a strategic investor would also be extended to Russia's Rosatom. Sofia cancelled the Belene project in 2012 after failing to find investors and facing pressure from the United States and the European Union to limit its energy dependence on Russia, which had been under contract to build the plant.

<https://www.reuters.com/article/bulgaria-energy-nuclear/bulgaria-hopes-to-pick-investor-for-nuclear-plant-by-end-of-2019-idUSL8N1YC2CS>

### **TVA to keep cutting carbon with natgas, nuclear power plants: CEO**

*REUTERS, December 7, 2018*

The chief executive of Tennessee Valley Authority said on Thursday the U.S.-owned power generator will keep cutting carbon emissions in future years after replacing much of its coal-fired fleet with plants run on natural gas, nuclear and renewables.

Since Bill Johnson took the reigns as CEO in 2013, TVA has spent \$15 billion to modernize its generating fleet, reduced carbon emissions by retiring coal units, and cut debt by \$3.5 billion, all while keeping consumer electric prices basically flat for six years.

<https://www.reuters.com/article/us-usa-tva-ceo/tva-to-keep-cutting-carbon-with-natgas-nuclear-power-plants-ceo-idUSKBN1O52O1>

### **Fusion reactions project attracts UK funding** *World Nuclear News, December 7, 2018*

The UK Atomic Energy Authority (UKAEA) and First Light Fusion are collaborating on a project to convert fusion reactions into heat to enable clean power production. The 'fusion island' project is to be partly funded by a grant from the Department for Business, Energy & Industrial Strategy (BEIS).

First Light Fusion plans to demonstrate fusion by the middle of next year and to demonstrate 'gain' - generating more energy than that required to create fusion reactions - by 2024. No fusion energy project has achieved this yet. A key step in the development of First Light's vision is the creation of a fusion island, a sub-system that converts fusion energy into heat and manages fuel supply in a fusion power plant.

<http://www.world-nuclear-news.org/Articles/Fusion-reactions-into-energy-project-attracts-UK-f>

### **Index groups face fight over controversial weapons,** *Peter Smith, Financial Times, December 8, 2018*

Index providers, including S&P Global, MSCI and FTSE Russell, face pressure from a global coalition of investors that is demanding they strip out controversial weapons manufacturers from mainstream benchmarks.\*The Swiss initiative, led by Pictet and Swiss Sustainable Finance, secured the backing of more than 60 domestic asset owners and managers with assets of \$2tn a month ago. That number has swollen to 80 signatories controlling \$3tn after international investors joined the campaign.

Candriam, the European asset manager, ING, the Dutch financial services group, and the Church of England are among the latest to sign up. Companies involved in cluster munitions, anti-personnel mines and chemical, biological and nuclear weapons should be excluded from main benchmarks, the group argues.

<https://www.ft.com/content/37b86924-464b-3aab-97a8-3023f549965b>

### **IAEA Concludes Long-Term Operational Safety Review at Armenia's Nuclear Power Plant**

*IAEA, December 10, 2018*

An International Atomic Energy Agency (IAEA) team of experts has completed a review of long-term operational safety at the Armenian Nuclear Power Plant (ANPP).

The SALTO (Safety Aspects of Long Term Operation) review mission was requested by the ANPP, located near the town of Metsamor, 36 kilometres west of the capital Yerevan. The 12-member team, whose review began on 27 November and ended on 6 December, focused on aspects essential to the safe Long-Term Operation (LTO) of ANPP's Unit 2, which went into commercial operation in 1980. ANPP's Unit 1 was permanently shut down in 1989.

<https://www.iaea.org/newscenter/pressreleases/iaea-concludes-long-term-operational-safety-review-at-armenias-nuclear-power-plant>

### **Building new nuclear plants in France uneconomical -environment agency**

*Geert De Clercq, REUTERS, December 10, 2018*

Building new nuclear reactors in France would not be economical, state environment agency ADEME said in a study on Monday, contradicting the government's long-term energy strategy as well as state-owned utility EDF's investment plans. In a speech last month, President Emmanuel Macron said nuclear energy would remain a promising technology for producing low-cost, low-carbon energy and that EDF's EPR reactor model should be part of future energy options.

Macron has also asked EDF to draw up a plan for building new reactors with a view to making a decision about nuclear in 2021. Two EPR reactors under construction in France and Finland are years behind schedule and billions of euros over budget.

<https://www.reuters.com/article/france-nuclearpower/building-new-nuclear-plants-in-france-uneconomical-environment-agency-idUSL8N1YF5HC>

### **U.S. wants U.N. to ban nuclear ballistic missile work by Iran**

*Michelle Nichols, REUTERS, December 12, 2018*

The United States will push the U.N. Security Council to toughen its stance to prevent Iran from working on ballistic missiles capable of delivering nuclear weapons and carrying out test launches, U.S. Secretary of State Mike Pompeo said

Pompeo also told the Security Council an arms embargo on Iran should not be lifted in 2020 and called on the council to establish "inspection and interdiction measures, in ports and on the high seas, to thwart Iran's continuing efforts to circumvent arms restrictions."

<https://www.reuters.com/article/us-iran-nuclear-un/u-s-wants-u-n-to-ban-nuclear-ballistic-missile-work-by-iran-idUSKBN1OB23Z>

### **Nato is the best defence against Russian aggression,**

*Kay Bailey Hutchison, Financial Times, December 12, 2018*

The great untold story in Europe is that Russia is strengthening Nato, not breaking it. Consider what happened in Brussels last week. After months of discussion, the US and our allies decided that Russian cheating could no longer be tolerated.

All 29 Nato foreign ministers unanimously supported the American finding that Moscow is in "material breach" of its obligations under the Intermediate-range Nuclear Forces treaty. Russia has been undercutting the 1987 agreement by developing and fielding an intermediate-range missile system that can be used for both conventional and nuclear attacks. This is in direct violation of the INF treaty, because the missile has been tested to ranges clearly forbidden by the treaty text.

The US and Nato allies had hoped the 1987 agreement would open the door to an era in which Russia would be a competitor but not an adversary. Its signing was a major achievement of former president Ronald Reagan and then Soviet leader Mikhail Gorbachev. The treaty was a cornerstone of European and Atlantic security because it eliminated an entire class of conventional and nuclear weapons on European soil, and it stabilised political and military relations between two superpowers.

<https://www.ft.com/content/1fd4fa8e-fd36-11e8-b03f-bc62050f3c4e>

## Idaho test reactor is pivotal in US nuclear power strategy

By KEITH RIDLER, *The AP News*, December 15, 2018

A nuclear test reactor that can melt uranium fuel rods in seconds is running again after a nearly quarter-century shutdown as U.S. officials try to revamp a fading nuclear power industry with safer fuel designs and a new generation of power plants.

The reactor at the U.S. Energy Department's Idaho National Laboratory has performed 10 tests on nuclear fuel since late last year.

"If we're going to have nuclear power in this country 20 or 30 years from now, it's going to be because of this reactor," said J.R. Biggs, standing in front of the Transient Test Reactor he manages that in short bursts can produce enough energy to power 14 million homes.

The reactor was used to run 6,604 tests from 1959 to 1994, when it was put on standby as the United States started turning away from nuclear power amid safety concerns.

Restarting it is part of a strategy to reduce U.S. greenhouse gas emissions by generating carbon-free electricity with nuclear power initiated under the Obama administration and continuing under the Trump administration, despite Trump's downplaying of global warming.

<https://www.apnews.com/0079d71260644413ace5e0ec1f360728>

### C. Russia & Central Asia

## Putin reiterates support for Iran deal, *Tehran Times*, December 1, 2018

Russian President Vladimir Putin reaffirmed support for the Joint Comprehensive Plan of Action (JCPOA) during the G20 Summit in Buenos Aires, Argentina, on Friday. Preserving the JCPOA will help prevent new wave of tensions surrounding Iran's nuclear program, therefore, all necessary measures should be taken to maintain the JCPOA, Putin said, IRNA reported.

Despite warnings by the international community, U.S. President Donald Trump

withdrew from the 2015 nuclear deal with Iran on May 8. He imposed two rounds of sanctions on Iran, the second of which came into force earlier in November.

<https://www.tehrantimes.com/news/430122/Putin-reiterates-support-for-Iran-deal>

## WATCH Russia firing off upgraded nuke interceptor, *Russian Times*, *RT News*, December 1, 2018

The Russian military has tested a short-range missile meant to defend Moscow from nuclear Armageddon. Video of the test launch conducted in Kazakhstan was published by the Defense Ministry. The interceptor tested at the Sary-Shagan test range is apparently the replacement of the 53T6 anti-ballistic missiles, which serve as part of an ABM shield protecting the Russian capital. The video released by the ministry on Saturday shows a characteristic transport-launch container of the projectile being loaded from a transport vehicle to a launcher and placed inside a silo before launch.

The Moscow anti-missile shield includes several long-range interceptors and dozens of short-range interceptors, which are meant to stop incoming ICBM warheads with aerial nuclear explosions. The 53T6s, however, are approaching expiry date and need replacing. The Russian military decided that the necessary restocking of the silos is a good opportunity to place a more capable rocket into service.

<https://www.rt.com/russia/445322-russia-interceptor-missile-test/>

## Soyuz resumes crew flights after launch failure, *RussianSpaceWeb*, December 3, 2018

As of beginning of 2017, the launch of the Soyuz MS-11 mission was planned for Nov. 8, 2018. In the later iteration of the ISS flight manifest, the flight was re-scheduled for November 15 and by September 2018, it was pushed to December 20, 2018. However in the wake of the Soyuz MS-10 launch accident on

October 11, the next Soyuz mission was advanced to Dec. 3, 2018.

The Soyuz MS-11 spacecraft arrived at Baikonur and was unloaded from its delivery train on Aug. 29, 2018, however it was put in storage the next day, while awaiting the start of its launch campaign. The active processing of the spacecraft began at the launch site in November 2018. On November 12, Roskosmos announced that leak checks of Soyuz MS-11 in a vacuum chamber had been completed. The vehicle was then moved to its test rig at the spacecraft processing building at Site 254 where it would be connected to its checkout systems, Roskosmos said.

<http://www.russianspaceweb.com/soyuz-ms-11.html>

### **Argentina, Russia expand nuclear energy cooperation** *World Nuclear News, December 3, 2018*

*World Nuclear News, December 3, 2018*

Russia and Argentina plan to expand their cooperation in the peaceful use of nuclear energy following the signing of a strategic document on the sidelines of the G20 summit in Buenos Aires.

Following the signing ceremony, Likhachov said: "The signed document will allow us to broaden the existing cooperation with our Argentinian partners. All of us at Rosatom are certain that this step will incentivise our mutually beneficial cooperation in the application of nuclear technology for peaceful purposes."

Rosatom said one of the fundamental areas of mutual cooperation outlined in the document is "the development of various project execution strategies to be applied to large and small capacity nuclear power plant construction projects in Argentina". The two countries will also implement joint projects in third world countries, including the construction of research centres and human resources development. The document also provides for opportunities for Argentina and Russia to cooperate in other areas, including joint research and personnel training.

<http://www.world-nuclear-news.org/Articles/Argentina,-Russia-expand-nuclear-energy-cooperation>

### **Don't push Iran towards exiting JCPOA, Russia tells the U.S.** *Tehran Times, December 4, 2018*

Dmitry Peskov, the Russian president's press secretary, said on Monday that Moscow stands for keeping the 2015 nuclear deal, officially called the Joint Comprehensive Plan of Action, after the U.S. withdrawal. "Russia, like practically all the nations, stands for keeping the JCPOA in place. We see no alternative to this agreement. We call on everyone to refrain from steps that might push Iran towards withdrawing this deal. We think that it would have adverse impacts and we condemn the United States for its withdrawal from the JCPOA," TASS quoted him as saying.

Peskov said unlike the UN Security Council sanctions, Washington's restrictions on Iran are illegitimate and run contrary to international law. "There must not be an obstacle for us to continue our bilateral relations and trade-and-economic cooperation with Iran," he explained.

<https://www.tehrantimes.com/news/430246/Don-t-push-Iran-towards-exiting-JCPOA-Russia-tells-the-U-S>

### **America and Russia, the world's two biggest nuclear powers, are threatening to make more weapons. Here's how many nukes each nation has,** *Amanda Macias, CNBC, December 4, 2018*

*CNBC, December 4, 2018*

The two leaders of the world's nuclear club are threatening to withdraw from an arms control agreement, a move that will allow each country to bolster its arsenal with more nukes. Russian President Vladimir Putin said Wednesday that he will develop ground-launched nuclear missiles if the U.S. withdraws from the Intermediate-Range Nuclear Forces, or INF, treaty.

The pact, signed by the U.S. and Soviet Union in 1987, prohibits the development of midrange nuclear-tipped missiles. The agreement forced each country to dismantle more than 2,500 missiles with

ranges of 310 to 3,420 miles. The arms ban kept nuclear-tipped cruise missiles off the European continent for three decades. Of the 14,500 nuclear weapons on the planet, Russia and the United States own the lion's share, with a combined total of approximately 13,350 nukes. The remaining 1,150 weapons are held by seven countries.

