



Vol 14, No. 17, 01 JULY. 2020

**OPINION – Manpreet Sethi**

**North Korea and the US Disembark from a Summit Train Going Nowhere**

China has dominated headlines across the world in June 2020. This is not just because of the global fight against COVID-19, whose virus originated in China, but also because the country has simultaneously activated prickly issues with India, the US, Hong Kong, Taiwan, Australia, Vietnam, Malaysia, and Indonesia, to name but a few of the relationships that have been trending this summer owing to Beijing’s aggressive behaviour.

For India, this manifested in the form of a tense military face-off in eastern Ladakh. The matter had been simmering since mid-April and turned particularly bloody mid-June. Caught up in these developments, India paid little attention to another event that was taking place in northeast Asia. This was the rather grim commemoration of the second anniversary of the historic Trump-Kim meeting that took place in Singapore on 12 June 2018.

The DPRK chose this day to bid farewell to the summit process that had generated much excitement only two short years ago. It vowed instead to further build its nuclear and military force to counter perceived threats. While there is little reason for India to be overly concerned with these developments,

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there are indirect implications that should not be ignored. And, of course, China, which seems to be everywhere these days, has more than just a finger in the North Korean nuclear pie, from where clandestine nuclear business has been known to have been done in the past.

On 12 June 2020, a strongly worded statement was issued by DPRK’s Ministry of Foreign Affairs. It drew attention to the Singapore Summit, where US President Donald Trump and DPRK Premier

Kim Jong-un held the first-of-its-kind bilateral meeting between these two countries caught in a hostile relationship since the 1950s Korean War.

Pyongyang had long indicated its desire for direct negotiations with the US for resolving their relations, including addressing concerns about its nuclear programme. Washington, however, had preferred the trilateral, quadrilateral, and six-party talks formats. However, an out-of-the-box President Trump decided to take the plunge for a direct tête-à-tête with Supreme Leader Marshal Kim Jong-un. The world waited with bated breath, and expectations ran high.

The meeting went well as far as the personal chemistry between the two heads was concerned. They even managed a joint statement that made a mention of denuclearisation. The details of the process, however, were to be worked out at lower levels, where unfortunately nothing concrete could be achieved. To give the process another push, the two leaders met again in Hanoi in 2019. The meeting, however, ended abruptly, as differences over sequencing of sanctions removal and steps towards denuclearisation were found to be irreconcilable. Even though both leaders continued to express their admiration for each other and optimism for the bilateral relationship, 2019 yielded nothing. In any case, it appeared that President Trump had lost interest in the issue as other more pressing and immediate domestic and international concerns kept landing on his table fast and furiously.

The recently issued statement by North Korea now openly expresses a sense of disappointment with the Summits. It laments that over “not a short period of 732 days” since the first Summit, even a “slim ray of hope of peace and prosperity on the Korean peninsula has faded away into a dark nightmare.” Therefore, “it is futile to continue maintaining” the relationship with President

Trump. Expectedly, DPRK draws attention to the many steps that it had undertaken, such as total shutdown of its nuclear test site, return of US prisoners, non-conduct nuclear tests, and suspension of further testing of its ICBMs, even though it had received nothing from the other side.

As US-DPRK relations nosedive, those between the two Koreas, too, have worsened over the last few months. Military hotlines between the two were severed by Pyongyang earlier in June. As this

column was being written, news came in that North Korea had blown up the Inter-Korean building, the joint liaison office at Kaesong, which was symbolic of their cooperation. The step was reportedly taken to express anger with the propaganda war being allegedly waged from South Korea through balloons and leaflets carrying anti-regime messages.

With this, another short episode of attempted détente seems to have stalled. Having expressed its unhappiness and anger with both Washington and Seoul, Pyongyang’s message is loud and clear as voiced in its statement. It reportedly carries the endorsement of the Fourth Enlarged Meeting of the Seventh CMC of the Worker’s Party of Korea: the strategic goal and national strategy for nuclear development of the country is now to “build up more reliable force to cope with the long-term military threats from the US.”

Perhaps, having realised the limits of what President Trump can do in the last few months of his presidency, Pyongyang sees greater benefit in ramping up its strategic capability in order to strengthen its bargaining position for when the

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next occupant of the White House is ready for another round of negotiations. During this time, when US attention is sure to be elsewhere, North Korea has a safe period to improve its nuclear deterrent, including conducting more nuclear and missile tests if it feels the need. The fear of more sanctions that may follow any such move is allayed by the friendship DPRK enjoys with China, which in any case has been its saviour over the years. That backdoor has always been open for the regime, even if the sanctions may have caused suffering to the ordinary citizens.

Meanwhile, what should be a matter of concern for all, and particularly for India, is the possibility of leakage of nuclear material, technology, or equipment from DPRK. Reeling from the pandemic's impact (Pyongyang has reported complete control over the virus though the claim cannot be substantiated in the absence of independent verification), suffering from the effects of sanctions, not allowing any international oversight on its nuclear activities, and making use of a distracted international community, DPRK may be tempted towards clandestine nuclear transfers to interested state or non-state actors. It may be recalled that it has been involved in such actions in the past with Pakistan and China.

So, even though both the US and DPRK appear to have disembarked from the train of summit diplomacy that seemed to be going nowhere, it is imperative that a close watch be maintained to obviate the possibility of Pyongyang embarking on a train of nuclear proliferation that would certainly lead to disaster.

*Source: Dr Manpreet Sethi is Distinguished Fellow at the Centre for Air Power Studies (CAPS), New Delhi, [http://www.ipcs.org/comm\\_select.php?articleNo=5698](http://www.ipcs.org/comm_select.php?articleNo=5698), 23 June 2020.*

**OPINION – Richard Weitz**

**Russia's New Nuclear Doctrine: Don't Mess with Us—But Let's Talk**

For the first time ever, the Russian government has publicly released a document laying out the logic and principles underpinning its approach to nuclear deterrence. Formally titled "Fundamentals of Russian State Nuclear Deterrence Policy," the report was approved by President Vladimir Putin and posted on the government's official information web portal on June 2. Previous iterations of Russia's deterrence policy, such as the one associated with the updated military doctrine it unveiled in 2010, were alluded to in public, but never published.

Why did Russia decide to publish its deterrence policy now? In part, it could be to dispel alleged Western misperceptions about when Russia might use nuclear weapons, specifically the Pentagon's assessment that Moscow would threaten to use nuclear weapons—or actually do so—to intimidate an adversary into yielding in a major crisis. Previously referred to as "escalate to de-escalate" U.S. officials currently describe this strategy as "escalate to win," and have used it to justify developing U.S. low-yield nuclear weapons options to counter it.

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The newly published strategy document implies that nuclear weapons deter escalation through their mere existence. Even so, the paper also warns adversaries against a range of actions that Moscow claims would raise the danger of nuclear war by presenting threats to Russia. These include deploying ballistic and cruise missiles, armed drones, missile defenses and even large concentrations of general-purpose forces—like a U.S. Army brigade—near Russian territory. Without mentioning the U.S. or its allies, the wording thereby amplifies Moscow’s familiar complaints about NATO military activities in Russia’s vicinity, the alliance’s nuclear-sharing doctrine, the U.S. global missile defense architecture, and fears of new U.S. ground-launched missiles being deployed near Russia.

In an effort to further bolster deterrence, the document warns adversaries that Moscow will inflict “unacceptable” damage in retaliation for any aggression against Russia or its allies. The wording underscores both Russia’s nuclear capacity and its will to use it. While it also notes the need to rely on conventional forces as well as economic, diplomatic and other means of non-nuclear deterrence, the document makes evident that Russian policymakers still perceive nuclear forces as essential for backstopping their growing but insufficient portfolio of conventional and political-military tools.

Additionally, the criterion for the size of Russia’s

nuclear forces as laid out in the policy paper—“a level sufficient to ensure nuclear deterrence”—is so vague as to justify an arsenal of any scale. The guidelines also emphasize Russia’s flexible response options in terms of the magnitude, timing, means and targets of possible nuclear retaliation. Russian military writings envisage the use of nuclear weapons in a range of scenarios, from regional conflicts to great-power wars. Likewise, Russian commanders have probably developed tailored nuclear force packages for many scenarios.

But the newly published nuclear deterrence policy notably goes beyond threatening nuclear retaliation for a nuclear strike on Russian territory. It affirms that Moscow might employ nuclear weapons to defend Russia or its allies against any attack causing mass destruction, including those involving non-nuclear systems—presumably cyber or precision conventional weapons—that could inflict damage comparable to nuclear strikes. As examples of what kind of threats this policy is meant to deter, the paper points to attacks targeting Russia’s retaliatory nuclear arsenal, its national command authority or its critical civilian infrastructure. Russian policymakers clearly hope to deter the kind of decapitation strikes the U.S. Air Force employed at the outset of the U.S. wars in Iraq and Kosovo.

In this regard, the document also confirms Putin’s earlier statements about Moscow’s “launch under attack” posture, which considers the use of

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nuclear weapons based on “reliable information” of incoming missiles aimed at Russia or its allies. This stance, designed to avert a potential U.S. first strike with either nuclear or conventional weaponry on Russia’s nuclear forces or supporting command-and-control architecture, is unnerving given the well-publicized flaws in Russia’s strategic early warning system. However, this declared posture may simply aim to discourage NATO from launching any missiles near Russia, including those with non-nuclear or low-yield nuclear warheads, since verifying if an incoming missile carries a large, small or non-nuclear payload is presently impossible.

To what extent the new document genuinely reflects the Russian leadership’s thinking on nuclear war is unclear. But even if it does, the paper notes that the government can revise its deterrence doctrine at any time if internal or external conditions change.

Regarding the debate over escalation and a nuclear first strike, Western skeptics argue that Moscow’s professed disinterest in waging a nuclear war is contradicted by a range of Russian actions and positions. As a result of Russia’s procurement practices, all of its new delivery systems are designed to deliver nuclear weapons, either exclusively or along with possible conventional payloads. Major military exercises regularly include drills simulating nuclear weapons use. And Russian military writings routinely include discussions of nuclear escalation scenarios and battlefield options. In particular, Russia’s sustained investment in improving both the quantity and quality of its so-called tactical nuclear weapons is widening a numerical imbalance with the United States that is already strongly in Moscow’s favor, thereby providing ammunition to those who believe the Russian military would consider employing these weapons as part of an “escalate to win” strategy.

