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**OPINION: Sarah Bidgood**

**Russia’s New Nuclear Policy Could be a Path to Arms Control Treaties**

Russia recently published a new document, titled “Basic Principles of State Policy of the Russian Federation on Nuclear Deterrence.” Its release marks the first time that Russia’s official policy on deterrence has been made publicly available. As others have observed, this document is an example of declaratory policy aimed primarily at a foreign audience — and should be read with this orientation in mind. Still, it contains information that helps readers better understand how Russia thinks about nuclear weapons, and this certainly makes it worth a close examination.

Some of the more useful insights this document offers pertain to Russia’s threat assessments and what it sees as likely pathways to nuclear use. A number of these threats line up with American declaratory policy as reflected in the 2018 Nuclear Posture Review. These overlaps are noteworthy, since the US and Russia have traditionally been able to work together to mitigate mutual threats even when their bilateral relationship is in crisis. As such, they can point toward ways to get arms control back on track at a time when it is in deep trouble.

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One such area of overlap appears in section 19C, which covers the conditions that could allow for nuclear use. This list includes an “attack by [an] adversary against critical governmental or military sites of the Russian Federation, disruption of which would undermine nuclear forces response actions.” The similarities between this language and that which appears in the 2018 NPR are considerable. That document identifies “attacks on US, allied, or partner civilian populations and infrastructure and attacks on US or allied nuclear forces, their command and control, or warning and attack assessment

capabilities” as a significant non-nuclear strategic attacks that could warrant the use of nuclear weapons.

These parallels suggest that an agreement prohibiting attacks on nuclear command, control and communications systems could be of interest to both Washington and Moscow. A treaty along these lines would help to shore up crisis stability while rebuilding trust and confidence between the US and Russia. It could also become a multilateral approach involving the five nuclear weapon states, which have been meeting regularly to discuss risk reduction and other topics. This would represent one of the few concrete outcomes of these discussions, which have been met with cautious enthusiasm but have so far failed to bear much fruit.

Another example of mutual US-Russia threats appears in section 12E of the Russian document. Here, the “uncontrolled proliferation of nuclear weapons, their delivery means, technology and equipment for their manufacture” are described as risks that nuclear deterrence is meant to neutralize. Preventing the spread of nuclear weapons seems to remain a focus of US nuclear policy, too, and the 2018 NPR commits to strengthening institutions that support “verifiable, durable progress on non-proliferation.” This ongoing shared interest is an argument for renewed US-Russian cooperation in this area, especially as it relates to strengthening the Nuclear Non-proliferation Treaty. There is a long history of engagement between the two largest nuclear weapon states on nonproliferation, even at times of major discord in their relationship. Successful outcomes of this cooperation include the Nuclear Non-proliferation Treaty itself, which the United States and the Soviet Union concluded 50 years ago to stop additional countries from acquiring nuclear weapons.

Source: <https://www.defensenews.com/>, 09 June 2020.

Opinion: Hafed Al-Ghwell

How Trump Dropped the Ball on Global Security

The US has decided to withdraw from the Treaty on Open Skies, which allows its 35 signatory states to observe each other’s activities in order to curb aggression and monitor military buildup. The treaty’s origins can be traced back to President Dwight D. Eisenhower’s visionary leadership, which Presidents George H. W. Bush and George W. Bush built on, resulting in the powerful non-proliferation and de-escalation tool we have today.

With Open Skies, countries can perform what are known as “short-notice observation flights” over each other’s territories, subject to agreements

such as the type of observation planes, their routes, the equipment they carry and even the image resolution. Images are shared with all other treaty parties — meaning Open Skies is built on the kind of international coordination and cooperation that the White House loathes, despite their immediate

tangible benefits in separating facts from paranoia or false assumptions. Additionally, it builds confidence among treaty parties and even the world at large that countries with the means to wage devastating wars are not wantonly worsening tensions, especially in troubled parts of the world.

Open Skies has worked in conjunction with other non-proliferation treaties and agreements to create a formidable nuclear safety accord that has reduced the world’s nuclear stockpile by 85 percent. Ideally, no country should even have such weapons given the extreme risks they pose, but this incomplete reduction is welcome given the fractious era that preceded it.

Flawed or incomplete as the world’s nuclear policies may be, they have been in place for the past 75 years and some successes can be attributed to them. They leave a record fraught with myriad examples of what works and what has

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failed — which is exceedingly important given that the current global nuclear arms stockpile of about 13,400 missiles is still capable of wiping out all life on the planet in a single afternoon.

Unfortunately, with Open Skies now under threat combined with widening geopolitical rifts across the globe, the nuclear powers have ceased crucial negotiations and dispensed with collaboration on containment and suppression. In their place is escalatory rhetoric, a rush to upgrade arsenals and a dangerous disengagement placing the world on a terrifying path reminiscent

of the 1960s, when the Soviet Union thought it was a good idea to place nuclear missiles in Cuba, less than 200km from the coast of Florida.

Granted, there are plausible arguments in the current White House's stance, since Russia plays hard and fast with the treaty's principles. Fortunately for the US and its allies, even Russia cannot circumvent or undermine the ironclad common-sense notions and overall purpose of Open Skies so much as to render it meaningless; the US has still been able to gather valuable data on Russian military movements in flights over Russia and Belarus. But the White House has decided to back off completely, shocking its allies, who are now urging the administration to reconsider.

Unsurprisingly, Russia pledged its continued commitment to Open Skies. Washington (yet again) has dropped the ball on this invaluable tool of

national security, especially to countries that lack satellite imagery of their own. To Moscow's benefit, a US exit from Open Skies creates an impossible dilemma for the Euro-Atlantic alliance. European countries have declared their commitment to Open Skies but because they host US military assets, Washington may pressure them to reject Russian overflight requests.

Predictably, Russia will want overflights over these assets, and when rejected it may ban Open Skies overflights over its own territory. This is a nightmare scenario for

countries that have built parts of their military intelligence and national security apparatus around the data collected by Open Skies overflights. On the other hand, if European allies ignored Washington, the latter may threaten to pull out their assets, which will have ramifications for NATO and could set back Euro-Atlantic relations decades.

While the allegation that Russia misused imagery acquired from Open Skies overflights is concerning, it should not have warranted Washington storming out of this invaluable tool of global arms control. The matter should have been left to the treaty's dispute resolution mechanisms, which have worked in the past to resolve issues.

Instead, the disproportionate step of leaving Open Skies is part of a larger pattern of an American all stick, no carrot attitude to international relations that favors bravado and angry rhetoric over carefully thought out policy positions and their timely implementation. The America of old

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Quitting Open Skies risks a return to Cold War era militarization. Ongoing internationalized proxy wars raging in Libya, Syria and Yemen, along with the increasing sophistication of non-state militant extremists in the Sahel and parts of the Middle East, mean the opportunities for the use of dangerous weaponry are rife.

The time has come for a return to the spirit of transparency, cooperation and pragmatism that gave birth to Open Skies; these recent developments need not be a death knell but a wake-up call to our shared humanity.

Source: <https://arab.news/wnfqs>, 30 May 2020.

**OPINION: Vladimir Frolov**

**Trump Wants a Nuclear Deal. Why is this Bad News for Moscow?**

The United States has announced it is to renew negotiations with Russia on nuclear arms control, with US national security adviser Robert O'Brien making a statement to the effect live on Fox News on 21 May 2020. An agreement to hold a meeting of Russian and American delegations on strategic stability was reached on 08 May 2020 during the course of a telephone conversation between Russian Deputy Foreign Minister Sergei Ryabkov and Washington's new special presidential envoy for arms control, Marshall Billingslea.

This would appear to be good news for Moscow, which has long sought talks on the extension of the Strategic Arms Reduction Treaty (START or SNV-III, which expires on February 5, 2021). However, judging by the signals coming from Washington on the US administration's true attitudes to the upcoming talks, the likelihood of

achieving any kind of agreement are close to zero, with the exception of a strictly technical agreement on a short-term (6-12 months) extension of START to facilitate the continuation of negotiations on a new treaty. But even this is not yet guaranteed.

*Exclusive dialogue*

A more realistic scenario is the final collapse of the architecture of arms control and the loss of

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Russia's most prestigious channel of interaction with the US. For the last 30 years, the system of agreements on nuclear arms control inherited from the time of the Cold War has remained the sole format in which Russia had a status completely equal to that of the US. It has strengthened Russia's exclusive role in world politics as the United States' sole rival of equal

standing in a sphere of crucial importance for the survival of humanity. Soviet and Russian leaders had almost always strived (naively) for the exclusive status of equal relations with the US, which no other world power enjoyed.

As the historian Sergei Radchenko recently showed, in May 1973 Leonid Brezhnev secretly shared with Henry Kissinger his vision that "if the US and the USSR had been able to agree on an equal partnership, we could have ruled the world," and in 1994 Boris Yeltsin told Bill Clinton that Russia "must be the first to join NATO, before the countries of Central and Eastern Europe, and then Russia and the US will form a kind of cartel for the provision of security in Europe and the world."

It is this goal of "exclusive partnership" with the US that is also the aim of Vladimir Putin's strategic initiative to organize an arms control summit for the permanent member states of the UN Security Council, and attempts to revive the "spirit of alliance" of Russia and the US from the "time of the Encounter at the Elbe." The system

of bilateral agreements on nuclear weapons allowed Moscow to speak of the “special responsibility of Russia and the US for the world’s destiny.”

This elevated Russia’s geopolitical role and ‘ blocked attempts by other players to isolate or somehow punish Moscow for her involvement in other international problems. Of course, it is Russia’s nuclear arsenal that lies behind this prestigious status, but the factor of exclusive dialogue with the US not only gave Moscow added credentials, but also created certain opportunities for influencing Washington’s position in other aspects of their relations.

Moscow usually takes a fairly calm approach to the collapse of the multilateral agreements of the Cold War era and is even withdrawing from them itself (the Conventional Armed Forces in Europe Treaty). But if START is not extended, or if it is replaced by some kind of system of multilateral negotiations (the US wants to include China, in which case Moscow will insist on the inclusion of the U.K. and France as US allies, in order to block the possibility of a multilateral format), this exclusive channel of cooperation with the US will be eroded and will lose its value as an instrument for advancing Russian interests.

