

REGIONAL TOOLS TO STRENGTHEN NUCLEAR SECURITY: ASIA-PACIFIC

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I. Introduction

This paper surveys the existing tools for maintaining and strengthening nuclear security in the Asia-Pacific region, identifies regional tools that currently do not play such a role, but conceivably could, and considers whether new tools might be created. Asia-Pacific is defined as encompassing North Asia, South Asia, Southeast Asia, and the South Pacific. It stretches from Russia in the north to New Zealand in the south, and from Pakistan in the west to the small island states of the South Pacific in the east.

II. Regional Tools that Already Play a Role in Nuclear Security

Several regional tools currently play a role, mostly quite limited, in nuclear security in the Asia-Pacific. None has a comprehensive nuclear security mandate, none is concerned with the whole Asia-Pacific region, and none has universal regional membership.

Association of Southeast Asian Nations (ASEAN)

The most important fully-fledged organization is the Association of Southeast Asian Nations (ASEAN), along with its multitudinous mechanisms and consultative processes. ASEAN is a multilateral sub-regional body comprising ten Southeast Asian states (see Annex 1 for membership of all state-based entities mentioned in this paper). It strives to be a major policy coordinator for its members in a variety of fields, including energy policy—under which nuclear security policy is normally subsumed. Nuclear security is not, however, a major concern of ASEAN at the ministerial level. The 2019 Ministerial Meeting in Bangkok in June 2019, for instance, made no mention of it.¹ ASEAN ministers are increasingly concerned with cybersecurity and counterterrorism, which may provide an entrée for cultivating greater interest in nuclear security.² Below the Ministerial level, ASEAN has spawned an almost incomprehensible structure of consultative, networking, and technical assistance bodies. Some of these consider nuclear security, although not exclusively. In addition to those involving its own members, ASEAN has constructed an increasingly complex web of forums and mechanisms that allow it to enhance its influence in the broader Asia-Pacific region. The most important of these are the ASEAN Regional Forum (ARF) and the East Asia Summit (EAS). These have both at least paid obeisance to the importance of nuclear security. Recently, ASEAN has moved to increase its collaboration with the International

¹ Chairman's Statement of the 34th ASEAN Summit, Bangkok, 23 June 2019, Advancing Partnership for Sustainability, https://asean.org/storage/2019/06/Final_Chairs-Statement-of-the-34th-ASEAN-Summit-rev.pdf.

² It is developing an ASEAN Digital Masterplan 2025, as well as supporting cybersecurity activities and training programmes at the ASEAN-Singapore Cybersecurity Centre of Excellence (ASCCE) in Singapore and the ASEAN-Japan Cybersecurity Capacity Building Centre (AJCCBC) in Bangkok.

Atomic Energy Agency (IAEA) by concluding an Agreement for Practical Arrangements.³ Signed in Vienna on September 16, 2019, the accord sets out a framework for cooperation and assistance, including in nuclear security, safety, and safeguards. This has the potential to enhance ASEAN's role as a key player in enhancing nuclear governance in the sub-region and beyond.

Aside from ASEAN and its related efforts, the most important regional entities that deal in some way with nuclear security are:

- the Council for Security Cooperation in the Asia Pacific (CSCAP),
- the Forum for Nuclear Cooperation in Asia (FNCA), and
- national centers of excellence in six states.

ASEAN Network of Regulatory Bodies on Atomic Energy (ASEANTOM)

ASEANTOM is ASEAN's signal nuclear governance mechanism. Established in 2004, it involves all ASEAN member states, as well as Papua New Guinea as an observer. However, despite having a name reminiscent of EURATOM, ASEANTOM is confined to nuclear regulators. While its mandate is broad, aiming to strengthen "nuclear safety, security and safeguards within the ASEAN Community, by enhancing cooperation and complementing the work of existing mechanisms at the national, regional and international levels," it is far from being a fully fledged intergovernmental body dealing with all aspects of nuclear energy like EURATOM.⁴ Other nuclear stakeholders besides regulators are not represented.

ASEANTOM is supported by the ASEAN Secretariat in Jakarta. It holds annual general meetings, technical gatherings and training workshops. It does not seek to establish enhanced regulations for nuclear energy in the region, whether binding or not, or conduct inspections or peer reviews. Since the Fukushima accident, radiological and nuclear emergency preparedness and response have been an increasing preoccupation of ASEANTOM, heightened by the number of new nuclear power plants being built in neighbouring countries and by plans by some ASEAN member states, so far unrealized, to acquire such facilities.

