

# Summary of Country Reports

## —Current Status of 11 FNCA Member States\*—

---

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

October 9, 2024

# Regulatory Authority

## Independence of Regulatory Agencies

- ◆ **Independent:** China (CAEA), Indonesia (BAPETEN), Japan (NRA), ROK (NSSC), Mongolia (Executive office of the NEC and **Ministry of Industry and Mineral Resources, Division of Nuclear and Radiation Inspection**)
- ◆ **Semi-Independent\*:** Bangladesh (BAERA), Kazakhstan (**CAESC ME RK**), 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: **PhilAtom Bill endorsed to the Senate of the Philippines** (Establish an independent regulatory authority or the PHILIPPINE ATOMIC ENERGY REGULATORY AUTHORITY, instead of “Philippine Nuclear Research Institute”).

\* **Independent:** Australia (ARPANSA, ASNO)

# 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 2024

### ◆ 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 2024

- ◆ **Indonesia** : Safeguards routine inspection two times for each MBA (Pre PIV & PIV): RI-A, RI-B, RI-C, RI-D, RI-E, RI-F, RI-G (February to July 2024); Annual Safeguards Review Meeting with IAEA (4 July 2024); Additional Protocol inspection on government sponsored research activities related to nuclear fuel cycle.
- ◆ **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 2023, 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. A small amount of fuel debris will first be removed on a trial basis from Unit 2. Preparation work towards the fuel debris trial retrieval is in progress. Fuel debris trial retrieval will be started by October 2024 by official announcement. ISCN organized the online Regional Training Course on Additional Protocol Commodity Identification, September 2024, with cooperation of KINAC, Korea.

# Safeguards (4)

## Updates on Safeguards Implementation of 2024

- ◆ **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 108 inspections in 39 of the 47 MBAs in 2023, with a total of 351 Person-Days of Inspection (PDI). There were a total of 1,168 annual declarations and 4 quarterly declarations submitted in accordance with the Additional Protocol (AP). The IAEA verifies the content of these declarations through Complementary Access (CA) activities when necessary and conducted a total of 8 CA activities with 17 PDI to detect undeclared nuclear material and activities in the ROK in 2023. Additionally, 917 nuclear material accounting reports, including 268 Inventory Change Reports (ICR), 600 Physical Inventory Listings (PIL), and 49 Material Balance Reports (MBR) from 44 MBAs, were processed.

# Safeguards (5)

## Updates on Safeguards Implementation of 2024

### ◆ Malaysia:

- Safeguards Training Plan – Workshop on syllabus development (17 – 19 October 2023): to harmonize the Safeguards Training Plan that had been developed under the previous COMPASS initiative.
- IAEA Safeguards Annual Inspection (MYA & MYZ) + Bilateral meeting: end of Nov 2024

# Safeguards (6)

## Updates on Safeguards Implementation of 2024

### ◆ Mongolia:

- Organized Fundamentals of National Inspections on June 2024 in Ulaanbaatar, Mongolia under the support of the International Nuclear Safeguards Engagement Program (INSEP), National Nuclear Security Administration U.S. Department of Energy. This course provided participants with the basic skills and methodology for planning, coordinating, conducting, and reporting the results of national inspections aimed at the implementation of the State's Comprehensive Safeguards Agreement and the Additional Protocol.
- Participated INSEP webinar of Additional Protocol (AP) Annual Update: Coordination and Reporting Strategies, Webinar on IAEA Safeguards Implementation at Mines in April and June 2024 , IAEA Webex webinar: Concluding and modifying safeguards legal instruments in June 2024 as an panelist. Shared experience of implementing Mongolia's AP, facilitating IAEA CA and preparing for accession to international legal documents.



# Safeguards (7)

## Updates on Safeguards Implementation of 2024

- ◆ **Philippines:** PRR1 and PRR1-SATER's Nuclear Material Accounting reports and AP declarations are submitted annually through the **SAFEGUARDS DECLARATION PORTAL (SDP)**. Integration of Safeguards to the Regulatory Process (i.e. Licensing, Enforcement), **performs at least six (6) domestic safeguards inspections** 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.

# Safeguards (8)

## Updates on Safeguards Implementation of 2024

### ◆ Thailand:

- In 2023, IAEA conducted 2 PIV/DIV activities at nuclear facilities and location outside facilities (LOF) in Thailand. Moreover, a few Complementary access (CA) has also been conducted at declared location in Thailand.
- Under safeguards reporting obligations, Thailand has updated with 127 reports of nuclear facilities, 65 LOF reports in total under CSA; and 124 declarations in total under AP. There is also a strong cooperation between OAP, the Department of Foreign Trade and Thai Customs for sharing Safeguards information regarding commodities required to be declared under AP.
- Thailand has been appointed to be the Chair of Asia-Pacific Safeguards Network (APSN) from 2023-2024. The last annual meeting was held during 31 October - 3 November 2023 in Bangkok. There were 40 representatives from 14 countries participated at the event.