#### *The China dilemma*

From this perspective, it is clear why Moscow is not exactly happy about the US initiative to invite China to talks on replacing the bilateral START with a new trilateral agreement. Several rounds of consultations between Russia the US in 2019 and early 2020 did not produce results, nor did attempts by the US to discuss with Beijing the issue of China signing up to a trilateral reduction in nuclear arms. It is currently impossible to understand what such an agreement might look like, since the US and Russia in

total possess around 6,000 nuclear warheads (fewer than 1,550 of which are deployed on strategic missiles in accordance with START), and China has only 320 undeployed nuclear warheads (only half of which are for strategic missiles).

Either Russia and the US will have to reduce their arsenals to Chinese levels (which is unrealistic), or allow China to increase the number of its warheads to Russo-American levels. This will not suit Moscow and Washington, though it is likely that China will anyway increase its strategic arsenal over time, with the aim of working toward Russia’s marginalization in nuclear dialogue with the US.

Marshall Billingslea recently lifted the veil on Washington’s view of the agreement. It must encompass all forms of nuclear warheads, both strategic and non-strategic (Russia has around 1,800 non-strategic warheads; the US presently has several dozen in Europe, but submarine-launched nuclear cruise missiles may soon reappear; China has several dozen warheads for medium- and short-range missiles). The use of intrusive control methods is also being recommended, including inspections where there are grounds for suspicion, and the provision of an extensive telemetry data set.

The lamentable state of the crumbling arms control landscape is primarily the result of the incompetence and total recklessness of the Trump administration. Donald Trump has personally been very concerned about the threat of nuclear war for 30 years already and believes that he alone can strike a genuinely big deal that will save humanity from catastrophe and provide him with a Nobel Peace Prize (in the mid-1980s he tried to convince Ronald Reagan to appoint him chief negotiator on arms control and was eager for a meeting with Gorbachev, Reagan sensibly

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declined). But in spite of this, his administration has always been staffed with political appointees who are principled opponents of arms control.

Examples of this are national security advisor John Bolton and his right-hand man, National Security Council director Tim Morrison, who insisted on the US withdrawal from the INF (in 2001 Bolton persuaded George Bush Jr. to withdraw from the Anti-Ballistic Missile Treaty). This also goes for former Under Secretary of State for Arms Control Andrea Thompson and her aide Christopher Ford, who insisted that there was no point in an agreement on arms control "for the sake of arms control alone." Marshall Billingslea, who lacks serious negotiating experience in this sphere (he is a specialist in financial sanctions), is yet another who is opposed to arms control. Overall, the Trump administration simply does not have enough qualified specialists (and a nuclear weapons agreement is an extremely complex and time-consuming matter, requiring the participation of a very wide range of experts). Nonetheless, Trump is personally convinced that only he is capable of concluding the most comprehensive agreement on nuclear disarmament, that all he needs to do is negotiate on the issue with Vladimir Putin and Xi Jinping.

Yet Trump does not have the faintest idea of what such a deal should look like and so far he cannot boast of any success in concluding agreements on nuclear weapons (for instance, with North Korean leader Kim Jong Un). In this situation, Moscow is better off playing it cool and calmly rebuffing the more outlandish ideas of Trump and co. Kremlin's

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**Kremlin's excessive demonstration of interest in the extension of START has already prompted the US to put forward unacceptable conditions. The factor of presidential elections in the US in November also needs to be taken into full account. If Trump is re-elected, there will be enough time before the expiry of the START treaty to conclude an agreement on a short extension. If Joe Biden and the Democratic Party win, talks will be swiftly resumed in a far more professional and committed format, and the exclusive Russo-American cooperation on arms control will be preserved for the foreseeable future.**

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Biden and the Democratic Party win, talks will be swiftly resumed in a far more professional and committed format, and the exclusive Russo-American cooperation on arms control will be preserved for the foreseeable future. We need to wait and see.

Source: <https://www.themoscowtimes.com/>, 29 May 2020.

#### OPINION: Maximilian Hoell

#### A Plea for Realism in Germany's Nuclear Sharing Debate

The debate about replacing Germany's ageing Tornado fleet—the aircraft that would deliver an

authorised nuclear strike from German soil—commenced in the early 2000s. Since then, the Social Democratic Party (SPD) could have raised objections about German participation in allied nuclear sharing, especially in the years when the SPD held the Federal Chancellery (1998-2005) and the Federal Foreign Office (2005-2009, 2013-today). The SPD agreed instead to continue nuclear sharing in the 2018 coalition agreement with Chancellor Merkel's Christian Democratic Union

(CDU). But on the eve of the government's procurement decision for the Tornado

replacement, the SPD is suddenly pushing for its dangerous disarmament idealism. The chairman of the SPD group in the Bundestag, Dr Rolf Mützenich, has called for Germany to unilaterally terminate its participation in the 'technical aspect of nuclear sharing'. Instead of investing in an expensive Tornado replacement, Germany should spend the funds 'on the fight against the [COVID-19] pandemic and on the re-construction of the economy'. Dr Mützenich further claims that nuclear sharing is a Cold War relic that impedes nuclear disarmament and that the 'unpredictable' Trump administration has re-conceptualised the role of this 'inhumane type of weapon' from 'deterrence-only' to the potential use of low-yield nuclear weapons in battle. Germany would be safer without hosting US nuclear weapons.

Dr Mützenich is mistaken. The removal of US nuclear weapons from German soil would undermine the Euro-Atlantic security architecture and, ultimately, increase the likelihood of war in Europe, including that of nuclear use. Exiting nuclear sharing would also raise concerns in the Baltics and Eastern Europe about Germany's commitment to protect its immediate neighbourhood, end Germany's influence over launching nuclear strikes, render German preferences less relevant for US policy, remove a geostrategic barrier to Russian armament and unduly jeopardise the already strained relations with Moscow.

To be sure, the pace of nuclear disarmament has slowed since the 1990s. This liberal interlude saw the indefinite extension of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and the opening for signature of the Comprehensive Nuclear-Test-Ban Treaty (CTBT). Although the nuclear powers have also cut their nuclear

arsenals by some 75% since the mid-1980s, an estimated 13,355 nuclear weapons remain in the arsenals of nine countries today. This reduction contains an important unilateral component; the United States and Russia, which possess the vast majority of global warheads, have reduced mostly very expensive, excess stockpiles.

But the pace of disarmament has slowed due to dramatic changes in the international security environment. If in the 1990s, Russia appeared to be a strategic partner for the West, then Moscow's 2014 annexation of Crimea and its violation of the

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Intermediate-Range Nuclear Forces (INF) Treaty, which led to its demise, are only the latest indicators for Russia's re-emergence as a geopolitical competitor. President Putin's 2005 state of the union speech, in which he 'described the collapse of the Soviet Union as the "the greatest geopolitical catastrophe of the 20th century"', announced this shift in Moscow's strategic thinking. Moscow judged that Western hegemony denied Russia its rightful great-power status. A more disruptive Russian foreign policy based on power

politics, zero-sum games and spheres of influence was more suitable for recalibrating the global order to better accommodate Russian interests. As President Putin put it at the 2007 Munich Security Conference: 'we must seriously think about the architecture of global security...[to achieve] a reasonable balance between the interests of all participants in the international dialogue'.

The existing Western rules-based order is incompatible with Moscow's stated objectives. Dr Mützenich's claim that 'we [the SPD] orient ourselves not only on our own, national interest, but also consider the interests of other countries, because we know that we can only be strong

together', is thus ideologically commendable but divorced from the geopolitical realities. Unilaterally exiting nuclear sharing is at odds with the SPD's insistence that German foreign policy must be multilateral and in the European interest. It would prompt questions in the Baltics and Eastern Europe about Germany's stated commitment to protect its immediate neighbourhood.

And yes, Canada and Greece ended nuclear sharing in 1984 and 2001, respectively. But that is precisely why continuity is needed. As the US ambassadors to Poland and Germany warned, Germany's exit from allied nuclear sharing would 'diminish nuclear capability and weaken NATO' by 'eroding the solidarity that undergirds NATO's nuclear deterrent'. Another unilateral weakening of the existing Euro-Atlantic security architecture—whether through Russia's violation of arms control agreements or the withdrawal of US nuclear weapons from German territory—does not strengthen European security; it merely removes the legal and geostrategic barriers to Russian armament. An arms race could ensue, bringing volatility rather than predictability to European security. Volatility increases the risk of escalation, whether accidental or intentional, including the probability of a nuclear exchange. Instead of unilaterally removing an important element of the security architecture, the SPD should encourage measures to increase strategic stability.

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**First, to simply move 'inhumane' weapons several hundred kilometres to the east will make no contribution to nuclear disarmament; it merely undermines the very transatlantic solidarity that has kept Germany safe and ensured German influence within the alliance. Second, Moscow regards any such move as provocative encroachment. The Russian Ministry of Foreign Affairs warned that the relocation would violate the 1997 Russia-NATO Founding Act and 'threaten the material basis of European security'. Third, Dr Mützenich's apparent lack of concern at the prospect of Warsaw making nuclear launch decisions is inconsistent with the SPD's frequent criticism of the incumbent Polish government for undermining human rights such as freedom of the press.**

The assertion that the Trump administration has re-defined the purpose of nuclear weapons away from a 'deterrence-only' approach to their potential use on the battlefield is correct. But Dr Mützenich ignores that the shift came in response to a perceived Russian 'escalate to de-escalate policy' and to force modernisations in Russia and China, which have prompted observers to question the continued validity of the latter's no-first-use policy. And Dr Mützenich also forgets that the United States consulted allies on the changes. They were a reaction to a rapidly deteriorating geopolitical environment rather than the result of President Trump's 'unpredictability'.

