

# **Summary of Country Reports**

## **—Current Status of**

## **11 FNCA Member States\*—**

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12<sup>th</sup> Workshop on Nuclear Security and Safeguards Project  
of Forum for Nuclear Cooperation in Asia (FNCA)

August 2, 2023

# Regulatory Authority

## Independence of Regulatory Agencies

- ◆ **Independent:** China (CAEA), Indonesia (BAPETEN), Japan (NRA), ROK (NSSC), Mongolia (Executive office of the NEC and **Ministry of Education and Science, Department of Nuclear and Radiation Inspections**)
- ◆ **Semi-Independent\*:** Bangladesh (BAERA), Kazakhstan (NNC), Malaysia (AELB), Thailand (OAP), Viet Nam (VARANS)  
\*The regulatory agency is under a governmental body or ministry to which a nuclear promotion agency belongs
- ◆ **No Independent:** Philippines (PNRI)

### Recent Development

Philippines: **1<sup>st</sup> Reading in the 19<sup>th</sup> Congress-Establish an independent regulatory authority or the PHILIPPINE ATOMIC ENERGY REGULATORY AUTHORITY, instead of “Philippine Nuclear Research Institute”.**

# Safeguards (1)

## Implementation of International Treaties and Agreements

- Member of **NPT** (Nuclear Nonproliferation Treaty): 12/12 states
- **CSA** (Comprehensive Safeguards Agreement) in Force: 12/12 states (VOA is in force in China)
- **AP** (Additional Protocol) in Force: 11/12 states
- **IS** (Integrated Safeguards): 6/12 states

	NPT Member	CSA in Force	AP in Force	Integrated safeguards
Australia	✓	✓	12 Dec.1997	✓
Bangladesh	✓	✓	30 Mar. 2001	✓
China	✓	VOA in force	28 Mar. 2002	n/a
Indonesia	✓	✓	29 Sep. 1999	✓
Japan	✓	✓	16 Dec. 1999	✓
Kazakhstan	✓	✓	9 May 2007	✓
ROK	✓	✓	19 Feb. 2004	✓
Malaysia	✓	✓	(Signed: 22 Nov. 2005)	
Mongolia	✓	✓	12 May 2003	
Philippines	✓	✓	26 Feb. 2010	✓ * 1
Thailand	✓	✓	17 Nov. 2017	
Viet Nam	✓	✓	17 Sep. 2012	* 2

\* 1 Philippines got Broader Conclusion from IAEA in May 2013 and implementing IS in 2017.

\* 2 Viet Nam got Broader Conclusion from IAEA in May 2015.

# Safeguards (2)

## Updates on Safeguards Implementation of 2023

### ◆ Bangladesh:

- Design information verification (DIV) and PIV were conducted by the IAEA at Rooppur Nuclear Power Plant (RNPP) Unit 1 & 2.
- IAEA Safeguards and SSAC Advisory services (ISSAS) were hosted by Bangladesh during March 2022.

- ### ◆ China:
- Submits safeguards reports annually to the IAEA by December each year for the two civilian nuclear facilities, the Shandong Shidao Bay 200MWe High-Temperature Gas-Cooled Reactor Pebble-Bed Module Demonstration Power Plant and Shaanxi Uranium Enrichment Plant that are placed voluntarily under IAEA safeguards. Routine IAEA inspection to Shidao Bay HTGCR Reactor and Shaanxi Uranium Enrichment Plant.

# Safeguards (3)

## Updates on Safeguards Implementation of 2023

- ◆ **Indonesia** : PIV with IAEA on 12-16 June 2023 for RI-C, RI-G, and RI-Z; Safeguards routine inspection two times for each MBA (Pre PIV & PIV), Annual Safeguards Review Meeting (not yet).
- ◆ **Japan**: As a result of cooperation between the Government of Japan and the IAEA, the successful implementation of safeguards has brought the broader conclusion for **2022**, first reached for the 2003; For Fukushima Daiichi Nuclear Power Plant, additional safeguards measures such as remote monitoring by surveillance cameras and radiation monitor have been applied to confirm no undeclared removal of nuclear material. **Since 2022**, in order to store spent fuel assemblies (SFAs) at safer location, the shipment of SFAs from Spent Fuel Pond at Unit-6 to the Common Spent Fuel Storage (CSFS) and that from the CSFS to the Temporary Cask Custody Area (Dry cask storage area) **has been performed**.