<https://www.cnn.com/2018/12/05/here-is-how-many-nuclear-weapons-us-and-russia-have.html>

### **Kremlin says U.S. ultimatum on nuclear treaty is a tactical ploy**

*REUTERS, December 5, 2018*

The Kremlin said that the United States was manipulating facts in order to falsely accuse Russia of violating the Intermediate-range Nuclear Forces arms control treaty and create a pretext to leave it.

The United States delivered Russia a 60-day ultimatum on Tuesday to come clean about what Washington says is a violation of a 1987 nuclear arms control treaty, saying it would be forced to start a six-month process of withdrawal if nothing changed. When asked about the ultimatum, Kremlin spokesman Dmitry Peskov said statements from the United States and NATO were whipping up tensions.

<https://www.reuters.com/article/us-usa-nuclear-russia-kremlin/kremlin-says-u-s-ultimatum-on-nuclear-treaty-is-a-tactical-ploy-idUSKBN1O410N>

### **Russia says U.S. has shown no evidence it is in breach of nuclear treaty**

*REUTERS, December 5, 2018*

Russia's Ministry of Foreign Affairs said on December 5 the United States had yet to provide any evidence Moscow was in breach of a landmark arms control treaty, but said it was ready to keep discussing the matter with Washington

Maria Zakharova, a spokeswoman for Russia's foreign ministry, told a briefing that the U.S. embassy in Moscow had handed over a note on Tuesday evening saying Washington would quit the Intermediate-

Range Nuclear Forces (INF) Treaty unless Russia began complying with it.

"These documents were received for further processing," said Zakharova. "In them once again there were groundless allegations about our alleged violation of this agreement. We have repeatedly said that this is conjecture. No proof (of our alleged violation) has been presented to us."

<https://www.reuters.com/article/us-usa-nuclear-russia-foreignministry/russia-says-u-s-has-shown-no-evidence-it-is-in-breach-of-nuclear-treaty-idUSKBN1O40T6>

### **Russia will build missiles if US leaves treaty, Putin warns, BBC News**

*BBC News, December 5, 2018*

Russia will develop missiles banned under a Cold War agreement if the US exits the pact, President Vladimir Putin has warned. His comments follow Nato's accusation on Tuesday that Russia has already broken the Intermediate-range Nuclear Forces (INF) Treaty.

Signed in 1987 by the US and USSR, it banned both countries' use of all short and medium-range missiles. But Mr Putin says the accusation is a pretext for the US to leave the pact. In televised comments, the Russian leader said many other countries had developed weapons banned under the INF treaty. "Now it seems our American partners believe that the situation has changed so much that [they] must also have such a weapon.

<https://www.bbc.com/news/world-europe-46458604>

### **Ukraine Can Create Its Own Nukes, Former Envoy to NATO Claims, Sputnik International,**

*December 5, 2018*

On December 5, 1994, the leaders of Russia, Ukraine, Kazakhstan, Belarus, the US and the UK signed the Budapest Memorandum on Security Assurances, which obliged Kiev to give up nuclear

weapons. It was followed by the process of Ukraine entering Treaty on the Non-Proliferation of Nuclear Weapons (NPT).

Kiev has the intellectual, organizational and financial capacity to develop and produce its own nuclear weapons, according to Peter Garashchuk, former Ukrainian envoy to NATO.

In an interview with Ukraine's Obozrevatel TV, Garashchuk claimed that apart from creating atomic bombs, Kiev is also capable of developing full-fledged nuclear warheads for missiles.

Garashchuk claimed that when it comes to creating nuclear weapons, Kiev should not be afraid of international sanctions. Ukraine agreed to give up nuclear weapons and join the Treaty on the Non-Proliferation of Nuclear Weapons in December 1994, when its leaders along with those from Russia, Kazakhstan, Belarus, the US and the UK signed the Budapest Memorandum on Security Assurances.

Earlier this year, Ukrainian President Petro Poroshenko signalled his readiness to make amendments to the country's constitution so that the document could legalize Kiev's push to join the EU and NATO

<https://sputniknews.com/europe/201812091070526861-ukraine-nuclear-weapons-satan-missile/>

### **Russia to protect potential US targets if Washington pulls out of INF Treaty - official, TASS Russian News Agency, December 6, 2018**

Russia will have to make sure that its air defense systems provide protection for all places and facilities that may become targets for US attacks if Washington pulls out of the Intermediate-Range Nuclear Forces Treaty (INF Treaty), Russian Federation Council (upper house of parliament) Defense and Security Committee Chairman Viktor Bondarev told TASS on Wednesday.

The senior Russian senator stressed that he called for maintaining the INF Treaty but in case it was terminated, Russia would have

to respond. "We will have to take a number of measures, particularly deploying unique weapons, which will surely raise the risk of a large-scale global conflict," he warned, adding that Germany and China did not support Washington's decision to withdraw from the INF Treaty.

Bondarev also noted that although the United States had protested against the deployment of the Iskander ballistic missile systems in the Kaliningrad region, "they [the US] deployed the MK-41 launching systems, capable of launching the Tomahawk subsonic cruise missile, in Romania and Poland." He added that the Iskander systems' range was 480 kilometers, which means that the INF Treaty did not apply to them.

<http://tass.com/politics/1034547>

### **Russia deploys nuclear weapon carriers in occupied Crimea - Yelchenko, UNIAN News Agency, UNIAN.net, December 6, 2018**

Ever since Russia occupied Crimea, it has been tightening its military grip over the illegally annexed peninsula, according to the Ukrainian envoy.

Ukraine's Permanent Representative to the United Nations Volodymyr Yelchenko has said Russia deployed in occupied Crimea carriers and other means capable of delivering nuclear weapons. "After the Russian Federation occupied Crimea, it has been tightening its military grip over the occupied peninsula. Comparing to the pre-occupation period, Russia has more than doubled its military personnel from 12,500 to over 28,000, and up to 31,500 probably, according to the recent estimations," he said at a briefing on the security in the Black Sea and the Sea of Azov Region. "Russia has also substantially reinforced and modernized its military land, air, and naval components," he said. "Russian military in Crimea got tanks and anti-aircraft systems, which were not present there before, up to six-seven times more combat vehicles, artillery systems, combat aircraft."

He added that Russia more than doubled the number of combat helicopters, combat ships and submarines in the area. "These forces are capable of carrying out comprehensive military operations in south-western strategic direction, which includes water and coastal areas, corresponding airspace over the Azov and Black Seas, as well as in the far-operating zone of the Mediterranean," Yelchenko stressed.

<https://www.unian.info/politics/10365714-russia-deploys-nuclear-weapon-carriers-in-occupied-crimea-yelchenko.html>

### **Russian nuclear-capable bomber aircraft fly to Venezuela, angering U.S.**

*Andrew Osborn, Reuters, December 11, 2018*

Two Russian strategic bomber aircraft capable of carrying nuclear weapons have landed in ally Venezuela, a show of support for Venezuela's socialist government that has infuriated Washington. The TU-160 supersonic bombers, known as "White Swans" by Russian pilots, landed at Maiquetia airport near capital Caracas on Monday after covering more than 10,000 km (6,200 miles), the Russian and Venezuelan governments said.

Their deployment came days after Venezuelan President Nicolas Maduro, whose left-wing administration is the most significant U.S. foe in Latin America, held talks with President Vladimir Putin in Moscow. "Russia's government has sent bombers halfway around the world to Venezuela," fumed U.S. Secretary of State Mike Pompeo on Twitter.

The Kremlin on Tuesday rejected Pompeo's criticism, saying it was "highly undiplomatic" and "completely inappropriate." Russia's Defence Ministry, which said the bombers had been accompanied by two other Russian military planes, did not say if the planes were carrying missiles, how long they would stay for, or what their mission was.

<https://www.reuters.com/article/us-venezuela-russia-airforce/russian-nuclear-capable-bomber-aircraft-fly-to-venezuela-angering-u-s-idUSKBN10A23L>

### **Russia claims US ignoring outreach on nuclear disagreement**

*The AP News, December 15, 2018*

Russia wants to sit down with Pentagon officials for "open and specific" talks on alleged violations of the Intermediate-Range Nuclear Forces treaty, the Russian Defense Ministry said. The U.S. claims Russia is violating the INF treaty, and on Dec. 4 issued an ultimatum that Moscow come into compliance with the accord in 60 days, or else Washington will withdraw. Russia denies it's in breach of the treaty.

Russian Defense Minister Sergei Shoigu sent his counterpart, U.S. Defense Secretary James Mattis, a proposal for launching a dialogue three days ago, according to a statement Saturday. But Russia says it hasn't received any official reply from the Pentagon, which spokesman Maj. Gen. Igor Konashenkov said proves that the U.S. is unwilling to maintain professional dialogue with Moscow on security issues.

<https://apnews.com/62cecff823af46c1b8388e2c710fbc9b>

### **Russia proposes UN resolution to preserve INF treaty**

*By Radina Gigova and Madeline Holcombe, CNN, December 15, 2018*

Russia has submitted a draft resolution to the UN General Assembly in support of the Intermediate-Range Nuclear Forces (INF) Treaty. The resolution follows the United States' decision to withdraw from the landmark agreement of the final days of the Cold War arms race.

"The unilateral actions by the US on effectively initiating a procedure of 'suspending' their participation in the Treaty, a step not envisaged in this Agreement, put the future of the INF Treaty in jeopardy," the Russian Mission to the UN announced in a statement. Russia warned that the termination of the treaty "could seriously undermine international Weapons of Mass

Destruction (WMD) non-proliferation and Arms Control mechanisms” and called for its preservation.

“In this regard, the Russian Federation submitted to the UN General Assembly on December 14 a draft resolution in support of preserving and observing the INF Treaty that calls on all sides to fulfill their obligations in the framework of this Treaty and resolve issues pertaining to fulfilling the assumed commitments,” Fyodor Strzhizhovsky, spokesman for the Russian Mission to the UN, told reporters.

<https://edition.cnn.com/2018/12/15/us/russia-resolution>

### *D. China*

#### **New device to help China produce its own nano products** *By Liu Caiyu, Global Times, December 1, 2018*

A new device using nanotechnology will boost China’s ability to manufacture microchips used in sensors and optical instruments, the deputy chief designer said. Hu Song, deputy chief designer of the project, told the Global Times on Friday that photolithography is a key technique used to create circuitry patterns on chips. It is used in the manufacturing of microchips and optical instruments.

The photolithography device, developed by the Institute of Optics and Electronics under the Chinese Academy of Sciences (CAS), was officially approved. The machine is the core equipment used to manufacture microchips, a field in which China has long been lagged behind. The successful development of the device will help the country overcome intellectual property barriers set by foreign countries. Earlier this year the US abruptly barred the export of US-made microchip to Chinese tech giant ZTE, which was almost forced to shut down.

<http://epaper.globaltimes.cn/2018-12-01/WE04.htm#modal-container-area>

#### **CNNC launches R&D centre for fuels and materials** *World Nuclear News, December 3, 2018*

China National Nuclear Corporation (CNNC) held a ceremony on 27 November to mark the establishment of a new centre for nuclear fuels and materials research and development in Beijing. CNNC said the new Research Centre for Nuclear Fuels and Materials represents “an important milestone in the development and production of high-performance nuclear fuels and materials, as well as high-performance nuclear reactor cores to realise the effective and efficient development of nuclear energy”.

Speaking at the ceremony, CNNC Chairman Yu Jianfeng said the founding of the new facility is a significant measure to implement the national innovation-driven development strategy and build an advanced nuclear science industrial system. “Nuclear fuels and materials are fundamental to developing the nuclear industry,” said Yu. “Only when a company takes the high ground in the area can it be as qualified as an advanced nuclear science industrial system and world-class nuclear firm able to compete at a global level.”

He added, “The aim of CNNC’s founding of the Research Centre for Nuclear Fuels and Materials is to build a platform to organise the overall planning for scientific innovations in the area of nuclear fuels and materials, so as to better push forward the transformation of scientific achievements and provide support for progressing the corporation’s industrial technology.”

<http://www.world-nuclear-news.org/Articles/CNNC-launches-R-D-centre-for-fuels-and-materials>

#### **China reveals breakthroughs in nuclear safety, quantum computing** *China Daily, December 7, 2018*

China announced two breakthroughs in cutting-edge research on Thursday – a

digital control platform in the nuclear safety sector and an operation and control system of quantum computers. China National Nuclear Corporation issued the country's first nuclear safety-class DCS system platform – Nuclear Advanced Safety Platform of I&C – with completely independent intellectual property rights.

The NASPIC, or Longlin system, has the ability to stop nuclear reactors and activate safety functions if accidents occur, protecting the reactor and personnel and limiting losses, an important safety aspect for the nuclear power station. Since China has completely independent intellectual property rights for the system, it will boost exports of the country's nuclear power facilities.

Origin Quantum Computing in Hefei, East China's Anhui province, launched the country's first quantum computer operation and control system also on Thursday, with completely independent intellectual property rights. Guo Guangcan, director of the CAS Key Laboratory of Quantum Information in Hefei, said the control system is perhaps the most important part of the quantum computer, excepting the core chips.