The document does not articulate how Russia’s nuclear deterrence policy applies to China, which also deploys weapons of mass destruction, missiles and general-purpose forces near Russian territory. In all likelihood, Russian strategists plan to use nuclear weapons in the event of a major war with China, given the difficulties of defending the remote Russian Far East with conventional forces. But such contingencies have been absent from official discourse for the past decade. When asked by a Russian reporter about the new policy paper, a spokesperson for the Chinese Foreign Ministry responded reassuringly that “China respects and understands Russia’s efforts to safeguard national security interests.” If pressed, Russian officials could point to the document’s wording, by which Russia’s nuclear deterrence policy applies only to states that view Russia as

a “potential adversary,” which Chinese leaders profess not to do.

The text mentions in passing that Russia will pursue “all necessary efforts for reducing the nuclear threat.” Although perhaps not its main or even intended purpose, this passage does respond to the Trump administration’s recently declared nuclear

arms control agenda. In several speeches and documents, U.S. officials have formally laid out their goals of limiting Russia’s new, nuclear-capable strategic weapons, nondeployed nuclear warheads and nonstrategic nuclear weapons—as well as of securing Moscow’s support against nuclear proliferation and for including China in future negotiations on nuclear arms. Russia’s new nuclear deterrence policy delineates the U.S. weapons, deployments and technologies that Russian officials will likely press to limit when Washington and Moscow resume their formal arms control talks in the coming weeks, such as American strategic defenses and nuclear weapons deployed in Europe.

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audiences, Russia's paper on nuclear deterrence does not resolve Western debates about Russian nuclear strategy. However, it makes evident both the similarities and differences between Russian and U.S. thinking about nuclear weapons. Both governments embrace nuclear deterrence while accusing the other of recklessly planning nuclear escalation. Additionally, since the lengthy list of Russian concerns are unlikely to soon dissipate, the prospects for expanded Russian-American cooperation on nuclear arms control will remain modest no matter who wins the U.S. presidential election in November.

*Source: Richard Weitz is a senior fellow and director of the Center for Political-Military Analysis at the Hudson Institute, World Politics Review, <https://www.worldpoliticsreview.com>*

*/articles/28857/what-s-behind-the-new-russian-nuclear-weapons-strategy, 22 June 2020.*

**OPINION – Sico Van Der Meer**

**Nuclear Risk Reduction as an Interim Success for the NPT Review Conference?**

The NPT is often called the cornerstone of the global nuclear non-proliferation regime and an essential foundation for the pursuit of nuclear disarmament. Every five years, its member states (all countries in the world, except India, Israel, North Korea and Pakistan), assemble in a Review Conference to evaluate the efforts so far and to set goals for the coming years.

The NPT Review Conference scheduled for April-May 2019 has been postponed due to the COVID-

19 crisis. Although the reason is awful, the postponement itself may give diplomats extra time to ensure a successful outcome of the Review Conference. During the last Review Conference

in 2015 the participating states failed to reach any consensus, and a second failure risks eroding the broad international support for the NPT and the norms against nuclear weapons it represents.

So far, progress on key issues such as nuclear disarmament or the Weapons of Mass Destruction Free Zone in

the Middle East, which contributed to a lack of consensus during the Review Conference of 2015, is barely noticeable. To enhance the norms which the NPT represents, progress should be made visible during the Review Conference. Nuclear risk reduction might be a feasible area to do so.

Nuclear risk reduction, sometimes also called 'strategic risk reduction', entails measures contributing to limiting the risk that nuclear weapons will ever be used, on purpose or by accident. As long as a nuclear-weapon-free world has not been accomplished, the risk that nuclear

weapons would ever be used should be limited as much as possible. From this perspective, nuclear risk reduction is an interim measure within the broader NPT goal of working towards nuclear disarmament.

In the past few years nuclear risk reduction received attention in several fora outside the NPT. It was one of the discussion topics in recent

P5-meetings (the five 'recognized' nuclear-armed states in the NPT: China, France, Russia, the United

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Kingdom, and the United States), it is the topic of one of the three working groups of the US-initiated 'Creating an Environment for Nuclear Disarmament' (CEND) process, and the United Nations Institute for Disarmament Research (UNIDIR) has published a number of excellent reports on it.

A benefit of the concept of nuclear risk reduction is that it can be discussed without directly touching on sensitive and politically polarized issues such as the perceived value or non-value of nuclear weapons from a political-military perspective. Although it could be argued that a higher risk of nuclear weapons being used increases their deterrent effect, discussions on risk reduction measures generally refrain from questioning the usefulness of nuclear deterrence and are not directly aimed at limiting any deterrent effect of nuclear weapons. This makes nuclear risk reduction an issue on which some agreement and concrete steps are possible, even in the current polarized times in which actual disarmament efforts have mostly stalled.

During the NPT Review Conference the participating states could discuss risk reduction measures and try to agree to some concrete policy steps. Such steps could signal that the NPT is still an effective treaty in contributing to limiting the risks of nuclear weapons, even in the current geopolitical environment where nuclear disarmament is not being achieved quickly. There is a variety of concrete risk reduction measures that could be discussed. They could be grouped in four categories: declaratory nuclear policies; communication and cooperation; operational measures; and limiting

roles, types and numbers.

Declaratory policy measures are public statements which could (re)assure the world that the risk of nuclear weapons being used is taken seriously by (some of) the states possessing these weapons. Such declaratory policies may be significant in keeping the threshold for any use of nuclear weapons as high as possible. One could think of a statement similar to that of Ronald Reagan and Mikhail Gorbachev in 1987, expressing their conviction that nuclear war can never be won and should never be fought, but also of negative security assurances or declarations of no first use issued by all or some of the NPT nuclear weapon states.

Measures aimed at increasing communication and cooperation could consist of agreements regarding crisis management policies, ensuring clear lines of (crisis) communication, transparency and information sharing, and training, which could contribute to preventing (inadvertent) escalation of any conflict to nuclear levels.

Operational measures that could be discussed can be aimed at limiting the risk of unintentional use, but also at giving decision-makers more time for deliberation; the more time they have to verify a perceived need to use nuclear weapons in times of stress and (potential) emergency, the less risk there is of decisions being based on misinformation, miscommunication or misperception. Examples of such policy options are de-entanglement of command and control systems, de-targeting and de-alerting, as well as adding decision moments to launch procedures.

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Last but certainly not least, in the category of limiting roles, types and numbers, the NPT member states could discuss issues such as limiting the role of nuclear weapons in doctrines and postures, limiting the types of nuclear weapon systems (especially nuclear weapon types that by their very nature lower the threshold for use and could generate confusion between conventional and nuclear weapons during crisis situations), and limiting the locations and numbers of nuclear weapons.

Even if the NPT Review Conference could result in a coordinated statement or agreement on only one of these possible risk reduction options, this would already be a small success, showing that the NPT framework is still relevant and can indeed lead to concrete multilateral action. Again, it would be a limited and short-term interim measure only, but any step towards decreasing the risks of nuclear weapons use can only be welcomed.

Critics may claim that discussing nuclear risk reduction indirectly means accepting the nuclear arsenals and will diverge attention from actual disarmament efforts and consequently result in accepting a status quo situation. Yet, nuclear risk reduction could be considered nothing more than an interim measure parallel to nuclear disarmament efforts, and does not stop, delay or undermine these efforts. Nuclear risk reduction measures are short-term interim steps that would benefit any state, nuclear-armed or not. The NPT Review Conference is an excellent forum to discuss this issue and to reach some agreement on concrete steps to reduce nuclear risks.

Source: <https://www.europeanleadershipnetwork.org/commentary/nuclear-risk-reduction-as-interim-success-for-the-npt-review-conference/>, 23 June 2020.

**OPINION – Kevin Brown**

**For the U.S. and China, Thucydides' Trap is Closing**

Long before Donald Trump, with his "America first" foreign policy agenda, took office as U.S. president, relations between Washington and Beijing were in a state of gradual decline. These developments have their roots in the dramatic rearrangement of the post-1989 world order, where the fall of the Soviet Union made Beijing's position as a counterweight to Moscow redundant for Washington. Add in mounting trade tensions and increasing Chinese aggression in the South China Seas, among other factors, and ties were fraying before the COVID-19 pandemic. Now both Trump and Chinese President Xi Jinping face dueling crises that could bring both powers to a head-on, domestically driven clash.

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The COVID-19 pandemic, which originated in China, has killed over 110,000 Americans and sickened nearly 2 million. It has also rapidly sped up the deterioration in relations between the world's top two economies. Now the United States faces interlinked public health, social and economic crises that have devastated vast swaths of the American economic landscape. Domestic developments are made only worse through urban unrest caused by the murder of an unarmed black man by a white police officer in Minnesota over a counterfeit \$20 bill. As a result, Trump faces three crises providing headwinds to his re-election effort,

which is just five months away. Amid domestic turmoil, he is now attempting to make opposition to China a centerpiece of his bid.

While the Biden campaign favors pre-2016 status quo attitudes toward Beijing, this is not held by all Democrats, including within the party's leadership. House Speaker Nancy Pelosi has long been a center-left China hawk, dating back to her criticism of Beijing for the Chinese Communist Party's actions during the Tiananmen Square protests. Senate Minority leader Chuck Schumer blames Chinese negligence for the severity of the opioid epidemic and encourages Trump to be even tougher on China. Likewise, the previously ascendant progressive wing of the party supports a tougher stance because of China's trade practices, environmental policies, and human rights record.

In other words, even if Trump loses this November, there might be no change in political attitudes toward China, since a more confrontational stance toward Beijing seems to be shared by both Republicans and Democrats. And now, according to a poll by Morning Consult, a majority of American voters blame China for the spread of COVID-19.

On the other side of the Pacific, Xi is dealing with his own coronavirus-induced fallout, which is messing with his plans to further consolidate power within the CCP. Behind the scenes, he is facing criticism from influential stakeholders within the party structure, which he is trying to silence along with widespread skepticism within Chinese society. At the same time, Beijing is trying to suppress potential Islamism in Muslim-majority Xinjiang by throwing by some estimates up to 1

million people into "re-education camps."

Meanwhile protests are continuing in Hong Kong against Beijing's efforts to impose a new national security law on the city, a move that Washington has warned justifies revoking Hong Kong's autonomous status. The United Kingdom is opening the door to full British citizenship for BNO passport holders, posing a brain drain risk to one of China's major cities. These events threaten the Chinese Communist Party's legitimacy, since foreign investors are

considering long-term exit strategies from the Chinese market with encouragement from Washington.