ASEAN Nuclear Energy Cooperation Sub-Sector Network (NEC-SSN)

Several sectoral and sub-sectoral networks have been devised involving ASEAN and non-ASEAN states to enhance consultation and collaboration in the energy sector. In 2008, ASEAN Ministers set up a Nuclear Energy Cooperation Sub-Sector Network as the "responsible specialized energy body to shepherd ASEAN-wide cooperation and facilitate information sharing and exchange, technical assistance, networking and training on the use of nuclear energy for power generation purposes."⁵ The network's recommendations support the Action Plans of Programme Area No. 7 (Civilian Nuclear Energy) under the ASEAN Plan of Action for Energy Cooperation (APAEC) 2016–2025.⁶

³ <https://www.iaea.org/newscenter/news/iaea-and-asean-strengthen-cooperation-in-nuclear-science-technology-and-applications-and-nuclear-safety-security-and-safeguards> (accessed September 16, 2019).

⁴ Although it is mandated to support the Southeast Asian Nuclear Weapon-Free Zone.

⁵ See ASEAN Centre for Energy, <http://www.aseanenergy.org/programme-area/cne/>.

⁶ <http://www.aseanenergy.org/articles/6th-nuclear-energy-cooperation-sub-sector-networks-annual-meeting-increasing-aseans-capacity-in-civilian-nuclear-energy/>.

NEC-SSN held its ninth annual meeting in May 2019 in Taguig City in the Philippines.⁷ Focusing on “Good Practices on Regional Cooperation in Nuclear Security”, the seminar sought to “facilitate interactive discussions on various requirements and opportunities toward nuclear safety and security.” The meeting was held in cooperation with Japan’s Integrated Support Center for Nuclear Nonproliferation and Nuclear Security (ISCN) and the Japan Atomic Energy Agency. Sessions dealt with the Regional Framework Supporting Enhancement of Nuclear Security in the Asian Region,⁸ Nuclear Forensics Cooperation in Asia, the Activities of the European Union’s Chemical, Biological, Radiological and Nuclear Risk Mitigation Centre of Excellence Initiative,⁹ Capacity Building Support Activities of the ISCN in Asia, and Nuclear Energy Cooperation under the APAEC. Network meetings are attended, in addition to ASEAN member states’ “Focal Points,” by representatives from the IAEA and non-regional “partner” organizations in Canada, China, and Japan. The Jakarta-based ASEAN Centre for Energy also attends, and facilitates, the gatherings.¹⁰

ASEAN Regional Forum (ARF)

First held in 1993, the ARF involves all the ASEAN states plus at least 16 other Asia-Pacific states and the European Union (EU) in an annual consultative process. It is the only regional forum in which North Korea participates. Like ASEAN itself, the ARF has a tendency towards grand declarations and plans, conferences, banquets, and photo opportunities rather than the resolution of difficult political issues or progress on substantive matters. In the area of nuclear governance, ARF meetings have focused on non-proliferation, disarmament, and peaceful uses. Nuclear security has barely rated a mention. ARF holds a series of Inter-Sessional Meetings on Non-Proliferation and Disarmament, but they, too, do not cover nuclear security in any detail.

East Asian Summit (EAS)

Another regional forum originated by ASEAN, held annually at the level of heads of state or government involves 18 Asia-Pacific countries, including Russia and the United States, but not Mongolia, North Korea, or Taiwan. EAS has shown little discernible interest in nuclear security. The 2018 summit finally produced a leaders’ statement on nuclear and radiological safety and security, reaffirming a commitment to “strengthen regional cooperation to address security issues, including safety and security of nuclear and other radioactive materials, in accordance with national and international obligations.”¹¹ More significantly, the summit adopted an EAS Leaders’ Statement on the Safe and Secure Use, Storage and Transport of Nuclear and Other Radioactive Materials.¹² While for the first time expressing support for ASEANTOM “in all dimensions,” it otherwise contained boilerplate sentiments found in the usual nuclear security declarations of international gatherings.¹³

⁷ <https://www.doe.gov.ph/press-releases/doe-hosts-9th-asean-nuclear-energy-cooperation-sub-sector-network>.

⁸ It has proved impossible to obtain a copy of this document.

⁹ A worldwide program of 56 partner countries, financed by the EU’s Instrument contributing to Stability & Peace (IcSP), which aims at mitigating risks related to CBRN materials and promoting the establishment of a culture of security.

