

APLN QUARTERLY NUCLEAR MEMO

Issue 3 · July–September 2026

The APLN Quarterly Nuclear Memo tracks, analyses and summarises nuclear developments shaping the Asia-Pacific security environment. Developments are classified according to four analytical categories: **Disruptive** (developments posing acute or immediate risks to the nuclear order and regional stability); **Stabilising** (steps that reduce risk or build confidence); **Worrisome** (trends that, if unchecked, could worsen the nuclear order); and **Dialogue-based** (activities that involve two or more interlocutors).

The July–September 2026 quarter continued to mark the accelerated disruptive risks of the ongoing wars, compounded by eruption of other geopolitical challenges. The US-Iran negotiations made no headway, the US-ROK denuclearisation messaging was ambiguous, the US-Saudi Arabia civil-nuclear cooperation sent conflicting signals, and concerns over artificial intelligence-related risks dominated the headlines. Despite these global strains, notable bright spots appeared on the Asia-Pacific firmament.

DEVELOPMENTS AT A GLANCE

DISRUPTIVE	• US-Iran 60-day ceasefire collapses. • IAEA Board refers Iran to the UNSC. • Activity seen at Iranian nuclear site. • Possible Revision of US Nuclear Employment Guidance.
STABILISING	• IAEA launches ATLAS initiative to harmonise nuclear and maritime regulatory frameworks. • Indonesia-Russia regulatory groups meet to discuss FNPP licensing • Tonga ratifies the CTBT and accedes to the TPNW. • Japan's White Paper reaffirms commitment to the Three Non-Nuclear Principle. • South Korea prioritises “peace-first/freeze-first” over “denuclearization-first” of the DPRK. • Russia-Ukraine accept temporary ceasefire on Zaporizhzhia.
WORRISOME	• DPRK expands its nuclear capabilities and tests short-range ballistic missiles. • The US-Saudi Arabia nuclear cooperation agreement hints at enrichment possibilities.
DIALOGUE-BASED	• Rome Declaration on AI-nuclear integration. • Pacific leaders welcome the Preliminary Independent Review on Nuclear Contamination. • BRICS Declaration supports stronger nuclear disarmament and non-proliferation efforts.

✦ DISRUPTIVE NUCLEAR DEVELOPMENTS

US-Iran Technical Talks Collapse

The 60-day window for technical negotiations established by the 16 June US-Iran memorandum of understanding (MoU) expired on 17 August [without a political resolution](#) to the war. Furthermore, the parties failed to reach an agreement regarding IAEA's access or the disposition of Iran's enriched-uranium stockpile. President Trump [ruled out](#) the extension of ceasefire. US warships have maintained a strict naval blockade in Hormuz to halt Iranian oil exports while Iran continues to target and threaten both commercial and military vessels in the area. Such actions on both sides continue to drive [escalation](#) and risk dangerous near-misses. China, India, South Korea, and Japan, as major oil importers in the Asia-Pacific, continued to bear the brunt of Hormuz-linked energy supply disruptions.

IAEA Refers Iran's Nuclear Programme to the UNSC

Iranian nuclear chief Mohammad Eslami [declared](#) that IAEA inspectors would be barred from access to damaged nuclear facilities until tailored inspection protocols are established and site security is guaranteed. According to the IAEA's quarterly [report](#) dated 1 September 2026, the agency maintained minimal to no access to Iran's nuclear sites, rendering it unable to independently verify declared nuclear materials. With no physical access for over a year, the IAEA Board reported inability to confirm whether Iran had paused its enrichment activities (including R&D, heavy water projects, and reprocessing) or determine the current size of Iran's uranium stockpile and centrifuge equipment. Citing non-compliance, the IAEA subsequently [passed a resolution](#) on 9 September referring Iran to the UN Security Council, marking the first such referral in 20 years.

Meanwhile, heightened activity was also reported the same month at a suspected nuclear site on [Pickaxe Mountain](#), situated near Iran's heavily damaged Natanz uranium enrichment facility. This site is [regarded](#) as one of the last remaining vestiges of Tehran's nuclear programme.