These problematic developments are playing on another emerging debate inside China, where the post-COVID-19 geopolitical landscape becomes scrambled for Beijing. Xi is opening a discussion on whether the country should take a semi-Stalinist cult of personality approach under his leadership, or retain the traditional post-Mao "Dengist" approach. These arguments within the

CCP leadership have implications for Washington's relations since they will dictate the tone of engagement between the two countries in the coming years.

The regional situation in Asia currently provides a match for the evolving tinderbox of relations between the U.S. and China, especially

considering the domestic problems facing the two countries. The ongoing coronavirus pandemic and the social and economic havoc it is creating in the U.S. is providing an opening for Beijing to press its agenda throughout the region and the world. However, China's assertiveness during this global

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crisis is coming at the cost of further tensions with regional rivals like Japan, Vietnam, Taiwan and India.

COVID-19's origins in China are prompting the Japanese government to incentivize businesses to move supply chains back home. Vietnamese distrust of China's intentions drove Hanoi's successful COVID-19 strategy. At the same time, Beijing is increasingly aggressive toward Taiwan, while Washington is distracted by the crisis at home. There is now an ongoing standoff between Beijing and New Delhi (both armed with nuclear weapons) over territorial disputes along their border. An escalation of any of these standoffs — or if Xi overplays his hand with claims in the South China Sea — could easily drag Washington into a regional conflict.

Still, there is a reason for cautious hope considering the U.S. previously faced similarly difficult circumstances with the Soviet Union. From 1967 through 1970, Washington faced an intractable war in Vietnam, racial unrest at home and massive upheaval that changed social attitudes in American society. Internationally, the Vietnam War served as a potential flashpoint. Open conflict between Israel and the Arab World, war between India and Pakistan, left-wing terrorism, and the Prague Spring all posed heightened risks.

On the other side of the Berlin Wall, Moscow dealt with inter-socialist rivalry with Mao's China, a massive military build-up, and aging leadership, among other issues. Still, despite these flashpoints and simmering tensions, Washington and Moscow refrained from coming to open blows.

The twin domestic crises impacting the U.S. and China carry repercussions that go beyond both powers. The unrest and discord currently happening in the U.S. are upping the stakes for American political leaders going into an election year where intertwined crises could easily spill over into the international sphere. With his re-election on the ropes, Trump could decide a show of force in Asia is an excellent option to bolster his campaign message. Mounting problems at home are also driving Xi's decision-making calculus, and could similarly cause him to assert power in the

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near with Washington. Rising instability among the elites and societies of both powers create numerous further risks for potential conflict between the U.S. and China.

All these domestically driven challenges play into Graham Allison's famed "Thucydides Trap," which predicts that a rising power will almost always come to blows with an established one. So far, the evolving nature of the U.S.-China relationship seems to be proving Allison's theory well, considering the differences between the two are becoming more highlighted and tensions are rapidly ramping up due to domestic political rhetoric. Time will tell if the unrest currently plaguing both rival powers sees the Thucydides trap become a self-fulfilling prophecy.

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Adding to the stakes is the fact that a global pandemic, the source of the recent social and economic upheaval, originated in the U.S.' rising rival.

Xi must prove himself to be a decisive leader considering the pressure he is under within the ruling Communist Party to provide clarity in the

aftermath of COVID-19 and the ongoing unrest in Hong Kong. Trump, meanwhile, is eyeing a tough-on-China stance as a crucial pillar of his re-election bid. If neither man can provide stability in the relationship between the two powers, the similar challenges facing both could snowball into an even larger crisis.

Source: *The Japan Times*, <https://www.japantimes.co.jp/opinion/2020/06/16/commentary/world-commentary/u-s-china-thucydides-trap-closing/#.XvXlxGgzY2w>, 16 June 2020.

**OPINION – Emil Avdaliani**

**As US-China Competition Unfolds, Russia Watches Closely – Analysis**

Russia's relations with the West are at their lowest point in two decades. Similar patterns of warming and cooling have taken place intermittently ever since Russia emerged as a major Eurasian power in the early 18th century. Each crisis with the West alternated with rapprochement and at times full military and security cooperation.

An unchangeable trait of those relations was that Russia had scarcely any foreign policy alternatives with which to balance its West-oriented geopolitical worldview. For Moscow, the West remained a major source of technological, economic, and political progress even as it remained an existential threat, as various military invasions by western Europeans into the Russian heartland proved.

This changed in the early 2000s, when China's rise gave Russia a new card to play. Today's Russian political elites advocate a more balanced foreign policy in which the Kremlin's interests lie

**From the Russian perspective, the competition between the US and China is a geopolitical development that could offer Moscow many opportunities. The US, which once focused on containing Russia through broader support for vulnerable territories from Scandinavia to the Black Sea, is now focused on Syria and other Middle East trouble spots and is shifting its attention far from Russia's borders to the Indo-Pacific.**

in every major Eurasian region. According to that vision, Russia's foreign policy is no longer attached to any specific region but is evenly spread in an era of "Global Russia."

From the Russian perspective, the competition between the US and China is a geopolitical development that could offer Moscow many opportunities. The US, which once focused on containing Russia

through broader support for vulnerable territories from Scandinavia to the Black Sea, is now focused on Syria and other Middle East trouble spots and is shifting its attention far from Russia's borders to the Indo-Pacific.

There is, indeed, an urgent need for this shift in American focus, as China's power far outstrips Russia's. But for the Russians, the shift in the American worldview means US power will be depleted even more than it was in the 2000s. Over the century's first two decades, the US entered

Afghanistan and Iraq and later got involved in Syria, spending trillions overall.

This means that Russia's pivot to the east, rebalancing the West with China, has much deeper geopolitical significance than many believe. Russia-China cooperation goes far beyond the "partnership of convenience" propounded

by many analysts.

As the US-China competition persists (as it is likely to do for decades), it will grow easier for Russia to maneuver and attain at least some geopolitical aims in its immediate neighborhood. For Moscow, the longer the competition between the two economic and military powers goes on the better, as it will help Russia position itself as a separate pole of geopolitical gravitation.

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We often forget that to the Russians, China and the US are long-term geopolitical rivals of very much the same caliber. The Kremlin does not trust either one of them, and their competition redounds to Russia's benefit. A similar situation existed before WWII, when Stalin and the Bolsheviks perceived all Western powers as hostile. To gain geopolitical advantage it was necessary to foster disagreements between the Nazis and France and Great Britain.

While that strategy worked then, this is a different era. First and foremost is the grand scale of the struggle between the Chinese and Americans. Still, the inherent geopolitical worldview of the Russians remains the same: abstain from directly engaging in the US-China competition and try to leverage it to gain geopolitical points. The ultimate object is to have both the US and China approach Russia for geopolitical support.

Time will tell if this strategy will work. The US is increasing pressure on allies and partners across the world to desist from security and military cooperation with the Chinese. A clearly defined US-led techno-economic bloc is emerging. For the moment, Russia is closer to China through burgeoning economic and military ties—but the Russians fear that a powerful China could strategically challenge Moscow's interests in Central Asia and elsewhere.

Ideally, Washington would prefer that Moscow come closer to the US than turn toward China. Perhaps serious effort will be made to salvage its broken relations with the Kremlin. The problem will be how many concessions the US and the EU

can make. The focal points will be Ukraine first of all, and then Moldova and Georgia. Some concessions might be offered, but it is unlikely that the collective West will abandon its decades-long economic and military efforts in the former Soviet space. Similarly, Russia will try to score points in the Middle East. The West might be more conciliatory there, but not to the point of abandoning the region altogether.

This leads to another scenario in which the West does not try to pull Russia closer, but rather leaves it to be drawn into China's orbit. Many believe the collective West would be unable to match Russia's and China's combined resources. This might not be entirely true. After all, the US managed to contain the Soviets and the Chinese when they were close in the 1950s and early 1960s, a time when their satellites controlled most of the Eurasian landmass. This US tradition could serve as the basis for a more pronounced confrontation with the non-democratic powers.

This would mean that Russian hopes for geopolitical gains through grand geopolitical trade-offs with the West might not materialize. The country might be further pulled into the Chinese sphere of technological, military, and security influence. The possession of a large nuclear arsenal would not be a point of leverage for Moscow. Chinese influence would expand in every non-nuclear sphere. With Russia essentially cut off from the West, it would be unable to contain China's economic and military power in Central Asia and the Middle East.

Either of these scenarios could unfold. Russia

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might try to play the difficult game of balancing the West and China to gain concessions from both. However, the Kremlin's long-term hopes could be dashed if the US comes to regard Russia and China as strategically linked in the enemy camp. With China dominant and Europe hesitant to help, there would be very little room for cooperation.

Source: *Eurasia Review*, <https://www.eurasiareview.com/27062020-as-us-china-competition-unfolds-russia-watches-closely-analysis/>, 27 June 2020.

## NUCLEAR STRATEGY

### CHINA

#### New Era Dawns for China's Next-Gen Submarine

Has the Chinese Navy moved a step closer to the next generation of powerful nuclear submarines, matching the US and the Russians in the global game of deadly deterrence? According to a report in Forbes magazine, new evidence at the Bohai shipyard in China points to big things ahead for the Chinese Navy (PLAN). While some have speculated that the new Type 095 and 096 subs will be built there, it is only now that the infrastructure is largely ready for such a task, Forbes reported.

Analysis of commercial imagery shows a new launch barge has recently been completed at the site — an important indicator. In an unclassified analysis, the US Office of Naval Intelligence (ONI) says it expects China's submarine fleet to grow from around 66 boats today to at least 76 by 2030, Forbes reported. This will include six more nuclear-powered attack submarines, which just happens to be what the Bohai yard at Huludao builds.

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The new submarines will be important if the PLAN wishes to patrol the open Pacific and challenge US naval power, or routinely venture into the Indian Ocean, Forbes reported. Work on the Huludao expansion started in 2014 with large new construction halls built on reclaimed land. The hall has three construction bays, each large enough to house two submarines.

The buildings themselves were complete by 2017, but it is only recently that they have been connected to the dry dock where the submarines will be launched. So China now has the facilities lined up to start launching advanced Type-095 Tang Class submarines (China's answer to the US Virginia Class), Forbes reported.

However, according to Captain Chris Carlson, a former senior US intelligence officer, the driver for the new construction facility may not be as it seems. Instead he sees the next generation ballistic missile submarine, the Type-096, as benefiting more. "The original construction hall is probably too small to house both new submarines, but this assumes the submarines' beam (width) is the constraining issue — the Type 096's expected greater length is a definite problem. The original launch barge also likely has inadequate lifting capacity to get a much larger Type 096 submarine into the water."