# Safeguards (4)

## Updates on Safeguards Implementation of 2023

- ◆ **Kazakhstan:** Technical meeting with participation of leading experts of the CTBTO Preparatory Commission Working Group B took place, INIR IAEA mission was accomplished to solve issues on nuclear power infrastructure development in Kazakhstan, Country Programme Framework was signed between Kazakhstan and IAEA Agency for 2023-2028.
- ◆ **ROK:** IAEA conducted a total of 112 inspections in 37 of the 47 MBAs in 2022, with a total of 326 PDI. Out of these, 9 inspections with 18 PDI were verification activities for domestic undeclared nuclear activities through the Complementary Accesses (CAs) pursuant to the Additional Protocol (AP). The COVID-19 pandemic, which has been ongoing since 2020, could have limited IAEA inspections in 2022, but the ROK government and nuclear facilities extended full support to the IAEA inspections by promptly providing necessary information and coordinating facility verification schedule to ensure the smooth execution of inspections. As a result, IAEA has made “satisfactory” safeguards conclusions for all the times and drawn “Broader Conclusion (BC)” for the ROK in 2022.

# Safeguards (5)

## Updates on Safeguards Implementation of 2023

### ◆ Malaysia:

- The IAEA Comprehensive Capacity-Building Initiative for SSACs and SRAs (COMPASS) achievement had exceeded expectation & Malaysia succeed in achieving the target that has been planned and agreed in COMPASS Workplan 2021 – 2022. COMPASS Closing Meeting: Malaysia final webinar was successfully held on 6 March 2023, & COMPASS celebratory event (formal conclusion of the pilot phase and the launch of COMPASS implementation) was held on 2 June 2023.
- Malaysia had received IAEA Safeguards Annual Inspection (MYA & MYZ) on the October 11 – 12, 2022.
- Malaysia also received a visit led by Dr. Craig Everton, Assistant Secretary of the Australian Safeguards and Non-Proliferation Office (ASNO), on 1 June 2023. Malaysia applauds ASNO, for their continuous dedication and leadership in the Asia-Pacific Safeguards Network (APSN) Working Group 1. This working group focuses on Safeguards Infrastructure, Implementation, and Awareness-Raising.

# Safeguards (6)

## Updates on Safeguards Implementation of 2023

### ◆ Malaysia (cont.):

- The Department of Atomic Energy Malaysia (Atom Malaysia) with the International Atomic Energy Agency (IAEA) has provided Qatar with equipment to support the country's efforts to prevent a nuclear security incident during the 2022 World Cup Championship under the Practical Arrangement on the establishment of a Loaner Pool for Radiation Detection Equipment (Loaner Pool).
- Table below is the international programme conducted under NSSC Malaysia.

Num.	Programme Conduct Under NSSC Malaysia
1	International Training Course (ITC) on Security of Radioactive Material in Transport
2	Technical Visit from Nigeria to the Nuclear Security Support Centre in Malaysia
3	Regional Training Course (RTC) on Authorization & Inspection for the Security of Radioactive Material and Associated Facilities
4	ASEANTOM Technical Visit on Authorization & Inspection for the Security of Radioactive Material and Associated Facilities
5	Kuwait Technical Visit on the Development and Sustainability of a National Nuclear Security Regime in Malaysia
6	Cambodia Technical Visit to Observe the Establishment of National Detection and Expert Support Capability in Malaysia



# Safeguards (7)

## Updates on Safeguards Implementation of 2023

### ◆ Mongolia:

- AP declarations are submitted in a timely manner. According to the AP declaration submitted to the IAEA, the Executive Office of the NEC is cooperating with the agency's inspectors in the activities of access and verification of locations with nuclear materials. CA in Uranium mining company Badrakh Energy LLC on May 2023. Organized National Safeguards Training Course on May 2023 in Ulaanbaatar, Mongolia under the support of the International Nuclear Safeguards Engagement Program (INSEP), National Nuclear Security Administration U.S. Department of Energy.
- IAEA Legislative Assistance Mission on Relevant International Nuclear Legal Instruments for Mongolia was held on June 2023 in Ulaanbaatar, Mongolia. This activity consists of 5 parts including High-level Bilateral Meetings, High-Level Conference for Decision-Making Officials, National consultations with governmental organizations and NGOs, and Discussions with the Drafting Team OF Nuclear Comprehensive Law.

