

# **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)

January 11, 2023

# Regulatory Authority

## Independence of Regulatory Agencies

- ◆ **Independent:** China (CAEA), Indonesia (BAPETEN), Japan (NRA), ROK (NSSC), Mongolia (Executive office of the NEC and General Agency for Specialized Inspections (GASI))
- ◆ **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: The Comprehensive Nuclear Regulation Act, creating an independent regulatory body, instead of “Philippine Nuclear Regulatory Commission” to “**Philippine Atomic Energy Regulatory Commission**” submitted to Congress.

# 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 2021-2022

### ◆ 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 2021-2022

- ◆ **Indonesia** : Physical protection routine inspection one time in a year for each nuclear facility (**August - September 2022**); Technical Workshop on AP declaration using PR3, PIV with IAEA on July 2021 for RI-B, RI-C. and RI-G; **Safeguards routine inspection two times for each MBA (Pre PIV & PIV), PIV by IAEA on 20-23 June 2022, Annual Safeguards Review Meeting on 24 June 2022; CA by IAEA on 16 June 2022 for PT. Timah – Bangka (pilot plant for Rare earth purification from Monazite); SNI by IAEA on 1 December 2022 for RI-C.**
- ◆ **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 2021, 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. In 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) started.**

## Safeguards (4)

### Updates on Safeguards Implementation of 2021-2022

- ◆ **Kazakhstan:** The 22<sup>nd</sup> meeting of the CIS Commission on Peaceful Use of Atomic Energy was held, a Memorandum of Understanding between the Ministry of Energy of RK and Ministry of Energy Transition of the French Republic on cooperation in peaceful use of atomic energy; technical meeting with participation of leading experts of the CTBTO Preparatory Commission Working Group B took place, CTBTO calibration testing operations are continued, nuclear testing monitoring network is expanded.
- ◆ **ROK:** In 2022, IAEA performed a total of 102 inspections, which includes Physical Inventory Verification, Design Information Verification, Unannounced Inspections, etc. In addition, IAEA inspectors performed 9 Complementary Accesses pursuant to the Additional Protocol (AP). IAEA has made “satisfactory” safeguards conclusions for all the times and drawn “Broader Conclusion (BC)”. Since 2021, ROK and IAEA is discussing the application measures of the improved State-Level-Approach(iSLA) to the ROK. To make a progress, both sides agreed to establish a Working Group (WG) for iSLA in 2023.

# Safeguards (5)

## Updates on Safeguards Implementation of 2021-2022

### ◆ Malaysia:

- Malaysia has made a great achievement in 2022 parallel to the IAEA Comprehensive Capacity-Building Initiative for SSACs and SRAs (COMPASS) workplan and almost reached 100%. In 2022, Malaysia successfully organized the COMPASS National Training Workshop on October 3 - 6, and the Additional Protocol Outreach Event on October 7, 2022. Malaysia had received IAEA Safeguards Annual Inspection on the October 11 – 12, 2022.

# Safeguards (6)

## Updates on Safeguards Implementation of 2021-2022

### ◆ 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 2021-2022

- ◆ **Mongolia:** AP declarations are submitted in a timely manner. The Rules on Nuclear material accountancy and control was approved by Government Resolution No. 229 on on December 23, 2020. **Forum for Nuclear Cooperation in Asia (FNCA) the 23rd Ministerial Level meeting, which was organized by the Executive Office of the Nuclear Energy Commission and Ministry of Foreign Affairs, was held at Ulaanbaatar, Mongolia on 31 October 2022.**

# Safeguards (8)

## Updates on Safeguards Implementation of 2021-2022

- ◆ **Philippines:** 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 and Additional protocol. Migration of Protocol Reporter 2 to Protocol Reporter 3. Conducted an awareness seminar on the Additional Protocol to the Regulatory Body (Nuclear Regulatory Division) and to revive AP Outreach program to Universities and Industries.
- ◆ **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, composing of fifteen declarations and four quarterly declarations. OAP, Department of Foreign Trade and Thai Customs cooperate on information sharing regarding commodity required to be declared.

# Safeguards (9)

## Updates on Safeguards Implementation of 2021-2022

- ◆ **Viet Nam:** 131 reports of nuclear facilities, 104 LOF reports under CSA (2022); NNSA Webinars for International Safeguards Professionals (WISP) (2022); IAEA Safeguards inspector team and CAs in 2022; 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>Executive Ratification (March 2022)</b>
<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 2021-2022

### ◆ 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 2021-2022

### ◆ 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) 'I22004' 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 2021-2022

- ◆ **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 2021-2022

- ◆ **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. 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. 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.**

# Nuclear Security (6)

## Updates on Nuclear Security Implementation of 2021-2022

### ◆ Indonesia (cont.):

- 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.