Carlson believes that the new submarines will be wider than the current generation, Forbes reported. "Despite all the blog blustering, the current Type 093 attack submarine is a noisy boat. And the 093A, while better, isn't the equivalent of a 688 (Los Angeles Class)." Carlson continues, "The pressure hull diameter of a Type-093 is just too small for a full entablature raft along with compound isolation to house the entire propulsion plant and the

necessary auxiliaries. This is the same constraint the Russian's experienced with the Victor III Class that has a less effective ring raft."

In layperson's terms, the pressure hull needs to be bigger to provide space to insulate the submarine's steel hull from the vibrations of the machinery, Forbes reported. If high levels of stealth are desired, then

the new submarines will likely have a similar hull diameter to the Russian Improved Akula class.

According to GlobalSecurity.org, the Type-096 submarine will be the quietest, most heavily-armed submarine the Chinese Navy has ever built. The design will incorporate technological advancements to provide improvement in ship quieting; improved acoustic sensors; more capable combat systems; greater weapon capacity and capability; improved performance machinery program; and enhanced survivability.

The past few decades of submarine hydrodynamic evolution have resulted in a ship of teardrop shape with unobstructed skin. The fact that a modern submarine resembles an airplane is not a coincidence, Global Security reported. Underwater the submarine maneuvers much like an aircraft. It dives, climbs, banks and turns by manipulating control surfaces. These control surfaces are a vertical rudder aft and horizontal diving planes forward and aft.

There is a fixed fin forward, commonly referred to as fairwater, or simply the sail. The outer hull at the bow houses major sonar equipment and forms the nose of the teardrop, Global Security reported. The parallel middle body houses all the equipment required for control, stability,

**Although, it may no longer be the most efficient and compact system technology, the PWR design has a long history of safe, reliable operation. Torque generated by the steam turbine is transmitted to the screw by the propulsion train (reduction gear and shafting). Weapons include the ability to carry 24 nuclear missiles (MIRVed JL-3 SLBMs with multiple warheads) plus six bow torpedo tubes capable of firing 24 passive acoustic homing torpedoes 533-mm Thunderbolt.**

**The organization estimated that at the end of 2019, nine countries possessed a total of 13,400 nuclear warheads, down from the 13,865 estimated in SIPRI's previous report, which in turn was a drop from 14,465 the year before. The reductions were primarily due to numbers dropping under the New START nuclear agreement between Russia and the U.S., which experts largely expect not to be renewed at the start of the new year.**

propulsion, and weapon systems. The after end of the outer hull tapers to a point, providing a hydrodynamically effective flow path to the stern control planes and the propeller.

All Chinese [and US] submarines are powered by a pressurized water reactor (PWR) coupled to a steam turbine. Although, it may no longer be the most efficient

and compact system technology, the PWR design has a long history of safe, reliable operation. Torque generated by the steam turbine is transmitted to the screw by the propulsion train (reduction gear and shafting). Weapons include the ability to carry 24 nuclear missiles (MIRVed JL-3 SLBMs with multiple warheads) plus six bow torpedo tubes capable of firing 24 passive acoustic homing torpedoes (533-mm Thunderbolt).

*Source: Dave Makichuk, Asia Times, <https://asiatimes.com/2020/06/bohai-shipyard-could-house-next-gen-sub-analysts/>, 22 June 2020.*

## GENERAL

### Nuclear Modernization Speeding Up as Arms Control on the Brink: Report

Overall nuclear warheads in the world decreased in 2019, but broad modernization efforts by the biggest nuclear countries — along with a degradation of arms control agreements around the world — could mean a dangerous mix for the future, according to an annual report from the Stockholm International Peace Research Institute, or SIPRI.

The organization estimated that at the end of 2019, nine countries possessed a total of 13,400 nuclear warheads, down from the 13,865 estimated in SIPRI's previous report, which in turn was a drop

from 14,465 the year before. The reductions were primarily due to numbers dropping under the New START nuclear agreement between Russia and the U.S., which experts largely expect not to be renewed at the start of the new year.

Russia is the largest holder of nuclear warheads, according to SIPRI's numbers, with 6,735 total, of which 1,570 are deployed. The U.S. follows at 5,800, with 1,750 deployed. The two countries account for over 90 percent of the world's nuclear arsenal.

The United Kingdom (250 total, 120 deployed) and France (290 total, 280 deployed) are the other two nations believed to have deployed nuclear warheads. China (320 total), India (150 total), Pakistan (160 total), Israel (90 total) and North Korea, (30-40 total) round out SIPRI's list.

Both the U.S. and Russia are engaged in expensive, widespread modernization efforts of its nuclear arsenal. America is upgrading both its legacy nuclear warheads with new designs, as well as updating its fleet of nuclear-capable bombers, submarines and ICBMs. Earlier this year, the Pentagon deployed for the first time the W76-2, a low-yield variant of the nuclear warhead traditionally used on the Trident submarine launched missile, and early design work is being done on another new submarine launched warhead design, known as the W93....

Russia, meanwhile, has spoken openly about developing hypersonic weapons that could be nuclear equipped and has invested in novel weapons such as the Status-6, an underwater drone that could be equipped with a nuclear warhead. Moscow has also vocalized new deployment plans for its weapons and on June 2 made official a policy that it may use nuclear weapons in response to a conventional attack.

Those investments by the world's two nuclear superpowers come against a backdrop of the collapse of numerous arms control agreements. 2019 saw the formal end of the INF treaty, and in

May the U.S. announced its intention to withdraw from the Open Skies arms control verification agreement. The last major arms control agreement between Russia and the U.S. is New START, which is set to expire in February of 2021. In recent weeks the U.S. has announced its intention to start negotiations on a new arms control agreement that would include China.

However, Chinese officials have repeatedly and categorically denied that it would be willing to join such an agreement, and experts largely view any efforts to create a trilateral nuclear arms

control pact as a New START replacement are non-starters, leading to widespread agreement among analyst that New START is likely doomed under the Trump administration.

"The deadlock over New START and the collapse of the 1987 Soviet-US INF Treaty in 2019 suggest that the era of bilateral nuclear arms control

agreements between Russia and the USA might be coming to an end," said Shannon Kile, Director of SIPRI's nuclear disarmament, arms control and non-proliferation program. "The loss of key channels of communication between Russia and the USA that were intended to promote transparency and prevent misperceptions about their respective nuclear force postures and capabilities could potentially lead to a new nuclear arms race."

*Source: Aaron Mehta, (excerpted from) Defense News, <https://www.defensenews.com/smr/nuclear-arsenal/2020/06/14/nuclear-modernization-speeding-up-as-arms-control-on-the-brink-report/>, 14 June 2020.*

## **RUSSIA**

### **Putin Says Russia will be Able to Counter Hypersonic Weapons**

Russia will soon be in a position to counter hypersonic arms deployed by other countries, President Vladimir Putin said, adding that

**However, Chinese officials have repeatedly and categorically denied that it would be willing to join such an agreement, and experts largely view any efforts to create a trilateral nuclear arms control pact as a New START replacement are non-starters, leading to widespread agreement among analyst that New START is likely doomed under the Trump administration.**

Moscow was ahead of the United States in developing new types of weapons. Hypersonic glide vehicles can steer an unpredictable course and manoeuvre sharply as they approach impact. They also follow a much flatter and lower trajectory than ballistic missiles. Washington and Moscow have been expanding their defence capabilities as some Cold War-era arms control agreements collapsed during worsening of Russia's ties with the West.

Last year Russia deployed its first hypersonic nuclear-capable missiles, while the Pentagon has a goal of fielding hypersonic capabilities in the early to mid-2020s. "It's very likely that we will have means to combat hypersonic weapons by the time the world's leading countries have such weapons," Putin was quoted as saying by the RIA news agency. While Russia and the United States had broadly the same number of nuclear weapons, Putin said Moscow was ahead in advanced arms development.

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**After deliberations at the (National Security Council), we have come to the decision to cancel the deployments in Yamaguchi and Akita prefectures," Kono told a gathering of Liberal Democratic Party lawmakers. The decision followed Kono's abrupt announcement on June 15 that Japan had halted preparations to deploy two U.S.-made batteries of the missile system, citing technical problems and increasing costs amid strong local opposition.**

*Source: Reporting by Maria Kiselyova; Editing by Mark Potter and Alexander Smith, Reuters, <https://in.reuters.com/article/russia-arms/putin-says-russia-will-be-able-to-counter-hypersonic-weapons-idINKBN23LOCL>, 14 June 2020.*

## **BALLISTIC MISSILE DEFENCE**

### **JAPAN**

#### **Aegis Ashore Deployments in Japan Scrapped, Defense Minister Confirms**

Japan has scrapped a plan to deploy Aegis Ashore, a land-based missile defense system that was touted for the protection it would provide from

the North Korean nuclear weapon and missile threat, Defense Minister Taro Kono said. "After deliberations at the (National Security Council), we have come to the decision to cancel the deployments in Yamaguchi and Akita prefectures," Kono told a gathering of Liberal Democratic Party lawmakers. The decision followed Kono's abrupt announcement on June 15 that Japan had halted preparations to deploy two U.S.-made batteries of the missile system, citing technical problems and increasing costs amid strong local opposition.

At the LDP meeting, part of which was open to the media, Kono also said the Defense Ministry had found it difficult to select alternate sites. In 2017, Japan had decided to deploy the Aegis Ashore batteries to boost the country's defenses against North Korea's nuclear weapon and missile programs. While the nation will continue to defend itself via existing Maritime Self-Defense Force Aegis-equipped destroyers, Kono said it was a bad idea to rely solely on the ship-based system.

Bearing in mind Beijing and Pyongyang's development of new ballistic missiles that are difficult to intercept, the minister said Japan had to "consider what we will do (to respond to such threats) over the medium to long term." Kono also said the existing MSDF destroyers and land-based Patriot Advanced Capability-3 system — designed to shoot down missiles that evaded interceptors fired from the ships — would protect the nation "for the time being."

The Aegis Ashore units were intended to supplement the MSDF destroyers, with one

candidate site in Akita Prefecture and the other in Yamaguchi Prefecture, both near the Sea of Japan coast. "I'm relieved that anxiety among local residents has faded," Akita Gov. Norihisa Satake told reporters, adding that Kono told him by telephone in the morning that central government would not deploy Aegis Ashore units in the nation hereafter. "But, I wonder what this two and a half years (since the Cabinet approval to deploy the batteries) were for," Satake said.