President Trump does have a poor record on nuclear diplomacy. The US withdrawal from the Joint Comprehensive Plan of Action (JCPOA) was a mistake. The summit diplomacy with the Democratic People's Republic of Korea (DPRK) has not resulted in the desired denuclearisation of the Korean peninsula. However, unilaterally terminating the hosting of US nuclear weapons in Germany will not change President Trump's approach to nuclear diplomacy. It would merely foster the perception that Germany is an unreliable ally. German preferences would matter less to Washington, reducing German influence on US policy as a result. As

Washington's ambassador to Berlin put it, 'Germany's participation in nuclear share ensures that its voice matters'. President Trump's position should instead prompt the SPD to encourage multilateral arms control, based on reciprocity,

between the nuclear-armed states without jeopardising the geostrategic pillars of our security.

Dr Mützenich states that nuclear armaments are 'inhumane'. Granted. But nuclear weapons are armaments of last resort, as NATO Secretary General Stoltenberg has recently reaffirmed. Armament questions are in Germany for historical reasons thorny and unpopular. It is thus not surprising that the political debate stirs up much disarmament idealism rather than focusing on the security realities. Dr Mützenich himself suggests that US nuclear weapons could be hosted in Poland instead of Germany. This is problematic for three reasons. First, to simply move 'inhumane' weapons several hundred kilometres to the east will make no contribution to nuclear disarmament; it merely undermines the very transatlantic solidarity that has kept Germany safe and ensured German influence within the alliance. Second, Moscow regards any such move as provocative encroachment. The Russian Ministry of Foreign Affairs warned that the relocation would violate the 1997 Russia-NATO Founding Act and 'threaten the material basis of European security'. Third, Dr Mützenich's apparent lack of concern at the prospect of Warsaw making nuclear launch decisions is inconsistent with the SPD's frequent criticism of the incumbent Polish government for undermining human rights such as freedom of the press.

The way to ensure that these 'inhumane' weapons will not be used in battle is, in the final analysis, to retain some form of influence over the delivery process. Even Dr Mützenich's own party colleagues admit that if and when German pilots deliver a nuclear strike authorised by the US president 'will always be decided by the German chancellor'. Unilaterally ending Germany's participation in the 'technical aspects of nuclear sharing' would remove this vital avenue of influence. The noble claim that instead of investing an estimated US\$2 billion in nuclear systems, humanity would be better off using the funds to contain COVID-19 is similarly ill-founded.

The detractors of the existing rules-based international order—China and Russia—have not

shied away from exploiting the global health emergency for their geopolitical gains by spreading disinformation designed to divide the West. These revisionist states will not end the geopolitical competition out of altruism; they seek the re-shaping of the present international order to better accommodate their interests, as President Putin himself stated in his 2007 address to the Munich Security Conference. In an ideal world, there is no need for weapons of any type. That remains the declared aim of the States parties to the NPT. But the simple geostrategic reality is that we are far from this disarmament utopia. Until the great powers enforce a mutually beneficial rules-based international system, the prospects for further disarmament remain grim. Unilaterally removing US nuclear weapons from German soil would not change this geostrategic reality. Instead, it would undermine transatlantic solidarity, raise questions about Germany's commitment to European security, end Germany's influence over launching nuclear strikes, render German preferences less relevant for US policy, remove a geostrategic barrier to Russian armament and unduly jeopardise the already strained relations with Moscow. Dr Mützenich and his SPD colleagues should embrace the geopolitical reality by honouring their commitment made in the coalition agreement with the CDU. They must procure an adequate replacement for Berlin's ageing Tornado fleet to continue the present nuclear sharing arrangement.

To make a viable additional contribution to Euro-Atlantic security, the SPD should encourage the great powers to increase strategic stability; that is, to build a robust security architecture based on shared objectives and reciprocal arms control. This is the only path to cultivating the strategic trust required for further disarmament. The obvious policy option is to prevent the further erosion of the Euro-Atlantic security architecture by seeking the extension of the New Strategic Arms Reduction Treaty (New START), a replacement for the Treaty on Conventional Armed Forces in Europe (CFE), a solution to the Anti-Ballistic Missile (ABM) question, and a restatement of the principles of the INF Treaty. The SPD, with its long-espoused Ostpolitik, would be well-positioned to

mediate between Washington and Moscow.

Source: <https://www.europeanleadershipnetwork.org/>, 29 May 2020.

**OPINION: Eric Johnston**

### **Aomori's Rokkasho Nuclear Plant Gets Green Light but Hurdles Remain**

On 13 May 2020, the Nuclear Regulation Authority announced that the nuclear fuel reprocessing plant in Rokkasho, Aomori Prefecture, had met new safety standards created after the March 11, 2011, earthquake and tsunami. The NRA's approval means the long-troubled and controversial plant has moved closer to going into operation. Here's a look at the Rokkasho plant and the problems it has faced.

*What is the Rokkasho reprocessing plant?*

The plant at Rokkasho is a 3.8 million square meter facility designed to reprocess spent nuclear fuel from the nation's nuclear reactors. Construction began in 1993. Once in operation, the plant's maximum daily reprocessing capacity will be a cumulative total of 800 tons per year. During reprocessing, uranium and plutonium are extracted, and the Rokkasho plant is expected to generate up to eight tons of plutonium annually. Both are then turned into a mixed uranium-plutonium oxide (MOX) fuel at a separate MOX fabrication plant, also located in Rokkasho, for use in commercial reactors. Construction on the MOX facility began in 2010 and it's expected to be completed in 2022. The Rokkasho reprocessing plant can store up to 3,000 tons of spent nuclear fuel from the nation's power plants on-site. It's nearly full however, with over 2,900 tons of high-level waste already waiting to be reprocessed.

*Why has it taken until now for the Rokkasho plant to secure approval from the nuclear watchdog?*

Decades of technical problems and the new safety standards for nuclear power that went into effect

after the 2011 triple meltdown at the power plant in Fukushima Prefecture have delayed Rokkasho's completion date 24 times so far. It took six years for the plant to win approval under the post-3/11 safety standards. There has also long been concern and unease over the entire project — and not just among traditional anti-nuclear activists — which the government has been forced to address. Japan is the only non-nuclear weapons state pursuing reprocessing. But as far back as the 1970s, as Japan was debating a nuclear reprocessing program, the United States became concerned about a plant producing plutonium that

could be used for a nuclear weapons program. The issue was raised at a 01 February 1977, meeting between US Vice President Walter Mondale and Prime Minister Takeo Fukuda.

"Reprocessing facilities which could produce weapons grade material are simply bomb factories,"

noted a declassified US State Department cable on the meeting. "We want to cooperate (with Japan) to keep the problem under control." Japan promised plutonium produced would be for peaceful use only and the US dropped its opposition to a reprocessing program. Japan's first reprocessing plant opened in Tokai, Ibaraki Prefecture, in 1977. The US allowed Japan to reprocess fuel at Tokai on a case-by-case basis, with each case reviewed for its possible risk to the nuclear nonproliferation regime.

Nor did the US oppose the Rokkasho plant's construction in 1993, following an agreement in 1988 between the two countries on nuclear cooperation. The plant at Rokkasho was seen as a replacement for the facility at Tokai. The US-Japan nuclear agreement meant the US would give advance consent for Japan to send spent nuclear fuel to the United Kingdom and France — states with nuclear weapons — for reprocessing until Rokkasho was running at full-scale.

However, technical mishaps led to plans being made and then scrapped for many years, while

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arms control experts continued to worry that Japan could end up stockpiling plutonium that could lead to proliferation problems. After the 2011 disaster, the NRA created tougher measures to minimize damage from natural disasters, forcing more construction and upgrades at the plant, leading to higher costs. The Tokai plant halted operations in 2007. The decision to scrap it was made in 2014, as it was judged to be unable to meet the new safety standards. But little progress is being made, due to uncertainty over where to store all of the radioactive waste. Safety concerns over the Rokkasho plant have remained, especially since 2017 when it was revealed that Japan Nuclear Fuel had not carried out mandatory safety standards for 14 years. By the time of the NRA announcement on May 13, the price tag for work at the Rokkasho plant had reached nearly ¥14 trillion.

*What happens next?*

The NRA is soliciting public comment on its decision until 12 June 2020, but the Ministry of Economy, Trade, and Industry is expected to formally approve the decision. After that, the Aomori governor would be asked to give his approval, though that is not a legal requirement. The last bureaucratic hurdles would then have been cleared to start operations at the plant by the spring of 2022. However, there are other issues that could force a delay to the start of reprocessing. Japan had originally envisioned MOX fuel powering between 16 and 18 of the nation's 54 commercial reactors that were operating before 2011, in place of conventional uranium. But only four reactors are using it out of the current total of nine officially in operation. MOX fuel is more expensive than conventional uranium fuel, raising questions about how much reprocessed fuel the facilities would need, or want. When the US and Japan automatically extended the 1988 agreement in 2018, Japan made a pledge to address its

plutonium stockpile through domestic consumption. Currently, the nation has nearly 45 tons of plutonium stockpiled, including nine tons held by domestic utilities.

Another 21.2 tons is in the UK and France is holding 15.5 tons under overseas reprocessing contracts. Thus, Japan finds itself caught between promises to the international community to reduce its plutonium stockpile through reprocessing at Rokkasho, and questions about whether MOX is still an economically, and politically, viable resource — given the expenses involved and the availability of other fossil fuel and renewable energy resources.

Source: <https://www.japantimes.co.jp/>, 31 May 2020.

**NUCLEAR STRATEGY**

**USA**

**New Bill Would Prohibit the President from Nuking a Hurricane**

**On 01 June 2020, Rep. Sylvia Garcia (D-Tex.) introduced the Climate Change and Hurricane Correlation and Strategy Act, a bill that explicitly prohibits the president, along with any other federal agency or official, from employing a nuclear bomb or other “strategic weapon” with the goal of “altering weather patterns or addressing climate change”.**

Last August 2019, Axios reported that President Trump repeatedly asked top national security officials to consider using nuclear bombs to weaken or destroy hurricanes. Now, one congresswoman wants to make it illegal for Trump, or any president, to act on this idea, which experts say

would be both ineffective and extremely dangerous.