# Safeguards (8)

## Updates on Safeguards Implementation of 2023

- ◆ **Philippines:** PRR1 and PRR1-SATER's Nuclear Material Accounting reports and AP declarations are submitted annually through the Secure Communication. Integration of Safeguards to the Regulatory Process (i.e. Licensing, Enforcement) and development of regulations for Safeguards . Import/Export Control of dual use items in the NSG list are monitored by the Dept of Trade and Industry- Strategic Trade Management Office and coordinates with PNRI in the AP DECLARATION. Active participation in the Nuclear Energy Power-Inter Agency Committee (Sub-Committee 2 – Nuclear Safety, Safeguards, Security and Radiation Protection) alongside with Philippine Dept of Energy.
- ◆ **Thailand:** Annual activity requirements for CSA/AP obligations are Physical Inventory Verification, Design Information Verification, and Nuclear Materials Accountancy Reports. The AP declarations have been updated, **which are composed** of fifteen declarations and four quarterly declarations. OAP, the Department of Foreign Trade and Thai Customs cooperate on information sharing regarding **commodities** required to be declared.

# Safeguards (9)

## Updates on Safeguards Implementation of 2023

- ◆ **Viet Nam:** In 2022, IAEA performed 2 PIV/DIV activities at nuclear facility. Also a Complementary access has been conducted in declared location in Vietnam. Under safeguards reporting obligations, Vietnam has updated with 134 reports of nuclear facilities, 108 LOF reports under CSA (2022); and 183 declarations under AP (2023). Up to 2023, the IAEA and RSA have been actively communicated for information and clarification under AP related activities. Continuous NNSA Webinars for International Safeguards Professionals (WISP) (2023); IAEA Webinar on safeguards assistance for states (SSAC, COMPASS); Acted as Chair of Asia-Pacific Safeguards Network (APSN) from 2021-2022 and co-hosted IAEA-APSN Workshop on Nuclear Safeguards (December 2022 in Hanoi, Viet Nam).

# Nuclear Security (1)

## Implementation of International Treaties and Conventions

➤ **CPPNM** (Convention on the Physical Protection of Nuclear Material): 11/12 states

➤ **CPPNM Amendment\***: 9/12 states

\*IAEA Recommendation INFCIRC 225/Rev5 consistent with the Amendment

➤ **Nuclear Terrorism Convention** (International Convention for the Suppression of Acts of Nuclear Terrorism):

Ratification: 6 states, Accession: 2 state, Acceptance: 1 state, Signature: 3 states

	CPPNM	CPPNM Amendment	Nuclear Terrorism Convention
<b>Australia</b>	22 Oct 1987 in force	Ratification 17 Jul 2008	Ratification 16 Mar 2012
<b>Bangladesh</b>	10 Jun 2005 in force	Entry into force since 04 Jul 2017	Accession 07 Jul 2007
<b>China</b>	09 Feb 1989 in force	Ratification 14 Se. 2009	Ratification 08 Nov 2010
<b>Indonesia</b>	08 Feb 1987 in force	Ratification 27 May 2010	Ratification 19 March 2014
<b>Japan</b>	27 Nov 1988 in force	Ratification 17 Jun 2014	Acceptance 02 Oct 2007
<b>Kazakhstan</b>	02 Oct 2005 in force	Ratification 26 Apr 2011	Ratification 31 Jul 2008
<b>ROK</b>	08 Feb 1987 in force	Ratification 29 May 2014	Ratification 29 May 2014
<b>Malaysia</b>			Signature 16 Sep 2005
<b>Mongolia</b>	08 Feb 1987 in force	Preparing to join	Ratification 06 Oct 2006
<b>Philippines</b>	08 Feb 1987 in force	Ratified 16 June 2021	Signature 15 Sep 2005
<b>Thailand</b>	27 Mar 2018 in Force	Ratification 27 Mar 2018	Signature 14 Sep 2005
<b>Viet Nam</b>	03 Nov 2012 in force	Ratification 03 Nov 2012	Accession Sept 2016

