KINAC/INSA International Training Activities and Lessons Learned

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KINAC
KOREA INSTITUTE OF NUCLEAR NONPROLIFERATION AND CONTROL

Outline

KINAC

1. KINAC/INSA Overview
2. KINAC/INSA International Training Activities
3. Lessons Learned and Moving Forward

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Korean Center of Excellence - INSA

▪ **Overview**

http://insa.kinac.re.kr

▷ **INSA**: International Nuclear Nonproliferation and Security Academy

◦ **Background**

- Initiated by a presidential pledge made during the 2010 Nuclear Security Summit in order to provide international training in nuclear security
- Established in the KINAC in Feb. 2014
- Integrated with existing training capacities and activities of the KINAC

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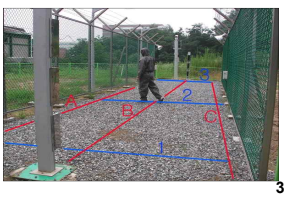
KINAC/INSA Facility

▪ **Main Building**

- 3 classrooms, 3 break-out rooms, 1 multimedia room, 1 auditorium, and so on

▪ **SETT** (Nuclear Security Research, Training, and Test Facility)

- SETT/TB-I, SETT/CAS, SETT/TB-II



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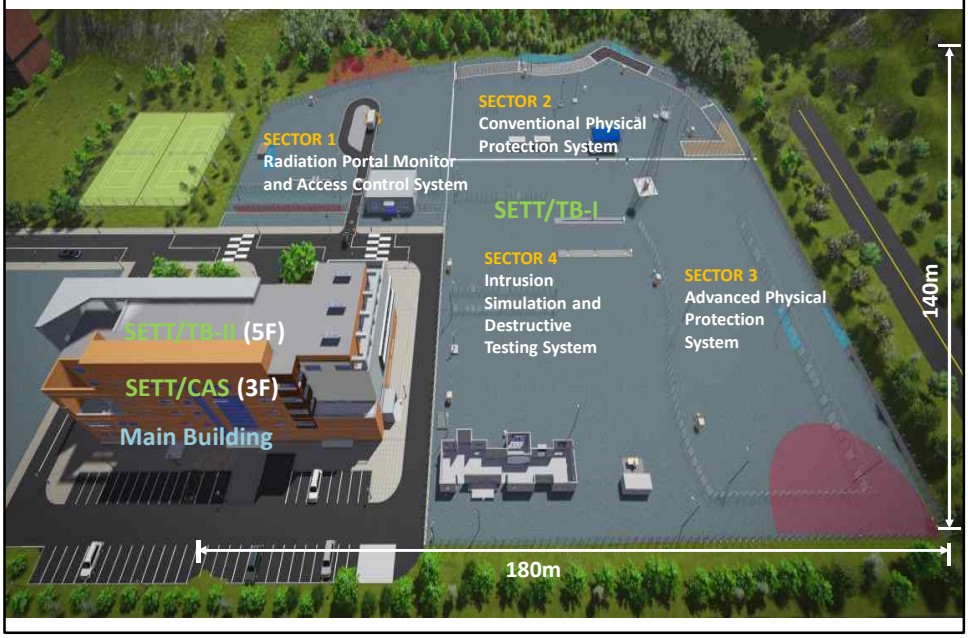
Facility Layout



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International Training Program – INSA ITC

- **INSA International Training Course**
  - **Objectives**: To help nuclear newcomer countries to establish their own nuclear nonproliferation and security regime
  - **Type of Courses**

Course	Type	Timing (Duration)	Remarks
Nuclear Security Course (Introductory / Specialized)	Invitation	Every March	• Less than 30 International Trainees per Course
Nuclear Safeguards Course (Introductory / Specialized)		Every June	
Strategic Trade Control Course (Introductory / Specialized)		Every Nov.	

※ Specialized Course : Intermediate or Advanced

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International Training Program – INSA ITC

- **INSA International Training Course (Cont'd)**
  - **Target Countries**

Viet Nam	Saudi Arabia	Egypt
Malaysia	UAE	Jordan
Mongolia	Indonesia	Algeria
Philippines	Thailand	Myanmar
Bangladesh	Turkey	Singapore
Kazakhstan	+ α	

- Invitation Procedure: Sending invitation letters to target countries and receiving nominations through official channels

  - **Instructors**: KINAC staffs and subject matter experts (SMEs) from US National Laboratories (sometimes, with IAEA experts)