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In a phone interview, Garcia told The Washington Post that the bill was drafted as a direct response

to last year's report that Trump has floated the idea of nuking hurricanes to his senior homeland security and national security advisers. Trump denied ever making such a suggestion in a tweet shortly after Axios published its report. The bill, which has no co-sponsors and no hearing date, appears unlikely to make it out of committee anytime soon. It has been referred to three committees: Armed Services; Energy and Commerce; and Science, Space and Technology.

...With no companion bills in the Senate, the chances of it appearing on the President's desk, much less being signed into law, are even slimmer. But after hearing Trump's alleged comments on nuclear weapons and hurricanes and researching the issue further, Garcia felt she had to at least get the idea of a ban on using nuclear weapons to disrupt the weather on the table...Indeed, the idea of nuking the weather into submission is nothing new: According to James Fleming, a professor at Colby College and author of "Fixing the Sky: The checkered history of weather and climate control," people have been discussing the possibility for almost as long as nuclear weapons have existed.

In October 1945, Vladimir Zworykin, associate research director at Radio Corporation of America, suggested that if humans had technology to perfectly predict the weather, military forces could be sent out to disrupt storms before they formed, perhaps using atomic bombs. That same year, UNESCO director Julian Huxley spoke at an arms control conference in Manhattan, where he discussed using nuclear weapons for "landscaping the Earth" or dissolving the polar ice cap. In a 1961 speech at the National Press Club, US Weather Bureau head Francis Reichelderfer said he could "imagine the

possibility someday of exploding a nuclear bomb on a hurricane far at sea," according to a 2016 report by National Geographic.

**The United States even conducted several near-space experiments using nukes, including Operation Argus, a 1958 field test in which the military and the Atomic Energy Commission detonated atomic bombs more than 100 miles above the South Atlantic Ocean in an ill-conceived effort to induce artificial radiation belts in Earth's magnetic field.**

The United States even conducted several near-space experiments using nukes, including Operation Argus, a 1958 field test in which the military and the Atomic Energy Commission detonated atomic bombs more than 100 miles above the South Atlantic Ocean in

an ill-conceived effort to induce artificial radiation belts in Earth's magnetic field. According to Fleming, the Argus tests, along with subsequent high-altitude nuclear detonations, helped "fuel discussions" leading to the Partial Test Ban Treaty of 1963, which prohibits atmospheric nuclear weapons tests.

While nuking a hurricane in an attempt to destroy or weaken it would probably cause an international uproar, the Partial Test Ban Treaty wouldn't prohibit the president from doing so. In addition, there's no domestic law or international treaty that would prohibit such an action, according to Scott Sagan, a professor of political science at Stanford University.

**Test bans wouldn't cover the actual use of a nuclear weapon against a perceived threat to the United States. In such circumstances, the President has sole authority to use nuclear weapons.**

"It would be a stupid thing to do, but it would not be an illegal thing to do," Sagan said. He said test bans wouldn't cover the actual use of a nuclear

weapon against a perceived threat to the United States. In such circumstances, the President has sole authority to use nuclear weapons. Hurricane experts have long maintained that detonating a nuclear device in a hurricane would have little effect on it, according to an FAQ page on the NOAA website. As the agency explains, the energy released by nuclear weapons pales in comparison to the energy released by a typical hurricane, which the NOAA describes as comparable to a

10-megaton nuclear bomb exploding “every 20 minutes.”

Even detonating multiple nuclear bombs inside a hurricane is unlikely to disrupt the storm, although the radioactive fallout released downwind could have catastrophic impacts for people and the environment.

...Axios’s reporting noted that Trump raised the idea not once, but at multiple points in time, including with top national security and intelligence aides. Kerry Emanuel, a hurricane expert at MIT, sees things a bit differently. “If we have a leader who would contemplate using a nuclear weapon on a hurricane,” he said, “we have a much more extensive and serious problem than could be covered by a specific bill like this one.”

*Source: Maddie Stone, Andrew Freedman contributed to this report, (excerpted from) The Washington Post, 08 June 2020.*

### **F-15E Becomes First Aircraft Compatible with New Nuclear Bomb Design**

America’s newest nuclear bomb design has been successfully tested on the F-15E, making the Strike Eagle the first fighter jet to be officially compatible with the B61-12 design. Two test flights were flown twice in March 2020 at the Tonopah Test Range in Nevada, according to a release by Sandia Labs. The mock weapon was released on one test at about 1,000 feet and at nearly the speed of sound, while a higher-altitude test occurred at around 25,000 feet; both tests hit the target as designed.

...The B61-12 program will replace the B61-3, -4, -7 and -10 nuclear gravity bomb variants with a new warhead design. The warhead is being developed and produced by the National Nuclear Security Administration, a semi-independent agency located within the Department of Energy,

while the Pentagon is developing new tailkit assemblies for the design.

An NNSA estimate puts the likely cost of the program between \$8 billion to \$9 billion. The upgraded variant will be certified on America’s F-15, F-16 and B-2 aircraft, as well as on aircraft for NATO member nations. The F-35 is expected to go through certification on the weapon at some point in the next decade. The weapon passed its final design review in October 2018.

Notably, the NNSA release states that the first production unit is scheduled for completion in fiscal

2022, when previous agency statements had set that target at March 2020. The source of the delay is likely an issue with an off-the-shelf part, which did not meet NNSA’s standards for parts on the weapon, that was discovered last summer and will result in time delays and cost hundreds of millions of dollars to replace. “The success of these tests is a

major milestone on the path to full rate production and the B61-12’s initial operation capability on the F-15E in the coming years,” Brig. Gen. Ty Neuman, NNSA’s principal assistant deputy administrator for military application, said in a statement. “Once delivered, this capability will underpin our nation’s deterrent and strengthen our NATO partnerships.”

*Source: Aaron Mehta, <https://www.defensenews.com/>, 10 June 2020.*

### **USA-RUSSIA**

#### **US and Russia to Meet June 22 on Curbing Nuclear Stockpiles**

The US and Russia will send senior officials to Vienna on 22 June 2020 for a new round of arms-control talks, a State Department official said, as the Trump administration tries to enlist Moscow’s help bringing China into broader negotiations to limit all three countries’ nuclear weapons stockpiles.

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The official didn't rule out that the US may be willing to extend the Obama-era New Start nuclear-weapons treaty, which is set to expire in February 2021, provided Russia commits to three-way arms control with China and helps to bring a resistant Beijing to the table. The administration has invited China to the talks in Vienna, though its attendance isn't a precondition, according to the official, who spoke on condition of anonymity about diplomatic exchanges. China said... that it did not intend to participate in the talks.

"China has repeatedly stated its position," foreign ministry spokeswoman Hua Chunying told a daily news briefing in Beijing... Even a willingness to consider a New Start extension marks a concession by the Trump administration, which had previously rebuffed Russian calls to open such talks. The 10-year-old treaty, the last one capping the nuclear forces of the former Cold War foes, has an option to renew for a further five years with the agreement of both parties.

Some arms control experts have said they feared the administration was going to let the treaty expire unless it extracted a concrete commitment from China to participate in broader talks. But officials in Beijing have so far balked at trilateral talks, arguing that they are far behind Moscow and Washington, which together hold more than 90% of the world's nuclear weapons.

The official said the US reserves the right to walk away from talks at any time, is still determined to pursue broader negotiations that include China and still wants a vastly expanded arms control regime with far more robust verification measures. The official declined to say what that might encompass...

Billingslea indicated previously that the US has a list of demands on Russia as well as China for a broader arms control agreement. That would include getting Russia to agree to stricter

verification measures along with a major new demand: that any future arms-control regime has to include all nuclear weapons, not just strategic warheads.

Trump administration officials have insisted on China joining the talks because they believe that while the country has far fewer nuclear arms than the US and Russia, it is in the middle of what they call a major buildup of nuclear weapons. "China needs to be a part of this — stop hiding behind

the Great Wall of Secrecy," Billingslea wrote in a tweet on May 21. "Seeking great power status means assuming great power responsibility. No secretive, unconstrained nuclear buildup."

..."We know how to win these races, and we know how to spend the adversary into oblivion," Billingslea

said. "If we have to, we will, but we sure would like to avoid it."

Source: Author: Nick Wadhams with assistance by Colum Murphy, and Karen Leigh, <https://www.bloomberg.com/news>, 08 June 2020.

## BALLISTIC MISSILE DEFENCE

### FRANCE

#### France Test-Fires Submarine-Launched Ballistic Missile

The French Navy...announced the test of a submarine-launched ballistic missile on Friday by the last submarine in its fleet to receive a missile upgrade. The missile crossed the Atlantic Ocean, striking an area at sea nearly 400 miles east of Puerto Rico, officials said.

"This test was carried out without nuclear warhead and in strict compliance with France's international commitments," an official statement on Friday said. "This firing validates the operational capacity of the SSBN Le Téméraire's global weapon system and once again demonstrates the high-tech excellence

that French industries are implementing in this area."

The launch, from the submarine Le Temeraire in Audierne Bay, off the coast of Brittany near western France, was conducted in relative secrecy. Congratulations later were announced by French Defense Secretary Florence Parly and French Navy Chief of Staff Adm. Christophe Prazuck. At least one French SSBN submarine is kept on alert at any time, according to officials.

Source: Ed Adamczyk, <https://www.upi.com/Defense-News/>, 12 June 2020.

## NUCLEAR ENERGY

### AFRICA

#### Togo Adopts Bill to Regulate the Use of Nuclear Energy

On 04 June 2020, the Togolese assembly adopted a bill regulating the safe, secure, and peaceful use of nuclear technology by the country. This was during the sixth plenary session of the assembly, under its first ordinary session for the year. "Nuclear safety is a collective priority and Togo has always worked to ensure more safety within its borders," declared Yawa Djigbodi Tsègan, president of the national assembly. With the adoption of the new bill, Togo becomes one of the countries "adhering to the treaty against the proliferation of nuclear weapons." The move will also help the nation consolidate and diversify its cooperation with the International Atomic Energy Agency (IAEA). "Moreover, nuclear technology can greatly contribute to key areas such as sustainable development, health treatment, nutrition, agriculture," added the president of the parliament.