# Nuclear Security (2)

## Updates on Nuclear Security Implementation of 2023

### ◆ Bangladesh:

- Bangladesh hosted an Expert Mission on Nuclear Security Detection Architecture in Dhaka from 24-27 February 2020. This event was organized as a part of scheduled activities under the Integrated Nuclear Security Support Plan (INSSP) for Bangladesh. IAEA expert as well as representatives from different organizations relevant to the implementation of nuclear security activities in the country such as Ministry of Science and Technology, Bangladesh Atomic Energy Regulatory Authority, Bangladesh Atomic Energy Commission, Nuclear Security and Physical Protection System Cell, Border Guards Bangladesh, Bangladesh Coast Guard, Bangladesh Customs, Nuclear Power Plant Company Bangladesh Limited, Bangladesh Police, Intelligent Agencies, etc. participated in the expert mission.
- ‘National Nuclear Security Policy’ is now on the approval process.
- Bangladesh is preparing to request for the International Physical Protection Advisory Service (IPPAS).
- The International Physical Protection Advisory Service (IPPAS) National workshop and IPPAS preparatory meeting were held during August 2022.

# Nuclear Security (3)

## Updates on Nuclear Security Implementation of 2023

### ◆ Bangladesh(cont.):

- A research project, 'Factors that can influence culture for safety, organizational culture and human performance at nuclear and other facilities in Bangladesh' is ongoing under the IAEA Coordinated Research Project (CRP) '122004' entitled 'Organizational Culture Basis for Successful Performance in Nuclear Power Plants'. Actively participated all the RCM of this CRP. It is expected that the outcomes of this project will help to enhance the understanding of parameters related to and needed for improvement of organizational factors and human factors in the organization's culture for safety and security in Bangladesh.

# Nuclear Security (4)

## Updates on Nuclear Security Implementation of 2023

- ◆ **China** : Cyber Security Law released in Nov 2016; Nuclear Safety Law released in Aug 2017; Atomic Energy Law (draft) as a direct upper-level legislation of nuclear security, is in the process of review and approval; Regulations on Nuclear Security under development; Center of Excellence on Nuclear Security (COE) came into operation in Mar 2016, to provide all-around support to the nuclear security governmental management and capacity building in China; successful completion of the Ghana MNSR HEU conversion Project in Aug. 2017; Completed IAEA IPPAS mission in Sep. 2017; Signing the Agreement between the IAEA and CAEA concerning the designation of the CAEA as an IAEA collaborating Center in 2019. Cyber Security Guidance for Nuclear Facility released in 2019; Practical arrangement on cooperation on nuclear forensic with IAEA signed in 2020; Practical arrangement on cooperation on Nuclear Security of Major Public Event with IAEA signed in 2021; The Seminar on Building a Peaceful Home Together: Nuclear Technology Application in Public Security was held during the first China-ASEAN Forum on Peaceful Uses of Nuclear Technology in 2022.

# Nuclear Security (5)

## Updates on Nuclear Security Implementation of 2023

### ◆ Indonesia:

- BAPETEN Physical Protection regulation is under revision to comply with INFCIRC/225/Rev.5),
- BAPETEN, DPFK-BRIN and security authorities conducted Performance Testing Course (blended training face to face and virtually) to evaluate PPS implementation in Serpong Nuclear Research Center 2022 ; number of trainings completed and planned.
- DPFK and ORTN-BRIN conducted Security Risk Assessment, Performance Testing and Contingency Plan in 2022 as required by BAPETEN Chairman Regulation as well as BATAN Standard.
- In 2021 ORTN-BRIN and BAPETEN conducted cyber security WS supported by U.S.DOE. In 2022, ORTN-BRIN continued to conduct Physical Protection training course at Nuclear Security Support Center (NSSC) in Serpong site. BATAN's / DPK's – BRIN NSSC in collaboration with NNSA/INS/U.S. DOE conducted National Nuclear Security Training Course virtually in 2022. Nuclear Technology and Research Organization (ORTN) - under the National Research and Innovation Agency (BRIN). ORTN-BRIN's NSSC in collaboration with NNSA/INS/U.S.