¹⁰ The Centre was established in 1999 as a platform for discussion, information sharing, and capacity building, including in the field of nuclear energy. In the nuclear area its focus is to strengthen cooperation in nuclear energy research and emergency preparedness.

¹¹ https://asean.org/storage/2018/11/East_Asia_Summit_Chairman_Statement_Final.pdf, para.29.

¹² <https://asean.org/storage/2018/11/EAS-Leaders-Statement-on-Nuclear-Radioactive-Materials.pdf>

¹³ Paragraph 4 of the statement, for instance, called upon “all States, within their responsibility, to achieve and maintain highly effective nuclear security, including physical protection of nuclear and other radioactive materials

Council for Security Cooperation in the Asia Pacific (CSCAP)

CSCAP is a non-governmental “second track” gathering designed to encourage discussion and dialogue on security issues in the Asia-Pacific. Membership is determined through National Member Committees comprising relevant organizations. Study groups are the primary CSCAP activity. Currently two are relevant to nuclear security: the Nonproliferation and Disarmament (NPD) Study Group and the Nuclear Energy Experts Group (NEEG). The latter has paid more attention to nuclear security. The outcome of CSCAP meetings is fed into the ARF inter-sessional process, with mixed impact.

Forum for Nuclear Cooperation in Asia (FNCA)

The FNCA was established in 1999 as a successor to the annual International Conference for Nuclear Cooperation in Asia held since 1990. It describes itself as a “Japan-led cooperation framework for peaceful use of nuclear technology in Asia.”¹⁴ It comprises the larger states of the region with an interest in nuclear power, but its membership is otherwise seemingly random. Bangladesh is the only South Asian member; the smaller ASEAN states are missing; and while Kazakhstan, a major uranium exporter participates, none of the other “Stans” do so. The Forum meets at ministerial and senior officials level and also holds expert workshops and seminars. It focuses on cooperation in radiation safety and management; research reactors; “nuclear safety strengthening;” and “nuclear infrastructure strengthening.” One of its projects is on nuclear security and safeguards, which aims to remind Forum countries “of the importance of nuclear security as well as nuclear safeguards, and to support human resource and infrastructure development through information exchange and discussion on approaches.”¹⁵ A specific preoccupation has been “nuclear security culture development.”

National Nuclear Security Support Centers (NSSCs)/Centers of Excellence (CoE)

Six countries in Asia-Pacific have nuclear security support centers, also known as centers of excellence, that either deal exclusively with nuclear security or which have nuclear security as part of a broader mandate (see Table 1). The three Northeast Asian NSSCs have increasingly sought to collaborate, especially by sharing curricula, training methods, and lessons learned. All provide training to other countries in the region. Three additional countries, the Philippines, Thailand, and Vietnam, are reportedly planning to establish such centers.¹⁶

during use, storage and transport, and of the associated facilities in their life cycle, as well as protecting sensitive information.”

¹⁴ <http://www.fnca.mext.go.jp/english/>

¹⁵ http://www.fnca.mext.go.jp/english/nss/e_introduction.html.

¹⁶ Julius Cesar Imperial Trajano, “A Policy Analysis of Nuclear Safety Culture and Security Culture in East Asia: Examining Best Practices and Challenges,” *Nuclear Engineering and Technology*, vol. 51, 2019, Table 6, p. 1705.

China	State Nuclear Security Technology Center (SNSTC), including Center of Excellence (Coe) on Nuclear Security
India	Global Centre for Nuclear Energy Partnership (GCNEP)
Indonesia	Indonesia Centre of Excellence on Nuclear Security and Emergency Preparedness (I-CoNSEP) Centre for Security Culture Assessment
Japan	Integrated Support Center for Nuclear Non-Proliferation and Nuclear Security (ISCN)
Malaysia	Nuclear Security Support Centre (NSSC)
South Korea	International Nuclear Security Academy (INSA)

III. Existing Regional Tools that do Not Currently Play Any Role in Nuclear Security

Several regional forums or entities do not currently play a role in nuclear security but could conceivably do so.

Asia-Pacific Economic Cooperation (APEC)

APEC aims to support sustainable economic growth and prosperity in the region. Founded in 1989, it has a standing secretariat in Singapore. Its membership is quirky, including non-Asian members Canada, Chile, Peru, Mexico, and the United States. Its major activity is periodic leaders' meetings which issue declarations. It has never considered nuclear security issues and is unlikely to do so given its strictly economic remit.