Source: Séna Akoda, <https://www.togofirst.com/>, 05 June 2020.

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**In particular, there has been a call for it to be awarded the same benefits and privileges as renewable power, considering the lack of harmful emissions produced in both energy systems and their comparable contributions to the EU's energy mix.**

### EU

#### European Nuclear Players Call for Coherent Policy Amid COVID-19

A number of major players in the European nuclear power industry have written an open letter to the EU, calling on the bloc to unify its nuclear policies to encourage greater investment in the sector, with nuclear power set to play a key role in the EU's energy mix post-COVID 19.

According to figures from the World Nuclear Association, the EU relied on nuclear power for 26% of its energy as of February of this year, a number comparable to that of renewable power, which contributed 28% of the bloc's electricity. As the largest energy importer in the world, bringing in 55% of its energy at an annual cost of up to \$390bn, supporters of nuclear power have long campaigned for a greater reliance on nuclear within the EU. In particular, there has been a call for it to be awarded the same benefits and privileges as renewable power, considering the lack of harmful emissions produced in both energy systems and their comparable contributions to the EU's energy mix.

Indeed, last year (2019), the European Council, the policy-making branch of the EU, ruled that nuclear power is eligible for an EU scheme to fund new sources of green power, and despite controversy, the ruling has emboldened the European nuclear sector to push for greater legal concessions.

"There is now a growing awareness across the EU of the importance of preserving and enhancing industrial value chains and reducing over-dependency on third countries. The nuclear sector must therefore be part of the new,

coherent EU industrial strategy,” wrote the nuclear organisations in the open letter, which include French energy giant EDF, Swedish renewables firm Vattenfall, and the Nuclear Industry Association. “The energy sector will therefore continue to have a crucial role.”

This call for coherence is one of the signatories’ two primary goals. With much of nuclear regulation, particularly with respect to safety, governed by individual EU members rather than through a single, coherent bloc-wide policy, there have been considerable discrepancies in the contribution of each member state to the EU’s total nuclear power output.

...In addition, the signatories called for a “science-based environmental assessment”

to better align nuclear power with renewable power in regards to classification, and thus eligibility for subsidies and other funding schemes. By unifying the legislation behind nuclear power, and firmly establishing it as a legitimate clean energy source, the nuclear industry is hopeful that nuclear power will drive European development in an uncertain post-COVID future.

“With thoughts across the EU turning to economic recovery and the need to rebuild economies after the coronavirus, the commitment to addressing climate change has not wavered and will guide and shape recovery efforts,” wrote the organisations. “The energy sector, with nuclear at its heart, is continuing to play a critical role powering the EU, delivering an essential low-carbon service to households and businesses in a safe, competitive and reliable way and keeping the economy moving. We are also ready to play a

leading role in the economic recovery, helping to provide the cleaner and more resilient economy of the future that we all strive for.”

*Source: J P Casey, <https://www.power-technology.com/>, 04 June 2020.*

## **PUERTO RICO**

### **Proposal for Small Reactors to Power Puerto Rico**

Phase 1 of a feasibility study funded by the US Department of Energy has concluded that small modular reactors (SMRs) and microreactors could be cost competitive with natural gas to complement intermittent renewable sources in Puerto Rico (population 3.2 million).

The report proposes a set of legislative amendments to maximise the competitiveness of electricity production by SMRs and microreactors which can withstand severe natural events such as hurricanes and earthquakes. “Advanced nuclear reactors provide a combination of reduced

electricity costs, zero-emission baseload electricity and minimal dependency on fuel imports that can lead to a strong degree of energy security and reliability [which is] much needed.” Puerto Rico’s legislature in 2018 passed a bill calling for an investigation into the prospect of building nuclear power plants on the island, which suffered widespread and prolonged outages following Hurricane Maria

in 2017. There was severe damage to the grid, along with destruction of some wind and solar PV capacity. The new study found high public interest in the deployment of nuclear reactors. Over 3000 residents were surveyed, with 94% saying they

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favoured exploring the option of nuclear energy for the island. Phase two of the study will focus on the viability of constructing small reactors at particular locations and an education campaign for the people of Puerto Rico. The suitability of sites for advanced nuclear reactors will be assessed in accordance with US Nuclear Regulatory Commission regulations.

*Source: World Nuclear Association, 21 May 2020.*

## **USA**

### **US Launches Advanced Reactor Demonstration Program**

The US Department of Energy has offered funds, initially \$160 million, on a cost-share basis for the construction of two advanced reactors that can be operational within seven years. The Advanced Reactor Demonstration Program will concentrate resources on designs that are “affordable” to build and operate. The Program will extend also to risk reduction for future demonstrations, and Advanced Reactor Concepts 2020 to support innovative and diverse designs with the potential to be commercial in the mid-2030s. It articulates with the National Reactor Innovation Center (NRIC) to test and assess advanced technologies. NRIC, at the Idaho National Laboratory, was launched last year (2019) to develop the DOE’s Gateway for Accelerated Innovation in Nuclear (GAIN) initiative, connecting industry with the US national laboratories to accelerate the development and commercialisation of advanced nuclear technologies. The USA is notable for the number and diversity of small reactor designs being brought forward in the last 15 years, mostly by private enterprise. There are about 30 different US designs, with the NuScale 60 MWe reactor and

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GE-Hitachi BWRX 300 MWe reactors apparently in the lead.

*Source: World Nuclear Association, 14 May 2020.*

## **NUCLEAR COOPERATION**

### **ROMANIA-CHINA**

#### **Romania Cancels Deal With China to Build Nuclear Reactors**

The Romanian government ... asked the state company Nuclearelectrica, which runs the nuclear power plant in Cernavoda, to terminate negotiations with its Chinese partner China General Nuclear Power Corporation, GCNPC, on the construction of nuclear reactors 3 and 4 at Cernavoda.

The government said Nuclearelectrica needs to find new partners for the project. A Memorandum of Understanding was signed between Nuclearelectrica and GCNPC in November 2015 to build the two reactors.

According to the document, the two parties were to set up a joint venture project company in which the Chinese company would hold a stake of at least 51 per cent of the shares. The new joint venture was planned to take over the value of Nuclearelectrica’s investment in its subsidiary EnergoNuclear SA, the former company that had been due to handle the project for reactors 3 and 4 at the Cernavoda plant.

In May 2019, the Energy Ministry under the former Social Democratic PM Viorica Dancila signed another document with the Chinese company, concerning a 200-million-euros a year investment from GCNPC.

But the current PM, Ludovic Orban, condemned

the deal in January 2020. "It is clear to me that it will not work with the Chinese ... We will see with which partner [the reactors will be built]. It is about partners and funding," Orban said in an interview for Hotnews.

Economy Minister Virgil Popescu said in January 2020 that Nuclearelectrica could build reactor 3 at Cernavoda by itself, and added that a new joint project with a NATO partner was a more viable scenario. Romania is a close ally of the US and its movement away from key deals with Beijing has likely been affected by the dramatic cooling in US-China ties since Donald Trump took office in Washington.

In April 2016, the US Justice Department accused China General Nuclear Power Corporation along with Energy Technology International of nuclear espionage. The US justified its accusation, citing "conspiracy to unlawfully engage and participate in the production and development of special nuclear material outside the United States, without the required authorization from the US Department of Energy".

The Romanian Energy Ministry holds the majority share capital of 82.49 per cent of Nuclearelectrica, while Property Fund owns 7.05 per cent and other shareholders have 10.45 per cent...

Source: <https://balkaninsight.com/>, 27 May 2020

## **URANIUM PRODUCTION**

### **USA**

#### **Will More Uranium Really Solve America's Nuclear Crisis?**

The United States' nuclear energy industry has been in dire straits for years now. Despite the fact

that nuclear has a huge advantage in the field of clean energy, with a well-established industry and infrastructure, zero carbon emissions, and an urgent need to curb greenhouse gas emissions worldwide, US nuclear just can't catch a break. Nuclear energy plants in the United States have been shutting down as other countries, most notably China and Russia, are ramping up their nuclear energy sectors. Even though the United States is responsible for a whopping third of all nuclear energy production worldwide, the country is quickly losing ground as nuclear plants struggle to turn a profit. Hit hard by the influx of cheap oil and natural gas from the domestic shale revolution, the nuclear energy industry in the US is now being pummeled once again by COVID-19, and this time, many experts are wondering whether the industry can weather the storm.

Now, the US Department of Energy (DOE) is mobilizing to combat the failure of the domestic nuclear energy sector. "Energy Secretary Dan Brouillette, the top brass of DOE and what loosely might be described as the nuclear energy

establishment took to a webinar 29 May 2020 to explain and endorse the plan," Forbes reported this week. "The industry was represented by Maria Korsnick, CEO of the Nuclear Energy Institute, the dominant nuclear power trade association, and by Clarence 'Bud' Albright, CEO of the smaller US Nuclear Industry Council."

The ambitious plan to revitalize US nuclear energy centers around "the creation of a \$1.5-billion uranium stockpile along with associated nuclear processing facilities," said Forbes. "Collectively, these are known as the front end of the nuclear fuel cycle." This feasibility of this plan has a strong foundation, considering that the United

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States is sitting on enough uranium to power the country for hundreds of years. Last summer, the United States' Uranium Committee of the Energy Minerals Division, an organization tasked with monitoring the nation's uranium and nuclear power industries, released their 2019 Annual Report at the yearly meeting of the American Association of Petroleum Geologists in San Antonio. "The report assessed that the US has more uranium than we would need to fuel hundreds of years of nuclear power generation, even if nuclear power was being relied on as a much more significant source of energy in the US," Oilprice reported at the time. "This is great news for nuclear supporters in the United States, though historically the country has not mined its own uranium but imported the radioactive metal from other countries." The DOE's idea of creating a uranium stockpile is appealing to the nuclear energy industry because mining and processing uranium into the "yellowcake" which is actually useful to the industry as fuel takes years. So this DOE project would allow the sector easier and more efficient access to fuel, to be sure, but will this really save the nuclear industry? Not really, since uranium has never been the issue.

