

Capacity Building Development in Nuclear Security Indonesian Experience

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Outline

1	Introduction
2	I-CONSEP
3	CSCA
4	Training Centers
5	Conclusion





Introduction

National Policy on Nuclear Energy

- The use of nuclear technology in Indonesia is allowable for peaceful purposes only.
- The use of nuclear technology shall be regulated and controlled by the government (the regulatory body).
- Purpose: to ensure health and safety of the worker and public, as well as to protect the environment.





Introduction

Global Potential Hazard and Threats

Political Map of the World, September 2008

AUSTRALIA Independent state
Bermuda Dependency or area of special sovereignty
St. Peter and St. Paul's Islands Island / island group
★ Capital

Scale 1:33,000,000
Robinson Projection
standard parallels 38°N and 38°S

Indonesia

Vulnerability in illicit trafficking:

- ❑ Archipelagic state,
- ❑ Located between Asia and Australia continent and Hindia and the Pacific Ocean
- ❑ Consist of 17.508 islands, 37 international airports and 21 international seaports





Introduction

The Threat is Real

Potential Nuclear Security Events

- Nuclear Security Events
- Threats, scams
- Sabotage of a nuclear facility
- Sabotage of a ship
- Contamination of nuclear material
- Illicit trafficking
- Theft of nuclear material
- Radiological Dispersal
- Improvised Nuclear Device
- Radiological Exposure



Nuclear Security Events Involving Nuclear and Radioactive Material out of Regulatory Control

U or Pu)

(June 2011)
ch 2010)
-137 well-logging
(09)



31

Teror in Indonesia:

(NOT involving nuclear / radioactive material)

- Bomb Bali: 12 Oct 2002 AND 1 Oct 2005
- Ritz Carlton / J.W. Marriott Hotel: 17 July 2009
- Low explosive bomb at Serpong area: April 2011
- Low explosive bomb at Mall Serpong: July and Oct 2015
- Low explosive bomb at Thamrin street, Jakarta: 14 Jan 2016

Known Criminals

- France: La Hague
➢ An employee tried to place a bomb under the seat of a plane
- Russia: Izmailovo
➢ A tele... in Izmailovo
➢ Follow... sticks
- German...
➢ A ma... poison
- England...
➢ The p...



Moldova
- 4.4 g HEU (>70%)

35



Introduction

Nuclear related Institutions

Legislative Framework

- The basic law for nuclear energy utilization in Indonesia is Act no. 10/1997 on Nuclear Energy.
- Based on the law, two independent agencies dealing with nuclear energy have been established and directly report to the President of Rep. of Indonesia:
 - National Nuclear Energy Agency (BATAN) as a Promoting Body (R&D); and
 - Nuclear Energy Regulatory Agency (BAPETEN) as a Regulatory Body.