# Safeguards (9)

## Updates on Safeguards Implementation of 2024

- ◆ **Viet Nam:** In 2023, IAEA performed 2 CAs at locations with NFC related information. Under safeguards reporting obligations, Vietnam has updated with 137 reports of nuclear facilities, 115 LOF reports under CSA (2022); and 201 declarations under AP (2023). Up to 2024, the IAEA and RSA have been actively communicated for information and clarification under AP related activities. Continuous NNSA Webinars for International Safeguards Professionals (WISP) (2024); IAEA Webinar on safeguards assistance for states (SSAC, COMPASS, SBD); participants from VARANS, VINATOM participated in IAEA/JAEA scheduled training course on NMAC/SSAC

# 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 2024

### ◆ 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 2024

### ◆ 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 2024

- ◆ **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 2024

### ◆ Indonesia:

- Physical protection inspection of nuclear facilities (routine)
- Radioactive source security officers certification (routine)
- National Coordination Meeting on Nuclear Security (5 September 2024)
- Installation of “Indonesia Radiation Data Monitoring System”:
  - Installed at 33 locations;
  - Connected with IAEA’s International Radiation Monitoring Information System (IRMIS).
- Monitoring and maintenance of radiation portal monitors at major harbors:
  - Semarang Harbor (Central Java)
  - Makassar Harbor (South Sulawesi)
- Bitung Harbor (North Sulawesi)
- BAPETEN also has a response team to be deployed to all over the country to handle a situation of radiation exposure escalation.



# Nuclear Security (6)

## Updates on Nuclear Security Implementation of 2024

### ◆ Indonesia (cont.):

- Workshop Hosting:
  - US DoE-BRIN Workshop on Insider Threat Mitigation (22-24 July 2024)
  - US DoE-BAPETEN Workshop for Review on Cyber Security Regulation Draft (21-22 August 2024)
  - IAEA Regional Peer-to-Peer Workshop on Nuclear Forensics (26-30 August 2024)
  - WINS-BRIN Regional Workshop on Strengthening Security Culture: Operational Experience and key lessons learned (5-7 November 2024)
- Research Works:
  - Proliferation Resistance and Physical Protection Assessment of Proposed Nuclear Power Plants
  - IAEA Coordinated Research Project on Nuclear Security Implication of Counterfeit, Fraudulent, and Suspect Items (CFSI)
  - IAEA Coordinated Research Project on Nuclear Forensics Science to Bridge the Radiological Crime Scene to the Nuclear Forensics Laboratory

# Nuclear Security (7)

## Updates on Nuclear Security Implementation of 2024

- ◆ **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 2024

### ◆ 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.
- Regional Training Course on the Security of Nuclear Material in Transport in the Europe Region will be provided with IAEA, hosted by the Government of Kazakhstan through the Committee for Atomic and Energy Supervision and Control of the Ministry of Energy of the Republic of Kazakhstan Almaty, Kazakhstan (28 October – 1 November 2024).

# Nuclear Security (9)

## Updates on Nuclear Security Implementation of 2024

- ◆ **ROK:** ROK has steadily improved its Regulatory Standards and systems to enhance the completeness of physical protection regulations for nuclear facilities. . In 2023, the ROK conducted 61 physical protection reviews, including 5 international transportation protection plans, and performed 21 physical protection inspections as well as 99 inspections of nuclear material transport. Additionally, the country reviewed 39 drill plans and conducted 33 drill assessments across 11 nuclear facilities. Furthermore, the ROK strengthened its regulatory standards for access control to vital areas to address explosive threats. Since 2021, the ROK has been making efforts to respond to UAV threats, and in 2023, RF scanners and UAV detection and neutralization equipment were introduced at all headquarters. In 2023, KINAC took a proactive step by establishing the “Direction for Advancement of Drone Threat Protection Systems,” aimed at helping nuclear power plants secure and further strengthen their response systems to UAVs.

# Nuclear Security (10)

## Updates on Nuclear Security Implementation of 2024

### ◆ Malaysia:

- National workshop on the Development of Design Basis Threats (DBT) and Representative Threat Statements (RTS): 9 – 11 September 2024
- To provide guidance on how to assess nuclear security threats - explain and demonstrate the key structural role that DBT and RTS play in development of regulatory frameworks for nuclear and other critical infrastructure security.

