Fourth Steering Committee Meeting of the Global Nuclear Safety and Security Network (GNSSN)

30 June-2 July 2014

Vienna, Austria

Education and Training Networks for Nuclear Security Human Resource Development and Capacity Building

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30 June 2014

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International Atomic Energy Agency

Human Resource Development for Capacity Building in Nuclear Security

Comprehensive Training Programme

Objective: To raise awareness, to fill gaps between the actual performance of personnel and the required competencies and skills and, to build-up qualified instructors/trainers

Promoting Nuclear Security Education

Objective: To support the development of teaching material, faculty expertise and preparedness, and the promotion of nuclear security education in collaboration with the academic and scientific community

Ultimate Goal: To develop capabilities for supporting sustainable implementation of the international legal instruments and IAEA guidelines for nuclear security worldwide, and to foster nuclear security culture.

Educational and Training Networks as Tools

- To achieve this goal, the Division of Nuclear Security helped establish two international networks
  - International Nuclear Security Education Network (INSEN) – 2010
  - International Network of Nuclear Security Training and Support Centers (NSSC) – 2012

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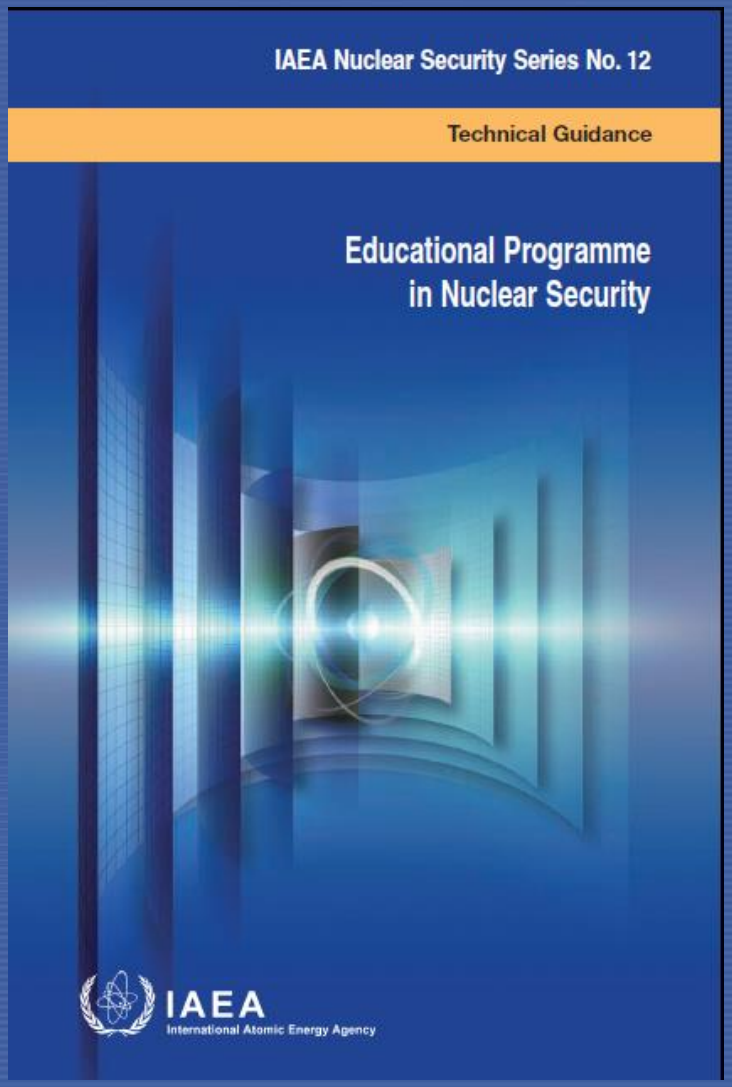
IAEA and Nuclear Security Education

- Increased interest in nuclear energy and nuclear security globally
- Requests from member-states for support in capacity-building and human resource development
- IAEA Nuclear Security Series No. 12 – Educational Programme in Nuclear Security published in 2010
  - Master of Science Programme
  - Certificate Programme



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International Nuclear Security Education Network
established in 2010



A partnership between the IAEA and universities, research institutions and other stakeholders

- Promotion of nuclear security education
- Development of educational materials
- Professional development for faculty members
- Collaborative research and resource sharing

Currently over 100 members from 40 member states

<u>Mission:</u> to enhance global nuclear security by developing, sharing and promoting excellence in nuclear security education

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INSEN Structure: Working Groups

Develop Educational Materials

Exchange information and develop materials for nuclear security education

- *Coordinate the development of peer-reviewed textbooks and instructional materials*
- *Incorporate results of nuclear security research in instructional materials*

Promote Faculty Development and Student Exchange

Promote faculty development and cooperation among educational institutions.