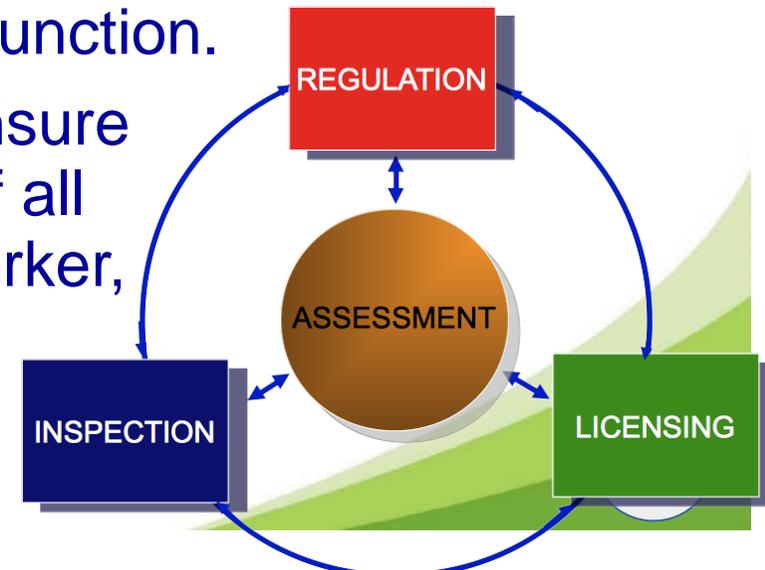


Introduction

Nuclear related Institutions

Legislative Framework

- BATAN's Task: carrying out government duties in the field of research, development and utilization of nuclear science and technology in accordance with the provisions of the legislation”
- BAPETEN has a main responsibility to control the utilization of nuclear technology in Indonesia, through regulation, licensing, and inspection function.
- Purpose of nuclear regulation is to ensure the safety, security and safeguards of all nuclear applications to protect the worker, public, and environment.





Introduction

Nuclear Security Commitment

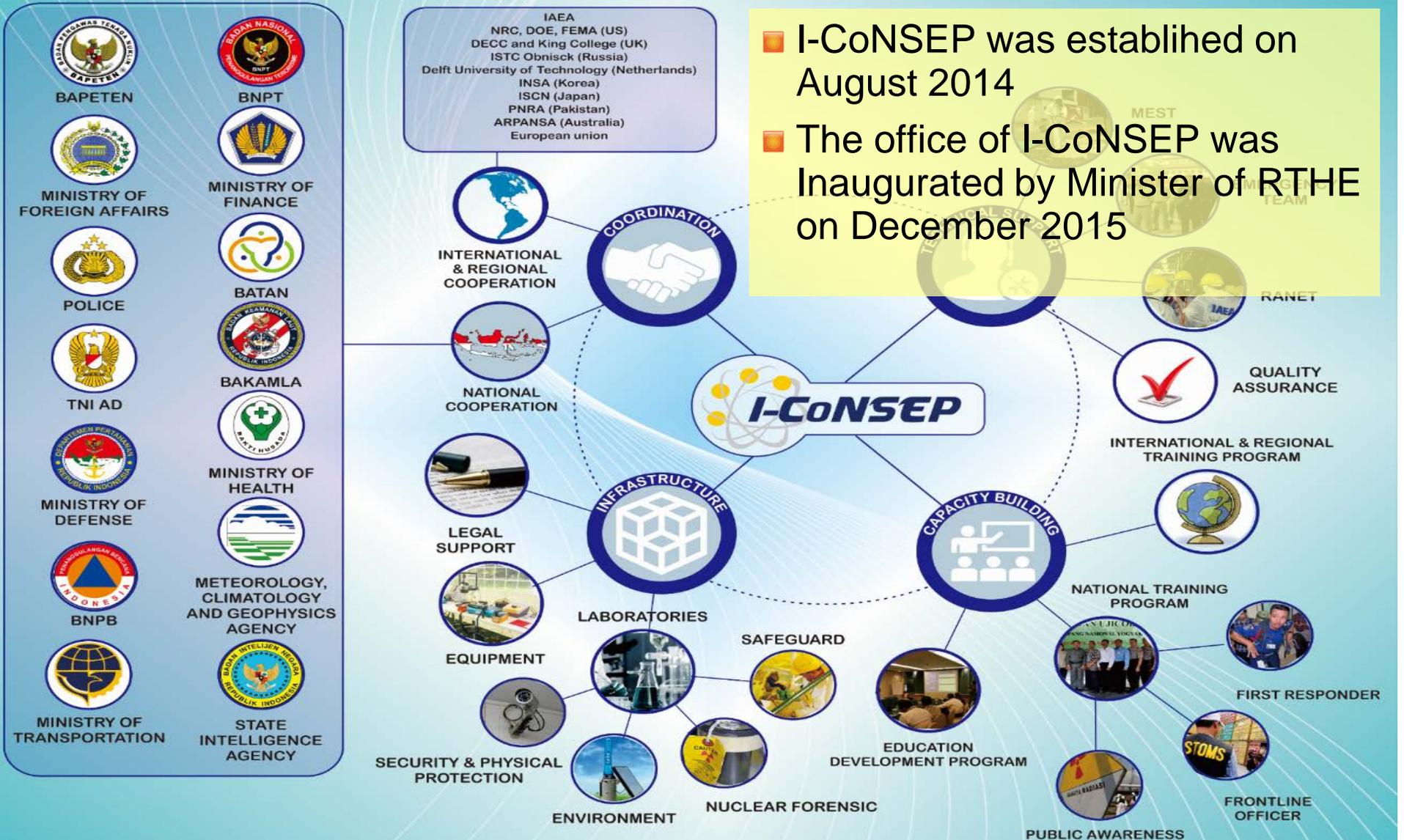
- Indonesia has actively participated in enhancing global nuclear security through, i.a. Nuclear Security Summit (NSS)
 - NSS-I, 2010 in Washington: attended by Mr Vice President
 - NSS-II, 2012 in Seoul: attended by Mr President
 - NSS-III, 2014 in Den Haag, Netherland: attended by Mr Vice President
 - NSS-IV, 2016 in Washington: attended by Mr Vice President
- Established specific units related to nuclear security activity.
 - BAPETEN: I-CoNSEP (Indonesian Center for Excelent in Nuclear Security and Emergency Preparedness)
 - BATAN: CSCA (Center for Security Culture and Assessment)
 - And enhancing the function of its Training Center to conduct nuclear security training courses.