[http://www.chinadaily.com.cn/a/201812/07/WS5c09e78aa310eff30328fb07\\_2.html](http://www.chinadaily.com.cn/a/201812/07/WS5c09e78aa310eff30328fb07_2.html)

### **Operation Z machine: China's next big weapon in the nuclear 'arms race' could create clean fuel - or**

**deadly bombs** *Stephen Chen, South China Morning Post, December 12, 2018*

Deep in the heart of southwest China's mountainous Sichuan province, the military is building a machine to simulate thermonuclear explosions on an unprecedented scale. It's been described as a Chinese version of America's "Z machine" – formally known as the Z Pulsed Power Facility – a giant wheel-like device developed by the United States to see how particles react under extreme radiation and magnetic pressure.

Z machines have been used in the development of nuclear weapons, from conventional warheads to the pure fusion bomb – a hydrogen bomb that can in theory be made in any size, cost a fraction of today's nuclear stockpile and burn "cleanly" without producing radioactive fallout. And for decades, the Z machine at Sandia National Laboratories in Albuquerque, New Mexico, has led the way in the field.

But now Chinese researchers are trying to build a machine that will produce much more electricity to create much more extreme environments for testing weapons, allowing scientists to delve deeper into the nuclear unknown. The machine is being built for the military by the Chinese Academy of Engineering Physics at China's nuclear weapons development base in the city of Mianyang and is expected to be up and running in a few years, according to a Beijing-based nuclear physicist.

It is designed to produce about 60 million joules of energy in an instant – roughly 22 times the 2.7 million joules generated at the Sandia facility. It does this by firing powerful electrical pulses at a target about the size of a spool of thread consisting of hundreds of tungsten wires, each thinner than a human hair.

<https://www.scmp.com/news/china/science/article/2177652/operation-z-machine-chinas-next-big-weapon-nuclear-arms-race>

### **China launches world's first EPR nuclear project in Taishan**

*REUTERS, December 14, 2018*

The world's first third-generation "Evolutionary Power Reactor" (EPR) has gone into operation at Taishan in China's Guangdong province, the French and Chinese developers behind the project announced on Friday. The 1,750-megawatt EPR, formerly known as the "European Pressurised Reactor" and designed by France's Areva, completed a 168-hour trial

run on Thursday evening, said state-owned China General Nuclear Power Corporation (CGN).

Its commercial launch can be “a source of inspiration” for other next-generation reactors, Guo Limin, general manager of the Taishan Nuclear Power Joint Venture Company, said at a press briefing in Beijing.

<https://www.reuters.com/article/us-china-france-nuclear/china-launches-worlds-first-epr-nuclear-project-in-taishan-idUSKBN1OD0Y4>

**Delayed but still a world first: new breed of nuclear reactor powers up in southern China** *Keegan Elmer, Alice Shen, South China Morning Post, December 14, 2018*

Taishan plant beats French and Finnish projects to completion more than a decade after it started. The third-generation European pressurised reactor (EPR) went into operation at the Taishan Nuclear Power Plant 136 km west of Hong Kong following extensive tests. The Taishan plant is a joint venture between China General Nuclear Power Group and Electricite de France, and its start date has been pushed back repeatedly since construction began a decade ago.

A spokesman for Taishan Nuclear Power Joint Venture confirmed the plant had begun commercial operations, but said further details would not be released until paperwork had been completed with China Southern Power Grid. A second EPR reactor is expected to come online at the plant next year. The French EPR technology is notoriously difficult to build and similar projects in Finland and France have also been plagued by delays. The company said in June that the reactor would go online in the third quarter, according to Reuters.

<https://www.scmp.com/news/china/politics/article/2178099/delayed-still-world-first-new-breed-nuclear-reactor-powers>

**China Flight Tests New Submarine-Launched Missile** *Bill Gertz, The Washington Free Beacon, December 18, 2018*

China carried out a flight test of a new submarine-launched ballistic missile last

month that will carry multiple nuclear warheads capable of targeting most of the United States, according to American defense officials. The launch in late November was the first time the Chinese military flight tested the Julong-3, or JL-3 missile that will be deployed with the next generation of ballistic missile submarines, said officials familiar with the test who said it appeared successful. Julong is Chinese for Big Wave.

The test was closely monitored by U.S. intelligence agencies that detected the launch with missile warning satellites. No additional details of the flight test could be learned. Pentagon spokesmen declined to comment. “The Pentagon will not comment on the intelligence related to Chinese missile tests,” said Lt. Col. Chris Logan, one of the spokesmen.

China’s missile force announced, without elaborating, that five missile flight tests were conducted between Nov. 20 and 23. Also, the Liaoning Maritime Safety Administration announced a sea closure zone for “military exercises” in the area surrounding the location near Dalian, China, where the new missile is being developed. The closure took place Nov. 22.

<https://freebeacon.com/national-security/china-flight-tests-new-submarine-launched-missile/>

## *E. East & South-East Asia*

**Nuclear referendum has complicated the issue** *By Chang Kuot-sai, Taipei Times, December 1, 2018*

The referendum so forcefully supported by the Chinese Nationalist Party (KMT) – to use nuclear power to promote “green” energy – was passed. Ironically, the passage does not mean that an issue has been resolved, but rather that problems have just begun. “The local government and residents have always been adamant that the Third [Ma-an-shan] Nuclear Power Plant should be decommissioned as scheduled,” Pingtung County Government Secretary-General Chiu Huang Chao-chung said.

“Hengchun residents demand that the Third Nuclear Power Plant be decommissioned on schedule,” Hengchun Township Mayor Lu Yu-tung said, adding that “if a nuclear power plant or nuclear waste is placed in Hengchun, Hengchun residents have been let down.” New Taipei City Mayor Eric Chu – whose municipality is home to the Jinshan and Guosheng nuclear power plants, as well as the nation’s first dry storage facility, which is not being used, although it was completed five years ago – has said: “The city government insists on two things: Whether it is nuclear power plants or nuclear waste, the safety of nuclear power must be guaranteed, and New Taipei City must never become a storage area for nuclear waste.”

“The Fourth [Longmen] Nuclear Power Plant is a patchwork” and is “unsafe,” said Wu Sheng-fu, warden of Renli Borough in Gongliao District. “I’m not opposed to nuclear power, but I am definitely opposed to the Fourth Nuclear Power Plant,” Wu said.

<http://www.taipetimes.com/News/editorials/archives/2018/12/01/2003705251>

### **Decommissioning of 1st nuclear power plant facing major delay** *Focus Taiwan, Dec. 3, 2018*

Taiwan is scheduled to begin decommissioning the first reactor of its oldest nuclear power plant in New Taipei on Dec. 5 after 40 years of service, but the deadline will not be met because of questions over how to deal with the plant’s nuclear waste. The plan to decommission the two reactors in the Jinshan Nuclear Power Plant included the construction of an outdoor storage yard at the plant site for the dry storage of spent nuclear fuel.

The facility was built in 2013 but has yet to pass a New Taipei government inspection needed to obtain an operating permit, leaving the decommissioning process in limbo. Hsu Tsao-hua, a spokesman for Taiwan Power Company (Taipower), which runs Taiwan’s three nuclear power plants, said that if the storage facility cannot

be used, the 816 fuel rods still in the Jinshan plant’s first reactor will have to stay where they are, and the plant’s safety equipment will have to be kept running.

<http://focustaiwan.tw/news/aall/201812030020.aspx>

### **Leaders need to maintain unity to force N. Korea to give up nukes** *The Asahi Shimbun, December 3, 2018*

One year has passed since North Korea last test-fired an intercontinental ballistic missile. North Korea has not conducted a single nuclear test since then nor perpetrated any other act of military provocation in the past year. In the meantime, North Korea has announced its intentions to improve its relationship with the United States and focus on rebuilding the nation’s dilapidated economy. But Pyongyang has made no notable progress toward these goals, and its real agenda remains unclear.

The international community has been issuing stern warnings about the secluded nation’s programs to develop weapons of mass destruction. It would be premature to think that the country’s behavior in the past year indicates its seriousness. Above all things, North Korea has yet to disclose information about the nuclear equipment, facilities and technologies it has already developed. If it is serious about rescuing itself from its current international isolation, North Korea needs to take concrete and convincing actions to discard its nuclear arsenal.

<http://www.asahi.com/ajw/articles/AJ201812030025.html>

### **Stopping dirty bombs in Southeast Asia, East Asia Forum** *Mely Caballero-Anthony and Julius Cesar Trajano, East Asia Forum, December 4, 2018*

In August 2018, Malaysian authorities reported the disappearance of an industrial device containing radioactive material. The device was lost while being transported from Negri Sembilan to

Selangor by two technicians employed at a company that provides testing, calibration and inspection services to heavy industries. There are concerns that the unknown amount of radioactive iridium contained in the device could cause radiation exposure or be used as a weapon, otherwise known as a 'dirty bomb'. The incident was a reminder that nuclear security demands attention in Southeast Asia.

While nuclear security is often understood to be about securing nuclear power plants and nuclear weapons, it is also very much about the security of radioactive materials that are under the state's regulatory, export and licensing control. As defined by the International Atomic Energy Agency (IAEA), nuclear security is 'the prevention and detection of, and response to, theft, sabotage, unauthorized access, illegal transfer or other malicious acts involving nuclear material, other radioactive substances or their associated facilities'. Although there are no nuclear power plants in Southeast Asia, radioactive sources are widely used for civilian application in medical, industrial, agricultural and scientific research fields. For instance, radioactive sources are present in 17 hospitals in Thailand and seven hospitals in the Philippines.

<http://www.eastasiaforum.org/2018/12/04/stopping-dirty-bombs-in-southeast-asia/>

### **Gov't to boost nuclear decommissioning sector** *Korea JoongAng Daily, December 4, 2018*

Korea will unveil a comprehensive plan to foster the nuclear decommissioning industry next year to target a growing market for such work and to satisfy the local supply chain under the nuclear phase-out plan, the energy ministry said. Minister of Trade, Industry and Energy Sung Yun-mo made the pledge during his visit to the Kori-1 reactor in the southeastern port city of Busan, which was shut down in June 2017 following 40 years of commercial use.

"We need to build up the nuclear decommissioning sector as a new growth

driver for the Korean nuclear industry so as to meet demand from both home and abroad," Sung said. "We will come up with a comprehensive development plan for the nuclear decommissioning industry by the first half of next year." The ministry has set a goal of developing the technologies needed to dismantle nuclear reactors by 2021 that will make such sites free of radioactive hazards and establish a research institute to pave the way for entering the global market by 2030.

[http://find.joins.com/Search\\_Link\\_joongangdaily.asp?total\\_id=23177243&strCtype=joongangdaily&query=nuclear](http://find.joins.com/Search_Link_joongangdaily.asp?total_id=23177243&strCtype=joongangdaily&query=nuclear)

### **Growing split in Seoul over North Korea threatens Korea detente, nuclear talks** *Reuters, December 5, 2018*

When Seoul was preparing to open a liaison office in the North Korean city of Kaesong this summer after a decade of virtually no contact with its longtime enemy, South Korean officials had heated debates over whether they should seek approval from Washington.

Some top aides to President Moon Jae-in stressed it was an issue for the two Koreas alone and there was no need to involve their U.S. ally, two people with knowledge of the situation told Reuters.

But to the surprise of several officials at the meeting, Unification Minister Cho Myoung-gyon argued Washington must be consulted because Seoul's plans might run afoul of sanctions imposed on North Korea over its nuclear weapons program.

<https://www.reuters.com/article/us-northkorea-southkorea-unification-dis/growing-split-in-seoul-over-north-korea-threatens-korea-detente-nuclear-talks-idUSKBN1O32VV>

### **Sanctions relief may be possible** *Korea JoongAng Daily, December 5, 2018*

The U.S. government is willing to lift some economic sanctions on North Korea if the regime demonstrates "sincere measures" toward denuclearization, a source with knowledge of Pyongyang-Washington

talks exclusively told the JoongAng Ilbo. The source, who spoke on the condition of anonymity, said he wasn't specifically told whether that meant the United States was willing to ease its own unilateral sanctions on the North or give sanctions exemptions to third countries, including South Korea, to carry out joint projects with Pyongyang.

The United States, one of five veto-wielding members in the United Nations Security Council, has a crucial say in UN sanctions on the North. Unanimous approval from a UN North Korean sanctions committee composed of the five countries - the United States, Britain, Russia, China and France - and 10 nonpermanent members on the UN Security Council is normally required for a sanctions waiver. If the former hypothesis is true, it would mean Washington is willing to ease sanctions even before North Korea carries out total denuclearization, which goes against the long-held mantra of the White House that sanctions will not be eased before the North's final, fully verified denuclearization, or FFVD.

<http://koreajoongangdaily.joins.com/news/article/article.aspx?aid=3056508>

**North Korea: secret missile site revealed in new satellite images, Work continues on upgrading long-range missile sites, months after Kim Jong-un met Donald Trump to talk denuclearisation** *By Benjamin Haas*

*The Guardian, December 6, 2018*

North Korea has significantly expanded and upgraded long-range missile sites, according to satellite images published by CNN, highlighting the lack of progress in negotiations with the US in the months since Kim Jong-un met Donald Trump.

The images showed upgrades at the North's Yeongjeo-dong and revealed another site that was previously not publicly known, both in the country's mountainous interior. The location of the missile bases means it is likely to be a launch site for North Korea's newest long-range missiles, including ones that can carry nuclear warheads, according to analysts who reviewed the images for

CNN. It includes a network of underground tunnels used for storing missiles.