Meanwhile, Yamaguchi Gov. Tsugumasa Muraoka told reporters he was "grateful" for the government's "quick decision." Later in the day, Kono told reporters the government would continue to discuss defense needs with ruling parties and the United States, in addition to talks at the NSC. Kono said acquiring weapons that would let Japan strike enemy missile bases was an option Japan will consider as a way to bolster its ballistic missile defenses.

On Wednesday (24 June) the government started to review its national security policy following the decision to suspend the Aegis Ashore deployment plan. The focal point of the review is said to be whether Japan should possess the ability to strike enemy bases, after Abe recently said that he wants to consider such a possibility as part of discussions on national security. The review began at the day's meeting between Abe as well as Kono and two other key Cabinet ministers that are members of the government's National Security Council. Kono reported on the suspension of the deployment plan for the U.S.-made missile interceptors, which was followed by discussions on how the nation should prepare for dealing with threats from ballistic missiles.

Initially, the government had considered formally deciding to cancel the Aegis Ashore plan at the day's NSC meeting, but it put off the decision as

talks on the matter with the U.S. were still under way. The government will hold intensive discussions through the summer, planning to consider the first revision of its strategy on

national security that was compiled in 2013. The government also plans to modify its national defense guidelines and medium-term defense buildup program, both adopted in 2018. Decisions from the discussions will be reflected in fiscal 2021 budget requests. Abe told a news conference on Thursday (25 June) that his administration would hold thorough discussions on national security at the NSC this summer to set a new strategy and implement it promptly.

**Haguro is the second ship of two Maya-class destroyers for the Japan Maritime Self-Defense Force, and it's the country's eighth destroyer to be equipped with the Aegis combat system for air and ballistic missile defense. The sea trials for the Haguro comes as Japan scrambles for a solution following its decision to suspend plans to deploy the Aegis Ashore system. Japan had planned to deploy two such systems, with one each at the north and south of its main island of Honshu, to provide early warning and interception coverage for the entire country.**

Source: *The Japan Times*, <https://www.japantimes.co.jp/news/2020/06/25/national/deployment-aegis-ashore-scrapped/>, 25 June 2020.

### **Japan's New Missile Defense Destroyer Starts Sea Trials amid Aegis Ashore Saga**

The last of Japan's eight planned destroyers capable of intercepting ballistic missiles has started sea trials ahead of its commissioning, even as the country ponders its next move following its decision to suspend plans to introduce ground-based systems for that role. The destroyer Haguro left shipbuilder Japan Marine United Corporation's shipyard at Isogo, near Yokohama and south of the Japanese capital Tokyo, this morning for its first sea trials.

The ship is to be commissioned in 2021. It is 170 meters long, displaces 8,200 tons and is fitted with 96 Mk 41 Vertical Launching System cells that can fire a variety of missiles, including those used for ballistic missile defense. Haguro is the second ship of two Maya-class destroyers for the Japan Maritime Self-Defense Force, and it's the country's eighth destroyer to be equipped with the Aegis

combat system for air and ballistic missile defense. The sea trials for the Haguro comes as Japan scrambles for a solution following its decision to suspend plans to deploy the Aegis Ashore system. Japan had planned to deploy two such systems, with one each at the north and south of its main island of Honshu, to provide early warning and interception coverage for the entire country against North Korean ballistic missiles. However, Defense Minister Taro Kono announced that plans to deploy the Aegis Ashore were suspended. His ministry is now seeking alternatives to fill the ballistic missile defense gap. ...

Source: Mike Yeo, <https://www.defensenews.com/global/asia-pacific/2020/06/23/japans-new-missile-defense-destroyer-starts-sea-trials-amid-aegis-ashore-saga/>, 23 June 2020.

**NUCLEAR ENERGY**

**EU**

**Help Coal-Dependent Countries Switch to Nuclear, Ministers Tell EU**

Both the Czech Republic and Poland are phasing out their coal-fired power plants and want to replace them with new nuclear power units in order to remain self-sufficient in electricity supply and at the same time reduce their greenhouse gas emissions.

The Czech Republic has six nuclear reactors generating about one-third of its electricity. Four VVER-440 units are at Dukovany, in Vysočina Region, and two VVER-1000 units are at Temelín, in South Bohemian Region. The government's long-term energy strategy, adopted in 2015, forecasts the need to increase the share of nuclear power in the country's electricity mix by 20-25%

**The Czech Republic has six nuclear reactors generating about one-third of its electricity. Four VVER-440 units are at Dukovany, in Vysočina Region, and two VVER-1000 units are at Temelín, in South Bohemian Region. The government's long-term energy strategy, adopted in 2015, forecasts the need to increase the share of nuclear power in the country's electricity mix by 20-25% to 50-55% by 2050.**

to 50-55% by 2050. Czech utility ěEZ applied to the State Office for Nuclear Safety on 25 March to construct two new reactors at its Dukovany nuclear power plant.

Poland meanwhile has no nuclear power plants. It aims to cut the share of coal in its electricity mix from 80% to 32% by 2040 and to introduce 6-9 GWe of nuclear capacity that would account for 18%. It plans to have a six reactor units in operation by 2040.

In a letter to Timmermans and Simons dated 22 June and seen by World Nuclear News, Polish Minister of

Climate Michał Kurtyka wrote that it is "important to stress how local conditions may vary" among EU Member States.

"Poland's baseload generations currently relies heavily on fossil fuel combustion," he wrote. "Our geography excludes the development of non-intermittent renewable capacity like hydro, while the window of opportunity to implement nuclear power was missed in the late eighties as a result of an arbitrary decision. This, combined with a large population and industry with rising energy demand, puts us at a different starting point than the rest of our EU partners. This is why Poland, following good example and experience from other Member States, intends to develop nuclear power to replace the baseload capacity provided by coal with a zero-emission, stable generation at a cost affordable for Polish citizens and economy."

**Poland meanwhile has no nuclear power plants. It aims to cut the share of coal in its electricity mix from 80% to 32% by 2040 and to introduce 6-9 GWe of nuclear capacity that would account for 18%. It plans to have a six reactor units in operation by 2040.**

The Polish government, he said, was "surprised when nuclear power was not reflected in recent EU policies, including the European Green Deal package, while its place in the EU Taxonomy is still under question". The COVID-19 recovery highlights another benefit from the development

of nuclear power, he added, to produce “broad added value” across industrial sectors and generate many high-quality jobs. “This is why the decades-long and hard-earned European leadership in nuclear technologies should not be squandered. On the contrary, it is our responsibility to maintain and develop it for the benefit of future generations,” he wrote. “Further prejudice against nuclear power will only continue to penalise new build projects implemented by several Member States, thus hindering the electrification process to which nuclear - representing over 45% of EU low-emission generation - is a major contributor.”

Kurtyka’s comments echoed the message to Timmermans and Simons from Karel Havlíček, the Czech Republic’s deputy prime minister and minister of industry and trade, and Richard Brabec, Czech environment minister, in a letter they wrote in April.

They wrote that, to achieve the EU carbon neutrality goal by 2050, the future shape of Sustainable Finance and the Green Deal takes into account nuclear energy as a “vital and reliable” source of low-carbon electricity. They referred to reports by the Intergovernmental Panel on Climate Change and the International Energy Agency that an increase in nuclear power generation is needed.

Among the benefits of nuclear power outlined by Kurtyka in his letter, Havlíček and Brabec also highlighted the fact that, not including nuclear among sustainable activities in the EU Taxonomy “would lead to an unfavourable signal to the financial institutions and markets”. Nuclear energy is essential for the Czech Republic, they wrote, calling on the Commission to “conduct promptly” an assessment of nuclear energy to be able to

**European climate leaders are modern industrialised economies with low carbon intensity of electricity generation, achieved through a combination of nuclear and renewables. Why deny Poland, Czech Republic and all Member States the opportunity to replace the base-load capacity provided by coal with zero-emissions reliable generation at a cost that is affordable for their citizens and economies.**

establish the “technical screening criteria needed for its sustainability in the delegated act at the end of this year”.

Kirsty Gogan, executive director of Energy for Humanity, said: “European climate leaders are modern industrialised economies with low carbon intensity of electricity generation, achieved through a

combination of nuclear and renewables. Why deny Poland, Czech Republic and all Member States the opportunity to replace the base-load capacity provided by coal with zero-emissions reliable generation at a cost that is affordable for their citizens and economies?”

“There is no evidence-based reason to exclude nuclear energy from the EU Green New Deal Package, and from accessing sustainable finance. On the contrary, there is strong evidence that this

will result in both new build and life extensions for existing fleet being more difficult to finance. This not only undermines the principles of the Just Transition, but succeeds in making our climate challenge harder, more expensive, and more likely to fail.” ...

**The OECD Nuclear Energy Agency has launched four policy briefs that examine nuclear energy’s role in the post-COVID economic recovery. These address building resilience; job creation; cost-effective decarbonisation; and unlocking finance. The pandemic has “underlined the importance of electricity reliability and resilience during major disruptions.**

Source: *World Nuclear News*, <https://world-nuclear-news.org/Articles/Help-coal-dependent-countries-switch-to-nuclear-mi>, 24 June 2020.

## **GENERAL**

### **OECD Affirms Nuclear Energy Role in Recovery**

The OECD Nuclear Energy Agency has launched four policy briefs that examine nuclear energy’s role in the post-COVID economic recovery. These address building resilience; job creation; cost-effective decarbonisation; and unlocking finance. The pandemic has “underlined the importance of electricity reliability and resilience during major

disruptions. With governments considering a broad range of options for economic recovery and job creation, it is becoming increasingly clear that stimulus packages have the opportunity to support energy systems that both fulfil these criteria while meeting long-term environmental goals and energy security.” The World Nuclear Association contributed to the policy briefs.

The four policy briefs are: Nuclear power and the cost-effective decarbonisation of electricity systems, which says that plans to reconcile climate objectives with economic goals need to put system costs at the heart of energy policy, along with structural reform of the electricity market; Creating high-value jobs in the post-COVID-19 recovery with nuclear energy projects – highlights that investment in nuclear energy is proven to create many highly skilled jobs; Unlocking financing for nuclear energy infrastructure in the COVID-19 economic recovery – Several financing models would be well-suited to support near-term nuclear new build projects and could in turn significantly reduce the final cost of nuclear energy; and Building low-carbon resilient electricity infrastructures with nuclear energy in the post-COVID-19 era - nuclear energy can boost economic growth in the short term, while supporting development of a low-carbon resilient electricity infrastructure in the long term.

The nuclear industry, led by World Nuclear Association, has set the Harmony goal for nuclear energy to provide at least 25% of global electricity by 2050. This requires trebling nuclear generation from its present level. Some 1000 GWe of new nuclear generating capacity will need to be constructed by 2050 to achieve that goal....