These developments continue to raise concerns about the Iranian nuclear programme. The ongoing lack of IAEA oversight prevents a clear understanding of the situation, allowing for assumptions to fuel insecurities.

Possible Revision of US Nuclear Employment Guidance

At an annual conference organised by the US Strategic Command in Omaha, Nebraska in August 2026, the Pentagon announced plans to revise its nuclear employment guidance. The revised framework is expected to emphasise the role of tactical nuclear weapons and flexible response options, while de-emphasising certain missions for US strategic nuclear forces – a move intended to give the President '[credible, rational nuclear options](#).'

This policy shift signals a potential lowering of the US nuclear threshold by raising the possibility of tactical nuclear deployment in regional conflicts. Furthermore, a growing belief that nuclear escalation can be managed could increase the appeal of nuclear weapons for warfighting, ultimately threatening the norm of nuclear non-use.

STABILISING NUCLEAR DEVELOPMENTS

IAEA Launches ATLAS

The IAEA launched the [*Atomic Technologies Licensed for Applications at Sea \(ATLAS\)*](#) initiative to advance “safe, secure and peaceful use of nuclear technologies for maritime transport and offshore energy systems,” at an event in Washington, DC in August 2026. The flagship initiative aimed to advance maritime nuclear technologies, specifically small modular reactors (SMRs) for marine power. These advanced reactors can also power floating nuclear power plants to supply electricity, heat, and clean fuel like hydrogen to coastal communities and industries. ATLAS has 28 founding member states, including Bangladesh, India, Japan, ROK, Saudi Arabia, Singapore, Türkiye, the UAE, the United Kingdom and the United States. It is expected to work towards reconciling nuclear and maritime regulatory and governance systems, and establishing a clear division of responsibilities among relevant parties.

Given that a number of countries of the Asia-Pacific are members of ATLAS and many of them are considering embarking on national nuclear power programmes, the harmonization of nuclear maritime domains in anticipation of proliferation of FNPPs is a move of significant importance.

Russia and Indonesian Regulatory Agency Talk on Floating Nuclear Power Plants

Russian and Indonesian regulatory agencies [held meetings in Jakarta](#) on 18-19 August to develop a licensing and safety framework for floating nuclear power plants (FNPP). The talks involved Rostekhnadzor, Russia’s Federal Service for Environmental, Technological, and Nuclear Supervision and Rosatom representatives, and Indonesia’s BAPETEN and Ministry of Transportation officials. As Indonesia explores the nuclear option for its energy mix, it is critical that it first establishes the necessary regulatory framework for nuclear energy.

Tonga Ratifies the CTBT and TPNW

The Kingdom of Tonga ratified the Comprehensive Nuclear-Test-Ban Treaty (CTBT) and acceded to the Treaty on the Prohibition of Nuclear Weapons (TPNW) on 7 July. Tonga became the [179th state to ratify](#) the CTBT, completing the universalisation of the Treaty across the Pacific region. It also became the [100th signatory](#) to the TPNW. As a signatory to the 1985 Treaty of Rarotonga, Tonga already belongs to the world’s second-most populated South Pacific Nuclear-Free Zone which bans the production, deployment, and testing of nuclear explosives within member territories. Additionally, Tonga is also a State Party to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT).

Japan Reaffirms Three Non-Nuclear Principles

Japan's [Defense White Paper 2026](#) released in August reasserted Tokyo's adherence to the "Three Non-Nuclear Principles," forbidding the possession, production, or introduction of nuclear weapons, while simultaneously confronting regional nuclear risks and addressing ongoing debates around military propulsion technology. Japan's commitment to its "Three Non-Nuclear Principles" had faced debate over the past year, with the current administration having urged a policy review amid deteriorating relations with Russia, China, and North Korea, alongside fears of potential US alliance retrenchment.

Coupled with a 27 August statement from the Polish Deputy Defence Minister [rejecting](#) to host nuclear warheads on its territory, these moves serve as stabilising developments helping reduce apprehensions around nuclear proliferation.