According to Energy Secretary Brouillette, this plan for the new "front end of the nuclear fuel cycle" is "both to revive the domestic industry and to protect the nuclear navy," as paraphrased by Forbes. "But the DOE has undermined its own nuclear navy argument by stating that the nuclear navy is well-supplied with fuel until 2050, and more uranium in storage would do nothing for the nuclear industry which is in decline. It is the equivalent of getting a haircut to cure a stomachache." According to Forbes' reporting, this

**The report assessed that the US has more uranium than we would need to fuel hundreds of years of nuclear power generation, even if nuclear power was being relied on as a much more significant source of energy in the US.**

**So does the nuclear industry need help? Yes. Does it need innovation? Most certainly! Will a uranium stockpile provide help or innovation? Not in any significant way. Both sides reiterated their support for continued bilateral civil nuclear cooperation and their commitment to further strengthen global non-proliferation. Australia expressed its strong support for India's membership of the NSG.**

new plan lacks teeth because it does nothing to address what it identifies as the "two real problems of the [nuclear energy] industry," which are the absence of a domestic market for new nuclear reactors and the difficulty in maintaining operations at the country's existing plants. In fact, the US has built next to zero new reactors in the last three decades, and those reactors that are managing to stay above water are largely doing so thanks to hefty government subsidies. And then there is the crushing cost of maintaining nuclear waste, which is falling on the shoulders of US taxpayers. Forbes calls the shuttering of functioning nuclear power plants "a tragedy" and "environmental vandalism." So does the nuclear industry need help? Yes. Does it need innovation? Most certainly! Will a uranium stockpile provide help or innovation? Not in any significant way.

*Source: Haley Zaremba, <https://oilprice.com/>, 10 June 2020.*

## **NUCLEAR NON-PROLIFERATION**

### **AUSTRALIA -INDIA**

#### **Australia Expresses "Strong Support" for India's NSG Membership Bid**

Australia expressed its strong support for India's membership to the Nuclear Suppliers Group and also reiterated its backing for New Delhi's candidacy for a permanent seat in a reformed UNSC. Australia's support was stated in the joint statement released after an online summit between PM Modi and his

Australian counterpart Scott Morrison. "Both sides reiterated their support for continued bilateral civil nuclear cooperation and their commitment to further strengthen global non-proliferation."

Australia expressed its strong support for India's membership of the NSG the statement said... Even though India has the backing of the majority of the group's members, China has been blocking its entry into the bloc. Australia also reiterated its support for India's candidacy for permanent membership of a reformed UN Security Council (UNSC) and India's candidature for a non-permanent seat at the UNSC for the 2021-22 term, it said.

Source: <https://www.energyinfra.com/>, 10 June 2020.

**CHINA-EU**

**Europe, China Slam End of US Waivers for Joint Nuclear Projects in Iran**

China and the European parties to the 2015 nuclear deal censured the United States' decision to terminate the sanctions waivers that allowed foreign cooperation in Iran's nuclear projects, saying it is to the detriment of global non-proliferation efforts. US announced on Wednesday that it will terminate the waivers that covered the conversion of Iran's Arak heavy water research reactor, the provision of enriched uranium for Tehran Research Reactor and the transfer of spent reactor fuel abroad, but will extend the one that allowed foreign work at a Russian-built nuclear power plant at Bushehr for 90 days to ensure safety. The role of foreign firms was agreed in the nuclear deal to help ensure Iran's nuclear program would remain peaceful. The US has unilaterally abandoned the deal, formally known as the Joint Comprehensive Plan

**Spokespersons of the High Representative of the EU and the foreign ministries of France, Germany and Britain issued a joint statement... expressing deep regret about the US decision to end the three waivers. "These projects, endorsed by UNSC Resolution 2231, serve the non-proliferation interests of all and provide the international community with assurances of the exclusively peaceful and safe nature of Iranian nuclear activities," they said in the statement published on the British Foreign Ministry website. They said they are consulting with partners to assess the consequences of the new US measure against JCPOA, which they described as a key achievement of the global non-proliferation architecture and currently "the best and only way" to keep Iran's nuclear program in check.**

of Action, for two years and revived the sanctions it had once agreed to lift. Spokespersons of the High Representative of the EU and the foreign ministries of France, Germany and Britain issued a joint statement... expressing deep regret about the US decision to end the three waivers. "These projects, endorsed by UNSC Resolution 2231, serve the non-proliferation interests of all and provide the international community with assurances of the exclusively peaceful and safe nature of Iranian nuclear activities," they said in the statement published on the British Foreign Ministry website. They said they are consulting with partners to assess the consequences of the new US measure against JCPOA, which they described as a key achievement of the

global non-proliferation architecture and currently "the best and only way" to keep Iran's nuclear program in check. "That is why we have worked continuously with the aim of ensuring the full and effective implementation of commitments under the JCPOA, in particular the return of Iran to full compliance with its nuclear commitments without delay," the statement noted. Iran scaled back its commitments under the deal

**Chinese Foreign Ministry Spokesperson Zhao Lijian also expressed Beijing's firm opposition to the new US decision, saying it demonstrates "a consistent pattern of unilateral and hegemonic practice.**

after it remained deprived of its promised benefits for a year since the US pullout in 2018. It has declared that all measures would immediately be reversed once it can enjoy all those benefits again.

*Hegemonic Practice*

Chinese Foreign Ministry Spokesperson Zhao Lijian also expressed Beijing's firm opposition to the new US decision, saying it demonstrates "a consistent pattern of unilateral and hegemonic practice". "Its [Washington's] latest decision to end sanctions waiver on relevant nuclear projects hampers the international non-proliferation progress and shared efforts to preserve the JCPOA," he said at a regular press briefing..., China's Foreign Ministry website reported. He stressed that the Arak reactor conversion is an important part of the nuclear deal and China is ready to work with other parties to continue to uphold the deal and safeguard its own legitimate rights and interests. Zhao also pointed out that JCPOA is an important component of the international non-proliferation regime and essential to peace and stability in the Middle East. "Complying with and acting on these [JCPOA] arrangements serves all parties' common interests and is a shared responsibility." He regretted that the US has chosen to stick to its maximum pressure campaign on Iran and has not only unilaterally withdrawn from the deal in violation of the United Nations' resolution, but also "ratcheted up efforts to thwart other parties' implementation of the deal".

Behrouz Kamalvandi, the spokesman of the Atomic Energy Organization of Iran, had said earlier that the new measure will have no impact on Tehran's nuclear activities because it can continue its work even without the foreign companies' cooperation. Foreign Ministry Spokesman Abbas Mousavi also strongly condemned the move on Saturday, saying it is a violation of UNSC Resolution 2231 and the UN Charter, ISNA reported. "This measure is a disregard for the Islamic Republic's original rights and disrupts the general international order," he said. Mousavi noted that Iran will closely monitor the technical and political consequences of the decision and will take legal and practical steps if it negatively affects the country's nuclear rights under international documents and the terms of JCPOA.

Source: <https://financialtribune.com/>, 30 May 2020.

**Russia, China Build Case at UN to Protect Iran from US Sanctions Threat**

Russia and China have started making the case at the UN against Washington's claim that it can trigger a return of all sanctions on Iran at the Security Council, with Moscow invoking a 50-year-old international legal opinion to argue against the move.

...Russian Foreign Minister Sergey Lavrov and the Chinese government's top diplomat, Wang Yi, both wrote to the 15-member council and UN chief Antonio Guterres as the United States threatens

**Chinese Foreign Ministry Spokesperson Zhao Lijian also expressed Beijing's firm opposition to the new US decision, saying it demonstrates "a consistent pattern of unilateral and hegemonic practice."**

to spark a so-called sanctions snapback under the Iran nuclear deal, even though Washington quit the accord in 2018. Lavrov wrote in the 27 May 2020 letter, made public this week, that the US was

being "ridiculous and irresponsible."

"This is absolutely unacceptable and serves only to recall the famous English proverb about having one's cake and eating it," Lavrov wrote. Washington has threatened to trigger a return of UN sanctions on Iran if the Security Council does not extend an arms embargo due to expire in October 2020 under Tehran's deal with world powers to prevent it from developing nuclear weapons.

US Ambassador to the UN Kelly Craft said last week that a draft resolution on the embargo would be circulated soon. Council veto-powers Russia and China have already signaled they are against reimposing an arms embargo on Iran. If they block the US-drafted resolution, then Washington will have to follow through on its sanctions snapback threat."The United States, no longer a participant to the JCPOA (nuclear deal) after walking away from it, has no right to demand the Security Council invoke a snapback," Wang wrote in his 07 June 2020 letter.

The 2015 Iran nuclear deal, enshrined in a UN resolution, allows for return of sanctions on Iran, including the arms embargo, if Iran violates the deal. US President Donald Trump quit the deal in 2018, branding the accord from Barack Obama's presidency as "the worst deal ever."

Lavrov cited a 1971 International Court of Justice opinion, which found that a fundamental principle governing international relationships was that "a party which disowns or does not fulfill its own obligations cannot be recognized as retaining the rights which it claims to derive from the relationship." Iran has breached parts of the nuclear deal in response to the US withdrawal and Washington's reimposition of sanctions. The United States argues it can still trigger the sanctions snapback because the 2015 UN resolution still names it as a participant. Diplomats say Washington would likely face a tough, messy battle.

**Lavrov cited a 1971 International Court of Justice opinion, which found that a fundamental principle governing international relationships was that "a party which disowns or does not fulfill its own obligations cannot be recognized as retaining the rights which it claims to derive from the relationship."**

*Source: Michelle Nichols, Reuters, 10 June 2020.*

## **GENERAL**

### **NPT's 50th Anniversary Encourages 17 Signatories to Remind Five Nuclear-Weapons States of their Commitments**

The upcoming 2020 Review Conference of a landmark international treaty on the Non-Proliferation of Nuclear Weapons (NPT), postponed due to the COVID-19 pandemic, presents "a timely opportunity for the States Parties to undertake a comprehensive review and assessment" of its current status, says the Joint Communiqué issued on 19 May 2020 by 17 States Party to the NPT. A total of 191 States have joined the Treaty, including the five nuclear-weapon States – USA; Russia, China, Britain and France – which entered into force in 1970. More countries have ratified the NPT than any other arms limitation and disarmament agreement, which analysts perceive as a testament to the Treaty's significance.