## **GHANA**

### **Ghana Progresses Nuclear Power Plans**

After more than a decade of tentative plans, Ghana has completed the first stage of establishing internationally-credible

infrastructure for building its first nuclear power plant. The IAEA has set out a three-phase approach for countries embarking upon nuclear power programs, and Ghana has achieved the first, pre-project phase, of this. The Ghana Nuclear Regulatory Authority (NRA), was set up by parliament in 2015. In 2017 Ghana hosted an IAEA Integrated Nuclear Infrastructure Review (INIR) mission to evaluate the country’s preparation against the IAEA ‘milestones approach’. It reported later that year, and in October 2019 a follow-up mission reported good progress. In 2015 a nuclear cooperation agreement with Russia’s Rosatom

was signed, to enable the development of contractual and legal frameworks for cooperation in the nuclear sector. The final third phase will involve building a power plant of 700-1200 MWe, intended by 2030.

*Source: Excerpted from Weekly Digest, World Nuclear Association, 19 & 26 June 2020.*

**Rosatom Director-General Alexey Likhachev signed the agreement for the new generation VVER-1200 and VVER-TOI reactors, which are based on VVER technology developed by Rosatom, that Lihachev said “meets all current international safety requirements.**

## **RUSSIA**

### **Russia to Build Four New Nuclear Power Units**

Preparations are underway in Russia to build four new power reactors, two in Leningrad and two in Smolensk, the Russian State Atomic Energy Corporation Rosatom announced on 26 June. Rosatom Director-General Alexey Likhachev signed the agreement for the new generation VVER-1200 and VVER-TOI reactors, which are based on VVER technology developed by Rosatom, that Lihachev said “meets all current international safety requirements.”

The reactors are included in the country’s scheme of electricity facility placement up to 2035, which was approved by the Russian government. Rosenergoatom, part of Rosatom, will be both the developer and technical coordinator of these projects. Director-General of Rosenergoatom, Andrei Petrov explained that the new power units will replace the old RBMK-1000 reactors, whose service life will end over the next decade. According to preliminary estimates, their construction will create up to 15 thousand new

jobs, and provide regular tax revenues, he said.

By the end of this year, preliminary work will be carried out at the construction site of the Leningrad NPP-2 for the new power units 3 and 4 with VVER-1200 reactors. Plans are afoot for temporary on-site accommodation for workers and a building site. Between 2020 and 2022, public consultations will be held along with an assessment of the environmental impact of units 3 and 4 and construction plans will be prepared up to 2022.

The VVER-TOI reactors, with a total capacity of 2,510 megawatts, will be constructed at the new Smolensk NPP-2 at a six-kilometer distance from the plant's existing power units. Plans for the construction of units 1 and 2 at the plant will be made with a plan of action approved by the end of 2020, taking financing into account.

*Source: Firdevs Yüksel, Anadolu Agency, <https://www.aa.com.tr/en/europe/russia-to-build-four-new-nuclear-power-units/1891054#>, 26 June 2020.*

## **USA**

### **Nuclear Power System Delivered for Mars Rover Launch**

The US Department of Energy (DOE) has delivered the nuclear power system for the Perseverance rover for NASA's Mars 2020 mission which is due to launch next month. The Multi-Mission Radioisotope Thermoelectric Generator (MMRTG) was fuelled, built and tested by DOE's national laboratories.

Radioisotope power systems (RPS) convert heat generated by the natural decay of plutonium-238 (Pu-238) into electrical power. The MMRTG will provide electricity for the basic operations of the rover and to keep its tools and systems at optimal temperatures. It has an operational lifespan of 14 years.

The DOE in 2015 restarted US production of Pu-238 for the first time since 1988. It now maintains the essential infrastructure to help fuel, build and test RPSs for NASA. Perseverance will be the first rover to use plutonium created by DOE's Oak Ridge National Laboratory (ORNL), which along with Idaho and Los Alamos national laboratories is working to increase US production of Pu-238 for deep space exploration. ORNL in February automated part of the production process allowing it to produce up to 400 g of Pu-238 per year, moving closer to NASA's goal of 1.5 kilograms per year by 2025.

The RPS for Perseverance was assembled, tested and delivered by Idaho National Laboratory (INL) to Kennedy Space Center in Florida. A team from the laboratory will monitor the power system around the clock until the launch, on a United Launch Alliance Atlas V 541 rocket, which is currently scheduled for 9:15am EDT on 17 July. Perseverance will land on Mars in February 2021 and will spend at least one Mars year (two Earth years) exploring the landing site region, an ancient river delta in a lake that once filled the planet's Jezero Crater. DOE's next MMRTG is set to power the Dragonfly rotorcraft lander mission to explore Saturn's largest moon, Titan. That mission is expected to launch in 2026, arriving on Titan in 2034.

*Source: World Nuclear News, <https://world-nuclear-news.org/Articles/Nuclear-power-system-delivered-for-Mars-rover-launch>, 12 June 2020.*

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## **NUCLEAR COOPERATION**

### **CANADA–USA**

#### **Canada, US Build Critical Minerals Cooperation**

Canada and the USA reaffirmed their commitment to strengthening supply chains for critical minerals including uranium in their first working group meetings since finalising a bilateral collaboration agreement earlier this year. Shawn Tupper,

associate deputy minister for Natural Resources Canada, and Cynthia Kierscht, US deputy assistant Secretary of State for Western Hemisphere Affairs reaffirmed their commitment to strengthening the supply chain for materials deemed essential to both countries' security and economic growth at the Second Bi-lateral Critical Minerals Working Group meeting, which was held by videoconference.

The two countries discussed the effects of the COVID-19 global pandemic on the mining sector and explored opportunities to collaborate on securing access to the critical minerals needed for key manufacturing sectors such as communication technology, aerospace, defence and clean technology, Canadian Minister of Natural Resources Seamus O'Regan said after the meeting.

... The bilateral efforts build on an agreement made in June 2019 by the countries' leaders to develop reliable, integrated North American supply chains for critical minerals. The first meeting of the working group was held in Washington DC in October, and the Canada-US Joint Action Plan on Critical Minerals Collaboration was finalised in January of this year.

*Source: Researched and written by World Nuclear News, <https://www.world-nuclear-news.org/Articles/Canada-USA-build-critical-minerals-cooperation>, 23 June 2020.*

## **USA-POLAND**

### **Polish and U.S. Presidents to Discuss Nuclear Energy**

Polish President Andrzej Duda said on Thursday (18 June) that he would discuss cooperation with the United States on nuclear energy in talks with President Donald Trump in Washington. The visit, unexpectedly announced by the White House on 24 June, takes place four days before Poland's presidential election on June 28.

Duda, an ally of Poland's ruling nationalist Law and Justice (PiS) party, has been leading in opinion polls, although some surveys show he may not win the second round of the vote. "We will definitely talk about cooperation between Polish companies and Polish authorities, and companies and authorities from the United States over conventional nuclear energy and its use," Duda told a news conference.

Poland generates most of its electricity from coal, but aims to replace it with gas and nuclear energy in response to European Union calls to cut emissions. Warsaw has held talks with Washington on joint nuclear project for years, but no details have been agreed. Duda said that issues including defence and the presence of U.S. troops in Poland would also be on the agenda. ...

*Source: Reporting by Agnieszka Barteczko, editing by Alan Charlish and*

*Giles Elgood, Reuters, <https://www.reuters.com/article/us-poland-usa-energy/polish-and-u-s-presidents-to-discuss-nuclear-energy-id>, 18 June 2020.*

## **NUCLEAR NON-PROLIFERATION**

### **IRAN**

#### **Europeans Push for Iran Rebuke at Nuclear Watchdog over Inspections**

Major European powers want to admonish Iran at the U.N. nuclear watchdog over its ongoing refusal to give access to inspectors at sites suspected of activities that may have been part of a nuclear weapons programme, a draft resolution showed. The IAEA has issued two reports this year rebuking Iran for failing to answer questions about nuclear activities almost two decades ago before its 2015 nuclear deal at three sites and for denying it access to two of them.

A draft resolution, seen by Reuters and dated June 10, put forward by Britain, France and Germany

calls on Iran to cooperate fully and promptly with the IAEA. It asks Tehran to provide access to the locations specified and implement obligations under the Additional Protocol, referring to texts governing the IAEA's mission and activities. "The Europeans couldn't sit back and not do anything," a Western diplomat said.

U.S. intelligence agencies and the IAEA believe Iran had a secret, coordinated nuclear weapons programme that it halted in 2003. Israel's obtaining of what it calls an "archive" of past Iranian nuclear work has, however, given the IAEA extra information on Iran's previous activities. "If the three countries take such steps, Iran will have no other choice but to react accordingly," Iran's IAEA representative Kazem Gharibabadi was quoted as saying by the semi-official Fars news agency.

The IAEA has also reported that Iran remains in breach of many of the restrictions imposed by its nuclear deal. Iran began breaching the accord after the United States withdrew in May 2018 and reimposed economic sanctions on Tehran. Britain, France and Germany, which remain in the deal, have accused Iran of violating the terms of its 2015 agreement, but hope to persuade Tehran to reverse course rather than join a U.S. maximum pressure campaign it imposed since withdrawing from the accord in 2018.

Russia and China, the other participants in the deal, are likely to oppose the resolution. It would be put forward at the IAEA board of governors meeting for approval either by consensus or a vote. The COVID-19 outbreak has complicated the process with the 35 countries meeting virtually. Some member states, including Russia, have said decisions should be made when a physical meeting can take place.

*Source: Reporting by John Irish and Francois Murphy; Editing by Giles Elgood, Reuters, <https://www.reuters.com/article/us-iran-nuclear-iaea/europeans-push-for-iran-rebuke-at-nuclear-watchdog-over-inspections-idU,16 June 2020>.*

### **UN Calls on Iran for Access to Suspected Nuclear Sites**

The United Nations nuclear agency said it passed a resolution Friday (19 June) urging Iran to allow inspectors access to two sites where undeclared nuclear material was believed to have been used

or stored. The resolution was adopted at an International Atomic Energy Agency meeting at the United Nations.

Iran has not allowed access to the sites for months, leading to heightened diplomatic tensions. Britain, France and Germany proposed the resolution, which is supported by the U.S. U.S. State Department Secretary Mike Pompeo said in

a statement, "Iran's denial of access to IAEA inspectors and refusal to cooperate with the IAEA's investigation is deeply troubling and raises serious questions about what Iran is trying to hide." U.S. Special Representative for

Iran, Brian Hook, said during a call with reporters, "If Iran really has nothing to hide," as it claims, "then it should have no problem granting full access to IAEA inspectors."

