

# Good Practices on Training for PP at ISCN

**Yosuke Naoi**

**Director of ISCN, Chair of NSSC network**



*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

# Establishment of Integrated Support Center for Nuclear Nonproliferation and Nuclear Security (ISCN)

## **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

- Needs-oriented courses to targeted participants  
- Domestic, International/regional and Bilateral 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



# 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

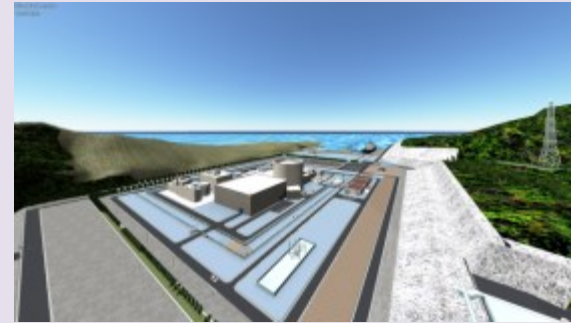


Access Control System

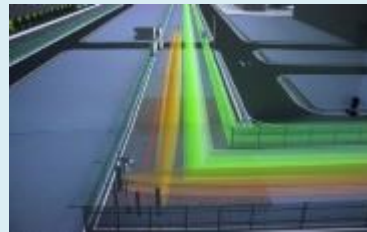
# Two Training Tools :② Virtual Reality (VR) System

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



Verify monitoring functions and image features of cameras and sensors




Learning skills for handling contingency in a virtual central alarm station





Verify installation and functions of security tools

# Progress in Nuclear Security Courses

	JFY 2011	JFY 2012	JFY 2013	JFY 2014	JFY 2015	JFY 2016	JFY 2017
International Course	RTC Pilot Course RTC on PP	RTC on PP	RTC on PP	RTC on PP	RTC on PP	RTC on PP	RTC on PP
Bilateral Cooperation	INFCIRC225/Rev5 NS Intro Vietnam	INFCIRC225/Rev5 NS Intro Kazakhstan	Border Security Lithuania	PP Vietnam HRD Indonesia PP Inspector Turkey	PP for Operator Vietnam NS Kazakhstan	NSC Indonesia PP Indonesia PP Malaysia NSC Middle East	ACE Seminar PP Indonesia Kazakhstan COE WS Saudi Arabia 3S Seminar
Domestic Course	INFCIRC225/Rev5 INFCIRC225/Rev.5 Nuclear Security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities (INFCIRC 225/rev.5)	PP	PP Performance Test Pilot	PP Cyber Security Scenario Development	PP Table Top Exercise	PP	PP Insider Threats
Training Course for Regulatory/ Security Authorities		NISA NRA JGSDF	NRA 1st NRA 2nd NRA(Advanced) JGSDF JCG	NRA 1st NRA 2nd NRA(Advanced) JGSDF JCG NPA	NRA 1st NRA 2nd NRA(Advanced) JGSDF JCG NPA	NRA 1st NRA 2nd NRA(Advanced) JGSDF JCG NPA	NRA 1st NRA 2nd NRA(Advanced) JGSDF JCG NPA
ISCN-WINS Workshop	WINS	WINS	WINS	WINS	WINS	WINS	WINS
Lecture on Nuclear Security Culture at NPP in Japan			4companies (5facilities)	8companies (15facilities)	9companies (13facilities)	7companies (9facilities)	5companies (10facilities)
IAEA Course/ International		Nuclear Security Culture Nuclear Forensics	INFCIRC225/Rev5 Sabotage	Nuclear Security Culture Insider Threats Radioactive Sources Security	INFCIRC225/Rev5 Nuclear Forensics Transport Security	Insider Threats Computer Security	NS for Nuclear Power Program Major Public Event Security

 : contributed by organizations other than ISCN (e.g. IAEA, local country)

 : contributed by ISCN  
 : Dashed line indicates planned activity.

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

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 Phillipine)

**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](http://www.jaea.go.jp/04/iscn/index_en.html)



The screenshot shows the homepage of the Integrated Support Center for Nuclear Nonproliferation and Nuclear Security (ISCN). The page features a blue header with the JAEA logo and navigation links. The main content area is divided into sections for News & Topics, About us, and Capacity Building. The News & Topics section lists several international forums and symposiums from 2015 to 2017. The About us section includes a mission statement and a photo of the Director, Yosuke NACI. The Capacity Building section offers assistance. The footer contains contact information and copyright details.

**JAEA Home | Sitemap | Japanese**

**Integrated Support Center for Nuclear Nonproliferation and Nuclear Security** 核不拡散・核セキュリティ総合支援センター ISCN

**ISCN**  
Integrated Support Center for Nuclear Nonproliferation and Nuclear Security

**Home About us News&Topics Activity Archives Links Contact us**

**News&Topics**

**2017.01** **International Symposium**  
The International Symposium on Technology Development for Nuclear Security

**2017.01** **International Forum**  
The International Forum on Peaceful Use of Nuclear Energy, Nuclear Non-Proliferation and Nuclear Security - Post-Nuclear Security Summit Efforts to Maintain International Momentum on Nuclear Security and Technical Contributions to Nuclear Disarmament -

**2016.06** **International Symposium**  
The International Symposium on Technology Development for Nuclear Non-proliferation and Nuclear Security

**2016.03** **International Forum**  
The International Forum on Peaceful Use of Nuclear Energy, Nuclear Non-Proliferation and Nuclear Security - Post-Nuclear Security Summit Direction toward Maintaining the International Momentum and Enhancing the Non-Proliferation Regime -

**2015.03** **International Forum**  
The 2014 International Forum on Peaceful Use of Nuclear Energy, Nuclear Non-Proliferation and Nuclear Security - Future direction toward promoting non-proliferation and the ideal method of developing human resources using Centers of Excellence (COEs) following the New Strategic Energy Plan -

**About us**

"Open the way to the nuclear future and contribute to the human society and its welfare" is the mission of the Japan Atomic Energy Agency (JAEA).

Based on this mission and on the premise of the importance of nuclear safety, the JAEA has been conducting comprehensive, systematic and effective nuclear research and development activities for Japan's energy security, global warming mitigation and creation of new science technologies and industries.

**Yosuke NACI**  
Director, ISCN

**Capacity Building**  
Capacity Building Assistance

**JAEA International Forum on Peaceful Use of Nuclear Energy, Nuclear Non-Proliferation and Nuclear Security**

The International Forum on Peaceful Use of Nuclear Energy, Nuclear Non-Proliferation and Nuclear Security

The International Symposium on Technology Development for Nuclear Security

The International Symposium on Technology Development for Nuclear Security

**ISCN News Letter**

No.0001 [more ...](#)

**Capacity Building**

Capacity Building Assistance

[Jump to Home](#) | [Move to PageTop](#)

Japan Atomic Energy Agency / Integrated Support Center for Nuclear Nonproliferation and Nuclear Security  
765-1 Funaishikawa, Tokai-mura, Naka-gun, Ibaraki 319-1184, Japan (Head Office)  
2-4 Shirane, Shirakata, Tokai-mura, Naka-gun, Ibaraki 319-1195, Japan (Nuclear Science Research Institute)  
Copyright © Japan Atomic Energy Agency. All Rights Reserved.



**Integrated Support Center  
for Nuclear Nonproliferation and  
Nuclear Security**

**Japan Atomic Energy Agency**

765-1 Funaishikawa , Tokai-mura,  
Naka-gun, Ibaraki, 319-1184 JAPAN  
Tel: +81-29-282-0495