Signatories to the communique look forward to work with other States Parties. There is no doubt that the implementation of disarmament commitments would have allowed more resources to be allocated for sustainable development as well as international cooperation and preparedness to deal with such public health and global emergencies.

"It is now time that States Parties translate words into concrete actions backed by clear and agreed-upon benchmarks and timelines. Only through such efforts can we look ahead towards a successful next 50 years of the NPT, improving on the

important achievements of the last 50 years, which we presently commemorate," accentuates the communique.

Following is the full text of the Joint Communiqué:

"On its 50th anniversary, Algeria, Austria, Brazil,

Chile, Costa Rica, Ecuador, Egypt, Indonesia, Ireland, Malaysia, Mexico, Morocco, New Zealand, Nigeria, the Philippines, South Africa and Thailand celebrate the entry into force of the NPT. The inception of the NPT at a time of heightened tensions and mistrust is a testament to the value of international cooperation and the success of multilateral diplomacy in a challenging environment such as the international security situation of today.

"Five decades since its entry into force, the NPT remains an invaluable instrument in contributing to international Peace and security. As the cornerstone of the global nuclear disarmament and nuclear non-proliferation regime, the NPT has been instrumental in supporting international efforts to curtail the threats posed by nuclear weapons and their proliferation, while providing a foundation for global nuclear disarmament leading to the complete elimination of nuclear weapons in order to rid humanity of the existential threats they pose.

"The deep concern at the continued threat posed to humanity by nuclear weapons and the possibility

of their catastrophic humanitarian impacts also underline the urgent need for significant and tangible progress. In this regard, we recall the concern expressed by all States Parties at the catastrophic humanitarian consequences of any use of nuclear weapons as reflected in the Final Document of the 2010 NPT Review Conference. "The NPT has played a pivotal role in promoting the diverse peaceful uses of nuclear energy, ensuring that nuclear non-proliferation does not impede the rights and access of States Parties to the peaceful uses of nuclear energy. In this regard, the IAEA has succeeded in playing an effective role towards NPT implementation.

"This semi-centennial of the NPT serves as a reminder of the importance of the universalization of the NPT. All States that have not yet done so should join the Treaty as non-nuclear-weapon States without further delay or conditions. This is an opportunity to redouble our collective efforts to fully implement the equal and mutually reinforcing three pillars of the Treaty, which is essential for realizing its objectives.

"At previous Review Conferences, States Parties entered into specific commitments to implement the Treaty's obligations. The accomplishments achieved to date pursuant to the NPT are a culmination of concerted international efforts towards this end. "Success in the implementation of the Treaty lies in the hands of its States Parties. Non-nuclear-weapon States committed not to develop nuclear weapons in exchange for the elimination of nuclear arsenals by the nuclear-weapon States. Progress on nuclear disarmament has lagged behind that on nuclear non-proliferation and the peaceful uses of nuclear energy.

"It is urgently necessary to implement concrete, transparent, verifiable and irreversible nuclear disarmament measures in order to fulfill the obligations and commitments within the framework of the NPT. We must uphold and preserve the NPT's credibility, viability and effectiveness, and the only way to protect the NPT is to implement it.

"Though some progress on nuclear disarmament

has been achieved over the last five decades, it is far from sufficient and the obligation of nuclear disarmament has still not been fulfilled. Current modernization and upgrading programmes put the progress achieved in danger of reversal. At the same time, we see a highly concerning erosion of the multilateral nuclear disarmament and arms-control architecture with existing agreements being terminated and others in danger. The contemporary global security environment and challenges warrant urgent progress. "At the 2000 NPT Review Conference, the nuclear-weapon States unequivocally undertook to accomplish the total elimination of their nuclear arsenals leading to nuclear disarmament and committed to accelerating progress in this regard.

"The 2010 Action Plan subsequently reaffirmed the decisions taken in 1995 and 2000, including the 13 practical steps, to advance the implementation of Article VI of the NPT. The nuclear weapon States, bearing in mind their special responsibility, committed to accelerate progress on the steps leading to nuclear disarmament. We urge the nuclear-weapon States to implement their existing commitments and also to build further upon them in order to accelerate fulfilment of their obligations under the NPT.

"The 50th anniversary of the entry into force of the NPT coincides with the 25th anniversary of its indefinite extension. It is important to recall that the indefinite extension of the NPT was part of a package of decisions including a decision to strengthen the Treaty's Review Process, identify principles and objectives for nuclear disarmament and non-proliferation and a Resolution on the establishment of a zone free of nuclear weapons and other weapons of mass destruction in the Middle East." These decisions together with the Middle East Resolution are considered inseparable from the indefinite extension of the NPT, and must be honoured by all States Parties." It should also be stressed that the indefinite extension of the Treaty cannot in any way be interpreted as a justification for the indefinite retention of nuclear weapons. "The establishment of Nuclear-Weapon-Free-Zones (NWFZs) in all

regions of the world are positive steps and important interim measures towards strengthening global nuclear disarmament and non-proliferation and realizing the objectives of the NPT, pending the total elimination of nuclear weapons.

“On this momentous occasion, we solemnly reaffirm our past commitments agreed upon during previous NPT Review Conferences, which should be built upon at the next Review Conference. We call on other States Parties to do the same. As the history of the NPT was not devoid of challenges, so today it faces difficult challenges, again. “However, our awareness of these various hurdles should not be a reason to falter in our stride; it should instead strengthen our resolve to work together to overcome them, through more open, inclusive and transparent multilateral dialogue, with civility and diplomacy, within the context of the NPT. International peace and security will only be achieved through cooperation and concrete progress towards the goal of the NPT, which is a world without nuclear weapons.

The upcoming Review Conference of the NPT, which was postponed due to the unfortunate circumstances of the COVID-19 pandemic, presents a timely opportunity for the States Parties to undertake a comprehensive review and assessment of the current status of the Treaty and the implementation of its three pillars as well as the previous obligations and commitments within its framework. The Review Conference has the responsibility to identify additional areas and means for further concrete progress to be made in the future. We look forward to work with other States Parties in this regard. There is no doubt that the implementation of disarmament commitments would have allowed more resources to be allocated for sustainable development as

well as international cooperation and preparedness to deal with such public health and global emergencies.

“It is now time that States Parties translate words into concrete actions backed by clear and agreed upon benchmarks and timelines. Only through such efforts can we look ahead towards a successful next 50 years of the NPT, improving on the important achievements of the last 50 years, which we presently commemorate.”

Source: By UN Bureau, <https://www.indepthnews.net/>, 24 May 2020.

## NUCLEAR DISARMAMENT

### GENERAL

#### Eminent Persons Warn Against Any Demonstration Nuclear Test Explosion”

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Members of the CTBTO Group of Eminent Persons (GEM) have expressed “deep concern about credible press reports” that senior US officials have discussed the possibility of conducting “a demonstration nuclear test explosion”. They warn that if carried out, it would break the global moratorium on nuclear weapon test explosions and severely undermine the CTBT regime, established to help detect and deter nuclear weapon test explosions anywhere in the world. “Nuclear weapon test explosions, for any purpose, are a vestige of a bygone era,” the Group maintains. “Only one state this century has detonated nuclear weapon tests, and today all of the world’s nuclear armed states are observing nuclear test moratoria,” it adds.

The CTBT bans all nuclear explosions, thus hampering both the initial development of nuclear weapons as well as significant enhancements.

The Treaty also helps prevent harmful radioactive releases from nuclear testing. The US is among eight 'Annex 2' States that must sign and ratify before the Treaty comes into force. Along with China, Egypt, Iran and Israel, the US has signed but not ratified the Treaty. However, the other three Annex 2 countries – India, North Korea and Pakistan – have not even signed. The CTBT has so far been signed by 184 States, of which 168 have ratified the Treaty. The GEM, launched on September 26, 2013 at the United Nations Headquarters in New York, supports and complements the CTBTO's efforts to promote the CTBT entry into force, as well as reinvigorating international endeavours to achieve this goal. The group comprises eminent personalities and internationally recognized experts.

**In a statement on 29 May 2020, the GEM members appeal to all responsible states to reiterate their strong support for the global norm against nuclear test explosions of any yield that has been established by the CTBT, "to take concrete action to secure its prompt entry into force, and to urge the use of diplomacy rather than intimidation to build a more peaceful and secure international security environment for all".**

The CTBTO, with Dr Lassina Zerbo as Executive Secretary since August 2013, is the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization. It is an international organization established by the States Signatories to the Treaty on November 19, 1996, and has its headquarters in Vienna, Austria. An Agreement (A/RES/54/28) to regulate the relationship between the United Nations and the CTBTO was adopted in 2000 by the General Assembly. The GEM members are calling on eight hold-out Annex 2 countries to ratify the CTBT. "The most effective way to resolve possible concerns about very low-yield nuclear explosions and enforce compliance" with the Treaty, is to bring it into force. "When it does enter into force, States have the option to demand intrusive, short-notice on-site inspections to investigate suspicious activities," they maintain.

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has been established by the CTBT, "to take concrete action to secure its prompt entry into force, and to urge the use of diplomacy rather than intimidation to build a more peaceful and secure international security environment for all".

Awaiting entry into force of the Treaty, the verification regime to monitor the globe for nuclear explosions is nearing completion with currently more than 300 facilities certified out of the 337 originally planned for International Monitoring System (IMS) facilities already in operation. The system has proved its capabilities to detect even small nuclear tests during the announced DPRK nuclear tests in 2006, 2009, 2013, 2016 and 2017. The GEM members signing the statement include:

Nobuyasu Abe (the UN Under-Secretary-General for Disarmament Affairs from 2003 to 2006); Hans Blix (the Director-General of the International Atomic Energy Agency from 1981 to 1997); Grigory Berdennikov (the Governor for the Russian Federation on the IAEA Board of Governors); and Desmond Browne (currently the Chair of the Executive Board of the European Leadership Network)....

