



# **TRAINING PROGRAM ON NUCLEAR SECURITY**

**BAPETEN Education and Training Center  
10<sup>th</sup> March 2015**



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# **BAPETEN Education and Training Center Activities**



# HRD STRATEGY

**BAPETEN Education and Training Center was established in 2009**

## *HR Development Methods*

- ✓ Class-based training course (TC)
- ✓ Self-study
- ✓ Staff assignment:
  - ✓ Training Courses/WS
  - ✓ **Education Program**
- ✓ On the Job Training (OJT)

## *Knowledge Management*

- Knowledge sharing
- Development of Community of Practice (CoP)
- Information system for education and training



# HRD STRATEGY (cont.)

## Education Program

- ✓ **Gadjah Mada University, Yogyakarta:**
  - Degree on Nuclear Engineering
  - Master Degree on Technology of Energy
- ✓ **Bandung Institute of Technology, Bandung, West Java:**
  - Degree on Instrumentation Physics
  - Master Degree on Nuclear Energy Conversion
  - Doctoral Degree on Nuclear Energy Conversion
- ✓ **University of Indonesia, Jakarta:**
  - Degree on Physics
  - Master Degree on Medical Physics
- ✓ **Diponegoro University, Semarang, Central Java:**
  - Degree on Medical Physics
- ✓ **Vocational School of Nuclear Technology, Yogyakarta:**
  - Bachelor on Nuclear-physics Engineering
  - Bachelor on Nuclear-chemical Engineering