# Nuclear Security (6)

## Updates on Nuclear Security Implementation of 2023

### ◆ Indonesia (cont.):

- DOE is planning to conduct National Nuclear Security Training Course in person and virtually in 2023. INS/NNSA/U.S.DOE have sent formal letter in 2022 that was addressed to Chairman of BRIN regarding the possibility to continue Capacity Building on Nuclear Security Program for USA 2023 Fiscal Year.
- Physical protection routine inspection one time in a year for each nuclear facility (Mei-June & September 2023);
- BAPETEN in progress of conducting threat assessment and updating DBT in 2023
- BRIN's expert was invited by Interpol Head Quarter through Interpol NCB (National Central Bureau) to speak about case study of insider threat in Indonesia at Geiger Global Conference, Istanbul, Turkiye, 5 – 8 December 2022.
- BAPETEN and BRIN conducted FGD on Nuclear Installation Security on May 2022, it was attended by respective institution related to Nuclear Security such as National Intelligent Agency (BIN), National Police.
- NNSA/U.S.DOE has planned to visit Indonesia in December 2023 in regard to extend the cooperation through Directorate of Human Resource Development - BRIN

# Nuclear Security (7)

## Updates on Nuclear Security Implementation of 2023

### ◆ Indonesia (cont.):

- BRIN conducted Training Course on Security of Radioactive in 2023: 1) 2-9 March 2023 8-15 June 2023 is located at Nuclear Security Support Center (NSSC) – BRIN Serpong.

- ### ◆ Japan:
- The new performance-based inspection system started in April 2020 in which security inspections are more focused on activities with higher security risks. This new inspection system allows for comprehensive oversight of licensees' nuclear security practices. Under this inspection system violations of the security plan of Kashiwazaki-Kariwa Nuclear Power Station were identified. Currently, supplemental inspections are underway to address these violations. Regarding RI security, Act on the Regulation of Radioisotopes, etc., and Enforcement Regulation of the Act which took effect in September 2019, established a national framework in Japan for RI security. ISCN organized the Regional Training Course on Nuclear Forensics in Bangkok, July 2023, with the cooperation of OAP, Thailand.

# Nuclear Security (8)

## Updates on Nuclear Security Implementation of 2023

- ◆ **Kazakhstan:** NPP construction preparation – potential suppliers were determined for equipment, “National Training Course on Introduction to Nuclear Forensics” was carried out in collaboration with IAEA in the Nuclear Security Training Center (INP), Physical Protection System preparation was made for upgrade at radionuclide source storage facility in INP, Physical protection system upgrade was completed at RRC “Baikal-1” and IGR (NNC RK), IVG.1M reactor operation on LEU-fuel was started in May.
- ◆ **ROK:** ROK has steadily improved its Regulatory Standards and systems to enhance the completeness of physical protection regulations for nuclear facilities. In 2022, a total of four KINAC Regulatory Standards were revised to reflect the results of research on the insider threat response methodology as well as regulatory experience, relevant laws and regulations and overseas standards to strengthen countermeasures against insider threat and to respond to current issues such as international transport protection and access violations. ROK has been making efforts to respond to UAV threats since 2021, and in 2022, it introduced various equipment to counter UAVs and conducted reviews and inspections. These efforts will continue into 2023.

# Nuclear Security (9)

## Updates on Nuclear Security Implementation of 2023

- ◆ **Malaysia:** Conducted training on Strategic Trade Act 2010 for front line officers. Accepted technical visit from Nigeria to the Nuclear Security Support Centers. Accepted technical visit from Cambodia on establishing expert support capability.
- ◆ **Mongolia:** A Working Group was established to ensure the implementation of the program and plan for the implementation of the “Integrated Nuclear Security Support Plan” under discussion and meeting of the NEC meeting on March 2023. According to the decision of the meeting, additional corrections were made and prepared for the opinions of relevant ministries.