Asian Nuclear Safety Network (ANSN)

Established in 2002, the ANSN describes itself as "A regional nuclear safety network to improve safety of Nuclear Installations in the South East Asia, Pacific and Far East Countries."¹⁷ It was initiated by the IAEA, along with other regional networks. Its meetings continue to be arranged and supported by the IAEA, which also hosts its website. It has several non-Asian "supporting" participants (Australia, France, Germany and the United States) and 17 "partner organizations," mostly national nuclear authorities. The network focuses on nuclear safety and only considers nuclear security in that context. In theory it could add nuclear security to its remit, but this would probably require an IAEA decision applicable to all Agency-initiated nuclear safety networks worldwide.

Asia-Pacific Safeguards Network (APSN)

APSN is a "professional network" of national safeguards bodies set up in 2009 at Australia's initiative to improve the quality, effectiveness and efficiency of safeguards implementation in the region. Its activities include annual meetings, regional workshops and seminars. Membership is open to governments and government-affiliated organizations. In addition to the usual regional states involved in nuclear governance issues, Bangladesh and Myanmar are members, as are several supportive

¹⁷ <https://ansn.iaea.org/Common/WhatIsANSN/WhatIsANSN.aspx>

governments and organizations from Australia, Canada, Europe, and the United States, as well as the IAEA. The network has a rotating chair and secretariat, currently provided by Japan, after Australia's four-year inaugural tenure.¹⁸ It does not deal with nuclear security issues and is probably unlikely to countenance a broadening of its mandate beyond safeguards.

Top Regulators' Meeting (TRM)

This trilateral annual meeting, involving China, Japan, and South Korea, began in 2008 to exchange information on issues and technologies related to nuclear safety and to improve cooperation in Northeast Asia. While it would be useful to add nuclear security to its remit, regional coverage would still be limited to the three countries concerned.

Regional Cooperation Agreement (RCA)

The RCA is a little-known intergovernmental arrangement among IAEA member states in Asia-Pacific, including South Pacific island states, and South Asia.¹⁹ It was established in 1972 under IAEA auspices to promote, coordinate, and implement cooperative research, development, and training projects in the peaceful application of nuclear science and technology among its parties. It includes all key Asia-Pacific states involved in nuclear issues except North Korea and Taiwan (Russia and the United States are also notably absent). Annual meetings of National Representatives are held and there is a regional office in South Korea.²⁰ Operating under the IAEA's Technical Cooperation (TC) program, the RCA strictly confines itself to technical matters, despite suggestions that nuclear safety and security might be usefully considered under its rubric. Given the sensitivities of the IAEA about entangling TC in contentious political issues, the RCA is unlikely to emerge as a vehicle for considering nuclear security issues.

Nuclear Weapon-Free Zones

The region is home to two nuclear weapon-free zones, the Southeast Asian Nuclear Weapon Free Zone, (SEANWFZ), established by the Treaty of Bangkok, and the South Pacific Nuclear Free Zone (SPNFZ), established by the Treaty of Rarotonga. Mongolia is a self-declared national zone. Neither treaty deals with nuclear security, although both prohibit nuclear waste dumping. They both lack a dedicated secretariat and neither provides a vehicle for substantive work on nuclear security.

Asia-Pacific Leadership Network for Non-Proliferation and Disarmament (APLN)

The APLN, established in 2011, is a second-track group, comprising individuals who have held high executive or advisory positions, that advocates for a nuclear weapon-free world.²¹ It has grown to 85 members from 15 countries and has broadened its agenda to cover all aspects of nuclear governance, including safety and security. Based in Canberra and Seoul, the APLN issues statements, holds conferences and workshops, and publishes policy briefs and other research publications to inform and energize public opinion, especially high-level policymakers. The APLN could strengthen its attention to and scholarship on the topic of nuclear security by recruiting members who focus in that area.

¹⁸ For further information, see: Minnini, M. and Elkhamri, O., "Regional Cooperation to Strengthen Safeguards in the Asia-Pacific," *DNN Sentinel*, Vol. II, No. 2, pp. 4-5,

https://nnsa.energy.gov/sites/default/files/nnsa/inlinefiles/DNN%20Sentinel%202_2_final.pdf.

¹⁹ See: <https://www.iaea.org/technicalcooperation/Regions/Asia-and-the-Pacific/RCA/index.html>.

²⁰ See <http://www.rcaro.org>.