The US defence department said in a statement: "We watch North Korea very closely but we cannot discuss intelligence."

<https://www.theguardian.com/world/2018/dec/06/north-korea-secret-missile-site-upgrades-satellite-images>

**Cabinet agrees to abolish 2025 nuclear free goal** *China Post,*

*December 6, 2018*

The Executive Yuan on Thursday approved a proposal to abolish the first paragraph of Article 95 of the Electricity Act, halting the policy of phasing-out nuclear power by 2025 in accordance with the result of the Nov. 24 referendum. The proposed repeal will be brought before the Legislative Yuan for review, Executive Yuan spokeswoman Kolas Yotaka said after a Cabinet meeting.

She added that Premier Lai Ching-te said in the meeting that the government's goal of making the country nuclear-free remains unchanged, even though the 2025 deadline has been cancelled. The referendum asked: "Do you agree with abolishing the first paragraph of Article 95 of the Electricity Act, which means abolishing the provision that 'all nuclear-energy-based power-generating facilities shall cease to operate by 2025'?"

<https://chinapost.nownews.com/20181206-473699>

**China, N. Korea meet amid stalled disarmament talks** *The Asahi*

*Shimbun, December 7, 2018*

BEIJING—The foreign ministers of China and North Korea held talks in Beijing Friday amid a lack of progress in international efforts to persuade Kim Jong Un's regime to halt its nuclear weapons program. Details of the discussions Ri Yong Ho and his Chinese counterpart, Wang Yi were not immediately released.

China is North Korea's most important ally, but has agreed to increasingly strict

United Nations economic sanctions over Pyongyang's drive to develop nuclear weapons and the ballistic missiles to deliver them. Ri is also expected to be briefed on discussions last week between Chinese President Xi Jinping and U.S. President Donald Trump, who recently said his next meeting with Kim would likely happen in January or February.

<http://www.asahi.com/ajw/articles/AJ201812070037.html>

**North Korean minister reaffirms denuclearization commitment in Beijing talks** *By Yonhap, The Korea Herald, December 7, 2018*

BEIJING — North Korean Foreign Minister Ri Yong-ho told his Chinese counterpart, Wang Yi, that Pyongyang's commitment to denuclearization remains unchanged, according to Wang's ministry.

The top diplomats of the communist allies met at the Daioyutai state guesthouse in Beijing, less than a week after a summit between US President Donald Trump and Chinese President Xi Jinping. Ri was quoted as saying that his country is trying to create peaceful external conditions to implement an "important decision" made by the Workers' Party of Korea.

He added the North maintains its policy of making the peninsula free of nuclear weapons and achieving peace and stability, the ministry said. Ri expressed hope for continued cooperation between Pyongyang and Beijing on the issue, saying bilateral ties have entered a "new development phase" this year. In 2019, the two nations will mark the 70th anniversary of the establishment of formal diplomatic relations.

Wang, who doubles as state councilor, agreed that the relationship between the two sides is on the cusp of entering a "new historical stage" as their leaders had three rounds of summit talks this year. Wang said China wants North Korea to maintain dialogue with the US for a "balanced resolution" to pending issues. He also made it clear that the Chinese government supports the strengthening of relations

between South and North Korea and their push for cooperation and reconciliation.

[http://www.koreaherald.com/view.php?ud=20181207000646&ACE\\_SEARCH=1](http://www.koreaherald.com/view.php?ud=20181207000646&ACE_SEARCH=1)

**Allies' top diplomats pledge to maintain close coordination on NK** *By Yeo Jun-suk, The Korea Herald, December 7, 2018*

The top diplomats of South Korea and the US pledged united efforts to deal with North Korea's nuclear and missile programs, as the allies' leaders seek another summit with North Korean leader Kim Jong-un amid the stalled nuclear talks between Pyongyang and Washington. Foreign Minister Kang Kyung-wha and her US counterpart Mike Pompeo held a meeting in Washington on Thursday, the first since they met in Seoul after Pompeo's trip to Pyongyang in October.

The meeting came amid efforts in Seoul and Washington to hold another summit with North Korea. Kim Jong-un is expected to meet President Moon Jae-in in Seoul this month and to hold the second summit with Trump early next year. Kang and Pompeo "pledged to maintain close coordination to ensure the final, fully verified denuclearization of the Democratic People's Republic of Korea," said the State Department's spokesperson Heather Nauert, using the official name of North Korea.

[http://www.koreaherald.com/view.php?ud=20181207000389&ACE\\_SEARCH=1](http://www.koreaherald.com/view.php?ud=20181207000389&ACE_SEARCH=1)

**S. Korea eyes deal to buy U.S. missiles for Aegis destroyers** *The Asahi Shimbun, December 7, 2018*

SEOUL — South Korea plans to buy dozens of U.S.-built ship-to-air missiles, in an order worth about \$300 million, to boost air defenses against North Korea, even as it moves to reduce tension with Pyongyang, Seoul's arms buying agency said on Friday.

Since 2013, South Korea has bought Standard Missile-2s, developed by

Raytheon Co., in installments to equip three Aegis destroyers preparing to be deployed in the mid-2020s.

It aimed to ramp up the capability to detect and track missiles from the North, as its neighbor developed nuclear programs ultimately targeting the United States in defiance of international sanctions.

The latest missile purchase decision by a defense acquisition panel paves the way for delivery of the final batch, an official of South Korea's Defense Acquisition Program Administration (DAPA) said.

<http://www.asahi.com/ajw/articles/AJ201812070039.html>

### **New Taipei mayor calls for nuclear waste final site solution** *China Post*, December 7, 2018

Taipei, Dec. 7 (CNA) New Taipei Mayor Eric Chu called for a coordinated effort to locate a final site for the disposal of nuclear waste from the first nuclear power plant in the city, noting that decommissioning cannot take place before an environmental impact assessment is conducted.

Chu said the central and local government as well as the ruling and opposition political parties need to work out a solution for the disposal of nuclear waste from the Jinshan Nuclear Power Plant in the city. Decommissioning was scheduled to start, but could not because of administrative problems. Chu made the remarks that nuclear waste should never be stored in a heavily populated city.

Under Taiwanese law, Taiwan Power Co. (Taipower) is required to file a decommissioning application and begin an environmental impact assessment (EIA) by the Environmental Protection Administration (EPA) three years before such a facility permanently stops operations. However, Taipower has not received a permit from the EPA. Chu said that the EPA has to first complete its final environmental assessment review.

Moreover, Taipower has not received a permit from New Taipei City government to construct an outdoor storage facility at the plant for the dry storage of spent nuclear fuel because its construction plan for the site failed to meet the city's soil and water conservation requirements, Chu added. Chu also asked Taipower to explain to the public why nuclear waste should be stored at an outdoor facility rather than an indoor one due for safety.

<https://chinapost.nownews.com/20181207-474326>

### **N. Korea on diplomatic offensive indicates desperation: experts** *By Ock Hyun-ju, The Korea Herald*, December 9, 2018

North Korean Foreign Minister Ri Yong-ho's trips to the communist state's allies – China, Syria and Vietnam – show the North's desperation amid stalled denuclearization talks between Pyongyang and Washington, experts say. Ri met with Chinese President Xi Jinping on Friday for talks, during which Xi reaffirmed his country's strong relations with Pyongyang. North Korea's state-run media reported Sunday.

Xi was quoted as saying by North Korea's state-run media that he regards Pyongyang-Beijing ties as "highly important" and that it is "the unyielding policy principle" of the Chinese government and communist party to further develop relations. Ri earlier discussed bilateral ties with top Vietnamese officials during his trip to the Southeast Asian country, according to the North's state media. North Korean leader Kim Jong-un reportedly cited Vietnam's economic success several times during his meetings with South Korean President Moon Jae-in.

[http://www.koreaherald.com/view.php?ud=20181209000246&ACE\\_SEARCH=1](http://www.koreaherald.com/view.php?ud=20181209000246&ACE_SEARCH=1)

## F. Japan

### Japan to scrap Turkey nuclear project *Nikkei Asian Review, December 4, 2018*

A Japan-led public-private consortium is set to abandon a Turkish nuclear power project that had been touted as a model for Tokyo's export of infrastructure, Nikkei has learned. The delayed project's construction costs have ballooned to around 5 trillion yen (\$44 billion), nearly double the original estimate, making it difficult for lead builder Mitsubishi Heavy Industries and its partners to continue with the plans.

The increase was due to heightened safety requirements in the wake of the 2011 meltdown at Japan's Fukushima Daiichi nuclear power plant. The recent fall in the Turkish lira has also contributed to the cost increases. The decision to cancel the project, now in final negotiations among the parties, comes as a blow to Japan's nuclear industry, which is looking for avenues for growth overseas as it becomes increasingly unlikely that a new plant will be built at home post-Fukushima.

<https://asia.nikkei.com/Economy/Japan-to-scrap-Turkey-nuclear-project>

### Ministry sees Monju successor reactor running by mid-century

*Rintaro Sakurai and Shinichi Sekine, THE ASAHI SHIMBUN, Dec. 4, 2018*

The industry ministry on Dec. 3 announced an outline of Japan's new fast reactor project, the successor to the failed Monju prototype fast-breeder reactor that cost taxpayers more than 1 trillion yen (\$8.82 billion). The Ministry of Economy, Trade and Industry said it aims to start operations of the fast reactor in the middle of this century and full operations in the last half of the century. The outline, however, did not provide such details as the type of fast reactor envisioned and its anticipated output.

The government's panel on developing a fast reactor, headed by industry minister

Hiroshige Seko, is expected to approve the road map for the project by the year-end. The fast reactor project will be Japan's second attempt to create a nuclear fuel recycling program. The first attempt centered on the Monju reactor in Fukui Prefecture. It was designed to use plutonium recovered from spent fuel from other reactors.

<http://www.asahi.com/ajw/articles/AJ201812040047.html>

### With fast reactor plan, ministry refuses to admit failure of Monju

*The Asahi Shimbun, Dec. 5, 2018*

Disregarding the failure of its hugely expensive Monju prototype fast-breeder reactor project, the Ministry of Economy, Trade and Industry on Dec. 3 announced an outline of a new fast reactor project that would require massive, continued investments. The government must rethink this plan. It is simply wrong to try to keep alive its nuclear fuel recycling program whose uselessness has been proved by Monju.

A fast reactor enables efficient combustion of plutonium for power generation. It plays the crucial role in a nuclear fuel recycling program that reuses plutonium extracted from spent fuel. Japan has been developing the technology since the 1950s. But the government in 2016 announced that Monju, which cost taxpayers 1.1 trillion yen (\$9.73 billion), would be decommissioned after two decades of remaining a virtual white elephant.

Future plans have been discussed by a working group of the Council on Fast Reactor Development that was formed in 2016, consisting of government ministries and agencies concerned, utilities and nuclear power plant manufacturers. The outline of the new project was the first put together by the council.

<http://www.asahi.com/ajw/articles/AJ201812050021.html>

## 50% in nuclear industry: Energy plan for 2030 is 'unrealistic' *By*

NORIYOSHI OHTSUKI, *The Asahi Shimbun*, December 5, 2018

Half of companies in the nuclear industry doubt the government's goal of having nuclear power account for 20 to 22 percent of Japan's energy supply by fiscal 2030, according to a survey. The survey was conducted in June and July by the Japan Atomic Industrial Forum, whose members include electric power companies that operate nuclear plants. Asked why they thought the government's nuclear goal was unrealistic, 48 percent of the companies said, "There are no plans in sight to build or replace nuclear reactors." Thirty-three percent cited the delays in restarting idle reactors, while 16 percent said, "No progress can be seen in regaining trust from the public."

The reasons for their skepticism relate mainly to difficulties restarting or building reactors under stricter safety measures taken after the Fukushima nuclear disaster in 2011. The forum contacted 365 companies in the nuclear industry, such as equipment manufacturers, and received responses from 254, or 70 percent. According to the results, 50 percent of the companies said the government's nuclear energy goal for fiscal 2030 is "unachievable," compared with only 10 percent that said it is "achievable." Forty percent said the attainability is "unknown."

An estimated 30 reactors must be operating to reach the target, but the resumption of reactor operations has been slow since all of them were shut down after the triple meltdown at the Fukushima No. 1 nuclear power plant. "Only nine reactors were restarted in the more than seven years after the accident in Fukushima," Akio Takahashi, president of the forum and former senior official at Tokyo Electric Power Co., said at a news conference. "I guess respondents think it's difficult (to achieve the goal) given the current pace (of the restarts)."

Tougher nuclear safety standards were set after the Fukushima disaster, forcing utilities

to spend more on upgrading their reactors or keeping aging units operational.

<http://www.asahi.com/ajw/articles/AJ201812050032.html>

## Distinguished peace leader Thurlow pleads cause in Tokyo *THE ASAHI SHIMBUN*, December 6, 2018

Prominent hibakusha and anti-nuclear activist Setsuko Thurlow is visiting Tokyo to urge the government to reconsider its opposition to signing the U.N. Treaty on the Prohibition of Nuclear Weapons. She met with the ruling Liberal Democratic Party's policy chief, Fumio Kishida, at the LDP's headquarters on Dec. 5. Thurlow, who is based in Canada and a survivor of the Aug. 6, 1945, atomic bombing of Hiroshima, had also hoped to meet Prime Minister Shinzo Abe and Foreign Minister Taro Kono, but was unable to.