South Korea Abandons "Denuclearisation-First" Policy

ROK Unification Minister Chung Dong-young [announced](#) on 23 July that Seoul had shifted from a "denuclearisation-first" approach to a "peace-first" policy that would prioritise an initial freeze of DPRK's nuclear programme while reopening dialogue channels. On 25 August, the denuclearisation language was also reportedly omitted from a formal US-ROK diplomatic readout, and reaffirmed by Seoul only after a press inquiry, [raising questions](#) about whether the shift reflects settled government policy or an unresolved internal debate over messaging.

To recall from our previous Nuclear Memo (Issue 2), DPRK's Foreign Ministry had declared in June 2026 that denuclearisation had become "[an irreversibly finalised matter](#)" and a readout from China too had made [no reference to denuclearisation](#) of the Korean Peninsula, marking the first Xi-Kim summit since the early 1990s where the issue was omitted entirely after decades of preserving the language in formal Chinese statements.

Consequently, the regional actors in the Asia-Pacific appear to treat DPRK's nuclear capability as a settled reality and are searching for solutions to work around the problem. Meanwhile, the United States cancelled major joint military exercises with the ROK and even hinted at the possibility of a meeting with the DPRK's Kim Jong-un. In case something useful does come out of such a meeting, it would bring stability into the region, but for this to happen, the US and ROK governments must be on the same page as regards the demands made by the DPRK.

Russia-Ukraine Agree to Temporary Ceasefire on Zaporizhzhia

On 5 September IAEA Director General Rafael Grossi [announced](#) a temporary, localised ceasefire brokered with both parties, enabling Ukrainian technicians under IAEA supervision to begin critical repairs on the damaged 330 kV Ferosplavna-1 power line servicing the Zaporizhzhia Nuclear Power Plant (ZNPP). The repairs aimed to restore essential external electricity to the site, which had been relying on emergency diesel generators for over two weeks and was forced to operate cooling pumps intermittently to conserve dwindling fuel supplies.

✦ WORRISOME NUCLEAR DEVELOPMENTS

DPRK Builds New Nuclear Facilities and Conducts SRBM Drills

In its August 2026 report on the “*Application of Safeguards in the Democratic People’s Republic of Korea*,” the IAEA confirmed that the DPRK had built a new uranium enrichment facility at its main Yongbyon nuclear complex that could house up to 28 centrifuge cascades, and started operating an expanded annex at its Kangson enrichment site. IAEA [identified](#) the site as a new two-story building at Yongbyon and officially named it Yongbyon Uranium Enrichment Facility 2 (Yongbyon UEF2). ROK Defence Minister Ahn Gyu-back told South Korean lawmakers that the DPRK might have around [80 to 120 warheads](#), although it was difficult to determine an exact figure. On 12 September ROK’s presidential National Security Office held an emergency security meeting with the Ministry of National Defense and the Joint Chiefs of Staff, after ROK agencies detected multiple short-range ballistic missiles fired by the DPRK from near Wonsan, Gangwon Province, travelling 250 kilometres toward the East Sea. North Korean state media later announced that its military conducted a joint artillery and missile drill on 12 September.

US and Saudi Arabia Sign Nuclear Cooperation Agreement

The United States and Saudi Arabia [signed](#) a landmark nuclear agreement on 22 July, which could potentially give Saudi Arabia the ability to enrich uranium in the future. On 24 August, the White House submitted its Bilateral Safeguards Agreement (BSA), and the Nuclear Proliferation Assessment Statement (NPAS) to the US Congress for review. The 30-year multi-billion-dollar civil nuclear partnership enables the transfer of civil nuclear materials, equipment, technology, and expertise from the United States to Saudi Arabia.

Experts have [raised non-proliferation concerns](#), noting that the deal deviates from the US “gold standard” practices by failing to require Saudi Arabia to adopt the IAEA’s intrusive Additional Protocol. This development elevates geopolitical and proliferation concerns, especially when combined with Saudi Arabia’s growing ballistic missile capabilities and prior warnings that it would seek nuclear arms. It has also heightened the possibility of rekindling the desire for nuclear weapons in Turkey, UAE and Egypt. It also sets a dangerous precedent since the United States could replace the IAEA as the ultimate arbiter of whether a country buying US reactors and technology is compliant with its non-proliferation commitments.