# Nuclear Security (10)

## Updates on Nuclear Security Implementation of 2023

- ◆ **Philippines:** Updated INSSP last June 2022 which includes Nuclear Energy. **NEP-IAC activities to address the different Milestones for NEP )Sub-committee 2 on Nuclear Safety, Safeguards, Security and Radiation Protection.** Continue collaboration with IAEA, US DOE and other organizations for seminars, workshops, etc on Nuclear Security for Nuclear Material and Radioactive Material including the NSDD program. **PNRI performs Nuclear Security Assessment of Cat 1-5 facilities and the Physical Protection of the PRR1 and PRR-1 SATER.** Inclusion in the PNRI Nuclear Training Center the Training Course on for the three (3) days training course on Security of Radioactive Material for Security Officers and Regulatory Personnel as a regular TC, **Deployment of PNRI mobile expert support during the Feast of the Black Nazarene.** Participated in the IAEA CRP on the Advance Maintenance, Repair and Calibration of Radiation Detection Equipment. **Actively participation in the National CBRN Team and perform coordination with relevant stakeholders in addressing the gaps and training needs for Nuclear Security on R/N.**

# Nuclear Security (11)

## Updates on Nuclear Security Implementation of 2023

- ◆ **Thailand:** Nuclear Security Regime circulated with nuclear security networks and is in the process of finalizing the document for the official issue. The INSSP was submitted to the IAEA which plans to organize the national meeting for review in January. Thailand arranges national activities in nuclear forensics and nuclear security transportation. Following the international collaboration, the OAP cooperated with the NSRA and held the 12th FNCA workshop; co-hosted with the IAEA to conduct nuclear security culture self-assessments; hosted the nuclear security training and support centers; co-hosted with the ISCN/ JAEA to arrange a regional training course on nuclear forensics, and cooperated with the IAEA to organize train the trainer on radiological crime scene management.

# Nuclear Security (12)

## Updates on Nuclear Security Implementation of 2023

- ◆ **Viet Nam:** 2022: co-hosted national workshops on transportation security, physical protection of nuclear materials; assigned Delegation to the Conference of the Parties to the Amendment to the Convention on the Physical Protection of Nuclear Material (A/CPPNM) (March 2022 in IAEA headquarter); co-hosted Regional Workshop on Univerlisation of CPPNM/A in the Asia-Pacific (October 2022, in Hanoi, Viet Nam). **2023: INSServ Mission was conducted with the IAEA and relevant authorities. Final reported handed over from the Agency with recommendations and activities to be implemented in line with updated INSSP (to be revised in late 2023); co-hosted for Regional Review meeting of Radiological Security (Danang); updated with Security Level A facilities with PPS systems.**

# Nuclear Security Culture (1)

## Methods and Plans to Foster Nuclear Security Culture

- ◆ **Bangladesh:** participation of national/international training courses/workshops/meetings in collaboration with FNCA, IAEA, U.S.DOE, Russia; undertaken nuclear safety and security culture awareness programs through poster display; participation in IAEA CRPs in safety and security culture.
- ◆ **China :** organize/ participate in the national/regional/international training courses/workshops in collaboration with IAEA, U.S.DOE; publish magazine titled “China Nuclear Security”; develop curriculums on nuclear security culture to improve the awareness of nuclear security culture for domestic nuclear-related personals; conduct online training and workshop during Covid-19 pandemic. product nuclear security science popularizing video.



# Nuclear Security Culture (2)

## Methods and Plans to Foster Nuclear Security Culture

- ◆ **Indonesia:** CSCA/BATAN: conducting self-assessment on nuclear security culture for radioactive source facility in Pasar Jumat (2018-2019), final report has completed in 2020; develop nuclear security culture guidance (in progress), ORTN-BRIN conducting self-assessment on nuclear security culture for entire workforce by using on-line survey cause of pandemic COVID-19; Indonesia shared experience on self assessment of nuclear security culture at research reactor to IAEA member States through IAEA Workshop on Nuclear Security Culture and Self-Assessment such as in Ghana, Zambia and Malaysia. In 2018 the report submitted to the Draft of IAEA-TECDOC CRP on nuclear security culture enhancement solutions. Indonesia accepted the IAEA offered to be the first country to hold a Seminar Nuclear Security Culture for Senior Managers in 2022. On 29 – 30 June 2022, IAEA supported DPK's BRIN in hosting Nuclear Security Culture for Senior Manager workshop attended by respective institution related to nuclear and nuclear security such as BAPETEN, BRIN (ORTN and DPFK), Academia (Universitas Gadjah Mada, Indonesia Nuclear Technology Polytechnic (PTNI/STTN), The Republic of Indonesia Defense University (UNHAN), Indonesian National Police (POLRI). **Directorate for Nuclear Facility Management (DPFK-BRN) is planning to conduct nuclear security culture self-assessment in Q1 2024. in the planning will cover the topic of combination of the safety and security culture self-assessment.**