As foreign minister, Kishida wanted Japan to participate in negotiations for the U.N. Treaty on the Prohibition of Nuclear Weapons but gave up because it conflicted with government policy. An official who also attended the meeting with Thurlow quoted Kishida as telling her he is open to criticism for having failed to get Japan involved in the treaty talks. According to another official, when Thurlow asked him to join in the treaty, Kishida replied that "the goal of the treaty to abolish nuclear weapons and the goal of the Japanese government is the same." But, he qualified that remark by saying the Japanese government has to aim for a "realistic" policy based on the fact that it relies on the U.S. nuclear umbrella for its overall security.

<http://www.asahi.com/ajw/articles/AJ201812060023.html>

## Japan dropping nuclear plant export to Turkey over rising costs

*THE ASAHI SHIMBUN*, December 6, 2018

Japan has all but abandoned plans to export nuclear plant technology to Turkey, dealing another blow to a pillar of the Abe administration's economic growth

strategy. The government and Mitsubishi Heavy Industries Ltd. (MHI) had planned to play a key role in the construction of a nuclear plant in the Sinop area along the Black Sea coast of Turkey. But with costs expected to double from initial forecasts, the Japanese side decided it is no longer feasible to continue with the plan. However, officials are avoiding an outright announcement that the plan is being eliminated to save face for Prime Minister Shinzo Abe and Turkish President Recep Tayyip Erdogan who signed the 2013 agreement on cooperation for nuclear plant technology.

Erdogan was prime minister when the agreement was reached. In seeking a better exit strategy, economy minister Hiroshige Seko plans to visit Turkey in January and propose a new energy development partnership to construct a coal-fired thermal plant with advanced technology that would greatly reduce carbon dioxide emissions. Abe and Erdogan met on Dec. 1 in Buenos Aires on the sidelines of the Group of 20 summit and discussed the nuclear plant plan. According to government sources, the two leaders confirmed that it had become increasingly difficult to pursue the plan given the expanded cost estimate.

Initially, the cost for building four nuclear reactors was set at about 2 trillion yen (\$17.7 billion). However, further studies in Turkey by Japanese officials led to a revised cost estimate of about 4 trillion yen, due mainly to stricter safety standards following the 2011 triple meltdown at the Fukushima No. 1 nuclear power plant.

<http://www.asahi.com/ajw/articles/AJ201812060029.html>

### **IAEA Completes Nuclear Security Advisory Mission in Japan** IAEA, December 7, 2018

An International Atomic Energy Agency (IAEA) team of experts today completed a nuclear security advisory mission in Japan, which was carried out at the request of the Japanese Government.

The scope of the two-week International Physical Protection Advisory Service (IPPAS)

follow-up mission included Japan's responses to the recommendations of the initial mission in 2015 as well as the legal and regulatory framework for the security of nuclear material and facilities, computer and information security, and implementation of nuclear security at a facility. The IPPAS team also reviewed Japan's implementation of the 2005 Amendment to the Convention on the Physical Protection of Nuclear Material (CPPNM). As part of the review, the team visited the Kashiwazaki-Kariwa Nuclear Power Station on the country's northwest coast.

The team saw significant enhancements since the previous mission, observing that the nuclear security regime in Japan is robust and well-established, and incorporates the fundamental principles of the amended CPPNM. The team provided a recommendation and suggestions to support Japan in further strengthening and sustaining nuclear security. Good practices were identified that can serve as examples to other IAEA Member States to help strengthen their nuclear security activities.

<https://www.iaea.org/newscenter/pressreleases/iaea-completes-nuclear-security-advisory-mission-in-japan>

### **Japan's Reports on Conditions at TEPCO's Fukushima Daiichi Nuclear Power Station** IAEA, December 7, 2018

On 7 December 2018, Japan provided the IAEA with a copy of a report on the discharge record and the seawater monitoring results at the Fukushima Daiichi Nuclear Power Station during November which the Ministry of Foreign Affairs has sent to all international Missions in Japan. The report contains information on discharges from the subdrain and groundwater drain systems, as well as on groundwater bypassing conducted during the month of November. In both cases, in advance of the action, TEPCO analyzes the quality of the groundwater to be discharged and announces the results. These results

confirm that the radiation level of sampled water are substantially below the operational targets set by TEPCO.

<https://www.iaea.org/newscenter/news/japans-reports-on-conditions-at-tepcos-fukushima-daiichi-nuclear-power-station-7-december-2018>

### **Conventional SDF tactics useless against cyber-attacks** *By TAKETSUGU SATO, The Asahi Shimbun, December 10, 2018*

To deal with cyberwarfare, Japan must enhance coordination and think outside the box while navigating through a minefield of legal hurdles, the first commander of the Self-Defense Forces' Cyber Defense Group said. The Abe administration plans to include strengthened security against cyber-attacks as a pillar in the revised National Defense Program Guidelines expected to be approved in December. There is no international treaty on cracking down or maintaining control over security issues in cyberspace.

Masatoshi Sato, head of the national security laboratory at LAC Co., was the first commanding officer of the Cyber Defense Group under the SDF C4 (Command, Control, Communication and Computers) Systems Command. He noted that the Defense Ministry and the SDF are targets of more than 1 million cyber-attacks a year. The ministry set up the Cyber Defense Group in 2014, but a number of legal issues arose, such as whether launching counterattacks against hackers would violate Japan's legal framework.

<http://www.asahi.com/ajw/articles/AJ201812100004.html>

### **Koizumi blasts Abe's 'judgment' in plan to revise Constitution** *By JUNICHIRO ISHII/ Staff Writer, The Asahi Shimbun, Decemer 13, 2018*

Koizumi, who has advocated "zero nuclear power" since the 2011 accident at the Fukushima No. 1 nuclear power plant, said Abe could achieve something by joining the anti-nuclear movement. "Constitutional amendment cannot be achieved by the Liberal Democratic Party alone," Koizumi

said. He also said constitutional revision should not be a major campaign issue in the Upper House election scheduled for summer 2019.

"I wonder why (Abe) won't do the things that he can do," Koizumi said. "If opposition parties are united under a 'zero nuclear power' policy to coordinate their candidates, the LDP cannot just do nothing," he continued. "The LDP is being saved largely because the opposition parties are not united."

<http://www.asahi.com/ajw/articles/AJ201812130057.html>

## **G. Iran**

### **Salehi: Iran-Japan nuclear safety cooperation to continue** *Iran Daily, November 28, 2018*

The head of Iran's nuclear agency said that despite the ongoing US sanctions and efforts to isolate his country, Japan remains willing to continue cooperating with Iran on nuclear safety. "The Japanese side insisted that under any circumstances they would like to continue their cooperation in the domain of safety," Ali Akbar Salehi, who heads the Atomic Energy Organization of Iran (AEOI), told Kyodo News in an interview on the sidelines of a seminar in Brussels on Tuesday.

"Even as recently as a few weeks ago, our officials from Iran and officials from Japan met each other," Salehi said, while noting that Japan had already hosted training programs for Iranian scientists on safeguards and nuclear safety.

<http://www.iran-daily.com/News/234939.html>

### **Zarif meets top European diplomats in Geneva** *Tehran Times, December 1, 2018*

Iranian Foreign Minister Mohammad Javad Zarif on Wednesday held talks with a number of senior European diplomats on regional issues, the 2015 nuclear deal, and collective efforts to save the deal and maintain foreign trade with Iran.

In one of his meetings on the sidelines of the Geneva Conference on Afghanistan, Zarif discussed the latest developments in relations between Iran and the European Union with the bloc's foreign policy chief Federica Mogherini. The talks mostly focused on the nuclear deal, officially known as Joint Comprehensive Plan of Action (JCPOA), and regional issues.

<https://www.tehrantimes.com/news/430063/Zarif-meets-top-European-diplomats-in-Geneva>

### **Iran responds to Pompeo: UN has not banned Iran's missile program or tests** *Tehran Times, December 2, 2018*

Iranian Foreign Ministry on Sunday rejected U.S. Secretary of State Mike Pompeo's recent claim that Tehran's missile tests violate UN Security Council resolution 2231, saying the country's missile program is just for defense. In a statement, Foreign Ministry spokesman Bahram Qassemi underlined that Iran's missile program is defensive in nature and has been drawn up based on the country's needs, the Foreign Ministry website reported.

"No UN Security Council resolution has banned Iran's missile program or missile tests," Qassemi stated. "The interesting and of course farcical point here is that you are referring to a resolution that you have not only violated by unilaterally and illegally withdrawing from the JCPOA, but also you urge others to breach it, and even threaten to punish or slap sanctions on them if they implement the agreement," he added.

<https://www.tehrantimes.com/news/430140/Iran-responds-to-Pompeo-UN-has-not-banned-Iran-s-missile-program>

### **Zarif: U.S. foreign policy based on surrealism** *Tehran Times, December 3, 2018*

Foreign Minister Mohammad Javad Zarif has said that that "surrealism" shapes the United States' foreign policy. The remarks by Zarif came in response to U.S. Secretary of State Mike Pompeo, who had accused Tehran of testing a missile "capable of carrying nuclear warheads" in violation of

UN Security Council Resolution 2231.

"'Surrealism' is now the US' modus operandi in its foreign affairs: While itself violates UNSCR 2231 – and even threatens to punish those who don't wish to violate it in abiding with illegal US sanctions – it now falsely accuses Iran of violating the very SAME resolution. #Hypocrisy," Zarif tweeted

<https://www.tehrantimes.com/news/430214/Zarif-U-S-foreign-policy-based-on-surrealism>

### **U.S. propaganda war against Iran doomed to fail** *Syed Zafar Mehdi, Tehran Times, December 3, 2018*

At a time when the Trump administration is facing backlash at home over its military support for the Saudi-led coalition in Yemen and disgraceful defeat in Afghanistan after 18 years of war, spin doctors in Washington are looking for convenient scapegoats to escape accountability.

Last week, five human rights watchdog bodies issued a terse statement, saying the U.S. will bear shared responsibility for what may be the largest humanitarian catastrophe in decades if it doesn't end support for the Saudi-led coalition in Yemen. Ironically, Saudi journalist Jamal Khashoggi's brutal murder has brought the spotlight on Saudi regime's war crimes in Yemen.

In Afghanistan, the U.S. imposed war, which has stretched into its 18th year now, has turned out to be an exercise in futility. Even the top-notch U.S. officials have admitted defeat there, thereby emboldening terrorist groups like Taliban and ISIS to up the ante.

<https://www.tehrantimes.com/news/430186/U-S-propaganda-war-against-Iran-doomed-to-fail>

### **JCPOA parties after compensating for U.S. pullout: Araqchi** *Tehran Times, December 3, 2018*

Deputy Foreign Minister Abbas Araqchi said on Monday that the remaining parties

to the 2015 nuclear deal are trying to find operational solutions to compensate for U.S. withdrawal from the deal, officially called the JCPOA. Araqchi said Iran is cooperating with the European Union, Russia, China and other countries regarded as Tehran's business partners to keep the cooperation path open, Mehr reported.

Back in May, U.S. President Donald Trump withdrew his country from the JCPOA and ordered reimposition of sanctions against Iran. The move has been widely criticized by different countries across the world.

<https://www.tehrantimes.com/news/430220/JCPOA-parties-after-compensating-for-U-S-pullout-Araqchi>

### **Iran vows to continue its missile tests** *China Daily, Dec. 4, 2018*

"Missile tests and the overall defensive capability of the Islamic republic are for defense purposes and in line with our country's deterrence policy," Abolfazl Shekarchi said. "We will continue to both test and develop missiles," he said, adding that "this issue is outside the framework of any negotiations and is part of our national security". "We will not ask for any country's permission in this regard," he said.

Iran has assured countries in the region that the work on improving missile power does not hurt the interests of other countries, Shekarchi said. "Such measures are only in line with boosting the country's deterrent and defense power," he added. Shekarchi made the remarks in reaction to earlier remarks by the US Secretary of State, Mike Pompeo, who claimed that Iran's ballistic missile tests violated the United Nations Security Council Resolution 2231.

<http://usa.chinadaily.com.cn/a/201812/04/WS5c05ef65a310eff30328ef03.html>

### **Rezaee urges Europe to stand up to U.S.** *Tehran Times, Dec. 4, 2018*

Mohsen Rezaee, secretary of the Expediency Council, has called on the European parties to the JCPOA, also known as the Iran

nuclear deal, to stand up to Washington's excessive demands. Rezaee made the remarks in a meeting with German Ambassador to Tehran Michael Klor-Berchtold on Tuesday, Mehr reported.

"We are unhappy with the Europeans. European authorities do not understand the issues as clearly as you, who have traveled across Iran," Rezaee he told the German ambassador. "Unfortunately, Europe does not provide a suitable response to cooperation with Iran," he added. Criticizing the delay in implementing the Special Purpose Vehicle (SPV), which has been designed to conduct banking transactions with Iran in defiance of U.S. sanctions, Rezaee said the Europeans talk the talk but do not walk the walk.