China PLARF Warns of Nuclear Terror Attack

A study by the PLA Rocket Force Characteristic Medical Centre was published in the peer-reviewed Chinese Journal of Radiological Health in September 2026 cautioning Chinese cities to brace for a potential nuclear attack. It attributes the possibility of nuclear use not to a major nuclear war, but to a “[small or medium-sized nuclear-armed or potentially nuclear-armed states](#), driven by geopolitical or religious conflicts, could carry out a single nuclear-weapon terrorist attack on

neighbouring countries or on key cities of major powers.” The study singled out Japan for “sending a major danger signal” to the world.

The recent deterioration in China-Japan relations could be the reason for such an allegation being made by this study. However, the possibility of nuclear terrorism remains a live threat in the Asia-Pacific.

DIALOGUE-BASED NUCLEAR DEVELOPMENTS

Rome Declaration on AI-Nuclear Integration

A 200 strong gathering of Nobel laureates, AI and nuclear policy experts was convened by the Vatican in July 2026. On Jul 16, the group issued a call for an international treaty prohibiting the “reckless” integration of artificial intelligence (AI) in nuclear weapons operations. The [*Rome Declaration*](#) on AI and nuclear weapons also affirmed the “human in the loop” norm, stating that “an automated system should never make the final decision to launch a nuclear weapon.” Given the advancements in AI and the sobering calls made by the leaders of major companies, it is critical that national leaders pay attention to the existential risks that a convergence of AI and nuclear weapons pose to humanity.

PIF Leaders’ Welcome the Preliminary Independent Review on Nuclear Contamination in the Pacific

At the 55th Pacific Islands Forum Leaders Meeting (PIFLM55) in Koror, Palau, Pacific regional leaders officially welcomed the advancement of the *Preliminary Independent Review on Nuclear Contamination in the Pacific*. The [*Forum Communique*](#) recalled the 2024 decision by Pacific leaders to support the Republic of the Marshall Islands in pursuing a fair settlement regarding the US nuclear testing programme. Pacific Leaders resolved to send a joint letter to the United States drawing on the findings of by the Preliminary Review. The leaders also commended ongoing efforts to operationalise the Rarotonga Treaty, looking ahead to its 40th anniversary in December 2026 as a pivotal moment to reassert their commitment to a nuclear-weapon-free Blue Pacific.

BRICS Statement Highlights Nuclear Risks

The [*New Delhi Statement*](#) from the 2026 BRICS Summit in September expressed concerns about the growing risks of nuclear conflict and deliberate attacks on civilian nuclear infrastructure underlining nuclear safety in armed conflicts. The BRICS Declaration called for stronger nuclear disarmament and non-proliferation efforts, including steps toward the conclusion of a Middle East Weapons of Mass Destruction (WMD)-free zone. Such references are significant given the presence of Asia’s three nuclear-armed states – Russia, China and India – and other major states, as members of this group.