# Nuclear Security (11)

## Updates on Nuclear Security Implementation of 2024

### ◆ 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.
- The US Department of Energy has been implementing 7 phases of the project “Detect and detain illegal movement of nuclear material” since 2008 and regular maintenance is being carried out.
- Conducted national training on "Development of a Security plan for radiation facilities“ in cooperation with the US Department of Energy, Sandia National Laboratory on July 2024. Security model plan for the security of the facilities were developed during the training.

# Nuclear Security (12)

## Updates on Nuclear Security Implementation of 2024

### ◆ 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.
- Collaboration with the PNRI Nuclear Training Center the three (3) days training course on Security of Radioactive Material for Security Officers and Regulatory Personnel scheduled twice a year as a regular TC, Deployment of PNRI mobile expert support during the Feast of the Black Nazarene and to the State of the Nation Address (SONA).

# Nuclear Security (13)

## Updates on Nuclear Security Implementation of 2024

### ◆ Philippines (cont.):

- Conducted Radiological Detection and Response Trainings (Ladderized Approach) to stakeholders such as Bureau of Quarantine, Philippine Air Force, Philippine National Police.
- 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.
- Draft an Executive Order in the Establishment of a Nuclear Security Support Center and Coordinating Center spearheaded by the Anti-Terrorism Council Program Management Center and PNRI.



# Nuclear Security (14)

## Updates on Nuclear Security Implementation of 2024

### ◆ Thailand:

- IAEA conducted the Integrated Nuclear Security Support Plan (INSSP) with Thai competent authorities in January to review and update the plan.
- OAP hosted the INSSermissions to review existing capabilities and practices of Member State's nuclear security regime regarding MORC to identify gaps and make recommendations to enhance the State's nuclear security systems and measures.
- OAP Enhances Radioactive Material Security through the RSSM Course under ISO 29993 Standard.
- National Crisis Management Exercise (C-MEX) was conducted in collaboration with the Office of the National Security Council, Counter Terrorist Operations Center, and OAP.
- OAP conducted a national training course on nuclear forensics to deter and respond to nuclear security events.
- INTERPOL co-hosted with the OAP co-hosted to conduct the Training Workshop on Radiological Crime Scene Investigators (RCSI).
- OAP signed an MOU with the World Institute for Nuclear Security (WINS) to strengthen nuclear security focus on NSSC establishment.

# Nuclear Security (15)

## Updates on Nuclear Security Implementation of 2024

- ◆ **Viet Nam:** By 2024, INSServ Mission in Vietnam has been fully completed and final report has been sent to Vietnam with recommendation for enhancement of nuclear security regimes, focusing on detection, response and sustainability. INSSP has been revised since November 2023, the final revised INSSP has been open for Vietnam relevant authorities for comments and to be finalized in 2024. VARANS in coordination with stakeholders (with MOPS, Customs for ensuring security against MORC, during MPEs, nuclear terrorism counter; with MOD for non proliferation of WMD). VARANS remains its coactive cooperation with the US.DOE on radiological security, transport security and physical protection: Workshop held by INS in August on nuclear security culture (Hanoi), workshop in November 2024 on physical protection of nuclear facility (Dalat).

# 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 **2023**, score for overall nuclear security culture awareness was **84.7, representing a 0.5-point increase from the previous year.**

# Nuclear Security Culture (4)

## Methods and Plans to Foster Nuclear Security Culture

- ◆ **Malaysia:**
  - In the process of establishing a national level committee to plan, implement and monitor related activities.
  - National Workshop on Conducting Nuclear Security Culture Self-Assessment: Session II (22-26 April 2024) has been conducted.
- ◆ **Mongolia:** In cooperation with IAEA, U.S Department of Energy, 8 national trainings were organized in the framework of the content of developing security regulations, mitigating security risks and developing security plans. A total 221 employees of government organizations were trained.
- ◆ **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 and Awareness on Nuclear Security Culture to NEP-IAC.

# 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). Vietnam is under consideration to advocate 2<sup>nd</sup> Guideline on Code of Conduct on safety & security of radioactive sources. In 2024, Vietnam is implementing development of proposal for amended Law on Atomic Energy, internalizing obligation of relevant international instrument (CPPNM, NPT), integrating regulation of nuclear security culture as mandatory for security requirement of radioactive sources, nuclear material and nuclear facility.

# 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 Gaja Mada University in Indonesia launched **Master's Degree Program in Nuclear Security.**

\*2 BRIN's Polytechnic Institute of Nuclear Technology opens an undergraduate program with nuclear security concentration



# 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, INSEP, IAEA, APSN, FNCA, JAEA
<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:** BAPETEN coordinates capacity building through its “Indonesia Center of Excellent on Nuclear Security and Emergency Preparedness” (I-CoNSEP)  
BAPETEN’s Education and Training Center & BRIN’s Directorate of Human Resource Development and Competency work together for capacity building

**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 **three (3) modules on Awareness, Basic and Advanced 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)