<https://www.tehrantimes.com/news/430249/Rezaee-urges-Europe-to-stand-up-to-U-S>

### **European financial mechanism with Iran to be announced soon: Araqchi,** *Tehran Times, December 4, 2018*

Iranian Deputy Foreign Minister Abbas Araqchi said on Tuesday that European financial mechanism to save the 2015 nuclear deal with Iran now that the U.S. has exited the agreement will be announced in the near future. "We are consulting with Europe on financial mechanisms, and we hope that the mechanisms will be announced in the near future," he told IRNA.

The Wall Street Journal published a report on November 26 according to which France and Germany will likely host the Special Vehicle Purpose (SPV), the special payment channel created by Europe as part of its efforts to keep trade flowing with Iran in defiance of U.S. sanctions. Araqchi said the SPV would facilitate financial transactions for importing and exporting commodities between Iran and the European Union. During a press conference on Monday, Iranian Foreign Ministry spokesman Bahram Qassemi said,

“we expect the respective sides work seriously and firmly to complete these mechanisms.”

<https://www.tehrantimes.com/news/430245/European-financial-mechanism-with-Iran-to-be-announced-soon>

### **Rouhani to U.S: No oil will be exported from Persian Gulf if Iran's oil sale halted** *Tehran Times,*

*December 4, 2018*

After five months for a second time President Hassan Rouhani warned the Trump administration that if Iran would not be allowed to export oil then no country will be given the permission to export oil from the strategic Persian Gulf waterway. “The United States should know that we are selling our oil and will continue to sell, (but) the United States should know that if it wishes to halt Iran's oil export then no oil will be exported from the Persian Gulf,” Rouhani told thousands of well-wishers in the city of Shahroud, Semnan Province.

One-fifth of the world's oil passes in tankers through the Strategic Strait of Hormuz in the Persian Gulf. The first time, on July 5, 2018, Rouhani, during a visit to Europe, warned that Iran would block the Persian Gulf passageway in retaliation in his country would not be able to export oil.

<https://www.tehrantimes.com/news/430234/Rouhani-to-U-S-No-oil-will-be-exported-from-Persian-Gulf-if>

### **U.S. Made 11 Attempts to Negotiate with Iran in Last Two Years** *The*

*Jerusalem Post, December 4, 2018*

The United States has made 11 attempts to begin negotiations with Iran in the last two years, all rejected by Tehran, Iranian President Hassan Rouhani was quoted as saying on Tuesday. Tensions have escalated between the two countries after US President Donald Trump withdrew from a multilateral nuclear agreement with Iran in May and reimposed sanctions in a bid to curb the Islamic Republic's missile program and regional influence.

“If you think America is victorious, know that today Iran is victorious and Trump has been defeated,” Rouhani said in comments reported by the Islamic Republic of Iran Broadcasting (IRIB) news agency. “Last year America requested negotiations eight times directly and this year three times indirectly which we did not accept on the basis of the dignity of the people.”

<https://www.jpost.com/Breaking-News/US-made-11-attempts-to-negotiate-with-Iran-in-last-two-years-573516>

### **'EU failed to make tangible efforts to save nuclear deal'** *Tehran Times,*

*Dec. 5, 2018*

The European Union has not made any tangible efforts to save the 2015 nuclear agreement while the Islamic Republic has remained committed to its obligations under the international pact, a top lawmaker said. “We believe that this cooperative approach of Iran has been ignored by some countries,” said Heshmatollah Falahatpisheh, who chairs the Majlis National Security and Foreign Policy Committee, IRNA reported.

Falahatpisheh further called on European countries to remain committed to their obligations. He added Iran will get through the difficult circumstances of the sanctions. He also emphasized that Iran pursues the policy of constructive interaction with the world.

<https://www.tehrantimes.com/news/430316/EU-failed-to-make-tangible-efforts-to-save-nuclear-deal>

### **Iran says has no plan to have missiles capable of carrying nuclear warheads** *Tehran Times,*

*December 5, 2018*

Iranian Foreign Ministry spokesman Bahram Qassem has rejected the “groundless” concerns raised by certain Western countries about Iran's missile program, saying the country has no plan to have missiles that are capable of carrying nuclear warheads.

In a Tuesday statement, Qassemi said there is no need to repeat that Iran's missile program is totally deterrent in nature and is part of the country's unstoppable defense program.

He made the remarks in reaction to comments made by the officials of certain Western countries as well as a request by the UK and France for a meeting of the UN Security Council to discuss the Islamic Republic's missile program.

<https://www.tehrantimes.com/news/430319/Iran-says-has-no-plan-to-have-missiles-capable-of-carrying-nuclear>

### **Iran won't discuss its OPEC quota while under sanctions** *Iran Daily*, December 5, 2018

Iran will not discuss its OPEC quota as long as it is under sanctions, Iranian Oil Minister Bijan Namdar Zanganeh said. "As long as Iran is under sanctions, the Islamic Republic's OPEC quota will not be discussed with anyone," Zanganeh said, speaking ahead of a meeting of the Organization of Petroleum Exporting Countries in Vienna which is due to debate oil production cuts, Reuters reported.

OPEC meets, followed by talks with allies such as Russia, amid a drop in crude prices caused by global economic weakness and fears of an oil glut due largely to a rise in US production. "Examining the reasons for Qatar's exit from OPEC is a necessity," Zanganeh said. "OPEC has big problems from some oil producers which Qatar is not a part of." Zanganeh did not elaborate but he appeared to be noting that Qatar is not one of the problematic oil producers in OPEC.

In an interview with Bloomberg on Tuesday, Falih said Moscow backs output curbs "in principle," but it's "premature" to say what they will agree to in Vienna this week. Meanwhile, Falih met with US special representative for Iran, Brian Hook, in Vienna, sources familiar with the meeting said.

<http://www.iran-daily.com/News/235298.html?catid=3&title=Iran-won-t-discuss-its-OPEC-quota-while-under-sanctions>

### **Iran confirms ballistic missile test**

*Global Times*, December 11, 2018

Iran confirmed on Tuesday that it had carried out a recent test of a medium-range ballistic missile after Western powers sharply criticized a December 1 launch. "We are continuing our missile tests and this recent one was a significant test," the Fars news agency reported, citing Revolutionary Guards aerospace commander Brigadier General Amirali Hajizadeh.

"The US reaction showed that it was a big thing for them and that it upset them," the conservative news agency said, adding that Iran carried out between 40 and 50 missile tests a year. Iran has pressed on with its ballistic missile program after reining in much of its nuclear program under a landmark 2015 deal with major powers. A UN Security Council resolution adopted after the agreement calls on Iran to refrain from testing missiles capable of carrying a nuclear weapon, but does not specifically bar Tehran from missile launches.

<http://www.globaltimes.cn/content/1131393.shtml>

### **US criticized at UNSC for pulling out of Iran deal as members stress JCPOA full implementation**

*PressTV*, December 12, 2018

Members of the United Nations Security Council have thrown their support for the 2015 Iran nuclear deal despite pressures by the US which was criticized at the chamber for exiting the agreement in defiance of international objection.

Security Council members confirmed at the Wednesday meeting that the Joint Comprehensive Plan of Action (JCPOA) had yielded broad positive results and lauded Iran's commitment to the deal as certified in thirteen consecutive reports by the International Atomic Energy Agency (IAEA). The meeting was held on the implementation of Resolution 2231 in line with the provisions of the deal.

Speaking at the meeting, the Russian ambassador to the UN Vasily Nebenzya said the Iran nuclear deal was fundamental for regional and global security. He said that Iran continued implementing the JCPOA unconditionally, adding that the UN nuclear body had confirmed Iran's compliance with the deal in numerous reports.

<https://www.presstv.com/Detail/2018/12/12/582755/Iran-UN-Security-Council-nuclear-deal-US>

## H. West Asia & Africa

### **Murder of Khashoggi has hardened Congress resistance to nuclear agreement with KSA:** *Daryl Kimball*

*Tehran Times, December 2, 2018*

Daryl Kimball, executive director of the Arms Control Association in Washington, says "I do not believe the Congress will approve a civil nuclear cooperation agreement with Saudi Arabia if it does not meet the "Gold Standard."

He adds that "murder of the journalist Jamal Khashoggi has hardened resistance in Congress to any nuclear agreement, especially one that would allow for the transfer of sensitive enrichment or reprocessing technology to Saudi Arabia."

Kimball tells the Tehran Times in an exclusive interview that Saudi Arabia probably will not accept a nuclear agreement with the U.S. like the one U.S. has signed with the UAE.

<https://www.tehrantimes.com/news/430132/Murder-of-Khashoggi-has-hardened-Congress-resistance-to-nuclear>

### **Netanyahu Meets Pompeo in Brussels Along With Mossad Chief**

*Noa Landau, Haaretz, December 4, 2018*

Prime Minister Benjamin Netanyahu met U.S. Secretary of State Mike Pompeo in Brussels, Belgium on Monday. The head of the Mossad, the head of the National Security Council and the military secretary also attended the meeting. Netanyahu and Pompeo lit candles for the Jewish holiday of

Hanukkah before the meeting began. The two then met in private before being joined by the other officials.

At the beginning of the meeting, Netanyahu said to Pompeo: "I want to thank you for your work and statements about Iranian aggression following its recent violation by shooting ballistic missiles. I am looking forward to discussing with you the ways we can work together to block Iranian aggression in the region - in Syria, Iraq, Lebanon and other places, and to continue the efforts for peace and security for all."

According to the State Department, Pompeo "emphasized the United States' commitment to Israel's security and absolute right to self-defense and to fighting anti-Israeli bias at the United Nations". Pompeo also "reiterated America's resolve in confronting the totality of the Iranian regime's threats through maximum pressure." Pompeo on Saturday slammed Iran over what he described as Tehran's testing of a medium-range ballistic missile capable of carrying multiple warheads as a violation of the 2015 international agreement on the Iranian nuclear program.

<https://www.haaretz.com/israel-news/.premium-netanyahu-lands-in-brussels-ahead-of-pompeo-meeting-1.6717474>

### **South Africa axes board at state nuclear firm Necsa** *Reuters,*

*December 7, 2018*

South African Energy Minister Jeff Radebe said on Friday that the government had replaced the entire board of directors of state-run nuclear firm Necsa and suspended its chief executive over problems with how it was governed. The previous Necsa board included prominent backers of plans to expand South Africa's nuclear power capacity which were shelved by President Cyril Ramaphosa after he succeeded scandal-plagued Jacob Zuma as head of state in February.

Necsa is one of the world's largest producers of medical radioisotopes and

promotes research and development in nuclear energy. "The Necsa board failed to execute its statutory mandate in a satisfactory and prudent manner," Radebe told a news conference.

<https://www.reuters.com/article/us-safrica-nuclear/south-africa-axes-board-at-state-nuclear-firm-necsa-idUSKBN1O6131>

### **Two missile launchers found in Yemen appear to be from Iran: U.N, Reuters** *Michelle Nichols, Reuters,*

*December 11, 2018*

Two launch units for anti-tank guided missiles recovered by a Saudi-led military coalition in Yemen appear to have been manufactured in Iran during 2016 and 2017, according to a confidential United Nations report seen by Reuters. U.N. Secretary-General Antonio Guterres does not specifically state whether the discovery of the units in Yemen was a violation of a U.N. resolution that took effect in January 2016. It prevents Iran from importing and exporting arms or related materiel unless the Security Council has given approval.

"The Secretariat found that they had characteristics of Iranian manufacture and that their markings indicated production dates in 2016 and 2017," Guterres said in his biannual report to the Security Council on the implementation of sanctions on Iran. "The Secretariat also examined a partly disassembled surface-to-air missile seized by the Saudi-led coalition and observed that its features appeared to be consistent with those of an Iranian missile," he wrote.

<https://www.reuters.com/article/us-iran-nuclear-un/two-missile-launchers-found-in-yemen-appear-to-be-from-iran-u-n-idUSKBN1OA225>

### **Hezbollah Once Again Threatens Nuclear Terror against Israel** *The*

*Tower, December 12, 2018*

The Iranian-backed terrorist organization Hezbollah threatened to attack a number of strategic locations in Israel, including the nuclear reactor in Dimona – a threat that constitutes nuclear terrorism – along with a

warning, "if you dare attack, you will regret it.

The Times of Israel reported that the video appeared to show images and exact locations of the strategic sites, including the reactor, the IDF's headquarters in Tel Aviv, a number of air force bases, and an oil refinery. In the accompanying message, Hezbollah, in both Arabic and Hebrew, warned Israel against launching an attack against the group or, in return, risk attacks against those high-profile targets.

The warning, issued by the group's leader Hassan Nasrallah, came a day after an alleged Israeli airstrike on Iranian and Hezbollah targets in southern Syria and near Damascus. It was the first such action since the September 17 incident in which a Russian plane was shot down during an IAF operation in Syria.

Hours before the alleged strike, an Iranian cargo plane, possibly carrying advanced weaponry to Hezbollah, was seen flying from Tehran to Beirut. Cargo planes, regularly used for transporting arms to the terror group, usually unload in Syria contrary to Thursday's incident. The aircraft flew to Doha before returning home.

<http://www.thetower.org/6904-hezbollah-once-again-threatens-nuclear-terror-against-israel/>

### **I. Pakistan**

#### **Kanupp-2 to come online in Dec 2020** *The News International,*

*December 4, 2018*

The 1,100MW Karachi Nuclear Power Complex-II (KANUPP-2) will come online in December 2020 followed by 1,100MW KANUPP-3 in October 2021, Pakistan Atomic Energy Commission Chairman Muhammad Naeem said.