# Nuclear Security (7)

## Updates on Nuclear Security Implementation of 2021-2022

- ◆ **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 based on IAEA guidance (NSS). **ISCN provided online regional training courses to mitigate the impact of COVID-19, and also developed hybrid (in-person and online) courses to enhance effectiveness of training.**

# Nuclear Security (8)

## Updates on Nuclear Security Implementation of 2021-2022

- ◆ **Kazakhstan:** As part of work on research reactor conversion (LEU conversion) at “Baikal” RRC, the first technological channel was charged with LEU fuel and the first physical start-up of IVG.1 M reactor was successfully launched in May, two large-scale experiments to work out the technology of down-blending and immobilization of IGR reactor irradiated fuel have been conducted, “Scenario of threat detection and elimination at nuclear facilities” course were held for specialists of Kazakhstan National Guard under the Global Nuclear Security Program.
- ◆ **ROK:** In 2021, ROK amended its domestic nuclear security-related laws to enhance physical protection for nuclear material during transport. In 2022, a guidance document for physical protection of nuclear material during transport was revised by reflecting 2021’s amendments. In addition, seven milestones for inspecting the cyber security program of licensees turned into full-implementing phase from introductory phase. In this phase, KINAC focus on enhancing application of risk and safety information to cyber security.

# Nuclear Security (9)

## Updates on Nuclear Security Implementation of 2021-2022

- ◆ **Malaysia:** Conducted nuclear security culture self-assessment for licensees. Licensees are required to implement nuclear security culture as part of the requirement for compliance to the Security Plan; Atom Malaysia, in cooperation with the King's College London, UK (KCL), is conducting a nuclear security culture assessment with its licensees with over 600 respondents. Based on this assessment, Atom Malaysia plans to expand the number of respondents and use other assessment methods beyond surveys to the targeted licensees to conduct another nuclear security culture assessment at the national level within Atom Malaysia.
- ◆ **Mongolia:** Mongolia acceded to the Treaty on the Prohibition of Nuclear Weapons (TPNW) on December 10, 2021 becoming the 57th state party. Joining this treaty would “meet the fundamental interests of national security”. National action plan on the implementation of the United Nations Security Council Resolution 1540 was developed. A meeting to evaluate and update the “Integrated Nuclear Security Support Plan” (INSSP), which was organized by the IAEA, Executive Office of the NEC, was held at Ulaanbaatar, Mongolia on 01-04 November 2022. At the seminar, the Integrated Nuclear Security Support Plan was reviewed and updated.

# Nuclear Security (10)

## Updates on Nuclear Security Implementation of 2021-2022

- ◆ **Philippines:** Updated INSSP last June 2022 which includes Nuclear Energy. 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, Establishment of Nuclear Forensics of which the PNRI NFG participates in the CMX-7. Collaboration with PNRI Nuclear Training Center for the three (3) days training course on Security of Radioactive Material for Security Officers and Regulatory Personnel as a regular TC, PNRI mobile expert support team will be deployed in the Feast of the Black Nazarene, a religious event with attendance of and estimate nearly five (5) million last 2020 but the religious event was cancelled due to the surge of COVID-19 cases last January 2021. Participated in the IAEA CRP on the Advance Maintenance, Repair and Calibration of Radiation Detection Equipment. Hosted the IAEA National Workshop on Response Framework involving MORC last September 2022.

# Nuclear Security (11)

## Updates on Nuclear Security Implementation of 2021-2022

- ◆ **Thailand:** Nuclear security working groups have drafted the Nuclear Security Regime and are under circulating it to the nuclear security networks. The threat assessment and design basis threat were reviewed by the competent authorities. The INSSP was updated five years which is in the process of submitting to the IAEA. Thailand held annual training workshops for the frontline officers in Nuclear Security Incident Response and Nuclear Forensics.
- ◆ **Viet Nam: 2021-2022:** ensured nuclear security for MPEs (National Congress Regular Meeting); organized the Preparatory Meeting for INSServ Mission to Viet Nam; participated in human resources activities in nuclear security; 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).

# 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).**

# 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 published a declaration for improving nuclear regulatory quality, which contains the principles of implementing objective and fair regulation and enables to enhance the nuclear security culture.**
- ◆ **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:** Cooperation with Executive office of the NEC and US department of Energy, Sandia National Laboratory jointly organized the virtual training course on “Transportation response” was held on September 28-30, 2021. Total of 34 employees from 22 government agencies were attended this training and acquired knowledge and skills to organize prevention and response activities during the transportation of radioactive materials. **The Executive Office of the Nuclear Energy Commission (NEC) with the International Atomic Energy Agency (IAEA) organized a national seminar on “Nuclear security” on 31 October 2022. Through the seminar officials at the decision-making, level introduced the importance of approving the CPPNM Amendment.**
- ◆ **Philippines:** Incorporated nuclear security culture topic in **the Three (3) days training course**. Strengthening nuclear security culture in the workplace.

# Nuclear Security Culture (5)

## Methods and Plans to Foster Nuclear Security Culture

- ◆ **Thailand:** 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**).

# 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	
Bangladesh	TBD / BAEC, BAERA	Planned	International/ Domestic	✓	✓	Border control	IAEA, US/DOE, Russia, JAEA, FNCA
China	SNSTC(COE)/ SNSTC(COE)	In operation	International/Do mestic	✓	✓	Border control	IAEA, US/DOE
Indonesia* <sup>1</sup>	BAPETEN ETC, Directorate of Competency Development (BRIN's Training Center/ BAPETEN, BRIN	In operation	International/ IAEA courses	✓	✓		IAEA, US/DOE, APSN, PNTR, JAEA
Japan	ISCN / ISCN	In operation	International /Domestic/ IAEA courses	✓	✓		IAEA, US/DOE, EC/JRC
Kazakhstan	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, IAEA
<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*<sup>1</sup></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 Security Academy (INSA)

**Malaysia:** Nuclear Security Support Center (NSSC)

**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)