Nuclear Security: Contribution to Energy Security and Needs of Regional Cooperation

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3S for Peaceful Use of Nuclear Energy

_Safety_  
Prevent accident/human error

_Safeguards_  
Prevent conversion to weapons (non-proliferation)

_Security_  
Prevent malicious acts

**Common aim:** To facilitate peaceful use of nuclear energy/technology, while ensuring protection of people, environment and property from potential risks.
Nuclear Security

- Theft
- Sabotage*
- unauthorized access
- illegal transfer
- other malicious acts

involving nuclear material, other radioactive substances or their associated facilities

* A deliverable act which could release radioactive material or cause exposure to radiation.
Threats and Potential Impact

**Direct Harm or Loss**
- Loss of property (e.g. human life, buildings) caused by an attack
- Harm to people’s living and environment: radiation release

**Social and Economic Damage**
- Malfunction of social system and transportation infrastructure
- Harmful rumor (secondary damage)
# Impact of Nuclear Security on Nuclear Energy Development

<table>
<thead>
<tr>
<th>With Enhanced Nuclear Security</th>
<th>Without Enhanced Nuclear Security</th>
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<tbody>
<tr>
<td>Gain public trust</td>
<td>Lose public trust</td>
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<tr>
<td>Gain government support</td>
<td>Lose government support</td>
</tr>
<tr>
<td>Gain international/regional support to nuclear energy policy</td>
<td>Lose international/regional support to nuclear energy policy</td>
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Also,
- Able to effectively protect your people, environment and property from the risks

Thus,
- Able to proceed nuclear energy development
- Be benefited from nuclear power usage
- Able to utilize limited resources without dealing with incident recovery
- Serve for the state’s prosperity

Also,
- Potentially cause harmful damage to your people, environment, property and further, economic and social system

Then,
- Be forced to postpone/scale-down nuclear energy development
- Cannot reap the benefit of nuclear power usage
- Cause financial loss due to long-term recovery from the incident
Nuclear Security: Whose Responsibility?

“the responsibility for nuclear security rests entirely with each State”

Source: IAEA guidance

Also, international cooperation is essential due the impact of the effectiveness of a country’s nuclear security on the one of other countries

- International transportation of nuclear material
- Threat crossing borders
- Consequence of radiation release crossing borders
Approach to Enhance Nuclear Security

- Information Security
- Physical Protection
- Emergency Preparedness

National Legal and Regulatory Framework

Nuclear Security Culture:
Acknowledge the threat and the importance of nuclear security

Regional states mutually support state’s efforts through:
- Sharing experiences and practices: and
- Offering human capacity building assistance while effectively using limited resources
Overview of ISCN

Establishment: December 27, 2010

Location: Tokai, Ibaraki, JAPAN

Purpose: To implement Japan’s National Statement at the Washington Nuclear Security Summit in 2010, aiming at strengthening nuclear non-proliferation and security mainly in Asian nuclear emerging countries

One of the Main Activities:
Capacity building assistance through human resource development including training and education

Target Audiences:
(International), Regional and Domestic

Course Topics
- Nuclear Security
- Safeguards and SSAC
- International Nuclear Nonproliferation Framework
Nuclear Security Course

Physical Protection
- Physical Protection for Nuclear Material and Facilities
- IAEA guidelines including INFCIRC/225/Rev.5
- Physical Protection Detection System Performance Testing
- Tabletop Exercises
- PP training for government agencies

Nuclear Security Culture
- Regional/national workshop
- Dispatch of lecturers to domestic facilities

Other
- Hosting IAEA training courses

<For Effective Learning>
- Needs-oriented courses to targeted participants
- Domestic, International/regional and Bilateral courses

Activity Results of 2011 - March 2018
Total 2450 participants in 98 courses

Other Activities:
- Physical Protection for Nuclear Material and Facilities
- Tabletop Exercises
- PP training for government agencies

IAEA guidelines including INFCIRC/225/Rev.5
- Physical Protection Detection System Performance Testing
- Dispatch of lecturers to domestic facilities
Practical Learning Sessions

For Effective Learning

Lectures
Class discussion and Q&A

Group Exercises
Group discussion and practical > conceptual exercises

Physical Protection Exercise Field
Info. and Knowledge Sharing
Hands on Training
Actually touch and test PP elements

Virtual Reality System
Experience Sharing
Walk through, learning of characteristics of PP elements
Regional Collaboration and Harmonization

IAEA

INSEN
International Nuclear Security Education Network

NSSCs
International Network for Nuclear Security Training & Support Centers

Regional Frameworks in Asia

3 COEs

ISCN (JAPAN)
Integrated Support Center for Nuclear NP & NS

INSA (ROK)
International Nuclear Security Academy

SNSTC (China)
State Nuclear Security Technology Center

CBRN CoE South East Asia of EC-JRC
(in Phillipine)

APSN (Asia Pacific Safeguards Network)

FNCA
(Forum for Nuclear Cooperation in Asia)

Other COEs

- Information exchange on each training course and curriculum
- Exchange of lecturers
- Joint training and outreach
- Joint curriculum development
- Sharing training materials
Regional Collaboration

◆ Joint Seminar with ASEAN Center for Energy

- Back-to-back with ACE NEC-SSN meeting
- Outreach activity to raise awareness on nuclear security among policy makers and other stakeholders in the region

- 1st) 2013: Peaceful Use of Nuclear Energy and Nuclear Nonproliferation
- 2nd) 2015: Nuclear Security Culture
- 3rd) 2017: Security of Radioactive Source

◆ Supporting Forum for Nuclear Cooperation in Asia (FNCA)

- Nuclear Security and Safeguards Project (since 2011)
- Outreach activity to raise awareness on nuclear security among policy makers and other stakeholders in the region

◆ Contribution to the NSSC* Network

- Successfully hosted 2018 Annual Meeting on Mar. 5-9, 2018
  - 77 participants from 53 states and 3 institutions (including many of ASEAN+3 countries)
- Sharing ISCN experiences of establishing, implementing and maintaining a COE

*NSSC : Nuclear Security Training and Support Centres
Thank you for your attention.

Please visit our website!  http://www.jaea.go.jp/04/iscn/index_en.html

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