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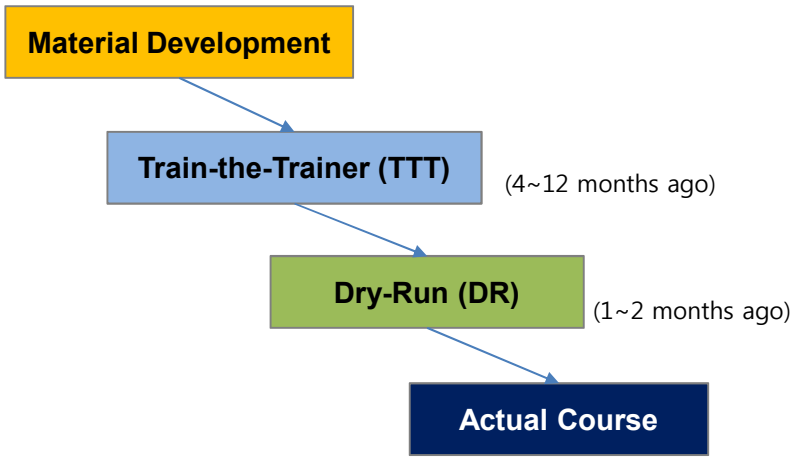
International Training Program – INSA ITC

- **INSA International Training Course (Cont'd)**
  - Course Development and Delivery Process



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International Training Program - Curriculum

- **INSA ITC (developed so far, as of 2015)**
  - **Nuclear Security**
    - Nuclear Security Infrastructure Development (Introductory, 5 days)
    - Physical Protection System Elements (Specialized, 5 days)
  - **Nuclear Safeguards**
    - Fundamentals of Nuclear Safeguards (Introductory, 5 days)
    - Provision of Safeguards Information to the IAEA (Specialized, 5 days)
  - **Strategic Trade Controls**
    - Introduction to Strategic Trade Controls (Introductory, 5 days)
    - Licensing Systems for Strategic Trade Controls (Specialized, 5 days)

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2014 INSA ITC

	1st INSA ITC	2nd INSA ITC	3rd INSA ITC
Theme	Nuclear Security Infrastructure Development (Introductory)	Fundamentals of Nuclear Safeguards (Introductory)	Introduction to Strategic Trade Controls (Introductory)
Date	Mar. 10-14, 2014 TTT: 2013.3.18-22 DR: 2014.1.20-24	June 9-13, 2014 TTT: 2013.8.26-30 DR: 2014.5.9-13	Nov. 10-14, 2014 TTT: 2013.9.23-27 DR: 2014.9.29-10.1
Partici-pants	30 from 12 countries	30 from 13 countries	25 from 10 countries

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2015 INSA ITC

	4th INSA ITC	5th INSA ITC	6th INSA ITC
Theme	Physical Protection System Elements (Specialized)	Provision of Safeguards Information to the IAEA (Specialized)	Licensing Systems for Strategic Trade Controls (Specialized)
Date	Mar. 23-27, 2015 TTT: 2013.9.23-27, 2014.12.1-5 DR: 2015.2.9-13	June 15-19, 2015 TTT: 2015.4.22-24 DR: 2015.5.27-29	Nov. 16-20, 2015 TTT: 2015.10.19-23
Partici-pants	27 from 11 countries	23 from 11 countries	26 from 10 countries

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2016 INSA ITC

	7th INSA ITC	8th INSA ITC	9th INSA ITC
Theme	Nuclear Security Infrastructure Development (Introductory)	Fundamentals of Nuclear Safeguards (Introductory)	Introduction to Strategic Trade Controls (Introductory)
Date	Mar. 21-25, 2016 TTT: 2015.11.30-12.3 DR: 2016.2.1-5	June 20-24, 2016 TTT: 2016.4.25-29	Nov. 21-25, 2016
Partici-pants	25 from 11 countries		

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International Training Program – INSA-IAEA

- **INSA-IAEA RTC/ITC in 2014 and 2015**
  - **Nuclear Safeguards**
    - IAEA RTC on **State Systems of Accounting for and Control of Nuclear Material for Newcomer States** (2014.10.6~17, 2015.10.26~11.6)
  - **Nuclear Security**
    - IAEA RTC on **Detection of Nuclear and Other Radioactive Material and on Response Coordination Procedures** for Countries in the East Asia Region (2014.9.1~5)
    - IAEA RTC on Protection and Prevention Measures against **Sabotage** (2015.6.29~7.3)
    - IAEA ITC on **Nuclear Forensics** (2015.7.21~24)
    - IAEA **Train the Trainer Course** on Physical Protection of Nuclear Material and Nuclear Facilities (2015.8.31~9.4)

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International Training Program – INSA-IAEA

- **INSA-IAEA RTC/ITC to be held in 2016**
  - **Nuclear Safeguards**
    - IAEA ITC on **State Systems of Accounting for and Control of Nuclear Material for Newcomer States** (2016.9.26~10.7)
  - **Nuclear Security**
    - IAEA RTC on **Regulatory Authorization and Inspection** of Physical Protection of Nuclear Reactors (2016.7.18~22)
    - IAEA RTC on **Computer Security** for Industrial Control Systems at Nuclear Facilities (2016.8.22~26)
    - IAEA **Nuclear Security HRD** Workshop (2016.8.30~9.2)

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International Training Program – Participants

- **Participants**
  - Total 451(299) from 28 countries to 29 training events (as of April 2016, since 2013)