The IAEA resolution "calls on Iran to fully cooperate with the agency and satisfy the agency's requests without any further delay, including by providing prompt access to the locations specified by the agency." The resolution, which Russia and China opposed, puts more pressure on Tehran to stop blocking access to the sites.

Mikhail Ulyanov, Russia's ambassador to international organizations in Vienna, tweeted

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that the resolution is “counterproductive.” Iran’s Foreign Ministry also criticized the resolution, saying the country has cooperated with the IAEA. Ministry spokesman Abbas Mousavi said in a statement the resolution is a “completely unconstructive and disappointing step.”

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Iran maintains the IAEA has no legal authority to inspect the sites, where activities are believed to have taken place earlier this century, before Iran agreed to the 2015 nuclear pact with global powers. The U.S. withdrew from the deal in 2018. The other signatories, Britain, China, France, Germany and Russia, have since tried to preserve the agreement.

Source: VOA News, <https://www.voanews.com/middle-east/voa-news-iran/un-calls-iran-access-suspected-nuclear-sites>, 19 June 2020.

## NORTH KOREA

### South Korea’s Nuclear Envoy Visits US as Tensions Flare with North Korea

South Korea’s chief nuclear negotiator will hold talks with officials in Washington on Thursday (18 June) amid flaring tensions with North Korea after Pyongyang blew up an inter-Korean liaison office and threatened military action. Lee Do-hoon’s unannounced trip came days after North Korea blew up a joint liaison office in Kaesong, near the South Korean border and declared an end to dialogue with the South.

Lee is expected to hold consultations with U.S. officials, including Deputy Secretary of State Stephen Biegun who had led denuclearisation negotiations with North Korea, Seoul’s foreign ministry said. Lee and Biegun will “assess the current situation on the Korean peninsula and discuss responses,” the ministry said in a statement.

**The Rodong Sinmun, the official newspaper of the North’s ruling Workers’ Party, said the demolition of the liaison office was the “first stage action” in its “holy war” aimed at punishing Seoul authorities for turning a blind eye to the defector’s campaign. “It was an iron hammer of stern punishment meted out to those who were having empty dreams while pursuing concealed hostile policy.”**

South Korean television showed Lee arriving at Washington’s Dulles International Airport on Wednesday (17 June) evening, where he declined to comment to reporters. Pyongyang has increasingly snubbed Seoul’s calls for engagement as efforts to restart inter-Korean economic projects stalled due to international

sanctions designed to rein in the North’s nuclear and missile programmes. North Korean leader Kim Jong Un’s sister, Kim Yo Jong, criticised South Korean President Moon Jae-in for failing to implement a 2018 peace accord, saying Moon “put his neck into the noose of pro-U.S. flunkeyism.” Pyongyang has also taken issue over defectors in the South sending propaganda leaflets into North Korea.

Several defector-led groups regularly send back flyers carrying critical messages of Kim Jong Un, often together with food, \$1 bills, mini radios and USB sticks containing South Korean dramas and news. The Rodong Sinmun, the official newspaper of the North’s ruling Workers’ Party, said the demolition of the liaison office was the “first stage action” in its “holy war” aimed at punishing Seoul authorities for turning a blind eye to the defector’s campaign. “It was an iron hammer of stern punishment meted out to those who were having empty dreams while pursuing concealed hostile policy” it said in a commentary. The newspaper also ran a series of articles and photos carrying angry ordinary citizens calling for retaliation and vowing to send anti-South leaflets over the border.

Source: Hyonhee Shin, Reuters, <https://www.reuters.com/article/us-northkorea-southkorea/south-koreas-nuclear-envoy-visits-us-amid-flaring-tension-with-north-idU>, 18 June 2020.

**NUCLEAR DISARMAMENT**

**USA–RUSSIA**

**US, Russia Hold New Nuclear Arms Talks, but without China**

American and Russian negotiators have concluded a round of nuclear arms control talks in Vienna, aimed at producing a new agreement to replace the New START agreement that expires in February — the last remaining pact constraining the arsenals of the world's two major nuclear powers.

U.S. negotiator Marshall Billingslea told reporters that a day of high-level “marathon discussions” ended late Monday (22 June) night and had been productive enough to conclude with the establishment of several technical working groups to delve deeper into the issues with the idea of paving the way for a second round of talks by late July or early August. “We both agreed at the termination of our talks that the strategic environment has changed significantly since the New START treaty was signed,” he told reporters. “We can all remember back 10 years ago, the world is, in fact, a radically different place.”

New START, signed in 2010, imposes limits on the number of U.S. and Russian long-range nuclear warheads and launchers. It became the last nuclear arms pact between the two nations after the U.S. last year scrapped the Intermediate-Range Nuclear Forces Treaty with Russia, a Cold War-era agreement that both sides had repeatedly accused the other of violating.

The INF Treaty was also criticized because it did not cover China or missile technology that did not exist a generation ago. New START can be extended by five years by mutual consent. Sergei

Ryabkov, the Russian deputy foreign minister who led his country’s delegation in Vienna, told reporters in Moscow that he had reiterated the position that it should be. “We presented our view and will keep doing so,” Ryabkov told the Interfax agency. “We are running out of time.”

He added, however, that the establishment of working groups was “a significant step forward” and said the talks were conducted in a positive

atmosphere and reflected a shared desire to move forward. U.S. President Donald Trump has called New START “just another bad deal” made by the Obama administration, and it was not clear whether he would agree to

an extension. Billingslea told reporters at a press conference held by the American delegation that any new agreement must include all nuclear weapons and not just strategic nuclear weapons, and also subject China to restrictions. All options, he said are “definitely on the table.” “Our ultimate decision, which is in the hands of the president, whether he decides to extend the New START treaty or allow it to run its course, is going to be very much driven by the extent to which we have made progress, not just with our Russian colleagues but with our Chinese counterparts” he said.

In Brussels, NATO Secretary General Jens Stoltenberg said he would prefer China to be part of any future agreement, but that in the absence of that extending New START is the right thing to do. “We should not end up in a situation where we have no agreement,” he said. Billingslea said China had refused an American

invitation to be part of the Vienna talks, but that he hoped the international community would pressure Beijing to take part in the future. “The United States is not engaged in an arms race,”

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Billingslea said. "Of course we will not be left behind, but we seek to avoid this, and this is why a three-way nuclear arms control deal, in our view, has the best chance of avoiding an incredibly destabilizing three-way nuclear arms race."

Ryabkov said Russia believes that other nuclear powers should join future nuclear arms deals, but added that a decision to join could only be voluntary. "We are well aware of China's position, we respect it and we don't see any sign that the Chinese position could change in the direction the U.S. desires in a foreseeable perspective," he said, according to Interfax. Billingslea said he "wouldn't rule anything in or out" but that the U.S. did not think Britain or France, with much smaller nuclear arsenals, should be included like he said Russia wanted. "Both qualitatively and quantitatively the United Kingdom and France are in a very different situation than the arms racing Chinese," he said.

The U.S. attempt to bring China on board got off to an awkward start when Billingslea tweeted a photo of the negotiating table set up with Chinese flags in front of vacant seats, saying "China is a no-show." Chinese Foreign Ministry spokesman Zhao Lijian lashed out, saying it was "neither serious nor professional for the United States to attract attention in this way." "We urge the U.S. to stop this boring trick, actively respond to Russia's call for the extension of the New START, and carry out serious discussions with the Russian side on this," he said. Billingslea defended setting up the flags, saying "we configured the room for all three countries" in anticipation of China sending a delegation, then removed them to set up the room for bilateral talks.

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**We would continue to implement safeguards to prevent any misuse of nuclear material and activities for non-peaceful purposes. And we would do everything we possibly could to assist Member States in confronting the coronavirus.**

Source: David Rising, Defense News, <https://www.defensenews.com/global/the-americas/2020/06/23/us-russia-hold-new-nuclear-arms-talks-but-without-china/>, 24 June 2020.

## NUCLEAR SAFETY

### GENERAL

#### New IAEA Reports on Response to the COVID-19 Pandemic

As the world grapples with COVID 19, the IAEA has adjusted ways of working to ensure its operations continue with minimal disruptions under the extraordinary circumstances. At the meeting of the Board of Governors, IAEA Director General Rafael Mariano Grossi presented three reports on the Agency's COVID 19 related work. The reports on support to Member States in the fight against the pandemic, support to nuclear and radiation facility operators and safeguards implementation during the crisis, have also been made available to the public.

"I said when the crisis began that there were two areas of the Agency's work which would not be halted, no matter what happened," said the Director General in his introductory statement to the Board of Governors. "We would continue to implement safeguards to prevent any misuse of nuclear material and activities for non-peaceful purposes. And we would do everything we possibly could to assist Member States in confronting the coronavirus."

The Report on IAEA Support to Member State Efforts in Addressing the COVID-19 Pandemic, describes the IAEA's delivery of support to 120 countries and territories that have requested Agency support to use the nuclear-related RT-PCR

technology for the detection of COVID-19 infections. The shipments have included detection equipment, that is, real time RT PCR and kits, together with reagents and laboratory consumables, as well as biosafety supplies such as personal protection equipment for the safe analysis of samples.

The IAEA, in collaboration with the Food and Agriculture Organization of the United Nations, has also provided guidance on COVID-19 detection to 253 laboratory professionals from 119 countries through the VETLAB network. In addition, the IAEA has been conducting webinars to help health care providers in nuclear medicine, radiology and radiation oncology throughout the world in adjusting their work procedures to cope with the pandemic. The report provides details on these activities, the funding received for their implementation, including from private entities, and partnerships for a coordinated response, as well as the launch of a new project for continuation of current and response to future outbreaks, named ZODIAC (Zoonotic Disease Integrated Action).

The Report on the operation, safety and security of nuclear and radiation facilities and activities during the COVID-19 Pandemic talks about the Agency's activities related to the specific challenges faced by operators of nuclear power plants, research reactors and other nuclear facilities across the world, and its enhanced efforts to facilitate information exchange by ensuring that all the relevant databases and systems for reporting remain functional.

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**The IAEA rapidly developed and piloted the COVID-19 NPP OPEX Network, intended for sharing information and experience on crisis response actions among operating organizations, technical support organizations, relevant international organizations and other stakeholders. No country reported enforced shutdown of any nuclear power reactors resulting from the effects of COVID-19.**

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The IAEA conducted a survey of radiation safety regulatory bodies to assess the impact of the COVID 19 pandemic on the activities for the safety of radiation sources and a survey among major reactor-based medical radioisotope producers to assess the continuity of the supply chain.