"Soon after that the 100MW Chasma-5 will be completed, as the country plans to generate 8,800MW nuclear energy by 2030," he said, speaking at a seminar titled "Energy Security Policy: Thinking Beyond the Norm" organised by the Centre for

Peace, Security and Developmental Studies (CPSD) on Monday.

Naeem informed that both the plants had a workable life of 60 years, which could be extended to 80 years. "Nuclear power plants are reliable having high availability and capacity factor, relatively environment friendly, and provide sustainability of electricity price having low share of fuel cost," he added. The share of nuclear energy in Pakistan's generation mix stands at 6.0 percent producing power at an average cost of Rs9.13/kWh.

<https://www.thenews.com.pk/print/401346-kanupp-2-to-come-online-in-dec-2020>

**War between N-powers suicidal: Qureshi** *The News International*, December 4, 2018

The Foreign Minister, Shah Mehmood Qureshi, on Wednesday said war of the nuclear powers will be suicidal.

Stating that there was no pressure on Pakistan to construct the Kartarpur Corridor, FM Qureshi said that from the day one, it was Prime Minister Imran Khan's desire that there should be peace in the region.

"It is his thinking that we have conflicts with India, we have historical conflicts but

what is the solution. War is not a solution. Both the countries are nuclear powers and war would be synonymous with suicide. There is no room for war, so what is the way forward," Qureshi asserted.

<https://www.thenews.com.pk/print/399466-war-between-n-powers-suicidal-queshi>

### *J. Misc/Global*

**Bruce and Framatome sign CAD18.7 million MoU** *World Nuclear News*, December 3, 2018

Bruce Power and Framatome have signed a Memorandum of Understanding (MoU) on innovative modernisations for the Bruce A and Bruce B power plants as part of the Canadian facility's Life Extension

Programme. The MoU, which is worth CAD18.7 million (USD14.2 million), covers a range of innovations and new activities, including operational improvements for the nuclear reactors.

Framatome will design and implement Bruce Power's filtered containment venting systems, an inherently safe technology to prevent the build-up of excessive pressure while safely releasing hydrogen and capturing fission products under accident conditions. Once fully installed and tested, these innovations will mitigate offsite planning needs and enable longer-term operational improvements, the companies said.

<http://www.world-nuclear-news.org/Articles/Bruce-and-Framatome-sign-CAD18-7-million-MoU>

**Nuclear industry decline inevitable global trend: expert**  
*By Yonhap, The Korea Herald*, December 6, 2018

The global nuclear industry has been declining in the face of a decreasing number of new reactors in recent years, leaving more room for growth in the decommissioning sector over the long term, a renowned energy consultant said Thursday.

Mykle Schneider, the lead author of the World Nuclear Industry Status Report (WNISR), said the global energy landscape has been shifting toward renewable energies and that building new nuclear reactors is simply not competitive any more.

"If the nuclear power was a living organism on its way for extinction, the renewal rate is too small to guarantee its survival," Schneider said in a press briefing. "We have invasive species ... nuclear power has to deal with, which are renewable energies."

The energy produced by nuclear reactors increased 1 percent on-year to 2,503 net terawatt hours in 2017 but was still less than in 2001 and 4 percent below the

historic peak in 2006, according to the WNISR report.

[http://www.koreaherald.com/view.php?ud=20181206000652&ACE\\_SEARCH=1](http://www.koreaherald.com/view.php?ud=20181206000652&ACE_SEARCH=1).

### **Brazil energy minister favors more nuclear power but not hydro: report**

*REUTERS, November 29, 2018*

Brazil's incoming mines and energy minister, Bento Albuquerque, supports more nuclear and wind power development to diversify the country's energy matrix, while saying hydropower had reached its limit, newspaper Folha de S.Paulo reported.

Albuquerque favors restarting construction of the Angra 3 nuclear power plant, which has been halted since 2015, as well as promoting the mining of uranium in Brazil, he said in an interview with Folha. The admiral is currently the Brazilian Navy's head of nuclear development and technology, responsible for building five submarines, including a nuclear-powered vessel scheduled to enter service in 2029.

<https://www.reuters.com/article/us-brazil-energy/brazil-energy-minister-favors-more-nuclear-power-but-not-hydro-report-idUSKBN1O61M0>

### **New IAEA Database to Help Countries Tackle Growing Obesity Crisis**

*IAEA, December 12, 2018*

The International Atomic Energy Agency (IAEA) this week launched a database aimed at helping countries devise better health policies to combat a growing obesity epidemic worldwide. The IAEA database contains human energy expenditure measurements from the last three decades collected using a stable isotope technique, and will help researchers look at the impact of growing sedentary lifestyles on dietary needs.

Energy expenditure measurements are used to determine the amount of food, or calories, a person needs to function. "The intake of energy through food should equal the output in energy expenditure, as unequal levels can quickly lead to overweight and obesity, or under nutrition," said Alexia

Alford, Nutrition Specialist at the IAEA.

<https://www.iaea.org/newscenter/pressreleases/new-iaea-database-to-help-countries-tackle-growing-obesity-crisis>

### **Global Uranium Supply Can Meet Projected Demand, NEA and IAEA Say in New Report**

*IAEA, December 13, 2018*

*December 13, 2018*

The world's supply of uranium is more than adequate to meet projected requirements for the foreseeable future, regardless of the role that nuclear energy ultimately plays in meeting future electricity demand and global climate objectives. However, significant investment and technical expertise will be required to ensure these uranium resources can be brought into production in a timely manner, including from mines currently under care and maintenance.

These are among the main findings of the latest edition of Uranium 2018: Resources, Production and Demand, also known as the "Red Book", a world reference jointly prepared every two years by the Nuclear Energy Agency (NEA) and the International Atomic Energy Agency (IAEA).

<https://www.iaea.org/newscenter/pressreleases/global-uranium-supply-can-meet-projected-demand-nea-and-iaea-say-in-new-report>

### **Brazil take first step in program to join nuclear-powered sub club**

*Channel NewsAsia, Dec. 15, 2018*

Brazil on Friday launched the first of five attack submarines built with French technology in a 35 billion-real (US\$8.9 billion) program planned to end in 2029 with delivery of a nuclear-powered submarine. President Michel Temer and his right-wing successor, President-elect Jair Bolsonaro, both pressed the button that lowered into the sea the 1,700-ton submarine named Riachuelo at a Rio de Janeiro naval base. Temer's wife, Marcela, had christened the vessel, by smashing a champagne bottle against its hull.

The submarines being built by the Brazilian Navy in partnership with France's defence company Naval Group, formerly known as DCNS, are a modified version of the Scorpene class diesel-powered submarine. While the first four submarines in the deal with Naval Group are conventional subs, the fifth will place Brazil in the club of only six nations with nuclear-powered submarines - the United States, Russia, France, the United Kingdom, China and India.

<https://www.channelnewsasia.com/news/world/brazil-take-first-step-in-program-to-join-nuclear-powered-sub-club-11033744>

### **K. Opinion/Reports**

**What was so secret? United States presents its theory of the INF violation** *Russian strategic nuclear forces, December 1, 2018*

The INF treaty violation dispute just took a few very interesting turns. It started with Sergey Ryabkov's briefing in Moscow on Monday. At some point there was a rumor that the United States is going to formally announce its withdrawal from the treaty on Tuesday. That proved to be a false alarm, and instead we saw results of U.S. administration's effort to present a better case to its NATO allies. That effort brought a statement from the Dutch government, that said that it *independently* confirmed that Russia is violating the INF Treaty. Then the German intelligence services assessed U.S. evidence as "convincing." And the week closed with a statement released by the Director of National Intelligence, Daniel Coats.

The DNI statement finally provided the official U.S. theory of the violation.

[http://russianforces.org/blog/2018/12/what\\_was\\_so\\_secret\\_united\\_stat.shtml](http://russianforces.org/blog/2018/12/what_was_so_secret_united_stat.shtml)

**Iran's missile test: a provocation, not a violation** *By Mark Fitzpatrick, IISS, December 3, 2018*

Iran's reported test of a medium-range ballistic missile (MRBM) on 1 December gave its enemies further ammunition in their

vitriolic campaign against the regime. But in exaggerating the offence, the Trump administration has undermined its case. US Secretary of State Mike Pompeo denounced the missile launch, claiming, incorrectly, that it was a violation of UN Security Council Resolution 2231 (2015). The launch was provocative and contrary to the intention of the resolution, but it was not a 'violation'. Unlike past resolutions, which mandated no such missile testing by Iran, Resolution 2231 only 'calls upon' Iran not to test missiles designed to be capable of delivering nuclear weapons. This exhortation is why, after other launches over the past two years, the US and its European partners have issued condemnatory statements saying the tests were 'in defiance of' or 'inconsistent with' the resolution.

So why now claim it as a violation? State Department lawyers would surely have advised Pompeo not to say so, unless, it being a Saturday, he winged it without any vetted talking points. Secretary of Defense James Mattis was more careful, in saying the test 'violates the sense of the United Nations Security Council resolution'. Perhaps Pompeo cared less for legalisms because he is more invested in the all-out campaign to undermine the Iranian leadership. The thinking seems to be that in such an economic and psychological war, anything goes. 'Throw it up against the wall, and see what sticks,' is the classic catchphrase for such tactics.

<https://www.iiss.org/blogs/survival-blog/2018/12/iran-missile-test>

**Incompatible with justice** *M.A. Saki, Tehran Times, December 4, 2018*

The details of the national budget bill for the next Iranian fiscal year, which begins on March 21, 2019, have not been released yet. It is expected that this time both the administration and the parliament join hands to put a partial if not complete end to the heavily subsidized gasoline.

When approving the current year's budget, the parliament voted against the administration's proposal to increase

gasoline price by 50 percent. The parliamentarians used the December 2017 protests as an excuse to vote against the price increase. However, with the exit of the Trump administration from the 2015 nuclear deal and the return of illegal sanctions, the prices of almost all commodities, even basic food commodities such as milk and meat, have increased greatly and it is only gasoline which has remained at a fixed price.

<https://www.tehrantimes.com/news/430230/Incompatible-with-justice>

**Analysis: Should Israel take its nukes out of the basement?, World Israel News** *Louis René Beres, World Israel News, December 4, 2018*

Given the upheavals cascading throughout the Middle East since 2011, Israel now faces a unique dilemma. Notwithstanding the logical underpinnings and coherence of its own unilateral foreign policies, whatever Jerusalem should decide to do or not do about the “big picture,” a vision that could include the advent of a nuclear Iran as a regional hegemon and heightened Shiite-Sunni infighting, this ever-volatile region could slip irretrievably into a still deeper level of chaos.

If Israel is to remain secure in such an environment, it will have to re-evaluate its policy of deliberate nuclear ambiguity.

To date, the “bomb-in-the-basement” policy has made good sense for Israel. Both friends and foes recognize that it possesses significant nuclear capabilities that are both survivable and capable of penetrating enemy defenses. Indeed, for adversaries not to acknowledge these capabilities would require a self-imposed intellectual deficit.

But what should Israel do about its nuclear posture going forward? How should this ambiguous stance be adapted to the convergent and inter-penetrating threats of still-impending Middle Eastern/North African revolutions, a nuclear Iran, and Israel’s more or less constant concern about

negotiating agreements with state and sub-state (terrorist) organizations?

<https://worldisraelnews.com/analysis-should-israel-take-its-nukes-out-of-the-basement/>

**Disarmament: The forgotten premises of non-proliferation,** *Seyyed Hossein Mousavian, Tehran Times, December 5, 2018*

This announcement came a few weeks after President Trump declared that the United States plans to withdraw from the Intermediate-Range Nuclear Forces Treaty (INF), which was ratified in 1988. State managers in the European Union recognize the crucial need to embark on universal disarmament even if the current U.S. government remains oblivious.

For about five decades during the Cold War, a nuclear arms race between the Soviet Union and the United States constantly threatened the peace and security of the world. However, advances in the destructive capacities of military technologies, which drastically raised the cost of nuclear wars in economic and human terms, produced a mutual deterrence between the two leading superpowers. This political reality of mutually assured destruction meant that the line of demarcation between victory and self-annihilation is extremely thin.

Hence, observing the magnitude of the destructive capacity of nuclear weapons, both superpowers became increasingly aware of the importance of mutual reduction of their nuclear stockpiles.

<https://www.tehrantimes.com/news/430323/Disarmament-The-forgotten-premises-of-non-proliferation>

**How Nuclear, Batteries and Energy Storage Can Build a Carbon-Free Future** *Robbie Hayunga, Nuclear Energy Institute, December 6, 2018*

Energy storage technologies – and batteries in particular – are often seen as

the “holy grail” to fully decarbonizing our future electricity grid, along with renewables and nuclear energy – which provides more than 56 percent of America’s carbon-free electricity.

“I like to say that the future energy system is going to be a lot of nuclear and a lot of renewables,” said Idaho National Laboratory Director Mark Peters. “When I talk about a lot of nuclear and a lot of renewables, that would [mean] a lot of batteries – a lot of storage on the grid.”