I-CoNSEP

Indonesian Center of Excelent in Nuclear Security and Emergency Preparedness

- I-CoNSEP was established on August 2014
- The office of I-CoNSEP was Inaugurated by Minister of RTHE on December 2015





I-CONSEP

Activities

Grant Distribution of Equipments	Number
Harbour (Seaport) Belawan	1 (RPM) 9 (handheld)
Local Government – BP Batam (Seaport)	37 (handheld)
Bitung Seaport	1 (RPM)
Makassar Seaport	1 (RPM)
Semarang Seaport	1 (RPM) – on progress
Presidential Security Force	13 (handheld) 1 (RPM)
Customs Headquarter	34 (handheld) – on progress



I-CONSEP

Activities

Field Exercises	
Dirty Bomb (Radiological Dispersal Device/RDD), Jakarta-2004	
Nuclear Reactor Sabotage, Serpong-2010	
Nuclear Reactor Sabotage, Yogyakarta-2016	
Nuclear Reactor Sabotage, Serpong-November 2016	
Join Exercise / Operation with Coast Guard	NUMBER OF PARTICIPANTS
Ambon (2015)	52
Batam (2016)	43
Jakarta (2016)	115
Batam (2016) - Operation	64
Bitung (2014) - Operation	23
Batam (2014) - Operation	33
TOTAL	330



I-CONSEP

Activities



CUSTOMS



Local Government



Coast Guard





CSCA

Center for Security Culture and Assessment



- Inaugurated at 29 September 2014 as a coordination unit and located at Batan's facility in Serpong.
- Its operation is fully supported by some relevant Centers of BATAN as well as by IAEA and CITS-UGA.
- Mission:
 - Promoting nuclear security culture and its self- assessment
 - Conducting security culture self-assessment
 - Developing security culture and assessment methodology
 - Enhancing network, incl. CBRN security culture



CSCA

Activities: Improving the Nuclear Security performances

- IPPAS Mission in 2001 and follow up mission in 2007 and 2014
 - Review of legal and regulatory basis for the physical protection of nuclear activities
 - Review of implementation of physical protection at three sites
- Developed National Design Basis Threat (DBT) and Physical Protection of Nuclear Material and Security of Radioactive Source
- Table top exercise on nuclear security events (Serpong 2010, Yogyakarta 2012 and Bandung 2013)
- Workshop on Vulnerability Analysis (2012), gap analysis in 2014 (INFCIRC 225/Rev.4 and Rev. 5) , performance testing in 2015 - 2016