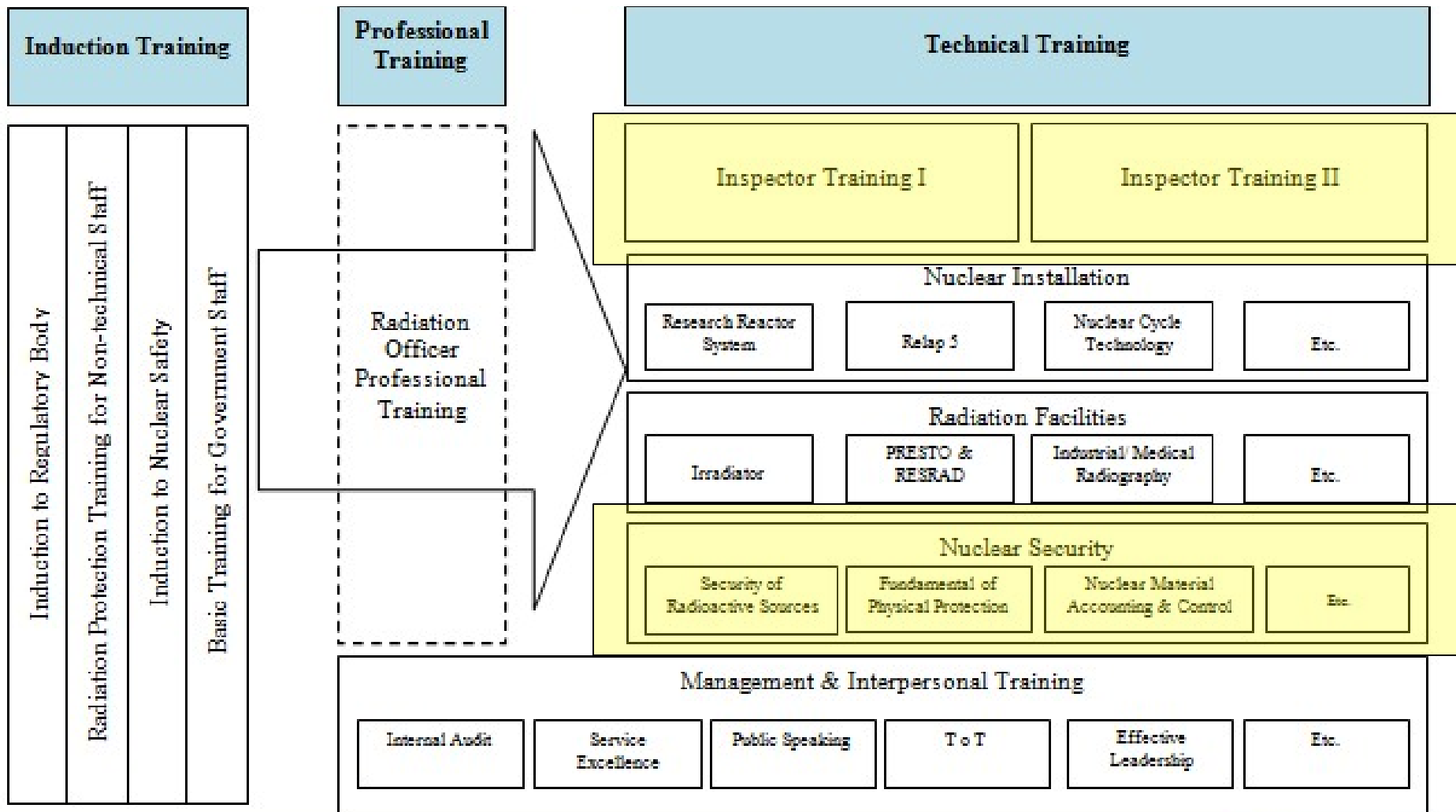


# Education & Training Center Activities

- Started to conduct full scope TNA since 2012
  - Identifying tasks and making competence profile
  - Conducting competence gap analysis
  - Identifying training needs
  - Making a training plan
- To train BAPETEN staff
- To train stakeholders: Ministry of Politics, Law and Security, National Police, Directorate General of Custom and Excise, Ministry of Defence, National Counter Terrorism Agency, etc.
  - Radiation Protection
  - Fundamental of nuclear security
  - Radioactive source security, etc.
- Formulating Nuclear Knowledge Management
- Education and Training Information System
  - E-learning
  - Computer based Module



# Training Framework





# Inspector Training Program





# Training Program

1. Induction to Regulatory Body
2. Induction to Nuclear Safety (comprises of radiation protection and BPTC)

Based on Chairman Regulation No. 18/2012: Inspector candidates should pass **aptitude test** and **join two years of inspection internship** to become Junior Inspector

3. Junior Inspector Training Course
4. Senior Inspector Training Course

5. Inspector Refreshment Training Course

Refreshment Training Course is conducted to maintain Inspector competence and to upgrade inspector's knowledge with the latest nuclear technology and cases of inspection



# **National Training Program on Nuclear Security**



# TNA ON NUCLEAR SECURITY

## **1. Identifying organizations involved, tasks, and responsibilities**

### 2. Identifying competence needs

- Organizations involved in national nuclear security filled a questionnaire to map their capabilities
- Analyzing what competences they have and they don't have

### 1. Identifying training needs

- Training needs come from competence gap
- Identify which organization can conduct the training courses

## **1. Making a training plan**



# 1. National Authorities and Role

<b>Agencies</b>	<b>Roles/responsibility</b>
Co-ordination Ministry of Politics, Law and Security (Menko Polhukam)	<ul style="list-style-type: none"><li>• Advisory and coordination roles for nuclear security</li></ul>
Nuclear Energy Regulatory Agency (BAPETEN)	<ul style="list-style-type: none"><li>• Regulatory Body for nuclear security at facility level</li><li>• National Policy on Nuclear Security</li><li>• Planning of nuclear security capacity and capability</li><li>• Certification of human resources in nuclear security</li><li>• Accreditation of training providers</li><li>• PoC INSSP to the IAEA</li></ul>
National Police (Polri)	<ul style="list-style-type: none"><li>• On scene commander for crisis control</li><li>• Advisory on threat assessments and risk mitigation</li><li>• Crime scene investigation</li></ul>



# 1. National Authorities and Role (cont.)

Agencies	Roles/responsibility
Directorate General of Customs and Excise (DJBC), Ministry of Finance	<ul style="list-style-type: none"><li>• Border monitoring</li><li>• Export/Import control</li></ul>
Ministry of Transport (Kemenhub)	<ul style="list-style-type: none"><li>• Transport regulator, including security requirements at seaports and airports</li><li>• Port Authorities</li></ul>
Port Operators (Pelindo)	<ul style="list-style-type: none"><li>• Implementation of port security</li></ul>
Ministry of Defence (Kemhan)	<ul style="list-style-type: none"><li>• Advisory on national security matters and strategy</li></ul>
Ministry of Law and Human Rights (Menkumham)	<ul style="list-style-type: none"><li>• International and national laws advisory services</li></ul>
National Counter Terrorism Agency (BNPT)	<ul style="list-style-type: none"><li>• Advisory on counter-terrorism matters and strategy</li></ul>