# Nuclear Security Culture (3)

## Methods and Plans to Foster Nuclear Security Culture

- ◆ **Japan:** NRA Commissioners regularly hold meetings with executives of licensees and conduct interviews to them to communicate the expectation for their leadership in nuclear security, and if necessary, directly request them to take the lead in fostering nuclear security culture.
- ◆ **Kazakhstan:** Nuclear Disarmament Verification Initiative, participation of national and international training courses in collaboration with IAEA, JAEA, US (DOE and DoD) and etc.
- ◆ **ROK:** KINAC has developed a questionnaire to measure the nuclear security culture awareness of nuclear facility workers and has been conducting the annual Nuclear Security Culture Awareness Survey from 2011. In 2022, score for overall nuclear security culture awareness was 84.2 (2.2 points increased from the previous year)
- ◆ **Malaysia:** Conducted nuclear security culture self assessment and Nuclear Security Culture Campaign on Cyber Security and Physical Security was conducted at Malaysian Nuclear Agency. Implementation of IAEA Coordinated Research Project - Design and development of a Knowledge-Based Model and Software Module for Intelligent & Integrated Nuclear Security System for Malaysian Nuclear Agency.

# Nuclear Security Culture (4)

## Methods and Plans to Foster Nuclear Security Culture

- ◆ **Mongolia:** IAEA Legislative Assistance Mission on Relevant International Nuclear Legal Instruments for Mongolia was held on June 2023 in Ulaanbaatar, Mongolia. Regarding Mongolia's accession to international agreements and conventions, Mongolia's decision-making level officials, government organizations, researchers, and representatives of civil society organizations were given a unified understanding of the importance and effects of introducing agreements and conventions and joining them. (A total of 150 representatives from 65 organizations participated in the event) It was an important activity in which Mongolia contributed one step forward in the process of joining these international agreements and conventions. The event broadcasted live by 7 news media and social networks, and 5 broadcast TV channels disseminated information to the public.
- ◆ **Philippines:** Incorporated nuclear security culture topic in the Three (3) days training course. Strengthening nuclear security culture in the workplace. Inclusion of Security Culture topic in the Nuclear Training Center modules for Licensees.

# Nuclear Security Culture (5)

## Methods and Plans to Foster Nuclear Security Culture

- ◆ **Thailand:** Cooperation with the IAEA to organize the National Workshop on Conducting Nuclear Security Culture Self-Assessments. Continuous training, stakeholder communications, and revision of regulations and guidelines under the Nuclear Energy for Peace Act.
- ◆ **Viet Nam:** Developed and implemented of regulatory documents (Circular 01/May 2019 on security of radioactive sources; and Decree No. 142/2020/ND-CP of the Government: Regulations on the conduct of radiation work and service activities to support the application of atomic energy), continue fostering Nuclear Security Culture (training workshops). Vietnam is under consideration to advocate 2<sup>nd</sup> Guideline on Code of Conduct on safety & security of radioactive sources.

# Capacity Building (1)

## Nuclear Security (and Safeguards) Training Centers

This chart identifies the existing training centers in the FNCA member countries, which provide trainings to practitioners in the areas of nuclear security and safeguards, and training functions of the centers. Educational programs are not included on the chart.