²¹ See <http://a-pln.org/about/about/>.

IV. Regional Tools that could Be Created

As is apparent from the preceding account, there are multiple tools potentially available for enhancing nuclear security collaboration in Asia-Pacific. The difficulty is that there are too many, with overlapping or incomplete memberships (see chart at Annex 2). No single one is fit for purpose without considerable adjustment. Amalgamation is always subject to national rivalries, legacy issues, and competing interests. An almost insurmountable challenge is that the region is too unwieldy. Covering about half the globe, it is divided between vastly different sub-regions and sizes and types of states with different needs and capacities. None of the Southeast Asian or Pacific island states has nuclear power plants or is likely to have them in the coming decade or so, despite periodic bouts of enthusiasm. Their concerns are with radiological security, nuclear trafficking, and the possibility of a nuclear security event involving their northerly neighbours. North Asia, on the other hand, has several nuclear-armed states, the largest stocks of plutonium on the planet and the fastest growing nuclear energy enterprises. Also rapidly acquiring nuclear power plants, South Asia is defined by its persistent conflict between two nuclear-armed states, India and Pakistan.

Rather than trying to capture these differences in one mechanism, a likely more fruitful approach would be to focus efforts sub-regionally. Southeast Asia, the most coherent sub-region, is the only one with an existing body, ASEANTOM, with the potential to become a fully fledged nuclear security tool. North Asia, notwithstanding abiding political tensions between states, not least over North Korea, has some potential for growing cooperation between its national centers of excellence, to quietly advance nuclear security under the political radar. South Asia is the least likely sub-regional nuclear security regime. Its existing sub-regional body, the South Asian Association for Regional Cooperation (SAARC) pales in comparison with the activity of ASEAN.

The best approach may be to continue the trend ASEAN has established—to solidify and deepen its own nuclear security activities through ASEANTOM, while gradually drawing in the wider region, starting with East Asia. Part of this strategy could be to establish an ASEAN Nuclear Security Support Center and use it to establish close ties with the North Asia centers (and India) and enhance region-wide collaboration on practical measures such as joint training, enhancing nuclear security culture, and benefiting from lessons learned exercises.

V. Conclusion

The Asia-Pacific is an especially challenging region to foster region-wide cooperation to enhance nuclear security. The best approach may be sub-regional. Given the plethora of existing tools, with varying mandates, memberships and capacities, it is likely to be impossible to start from scratch by setting up a new organization or to force a logical amalgamation of overlapping and competing forums and groups. A more productive approach would likely be to work through existing tools, mechanisms, and networks, steering them in useful directions, including collaboration and eventual rationalization. This could involve expanding the mandate of ASEANTOM to cover nuclear security, while broadening its stakeholder base beyond regulators. Greater collaboration between national and sub-regional centers of excellence could produce better results at the working level, while the ARF and EAS could be utilized strategically to embed the nuclear security issue throughout the wider region at the highest policy levels.

Annex 1: Membership of Regional Mechanisms

ASEAN	Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam (Timor Lesté has applied for membership)
ANSN	Australia, Bangladesh, China, Indonesia, Japan, Kazakhstan, South Korea, Malaysia, Pakistan, Philippines, Thailand, Vietnam + supporting partners EU, France, Germany, IAEA, US
ARF	ASEAN + Australia, Bangladesh, Canada, China, EU, India, Japan, Mongolia, New Zealand, North Korea, Pakistan, Papua New Guinea, Russia, South Korea, Sri Lanka, Timor-Lesté
CSCAP	Australia, Brunei, Cambodia, Canada, China, DPRK, European Union, India, Indonesia, Japan, Malaysia, Mongolia, New Zealand, Papua New Guinea, Philippines, ROK, Russia, Singapore, Thailand, US, Vietnam
EAS	ASEAN + Australia, China, India, Japan, New Zealand, Russia, South Korea, US
FNCA	Australia, Bangladesh, China, Indonesia, Japan, Kazakhstan, Korea, Malaysia, Mongolia, Philippines, Thailand and Vietnam
RCA	Australia, Bangladesh, Cambodia, China, Fiji, India, Indonesia, Japan, Malaysia, Mongolia, Myanmar, Nepal, New Zealand, Pakistan, Palau, Philippines, Singapore, South Korea, Sri Lanka, Thailand, Vietnam
TRM	China, Japan, South Korea

Annex 2: Overlapping Membership of Select Asia–Pacific Nuclear Organizations and Arrangements

