Good Practices on Training for PP at ISCN

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Integrated Support Center for Nuclear Nonproliferation and Nuclear Security

Japan Atomic Energy Agency

International Conference on Physical Protection of Nuclear Material and Nuclear Facilities
13-17 November, 2017, Vienna, IAEA
Japan’s National Statement at 2010 Nuclear Security Summit

Establishment of an integrated support center for nuclear nonproliferation and nuclear security in JAEA to contribute to strengthening nuclear security in Asia and other regions and development of technology related to measurement and detection of nuclear material and nuclear forensics based on international cooperation

Establishment of ISCN in JAEA: December 27, 2010
Conduct of the first nuclear security training course: October 2011

A tangible asset of the Nuclear Security Summit process
Nuclear Security Course at ISCN

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

Activity Results of 2011 - August 2017
Total 2281 participants in 89 courses

<For Effective Learning>
Lectures  Group Exercises  PP Exercise Field  Virtual Reality System

- Needs-oriented courses to targeted participants
- Domestic, International/regional and Bilateral courses
Two Training Tools: ① PP Exercise Field

Provide practical exercises in the realistic environment
- Equipment used at the real nuclear facilities
- Function of PP equipment
- Performance testing exercise

- Intrusion Detection
- Alarm Assessment
- Alarm communication and display
- Entry Control
- Contraband Detection
- Access Delay

Exterior Detection Sensors, Cameras, Delay Elements

Contraband Detection Equipment
Access Control System
Two Training Tools: Virtual Reality (VR) System

- virtual experience of observing the inside/outside of a nuclear facility
  - Construct a virtual nuclear power plant (NPP) in the cyberspace
  - Display a NPP on the three-sided screen in 3-D
  - walk-through/fly-through of a NPP

- Learning the characteristics of a facility and its physical elements by examining a three-dimensional view of the facility

- Learning skills for handling contingency in a virtual central alarm station

- Verify monitoring functions and image features of cameras and sensors

- Verify installation and functions of security tools
## Progress in Nuclear Security Courses

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<td>Bilateral Cooperation</td>
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### INFIRC225/Rev.5 Nuclear Security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities

- **2011**: RTC Pilot Course, INFIRC225/Rev5
- **2012**: RTC on PP, INFIRC225/Rev5
- **2013**: RTC on PP, INFIRC225/Rev5
- **2014**: RTC on PP, INFIRC225/Rev5
- **2015**: RTC on PP, INFIRC225/Rev5
- **2016**: RTC on PP, INFIRC225/Rev5
- **2017**: RTC on PP, INFIRC225/Rev5

### Workshop

- **NS Intro Vietnam**
- **Border Security Lithuania**
- **HRD Indonesia**
- **PP Inspector Turkey**
- **PP Vietnam**
- **PP for Operator Vietnam**
- **PP Indonesia**
- **PP Malaysia**
- **NSC Middle East**

### Training Course for Regulatory/Security Authorities

- **NISA**: Nuclear and Industrial Safety Agency
- **NRA**: Nuclear Regulation Authority
- **JGSDF**: Japan Ground Self-Defense Force
- **JCG**: Japan Coast Guard

### ISCN-WINS Workshop

- **WINS**: World Institute for Nuclear Security

- **WINS**
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### Lecture on Nuclear Security Culture at NPP in Japan

- **4 companies (5 facilities)**
- **8 companies (15 facilities)**
- **9 companies (13 facilities)**
- **7 companies (9 facilities)**
- **5 companies (10 facilities)**

### IAEA Course/International

- **Nuclear Security Culture**
- **INFIRC225/Rev5**
- **Sabotage**
- **Radioactive Sources Security**
- **INSICIR225/Rev5**
- **Nuclear Forensics**
- **Insider Threats**
- **Transport Security**
- **NISA**: Nuclear and Industrial Safety Agency
- **NRA**: Nuclear Regulation Authority
- **JGSDF**: Japan Ground Self-Defense Force
- **JCG**: Japan Coast Guard
- **NPA**: National Police Agency

### Notes

- : contributed by ISCN
- : contributed by organizations other than ISCN (e.g. IAEA, local country)
- Dashed line indicates planned activity.

**INFCIRC225/Rev5**
- Nuclear Security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities

**WINS**
- World Institute for Nuclear Security

**JGSDF**
- Japan Ground Self-Defense Force

**NRA**
- Nuclear Regulation Authority

**JCG**
- Japan Coast Guard

**NPA**
- National Police Agency
Good Practices

✓ Deciding our focus topics with our experiences
✓ Starting with our own capacity building for instructor supported by US/DOE and SNL
✓ Our target states are mainly Asian regional, but we utilized our accumulated capacity for domestic experts.
✓ Domestic experts gradually recognized ISCN function as a NSSC and asked for our knowledge and skill.
✓ ISCN realizes to contribute strengthening nuclear security in regionally and domestically.
✓ Those centers must be quite beneficial.
Regional Collaboration and Harmonization

IAEA

INSEN
International Nuclear Security Education Network

NSSCs
International Network for Nuclear Security Training & Support Centers

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

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 Philippine)

APSN (Asia Pacific Safeguards Network)

FNCA
(Forum for Nuclear Cooperation in Asia)

Other COEs
Thank you for your attention.

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