Country	# of Trainees
Nepal	2
Taiwan	3(3)
Russia	1
Malaysia	35(19)
Mongolia	19(19)
Myanmar	23(17)
Bangladesh	9(8)
Viet Nam	31(20)
Saudi Arabia	5(4)
Sri Lanka	3

Country	# of Trainees
Azerbaijan	3
Algeria	7(7)
Australia	1
Jordan	19(15)
Iran	7
Egypt	11(11)
India	8(1)
Indonesia	37(24)
Japan	5(3)
China	7

Country	# of Trainees
Cambodia	2
Thailand	18(14)
Turkey	1(1)
Pakistan	6
Philippines	15(11)
ROK	156(113)
UAE	16(9)
USA	1

※ (): INSA ITC+TTT+DR

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Bilateral Cooperation

- **ROK-US Permanent Coordinating Group (PCG)**
  - ROK-US Technical Cooperation on Nuclear Nonproliferation, Safeguards, Security and Export Control
  - US: DOE/NNSA and National Laboratories
  - ROK: NSSC and KINAC

◦ **Activities**

- Action Sheet PP09: Cooperation on Development of Nuclear Security Training at Korea's INSA
- Action Sheet 42: Cooperation on Development of Safeguards Training at Korea's INSA
- Action Sheet EC01: Cooperation on Export Control Training Activities
- Action Sheet PP12: Cooperation on Development of Cyber Security Training at Korea's INSA

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Trilateral Cooperation

- **Cooperation among Asia Regional Nuclear Security CoEs (since 2012)**
  - ROK: International Nuclear Nonproliferation and Security Academy (INSA), KINAC
  - China: State Nuclear Security Technology Center (SNSTC)
  - Japan: Integrated Support Center for Nuclear Nonproliferation and Nuclear Security (ISCN), JAEA

◦ **Activities**

- Information Exchange: Regular Meetings with IAEA (INSA, SNSTC, ISCN, IAEA), Sharing Yearly Training Plans (INSA – ISCN)
- Sharing Good Practices: Regular Meetings with IAEA, Exchanging Observers for ITC (INSA - ISCN)
- Sharing Resources: Exchanging Lecturers for ITC (INSA → ISCN)

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Lessons Learned – Good Practices (1)

- **Usefulness and Practicality of Exercises**
  - based on positive feedbacks from participants
  - providing trainees with the opportunity to apply the lecture material to practical situations and learn from each other
  - carried out either individually or in small subgroups

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Lessons Learned – Good Practices (1)

- **Usefulness and Practicality of Exercises (Cont'd)**
  - more exercises and/or more exercise time allocation suggested by participants
    ※ For one course, typically around 14 lecture modules and 4~5 exercises

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Lessons Learned – Good Practices (2)

- **Value of TTT Workshop and Dry-Run**
  - resulted in positive feedbacks from participants on the maturity of the INSA ITCs conducted even in its 1st year of operation
  - TTT workshop to build a pool of instructors of the INSA ITC
  - Dry-Run of the planned INSA ITC to assess readiness for the INSA ITC

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Lessons Learned – Challenges (1)

- **Necessity of Visiting Training Program**
  - would be cost-effective, since KINAC/INSA instructors are to be dispatched to the specific foreign country rather than inviting foreigners from various countries
  - would be more effective if
    it is tailored to visiting country/organization,
    considering nuclear development phases and situations specific to that country/organization
  - disadvantage: incapable of utilizing KINAC/INSA facilities (such as SETT)

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Lessons Learned – Challenges (2)

- **Difficulty of Securing Qualified Instructors**
  - necessity of qualified full-time instructors in the field of nuclear nonproliferation and security

※ For one course, typically
1 part-time professor (main, KINAC) (4 yr. max)
+ 2 instructors (main, SMEs from US National Lab.)
+ 1 or 2 staffs from relevant divisions (secondary, SMEs from KINAC)

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Moving Forward

- **Acting as a Global Leader in the area of nuclear nonproliferation and security**
  - having positive influence on other CoEs through our good practices
  - assisting other Nuclear Security Support Centers of nuclear newcomer countries by sharing our experience

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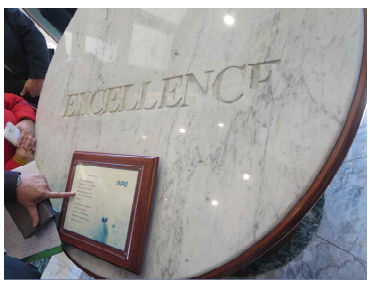
Moving Forward (Cont'd)

- **Achieving Real Excellence in Training**
  - following Systematic Approach to Training methodology
    - · identifying the gap between training providers and customer needs, through needs assessment process
    - · may lead to revise existing training program or develop new one
  - obtaining certification to
    - · ISO 9001 (Quality Management System)
    - · ISO 29990 (Learning Services for non-formal education and training)



<INPO (Institute of Nuclear Power Operations)>

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Thank you !

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