LOOKING AHEAD

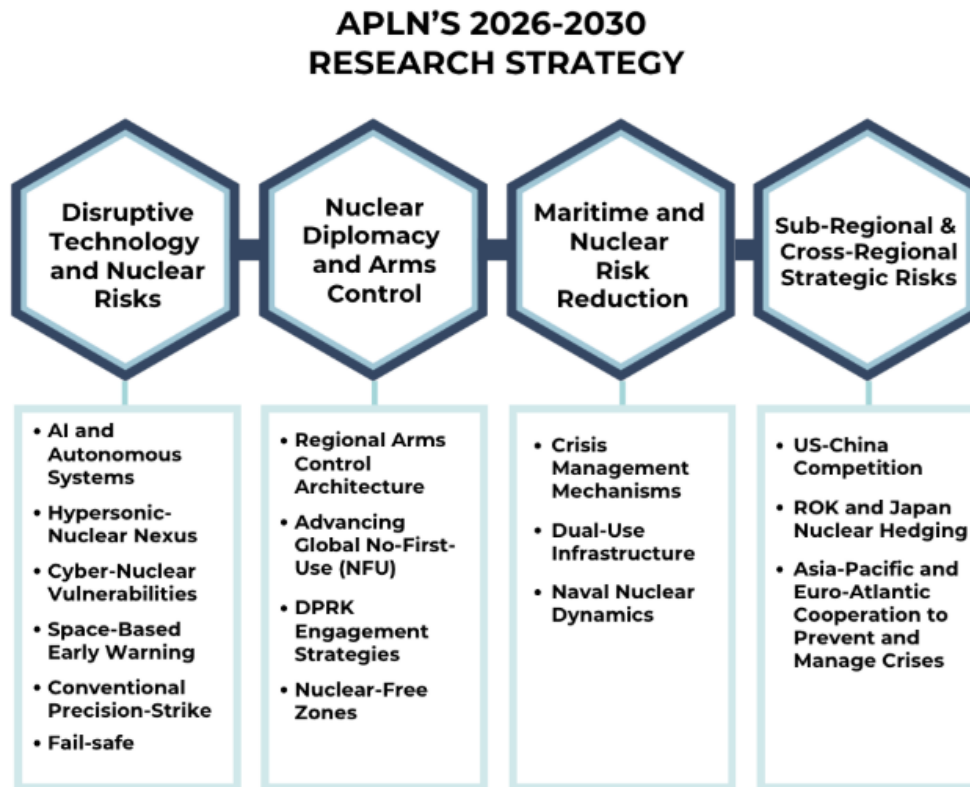
The next quarter will illustrate whether the developments identified in Issue 3 of this APLN Nuclear Memo remain contained or harden into longer-term risks. The table below highlights the key issues to watch out for in Q4 of 2026 and the questions they raise for nuclear risk and regional stability.

Key Developments to Monitor: Q4 2026

Watch Item	Why It Matters
US Space-Based Nuclear Capabilities	In a keynote speech at a privately organised conference, the head of the US Space Force announced that the United States has deployed space-based weapons , marking the first-ever such acknowledgement by Washington. While no details have been made available, the statement that the United States “now has on-orbit space control weapons capable of defending the joint force against hostile adversary action” raises concerns for nuclear deterrence and merits keen monitoring in the months ahead.
First Review Conference of the TPNW and 40th Anniversary of the Rarotonga Treaty	These events will test the resilience of global and regional non-proliferation norms amid rising threats.
US-Iran Nuclear Diplomacy	Continued military actions by both sides cast a shadow on the diplomatic efforts. The critical question is whether diplomacy can produce a verifiable agreement or if ongoing regional tensions will push Iran to covertly pursue weapons related activities.
DPRK’s Missile Factories	Pyongyang has signalled that its long-term nuclear delivery strategy depends on completing key missile production facility expansions by the end of 2026. Primary developments to monitor in Q4 of 2026 include potential solid-fuelled ICBM test launches or the operational deployment of nuclear-capable submarines.
Major Power Nuclear Force Developments and Modernisation	US strategic procurement and NNSA restructuring aims to accelerate warhead production, while monitoring of China’s three silo fields will reveal if there is active warhead loading and operationalisation of the underground storage tunnel. Concurrently, India’s nuclear inventory is set to reach 190 warheads by late 2026, driven by Agni-P inductions and canisterised, pre-mated systems that shorten launch readiness.

ABOUT THIS PUBLICATION

The APLN Quarterly Nuclear Memo is a cross-cutting initiative of APLN's 2026-2030 Research Strategy, which organises its analytical work across four pillars:



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The APLN Quarterly Nuclear Memo tracks developments across all four pillars of APLN's 2026–2030 Research Strategy: Disruptive Technology and Nuclear Risks; Nuclear Diplomacy and Arms Control; Maritime and Nuclear Risk Reduction; and Sub-Regional & Cross-Regional Strategic Risks.

For questions or to suggest developments for future issues, contact the APLN Secretariat at apln@apln.network.