CSCA

Activities: Security Culture Self-assessment

1st assessment

- Year: 2012-2013
- Method: survey and interview
- Object: three research reactors
- Assessment Team: 41, limited background members
- Without survey statement validation
- Numbers of respondent: 624 surveyed, 128 interviewed



2nd assessment

- Year 2015-2016
- Method: survey, interview, observation and document assessment
- Object: multi-purpose reactor, nuclear fuel cycle technology center and radioactive waste
- Assessment Team: 32, more scientific background, incl. psychology
- With survey statements validation
- Number of respondent: 277 surveyed, 43 interviewed



Training Centers



BATAN
Education and Training Center
(Pusdiklat)
Pasar Jumat – Jakarta

BAPETEN
Education and Training Facility
(Badiklat)
Cisarua – Jawa Barat





Training Centers

Nuclear Security Training Scheme



Advanced

- Vulnerability Analysis of PPS; ● ToT of NS; ● etc .

Intermediate

- Protection and Prevention Measures against Sabotage; ● PP Measures against Insider Threat; ● etc

Basic

- Regional School on Nuclear Security; ● PPSM of NM and facility; ● PPSM of Radioactive Sources; ● Nuclear Material Accountancy and Control; ● etc

Introductory

- Introduction to Nuclear Security; ● Nuclear Security Culture





Training Centers

Nuclear Security Training 2016 – organized by BATAN

NO	TRAINING	DATE	Participant
1	Nuclear security culture, NSSC Indonesia in cooperation with ISCN	May	25 Person
2	IAEA Regional School on Nuclear Security	Oct	40 Person
3	Implementation of PPS on Nuclear Installation and Facility	Aug	25 Person
4	HRP Roadmap for RR – Cooperation with PNS	May	25 Person
5	Performance Testing of Response Personnel – Cooperation with USDoE	Apr	31 Person
6	Design and Evaluation of Physical Protection System	Sept	22 Person
7	Performance Testing :Contingency Plan – Cooperation with USDoE	Sept	25 Person
8	Safety and Security Culture Interface – Cooperation with UGA	Sept	60 Person
9	Security Plan of Radioactive Source	Oct	25 Person



Training Centers

Nuclear Security Training 2016 – organized by BAPETEN

NO	TRAINING	DATE	Participant
1	Transport Radioactive Source and Nuclear Material	Feb	31 Person
2	Nuclear Security and Safeguards Regulatory Review	Apr	23 Person
3	Emergency Regulatory Review	Apr	17 Person
4	Radioactive Sources Security Officer for Licensee	Apr	38 Person
5	Radioactive Sources Security Officer	May	15 Person
6	Contingency Plan of Nuclear Security Event	Sept	40 Person
7	Table Top Exercise PPS	Oct	30 Person
8	Technical Guidance For Front Line Officer (FLO)	Nov	20 Person
9	Preparation Drill 2015 (BAKAMLA – BAPETEN)	Des	40 Person



Conclusion

- Indonesia through I-CoNCEP, CSCA, and its Training Centers had performed some efforts in order to develop the capacity building in nuclear security.
- Indonesia views the importance of sustainable effort to promote and achieve the effective nuclear security regime, and security public in general through collaboration with other stake holders, domestic, regional and international as well.
- Indonesian experiences in conducting nuclear security exercise (drill), trainings or self assessment could be shared to the neighbouring countries as regional activities.



Conclusion

- Technical support from Regional CoE are very beneficial in order to further development of human resource through
 - Inviting Indonesian instructors/experts to attend advanced training or exercise on NS events;
 - Conducting joint trainings, workshops, as well as exercise (drill) in recipient country;
 - Developing the competency standard for Nuclear Security Personnel.

*Thank You
for your kind attention*

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