Source: Reinhard Jacobsen, <https://indepthnews.net/>, 30 May 2020.

## **NUCLEAR SAFETY**

### **GENERAL**

#### **IAEA: Reactor safe Maintaining Safe Operation During Pandemic**

Operators and regulators continue to ensure safety and security at plants worldwide even as the pandemic has impacted them in various ways, including their planned outages and maintenance schedules, said Dohee Hahn, director of the IAEA's Division of Nuclear Power. "The input we are receiving provides us with important insight into

the pandemic's impact on the nuclear industry and will help operators and regulators alike to learn from each other's experiences," he said.

While operators have taken measures to reduce the risk of infection among employees and maintain day-to-day operations, lower electricity demand caused by restrictions on economic activity has led to some plants having to reduce power output.

Adjustments to activities such as scheduled maintenance outages have also had to be made, by deferring non-critical work, commensurate with the availability of staff while observing distancing practices.

"Plant operators are responding to an evolving and unprecedented situation by showing a high level of preparedness, flexibility and resilience," Hahn said. The pandemic's widespread impact on the global economy and industrial activity is expected to continue to challenge global supply chains. That impact could affect plant performance in the interim to long term, introducing long lead times for new builds or major refurbishment projects, the IAEA said. There may also be potential delays in tendering processes, as well as uncertainty over available financing for new build projects. The has also received information related to contingency planning should staffing levels be further reduced, as well as descriptions of actions taken when active COVID-19 cases were detected among employees or their family members.

"A pandemic, such as the current COVID-19 outbreak, could pose a challenge to the continuity of safe operations of nuclear power plants and

therefore operators need to implement special measures that integrate safety into their business activities and priorities under pandemic

circumstances," said Greg Rzentkowski, director of the IAEA's Nuclear Installation Safety Division. The objective of those measures is that safety is not compromised during these unprecedented times, he added.

The IAEA has been coordinating with other international organisations - including the World Association of Nuclear Operators and the OECD to compare data on nuclear power and energy market trends amid the pandemic in order to help the industry deal with this unprecedented situation and any similar outbreaks in future. The OPEX and IRS platforms, it said, will remain open for further input for the duration of the pandemic.

Source: World Nuclear News, 11 June 2020.

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## NUCLEAR WASTE MANAGEMENT

### USA

#### Another Court Challenge for Nuclear Waste Storage Site

Beyond Nuclear, among the environmental and other groups opposed to the project that would be built by Holtec International, on 04 June 2020 filed a petition for review in the US Court of Appeals for the District of Columbia Circuit. The group has asked the court to review the US Nuclear Regulatory Commission's (NRC's) rejection of their earlier petitions against the project.

Holtec International, a private company that specializes in spent nuclear fuel storage and management, wants to build

what it calls its HI-STORE Consolidated Interim Storage Facility (CISF) in southeastern New Mexico. The site in the desert near Carlsbad has been the subject of opposition from several groups, including state lawmakers and Gov. Michelle Lujan Grisham.

Supporters of the storage site have said it would bring an estimated \$3 billion in capital investments to the region, and create about 100 jobs. Project opponents include environmental groups, at least 12 local governments, and several state lawmakers including the governor, who have said they are concerned the temporary storage site could become a permanent repository absent a federal solution.

Another CISF is being planned in Texas. Interim Storage Partners, a joint venture of Waste Control Specialists and Orano CIS, wants to build and operate a storage site in Andrews County, a project also under review by the NRC with a decision expected next year.

Holtec, based in Jupiter, Florida, in its initial application for the HI-STORE facility said its plans include "storage of up to 8,680 metric tons of uranium in commercial used fuel (500 canisters) with future amendments for up to 10,000 storage canisters total." Holtec said sites across the US, primarily at nuclear power plants, have "more than 80,000 metric tons of used nuclear fuel in storage and more is being generated every day at a rate of 2,000 metric tons per year." Holtec has said "The HI-STORE CISF provides a site to aggregate the used nuclear fuel canisters presently stored across the country at independent used fuel storage installations into one secure location."

The Beyond Nuclear group has said the NRC cannot issue Holtec a license for the New Mexico facility because the company's application includes a provision that the US Department of Energy (DOE) could be the owner of the facility's nuclear waste. The group has said approval of the application with that provision would violate the Nuclear Waste Policy Act (NWPA), which prevents the government from taking ownership of nuclear waste from private utilities before a permanent

repository is in operation. There is no federal repository for nuclear waste.

The NRC in May 2019 dismissed legal challenges to the storage site from groups including Beyond Nuclear, the Sierra Club, and others. Holtec applied for a license from the NRC in 2017 to build and operate the New Mexico facility, which it said would hold waste from reactors across the US "temporarily until a permanent, federally-managed repository is established."

Kevin Kamps, a radioactive waste specialist with Beyond Nuclear, told POWER on 09 June 2020, "I think the real motivation for the nuclear power industry is to transfer the responsibility for waste to the DOE, which means the taxpayers, and all it does is put it in a temporary location. [The waste] could wind up going right back to the East Coast where it came from. That's a multiplication of the transportation risks for no good reason."

#### *Challenge to Earlier Rulings*

Beyond Nuclear in a 04 June 2020 news release said, "Since it contemplates that the federal government would become the owner of the spent fuel during transportation to and storage at its CISF, Holtec's license application should have been dismissed at the outset." The group said it is challenging the NRC's earlier rulings in favor of licensing a "so-called consolidated interim storage facility [in New Mexico] for up to 173,600 metric tons of irradiated nuclear fuel, more than twice what currently exists in the country."

Holtec in court has acknowledged "that the NWPA would prevent DOE from taking title to spent nuclear fuel and therefore ... DOE could not be a CISF customer." The company also said "it hopes Congress will change the law to allow DOE to enter into temporary storage contracts with Holtec." The NRC, though, said that the "mere mention of DOE" does not invalidate Holtec's license application, and wrote, "We disagree with the assertions that the license would violate the NWPA."

Joe Delmar, senior director of government affairs and communications for Holtec International, in a June 9 email to POWER said, "The NRC issued

the draft environmental impact statement in March. Due to the Coronavirus, the public comment period was extended to July. The NRC's final environmental impact statement and safety evaluation report are scheduled to be issued in March 2021 along with a final determination on issuing the license."

Holtec in an earlier statement to the Albuquerque Journal said it "believes that the Atomic Safety and Licensing Board and the [NRC] were correct in denying the petitions argument ... having to do with ownership transfer to the federal government of spent fuel to be stored at the HI-STORE facility."

#### *Opposition Groups Are Many*

Kamps told POWER that the provisions in the NWPA are to protect states such as New Mexico from being forced to store nuclear waste before it could be moved to a permanent storage site. "It's very likely that it will become a de facto permanent storage site," Kamps said. "It's interesting to look at the other groups that oppose this. The governor noted that New Mexico values its oil and gas industry, and their concern is that if the worst were to happen, with a release of nuclear waste, that would end that industry because no one would be able to work on that land. There are other industries, agriculture, ranching, cattle farms ... they all are concerned about the risks. We have a lot of support from New Mexicans, including the public lands commission and the All Pueblo Council of Governors, who have spoken out about the transportation risks."

The All Pueblo of Governors is a group of 20 governors of New Mexico's Pueblo nations who support Native American culture and their peoples' land and water rights. Mining companies with interests in the area also oppose the storage site. The oil and gas industry's concerns stem from the project's location in the Permian Basin, one of the nation's most-active drilling sites.

The issue of storage of waste from US nuclear power plants has been contentious for years. Congress, when it passed the NWPA in 1982, called for the development of repositories for the

nation's high-level nuclear waste and spent nuclear fuel. The Yucca Mountain site northwest of Las Vegas, Nevada, became the focus of a permanent storage site, and the federal government spent billions of dollars assessing the viability of a deep underground storage facility there.

Local opposition to that site stifled the project. Harry Reid, a Democratic senator from Nevada and then-Senate majority leader, vehemently opposed efforts to use Yucca Mountain, and the Obama administration scrapped funding for the site in 2009. The NRC in 2016 issued a court-required final environmental impact statement for the site, which some thought could revive the project. President Donald Trump early in his term had budgeted funding for the project, but later reversed that stance.

#### *Holtec Developing SMR*

Holtec, meanwhile, continues to develop its SMR-160, a light-water-based pressurized small modular reactor that would generate 160 MWe (525 MWth), using "simple and passive systems to achieve aggressive safety goals and economic performance," according to the company. The reactor, currently under regulatory review in Canada, is being developed by Holtec and its subsidiaries, and investment partners in the project include Mitsubishi Electric Corp., SNC-Lavalin, and Exelon Generation.

Holtec has selected Framatome to supply nuclear fuel for the SMR, using Framatome's 17 x 17 GAIA fuel assembly. Holtec recently said, "By adapting the SMR-160 to utilize standard Pressurized Water Reactor fuel in its core design, Holtec has substantially eliminated risks associated with nuclear fuel, ensuring fuel-related operational experience from the current light water reactor fleet operating world-wide is relevant to our reactor."

Holtec in March 2018 signed a memorandum of understanding with Energoatom, the state-owned nuclear power operator in Ukraine, in which that country would become a manufacturing hub for SMR-160 reactor components. Holtec has said the

Ukraine site would mirror its New Jersey manufacturing center, and would be one of four such plants operating worldwide by the middle of the decade. The company has said it wants an SMR-160 reactor ready for deployment by 2026.

### Testing Completed for Heavy Load Hauler

Holtec also on 05 June 2020 said it had successfully completed a factory test of the company's HI-TRAN 300, a vertical heavy-load hauler designed by the company's Nuclear Power Division to move dry spent nuclear fuel storage

system components. The company said the HI-TRAN 300, which also can execute inter-cask canister transfers, could be used at the New Mexico storage site. The hauler was manufactured and tested at Holtec's facility in Camden, New Jersey....

*Source: Darrell Proctor is associate editor for POWER, <https://www.powermag.com/another-court-challenge-for-nuclear-waste-storage-site/>, 09 June 2020.*



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