The Report on safeguards implementation during the COVID-19 Pandemic discusses measures taken by the IAEA to continue its verification work to make sure that nuclear material and technology are not diverted from peaceful use. Although it had to prioritize critical safeguards and other verification activities and has rescheduled a number of activities, such as equipment installation and maintenance, the Agency has been able to conduct all of its most time-critical safeguards in-field verification activities. In the period from 1 March

to 31 May 2020 the IAEA conducted 274 inspections, 29 design information verifications and 16 complementary access visits.

In response to the unavailability of many commercial flights, for the first time in its history the Agency has chartered its own plane to transport inspectors and technical staff into the

field. This arrangement has already been used successfully to transport 78 Agency staff to conduct inspections in four countries. For more information, watch this video. The report cites close cooperation with the Government of Austria, as well as with other governments, as having been essential to overcome operational obstacles in implementing safeguards in this period.

*Source: International Atomic Energy Agency, <https://www.iaea.org/newscenter/news/new-iaea-reports-on-response-to-the-covid-19-pandemic>, 18 June 2020.*

Radiation sensors in Stockholm have detected higher-than-usual but still harmless levels of isotopes produced by nuclear fission, probably from somewhere on or near the Baltic Sea, a body running a worldwide network of the sensors said on 26 June. The CTBTO oversees a network of hundreds of monitoring stations that use seismic, hydroacoustic and other technology to check for a nuclear weapon test anywhere in the world. That technology can, however, be put to other uses as well.

One of its stations scanning the air for radionuclides - telltale radioactive particles that can be carried long distances by the wind - detected unusually high levels of three radionuclides earlier: caesium-134, caesium-137 and ruthenium-103. The Stockholm monitoring station "detected 3 isotopes; Cs-134, Cs-137 & Ru-103 associated w/Nuclear fission @ higher than usual levels (but not harmful for human health)", CTBTO chief Lassina Zerbo said on Twitter. The particles were detected on "22/23 June", he added.

Zerbo's post included a borderless map showing where the particles might have come from in the 72 hours before they were detected - a large area covering the tips of Denmark and Norway as well as southern Sweden, much of Finland, Baltic countries and part of western Russia including St

Petersburg. "These are certainly nuclear fission products, most likely from a civil source," a spokeswoman for the Vienna-based CTBTO said, referring to the atomic chain reaction that

generates heat in a nuclear reactor. "We are able to indicate the likely region of the source, but it's outside the CTBTO's mandate to identify the exact origin," she added.

*Source: Reporting by Francois Murphy; Editing by David Gregorio, Reuters, <https://www.reuters.com/article/us-nuclear-particles-baltic/sensors-detect-rise-in-nuclear-particles-on-baltic-sea-global-body-says-idUSKBN23X2TN>, 27 June 2020.*

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*particles-baltic/sensors-detect-rise-in-nuclear-particles-on-baltic-sea-global-body-says-idUSKBN23X2TN, 27 June 2020.*

## **NUCLEAR WASTE MANAGEMENT**

### **CANADA**

#### **Canadian Utility Formally Drops Underground Radioactive Waste Storage Next to Lake Huron**

An Ontario nuclear power generating company has officially dropped its pursuit of a deep underground storage facility for low- to intermediate-level radioactive waste within a half-mile of Lake Huron. Ontario Power Generation has withdrawn an application for a construction license filed with the Canadian Nuclear Safety Commission to build a Deep Geologic Repository in Kincardine, Ontario. The utility also withdrew from an environmental assessment of the project by Environment and Climate Change Canada, the nation's environmental regulator.

With that, OPG's more than 16-year pursuit of a deep underground repository to store almost a half-mile underground some radioactive waste from its 20 nuclear reactors comes to an end — at least at the controversial location by Lake Huron. Despite OPG's repeated assurances that the repository would be a completely safe, long-term waste storage solution, opposition to the project was nearly unanimous in Michigan. Most cited the potential, however small, of the Great

Lakes — the drinking water source for more than 40 million people on both the U.S. and Canadian sides — becoming contaminated with radiation.

U.S. Rep. Dan Kildee, a Democrat from Flint, was among the more vocal opponents of the repository plan over the years. He called OPG's official dropping of the project "a huge victory for protecting the Great Lakes and our economy." ...The beginning of the end for the proposal came Jan. 31, when the Saugeen Ojibway Nation, a local First Nations tribe, overwhelmingly voted against the Deep Geologic Repository in a community referendum. OPG had pledged since 2013 that it would not continue to pursue the project if it did not have the tribe's support. "That vote really decided the matter," said Fred Kuntz, OPG's senior manager of corporate relations and projects.

The scuttled repository plan means OPG must still find a long-term solution for the nearly 3.2 million cubic feet of low- to intermediate-level radioactive waste it has stored above-ground at its Bruce generating plant. Kuntz said alternatives are under consideration, including perhaps pursuing another underground repository in another location. But a repository would not be forced on an unwilling host, he said. "With any new siting process, we would seek to partner with interested municipalities and any relevant indigenous communities," he said.

With the dropping of the underground storage project, OPG is ending payments to Kincardine and surrounding municipalities that began in 2005, of about \$1 million Canadian per year, adjusted up for inflation to about \$1.3 million Canadian last year, that were tied to the project, Kuntz said.

**Other Nuclear Storage Proposal Continues:** The Great Lakes region could still be a long-term disposal site for Canada's radioactive waste — and in this case, it's most radioactive waste, used

fuel from its nuclear reactors. The Canadian Nuclear Waste Management Organization is pursuing a deep underground repository to hold all highly radioactive used fuel from Canada's nuclear energy industry, essentially permanently. Late last year, the organization announced it had reduced 22 potential host sites under consideration down to two: the municipality of Ignace in northern Ontario, and South Bruce, Ontario, off the Lake Huron shoreline but within the Great Lakes Basin and about 10 to 15 miles from the Great Lake.

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Used nuclear fuel can remain dangerously radioactive for tens of thousands of years. The organization has committed about \$23 million Canadian (\$17.3 million U.S.) to secure access to land in South Bruce for geological analysis. It hopes to be ready to drill bore holes to examine underground conditions by this fall,

Nuclear Waste Management Organization spokesman Bradley Hammond said.

Hammond noted that used nuclear fuel is presently stored above-ground at Canadian nuclear facilities along the Great Lakes, and a more permanent solution is preferable. "It is a lasting management solution that can ensure the safety of the precious water resources we share internationally between Canada and the U.S., the Great Lakes," he said. "Given the depth of the proposed facility, our knowledge of the geology, our confidence in the technology and our ability to demonstrate the technology" through various review and licensing processes that would be required, "we are confident we will be able to answer any questions the public or regulators may have." But the idea is a non-starter to Michael Keegan, director of the nonprofit Coalition for a Nuclear-Free Great Lakes based in Monroe. "The electricity is wasted and fleeting; the everlasting product is nuclear waste. The product is poison," he said. "The Great Lakes must not continue to

be a dumping ground for nuclear waste. Stop making it!"

Source: Keith Matheny, <https://www.freep.com/story/news/local/michigan/2020/06/24/canada-ontario-underground-radioactive-waste-storage-plan-near-lake-huron-dropped-nuclear/3246851001/>, 24 June 2020.

## **GERMANY–RUSSIA**

### **Nuclear Shipment Leaves Germany for Russia**

A shipment of 600 tonnes of depleted uranium has left a nuclear fuel plant in Germany bound for Russia, a Russian environmentalist group says. Twelve rail cars left the Urenco plant in the town of Gronau, close to the Dutch border, on 22 June, according to the Ecodefense group. The material will reportedly be moved by sea and rail to a plant in the Urals. Urenco told the BBC its uranium would be further enriched in Russia and the process met environmental standards.

Environmental activists have long been concerned that Russia may become a "dumping ground" for radioactive material from power plants. Russia's state atomic energy corporation Rosatom told the BBC it was "working closely with nuclear regulators and international watchdogs to ensure that our work meets the highest standards of safety". ...

#### ***Why is the Shipment being Sent to Russia?***

According to the report (in Russian) by Ecodefense, some of it will be shipped by sea to Russia via the port of Amsterdam. It will, the group says, eventually arrive at the Ural Electrochemical Combine in Novouralsk, 3,400km (2,500 miles) away in Russia's Ural Mountains. The group believes that nearly 3,000 tonnes of depleted uranium have already been shipped from Germany to Russia this year.

The Urenco spokesperson contacted by the BBC

said they could not give details of shipments for "safety and security reasons". But Urenco did confirm that it had a contract with a firm called Tradewill, a subsidiary of Tenex which is the overseas trade company of Rosatom. Under the contract, it said, depleted uranium "tails" are sent to Russia for further processing. The enriched uranium product then returns to Urenco while the "depleted fraction" remains with Tenex. "This is common and legal practice," Urenco says. "We also retain depleted uranium at Urenco in Europe."

Urenco, which is a partnership between German, British and Dutch companies, said its representatives had inspected the facilities involved in the process and had found that they complied with "all internationally recognised logistics standards, which includes handling, storage, safeguarding and processing of nuclear material, as well as appropriate environmental standards". ...

Source: <https://www.bbc.com/news/world-europe-53156266>, 24 June 2020.

## **HUNGARY**

### **Expansion of Paks Nuclear Waste Storages Going to Plan**

The expansion of a temporary storage of radioactive waste at Hungary's sole nuclear power plant in Paks and of the National Radioactive Waste Repository (NRWR) in Bataapati, in south-western Hungary, is going according to plan, the managing company (RHK) said. RHK noted it concluded a contract at the end of last year to build four increased capacity storage chambers at the Paks facility by May 2024.

The facility currently stores 9,787 spent fuel rods in chambers that have storage space for a total of 11,416 rods, RHK said in a statement. Due to the extension of the Paks plant's lifespan by 50 years, the storage will need to have capacity to

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hold altogether 17,716 fuel rods during that period, it added.

Inaugurated in 2008, the repository at Bábaapáti currently holds about a thousand cubic metres of low and intermediate-level radioactive waste in one of its four chambers. The last time waste was transported to the facility was in 2017, with

transports of an annual 700 cubic metres of waste expected to resume later this year. Capacity at the facility will be increased by building two new chambers, RHK said.

*Source: <https://hungarytoday.hu/paks-nuclear-waste-storage-energy/>, 29 June 2020.*



Centre for Air Power Studies

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