<https://www.nei.org/news/2018/nuclear-batteries-energy-storage-carbon-free>

**Once nuclear’s strongest booster, China is growing wary about its cost and safety,** *Peter Fairley, MIT Technology Review, December 12, 2018*

For years, as other countries have shied away from nuclear power, China has been its strongest advocate. Of the four reactors that started up worldwide in 2017, three were in China and the fourth was built by Beijing-based China National Nuclear Corp. (CNNC) in Pakistan. China’s domestic nuclear generation capacity grew by 24% in the first 10 months of 2018.

The country has the capacity to build 10 to 12 nuclear reactors a year. But though reactors begun several years ago are still coming online, the industry has not broken ground on a new plant in China since late 2016, according to a recent World Nuclear Industry Status Report.

Officially China still sees nuclear power as a must-have. But unofficially, the technology is on a death watch. Experts, including some with links to the government, see China’s nuclear sector succumbing to the same problems affecting the West: the technology is too expensive, and the public doesn’t want it.

The 2011 meltdown at Japan’s Fukushima Daiichi plant shocked Chinese officials and made a strong impression on many Chinese citizens. A government survey in August

2017 found that only 40% of the public supported nuclear power development.

The bigger problem is financial. Reactors built with extra safety features and more robust cooling systems to avoid a Fukushima-like disaster are expensive, while the costs of wind and solar power continue to plummet: they are now 20% cheaper than electricity from new nuclear plants in China, according to Bloomberg New Energy Finance. Moreover, high construction costs make nuclear a risky investment.

<https://www.technologyreview.com/s/612564/chinas-losing-its-taste-for-nuclear-power-thats-bad-news/>

**Beijing not interested in any ‘Cold War’** *Shen Dingli, China Daily, December 4, 2018*

Of late, there has been talk of and concern over a possible “Cold War” between the United States and China. The argument goes that Beijing and Washington are competing to establish their respective versions of “political correctness” and global order. And although the Sino-US trade conflict has eased after US President Donald Trump agreed at the G20 Summit in Buenos Aires on Saturday to not impose additional tariffs on Chinese imports and President Xi Jinping said China will increase US imports, Beijing still favors a multilateral approach to international trade based on rules and equality while Washington seems keen on pushing ahead its version of “fairness” and “reciprocity”.

Before the G20 Summit, the US had also been ignoring the World Trade Organization’s consultation and arbitration system while trying to impose its demands on China and its other trade partners. On the one hand, China appears confident of promoting its path of socialism with Chinese characteristics, and showcasing its economy as an alternative mode of development. On the other hand, US Vice-President Mike Pence earlier questioned China’s approach to

developing its Belt and Road Initiative, raising doubts over its global financial transparency and debt sustainability related to infrastructure connectedness.

<http://usa.chinadaily.com.cn/a/201812/04/WS5c05c8aba310eff30328ed1c.html>

### **New US-Russia nuclear arms race looms** *China Daily, December 4, 2018*

ON SATURDAY, Russia released an official video that shows Russian Aerospace Forces testing an upgraded version of its antimissile system. Beijing News comments:

According to Russian media reports, the missile is an upgraded version of the 53T6 short-range nuclear anti-ballistic missile, which was a main ingredient of the Soviet Union's A-135 antimissile system.

In the past few years, Russia has gradually restored the interception capabilities of A-135 system and developed the third-generation strategic antimissile system A-235. At the same time, Russia is integrating antimissile and air defense systems, accelerating the deployment of the S-400 air defense system, and developing a new generation S-500 system. The goal is to form a "high and low" antimissile defense system.

The purpose of these measures is to respond to the United States' attempts to break the existing strategic balance. Since the beginning of the new century, the US has attempted to seek unilateral strategic advantages by tearing up existing treaties and developing new types of armaments.

Concerning ballistic missile defense, the US withdrew from the Treaty on the Limitation of Anti-Ballistic Missile Systems in 2001 and started installing Theater Missile Defense and National Missile Defense systems in its own territories, Europe, and the Asia-Pacific. Concerning offensive strategic weapons, US President Donald Trump has stressed strengthening the US' nuclear arsenal. A few months ago, the US government even claimed it would exit the Intermediate-Range Nuclear Forces Treaty, with the purpose of installing large numbers of

intermediate-range and short-range missiles in Europe and the Asia-Pacific.

<http://europe.chinadaily.com.cn/a/201812/04/WS5c05bcdba310eff30328ecce.html>

### **Abraham M. Denmark on Taiwan: US-China relations in search of a foundation** *Taipei Times, December 10, 2018*

As relations between Beijing and Washington trend toward a more explicitly competitive orientation, leaders on both sides are contending with an unstated challenge that has vexed policy makers since the end of the Cold War: what will be the fundamental basis for US-China relations? Though Chinese officials will often refer to US alliances in Asia as a relic of the Cold War, the reality is that the US-China relationship itself is a relic of the Cold War that (unlike US alliances in Asia) has not successfully redefined its fundamental purpose for the 21st century. Without an answer to that critical question, even competition will ring hollow as a basis for relations between the world's two most powerful nations.

The decision by President Nixon to engage with Chairman Mao was born out of the critical assessment that the Sino-Soviet split had made China a potential asset for the United States to use against the Soviet Union. By exploiting that opportunity, Washington was able to greatly intensify pressure on Moscow and hasten the success of George Kennan's grand strategy of containment. Yet out of that great victory, no one has been able to determine the fundamental purpose of the US-China relationship. While the Clinton administration initially sought to use the lure of market access to encourage Beijing to improve its human rights record and liberalize politically, the rapid failure of that strategy again left a void. From that point on, the US strategy was to use its relationship with Beijing to encourage China to emerge as a country that supported and contributed to the post-war liberal order; or, in the words of then-

Deputy Secretary of State Robert B. Zoellick, encouraging China to be a “responsible stakeholder.”

<http://www.taipetimes.com/News/editorials/archives/2018/12/10/2003705824/3>

### **Don't Tear Up This Treaty,** *The New York Times*, December 15, 2018

Every American president from John F. Kennedy to Barack Obama has successfully negotiated an agreement with the Soviet Union, or the Russian federation, to reduce the threat from both countries' vast nuclear arsenals. More than a dozen treaties limiting nuclear testing, nuclear weapons, activities in outer space and missile defense have been part of this mix.

The need for such restraint is irrefutable: No weapons are more lethal and potentially more destabilizing to the world than those that have earned the moniker “city killers.”

Although the pantheon of arms control agreements isn't perfect – not surprising given the complexity of the weapons systems and the calculations involved in balancing risk – they have enabled the United States and Russia for decades to manage their strategic competition without going to war.

Owing to these treaty commitments, the two powers, which still hold the vast majority of all the nuclear weapons in the world, have reduced their combined total of warheads from roughly 63,000 in 1986 to about 8,100 today. Most crucial, the agreements helped avoid nuclear conflict, even during the darkest days of the Cold War.

<https://www.nytimes.com/2018/12/15/opinion/sunday/trump-russia-nuclear-treaty-inf.html>

### **How the India-Pakistan Conflict Leaves Great Powers Powerless,** *Foreign Policy*, Moeed Yusuf, *Foreign Policy*, December 10, 2018

A decade ago, the world watched in disbelief as terrorists from the Pakistan-based Lashkar-e-Taiba group ripped through the Indian financial capital of Mumbai. By the time the 10 attackers were stopped four days

after the assault began, they had killed 164 people – Americans and other foreign nationals among them – and left over 300 injured. India's 9/11, as the Indian media dubbed it, had unfolded. India, having long seen the Lashkar-e-Taiba as a direct proxy of the Pakistani intelligence outfit, the Inter-Services Intelligence, blamed the Pakistani state for having directed the attack. A near-war crisis between the two nuclear neighbors ensued in its wake, offering a stark reminder why U.S. President Bill Clinton termed this part of the world “the most dangerous place” on Earth at the turn of the century.

Ten years after the Mumbai attacks on November 26, 2008, the Indian-Pakistani rivalry remains as entrenched as ever. While the two countries have avoided major wars, they continue to flirt with crises and have been engaged in low-intensity conflict in the disputed territory of Kashmir. This has unfolded in an environment devoid of any robust crisis management mechanisms aimed at reducing the risk of inadvertent escalation and providing dependable ways of directly negotiating a way out of a crisis. With nuclear weapons in the mix, the consequences of escalation could be catastrophic – and the possibility of such an outcome is greater today than it was on the eve of the Mumbai attacks.

<https://foreignpolicy.com/2018/12/10/954587-india-pakistan-mumbai-terror/>

### **Commentary: Why Europe fears collapse of the Iran nuclear deal,** *Maysam Behravesht, Reuters*, December 12, 2018

Why, then, is the EU still so determined to save the Iran nuclear deal? The answer lies in European fears of the security and economic consequences if the JCPOA collapses – and perhaps also in how Tehran might be able to pressure Europe to salvage the deal.

While worries about the unravelling of the JCPOA and Tehran's possible moves to develop nuclear weapons continue, European powers seem to be less

concerned about a nuclear Iran per se than what would happen if the United States or Israel and its Arab allies went to war to prevent that outcome.

Despite U.S., British and French objections against Iran's Dec. 1 test of a medium-range ballistic missile that was reportedly capable of carrying nuclear warheads, neither of the two European nations pushed for punitive action against Tehran during a subsequent closed-door meeting of the United Nations Security Council (UNSC). "There is no legitimate reason why Iran should flout the resolution," said Britain's U.N. Ambassador Karen Pierce, referring to a 2015 UNSC resolution on the Iran nuclear deal and missile work.

<https://www.reuters.com/article/us-behnavesh-europe-commentary/commentary-why-europe-fears-collapse-of-the-iran-nuclear-deal-idUSKBN10A2A9>

**China's losing its taste for nuclear power. That's bad news** by Peter Fairley, *MIT Technology Review*, December 12, 2018

Once nuclear's strongest booster, China is growing wary about its cost and safety.

For years, as other countries have shied away from nuclear power, China has been its strongest advocate. Of the four reactors that started up worldwide in 2017, three were in China and the fourth was built by Beijing-based China National Nuclear Corp. (CNNC) in Pakistan. China's domestic nuclear generation capacity grew by 24% in the first 10 months of 2018.

The country has the capacity to build 10 to 12 nuclear reactors a year. But though reactors begun several years ago are still coming online, the industry has not broken ground on a new plant in China since late 2016, according to a recent World Nuclear Industry Status Report.

Officially China still sees nuclear power as a must-have. But unofficially, the technology is on a death watch. Experts, including some with links to the government, see China's nuclear sector succumbing to the same

problems affecting the West: the technology is too expensive, and the public doesn't want it.

The 2011 meltdown at Japan's Fukushima Daiichi plant shocked Chinese officials and made a strong impression on many Chinese citizens. A government survey in August 2017 found that only 40% of the public supported nuclear power development.

The bigger problem is financial. Reactors built with extra safety features and more robust cooling systems to avoid a Fukushima-like disaster are expensive, while the costs of wind and solar power continue to plummet: they are now 20% cheaper than electricity from new nuclear plants in China, according to Bloomberg New Energy Finance. Moreover, high construction costs make nuclear a risky investment.

<https://www.technologyreview.com/s/612564/chinas-losing-its-taste-for-nuclear-power-thats-bad-news/>

**Viewpoint: The logic of nuclear power for Central Asia** *World Nuclear News*, December 27, 2018

Many observers were surprised this year when Uzbekistan announced its decision to build a nuclear power station, which will be the first in Central Asia in the last 30 years, writes Jurabek Mirzakhmudov, director general of UzAtom, the state nuclear agency which was established in July.

Why, we were asked, would a leading gas producer opt to go nuclear when we could easily increase our gas-fired electricity production? We are doing so largely because of growth. Uzbekistan, Central Asia's most populous nation, has one of the fastest growing economies in the world. The World Bank is forecasting GDP growth of about 5% this year and next, and 5.5% in 2020. Current projections indicate that, to match these trends and consumer demand, we will need to double electricity output by 2030.

We could of course do this by burning our ample supplies of natural gas, but we have chosen a different course. Our parliament recently ratified the Paris Agreement on Climate Change, having signed the accord in April last year. We are committed to dramatically reducing our consumption of natural gas for power generation to free it for other higher-value purposes, including in particular the petrochemicals industry.

We now plan to make our transmission systems more efficient, to renovate our existing gas-fired and hydroelectrical facilities, and to build new ones, and to adopt renewable energy sources such as solar. But

as part of the strategic energy plan supported by President Mirziyoyev, we believe it to be a mistake to keep converting gas to electricity just because current gas prices are low. Instead, we have chosen to build a Russian-designed third-generation VVER two-unit NPP with a capacity of 2.4 GW. We anticipate this plant will generate approximately 15% of Uzbekistan's power needs by 2030. This will free up an estimated 3.5 billion cubic meters of gas annually – more than half a billion dollars at current price levels.

*<http://world-nuclear-news.org/Articles/View-point-The-logic-of-nuclear-power-for-Central-A>*

### Contribute Articles

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

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

#### Disclaimer:

**Data included in this newsletter is only for educational purpose and wider dissemination. All liabilities and rights belong to respective writers & authors.**

#### Prepared by :

**Ms Deepika Sharma  
Ms Diya Deep Singh  
Ms Raj Rajeshwari Singh**

### Indian Pugwash Society

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