# 1. National Authorities and Role (cont.)

Agencies	Roles/responsibility
State Intelligence Agency (BIN)	<ul style="list-style-type: none"><li>• Advisory and provide intelligence on nuclear security</li></ul>
Maritime Security Co-ordination Agency (BAKORKAMLA)	<ul style="list-style-type: none"><li>• Advisory and co-ordination on maritime security</li></ul>
Gajah Mada University (UGM) and Defence University (Unhan)	<ul style="list-style-type: none"><li>• Partner university for nuclear security</li><li>• Members of the International Nuclear Security Education Network (INSEN)</li></ul>
National Nuclear Energy Agency (BATAN)	<ul style="list-style-type: none"><li>• National nuclear research and development institutes</li><li>• Scientific support</li><li>• Maintenance of equipment</li></ul>
Directorate of International Security and Disarmament (KIPS), of MOFA	<ul style="list-style-type: none"><li>• Advisory on policy, nuclear security and international laws</li></ul>



## 4. Training Program (Nuclear Installation)

No	Training for Nuclear Security	Target Participant	Priority (1/2/3)
1.	Fundamental of Physical Protection	RB, Op, LEA	1
2.	Nuclear Security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities (INFCIRC/225/Revision 5)	RB, Op, LEA	1
3.	Security of Research Reactor	RB, Op, LEA	2/3
4.	Design and Evaluation of Physical Protection System	RB, Op	2/3
5.	Inspection of Physical Protection equipment	RB, Op	2
6.	Table top exercise (evaluation of Physical Protection effectiveness)	RB, Op, LEA, Police	2
7.	Cyber security	RB, Op, LEA, Police, Universities	2



## 4. Training Program (Radiation Facilities) (cont.)

No.	Training for Nuclear Security	Target Participant	Priority (1/2/3)
1.	Fundamental of security of radioactive sources	RB, Op, LEA	1
2	Development of Radioactive Security Plan	RB, Op	1
3.	Security of Sources Equipment	RB, Op	1
4.	Security of Sources Inspection	RB, Op	2
5.	Training of Radioactive Sources Security Officer	Op, LEA	1





## 4. Training Program (FLO) (cont.)

<b>No</b>	<b>Training for Nuclear Security</b>	<b>Target Participant</b>	<b>Priority (1/2/3)</b>
1.	Training for front line officers (FLO).	RB, FLO from custom officers	1



## 4. Training Program (General Nuc. Security) (cont.)

No	Training for Nuclear Security	Target Participant	Priority (1/2/3)
1.	Security culture	RB, Op, LEA, Police, Universities	1
2.	Development and Maintenance of Design Basis Threat (advanced)	RB, Op, LEA, Police	1/2
3.	Security against insider threat	RB, Op, LEA	2/3
4.	Transportation security	RB, Op, LEA	1
5.	Security Contingency plan	RB, Op, LEA	1
6.	Human reliability on security	RB, Op, LEA	2
7.	Nuclear forensic capabilities: crime scene analysis, signature and interpretation, of national nuclear forensics libraries	RB, Op, LEA, Universities	2



## 4. Training Program (General Nuc. Security) (cont.)

No	Training for Nuclear Security	Target Participant	Priority (1/2/3)
1.	Behaviour assessment on security	RB, Op, LEA	3
2.	Radiation detection training course	RB, Op, FLO, LEA	1
3.	Search, Detection and Identification of Radioactive Sources	RB, Op, FLO, LEA	
4.	Development of methodology for risk assessment and state management of nuclear security regime	RB, Op, FLO, LEA, Police, Universities	2
5.	Nuclear Security Vulnerability Assessment	RB, Op, LEA	3
6.	CBRN Training Course	LEA, MoFA, Intelligent, Army, Universities	2



# BAPETEN Training Program (2015)

## National Nuclear Security Training Program:

# I-CONSEP

1. Fundamental Training Course on Nuclear Security
2. Introduction of Radiation Detection and Symptom
3. Radioactive Source Security
4. Emergency Preparedness for Responder
5. Training Course of Front Line Officer
6. TC of Nuclear Security Culture for Management

Participants of TCs come from organizations that have different role in national nuclear security coordination, such as BAPETEN Police, Custom, Ministry of Transportation, National Disaster Manag't.

### Training for certification:

1. Training for Radioactive Source Security Officer

Each company using radioactive source **MUST** have Radioactive Source Security Officer which have a certificate of RSSO Training from BAPETEN



# Training Cooperation on Nuclear Security



# Training Cooperation

1. National Training/Workshop on PP (coordination with IAEA)
  - NTC on Foundation of PP
  - Workshop on Preventive and Protective Measures Against Insider Threats
  - National Workshop on Security of Nuclear Research Reactors
  - DBT Workshop
  - etc.
2. Cooperation with US-DoE:
  - National TCs on NDA
  - National and Regional TCs on Security of Radioactive Source, etc.