	Training Center/ Training Provider	Status of Training Center	Target	Training Topics			Cooperation with
				Security	SG	Others	
<b>Bangladesh</b>	TBD / BAEC, BAERA	Planned	International/ Domestic	✓	✓	Border control	IAEA, US/DOE, Russia, JAEA, FNCA
<b>China</b>	SNSTC(COE)/ SNSTC(COE)	In operation	International/Do mestic	✓	✓	Border control	IAEA, US/DOE
<b>Indonesia*1</b>	BAPETEN ETC, Directorate of Competency Development (BRIN's Training Center/ BAPETEN, BRIN	In operation	International/ IAEA courses	✓	✓		IAEA, US/DOE, APSN, PNTR, JAEA
<b>Japan</b>	ISCN / ISCN	In operation	International /Domestic/ IAEA courses	✓	✓		IAEA, US/DOE, EC/JRC
<b>Kazakhstan</b>	TC of INP and ACTC of NG/ TC of INP and ACTC of NG	In operation	International /Domestic/ IAEA courses	✓	✓	Radiation Safety and Radiation Monitoring Information Security	US (DOE and DoD), Japan

\*1 Gajamada University in Indonesia launched master course on nuclear security in 2017.

\*2 BAPETEN ETC will be hosted 3<sup>rd</sup> regional school on nuclear security in October 2018.

# Capacity Building (2)

## Nuclear Security (and Safeguards) Training Centers

Cont.

	Training Center/ Training Provider	Status of Training Center	Target	Training Topics			Cooperation with
				Security	SG	Others	
<b>ROK</b>	<b>INSA / INSA</b>	In operation	International /Domestic/ IAEA courses	✓	✓	Export control	IAEA, US/DOE
<b>Malaysia</b>	<b>NSSC / AELB</b>	Training class and Testing Lab in operation		✓		Border control	IAEA, ANSTO, US/DOE
<b>Mongolia</b>	<b>TBD / NEC</b>			✓		Border control	US/DOE, <b>INSEP</b> , IAEA, <b>APSN, FNCA, JAEA</b>
<b>Philippines</b>	<b>PNRI</b>	NSSC- training modules	Licensee, FLO and other government agencies	✓		Border control	IAEA, US/DOE
<b>Thailand</b>	<b>TBD / OAP, CU*1</b>	Under Consideration	Domestic Competence Authorities	✓	✓	Border control	IAEA, ASNO, US/DOE, JAEA, EC
<b>Viet Nam</b>	<b>VARANS / TSC</b>	Planned		✓	✓	Rad Detection	IAEA, US/DOE, JAEA

\*1 Chulalongkorn University in Thailand has master course on nuclear security and safeguards for international/domestic students.

# Capacity Building (3)

## Nuclear Security (and Safeguards) Training Centers

Cont.

### List of the Training Centers

**Bangladesh:** TBD

**China:** State Nuclear Security Technology Center (Center of Excellence on Nuclear Security)  
China Customs Training Center for Radiation Detection (border control)  
Nuclear Safeguards Technical Research Laboratory (Safeguards)

**Indonesia:** Nuclear Energy Regulatory Authority Education and Training Center (BAPETEN ETC)  
Directorate of Human Resource Development and Competency – BRIN, instead of BATAN-CET. Both ETC and CET will always work together.

**Japan:** Integrated Support Center for Nuclear Nonproliferation and Nuclear Security (ISCN)

**Kazakhstan:** INP Nuclear Security Training Center (TC of INP), National Guard of RK Anti-Crisis Training Center (ACTC of NG)

**ROK:** International Nuclear **Nonproliferation and** Security Academy (INSA)

**Malaysia:** Nuclear Security Support Center (NSSC) – **accepts technical visits and fellowship. Also hosting international/regional workshop by IAEA if required.**

**Mongolia:** TBD (Executive Office of the NEC is responsible to strengthening human resources in a nuclear and radiation field.)

# Capacity Building (4)

## Nuclear Security (and Safeguards) Training Centers

Cont.

### List of the Training Centers

**Philippines:** Philippine Nuclear Security Support Center is underway. Developed two (2) modules for National Coast Watch Center and for Philippine AirForce on Awareness and Basic Radiological Detection Workshop.

**Thailand:** Office of Atoms for Peace (OAP), Chulalongkorn University.

**Viet Nam:** Technical Support Centre for Radiation & Nuclear Safety and Emergency Response (VARANS/TSC)