# Training Cooperation (cont.)

3. Cooperation with European Commission:
  - Workshop on Nuclear Security
  - TC on Physical Protection of Nuclear Material, etc.
3. KINAC:
  - Regional Workshop on Computer Security of Nuclear Facilities
  - International Training Course on the Nuclear Safeguards
  - International Training Course on Strategic Trade Control, etc.



# Training Cooperation (cont.)

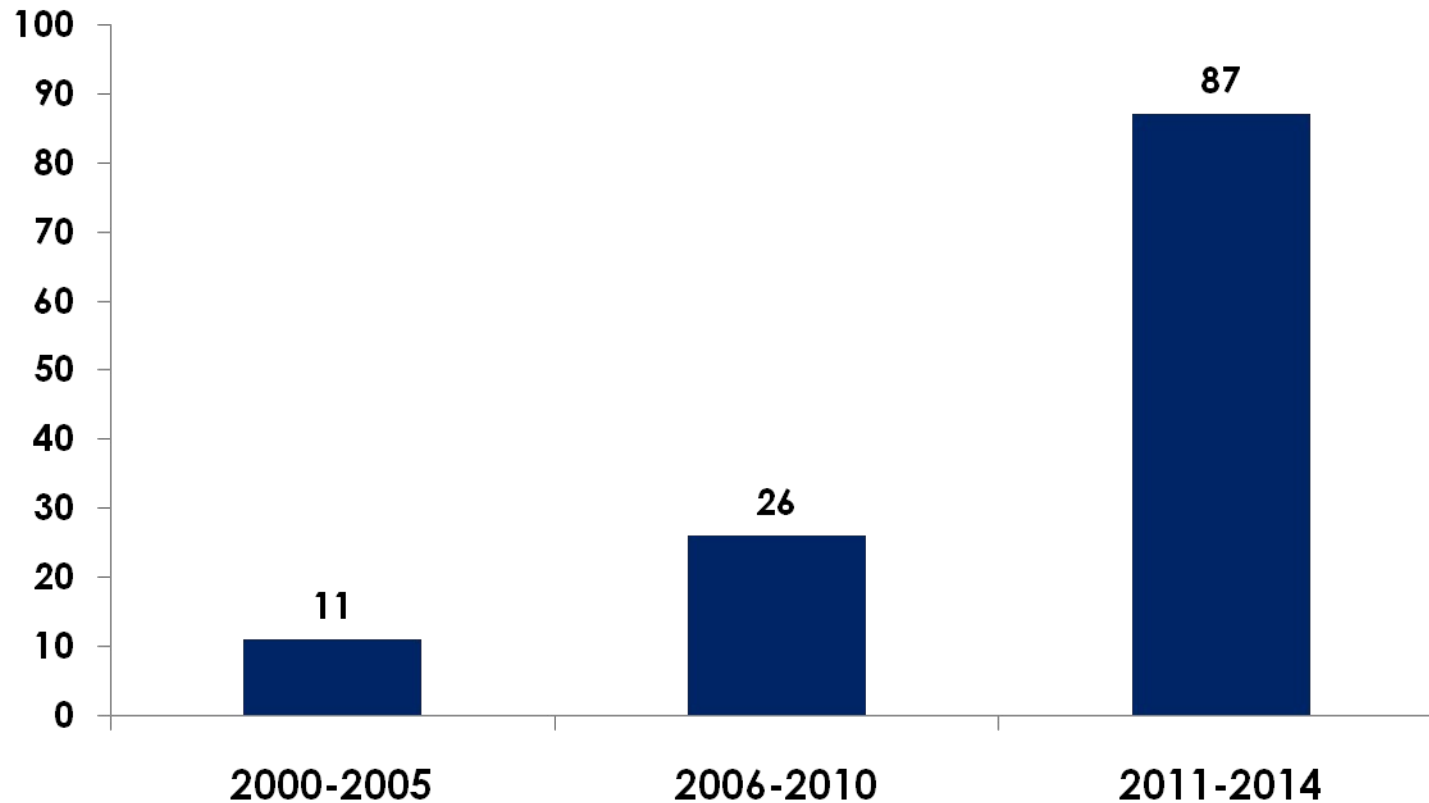
## 5. JAEA-ISCN:

- Workshop on Nuclear Security and Safeguards
- International Training Course on State Systems of Accounting for and Control on Nuclear Material
- Regional Training Course on Security of Radioactive Sources
- Regional Training Course on the Physical Protection of Nuclear Material and Facilities, etc.





# BAPETEN Participation in Internat'l TCs



- Some of them were sent as a trainer



**Thank You**