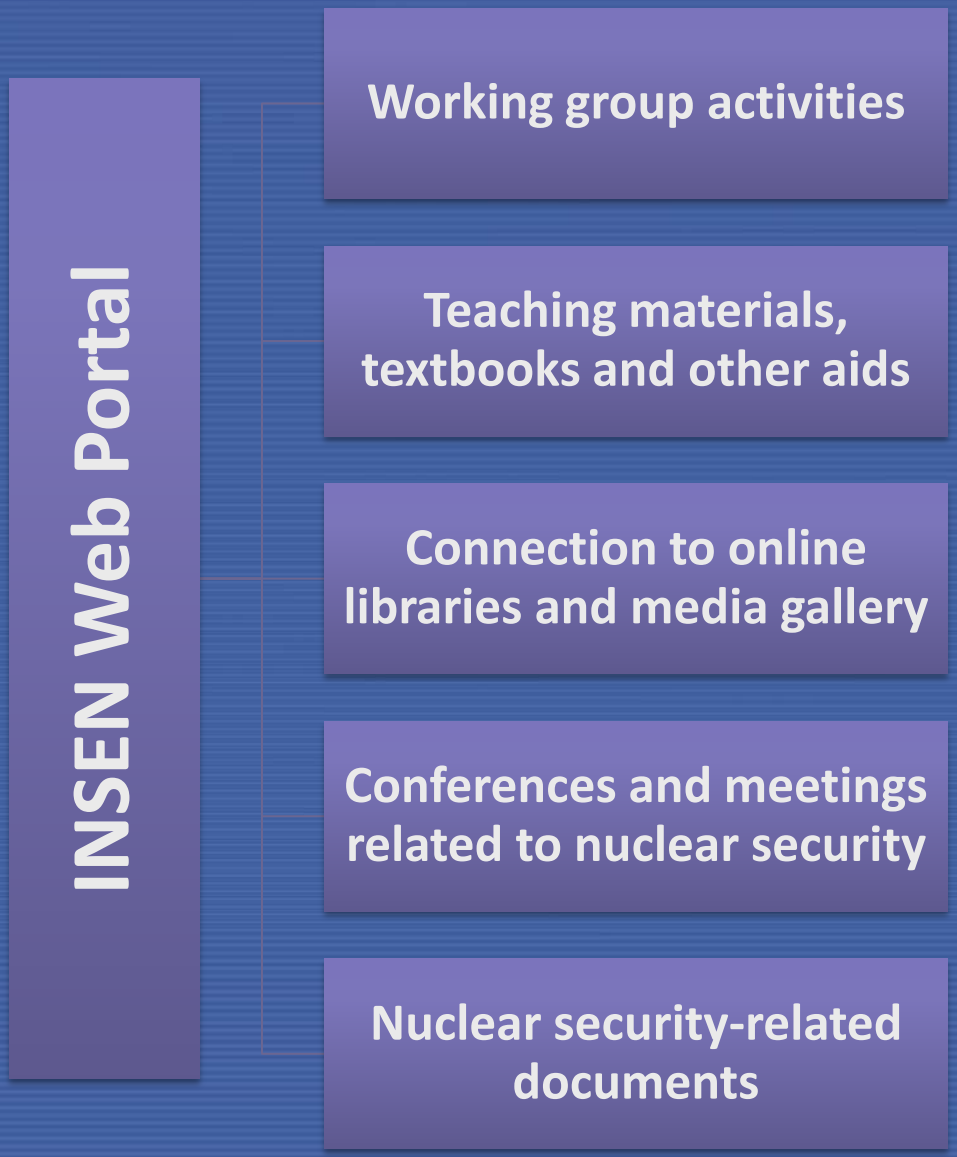
- *Develop tailored curricula for in depth courses*
- *Establish a mechanism to facilitate the exchange of students, teaching staff and researchers*

Promote Nuclear Security Education

Promote nuclear security education

- *Identify requirements for nuclear security specialists*
- *Assist in the development of nuclear security job descriptions*
- *Provide materials to be uploaded on the NUSEC portal*

Nuclear Security Portal (NUSEC)



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International Nuclear Security Education Network

Summit 2012
Working Group I
Working Group II
Working Group III
Education and Training
Nuclear Security Documents
Faculty Member & Students Exchange

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INSEN
International Nuclear Security Education Network

About INSEN
INSEN Members
INSEN Events
- INSEN Workshop 2010
- INSEN Annual Meeting 2011
- INSEN Annual Meeting 2012
  - Photo Gallery

INSEN Event | Announcements | Network Bureau

UCLan Nuclear provides regulatory and operational know-how in academia (University of Central Lancashire, UK) 1 Sep 2013

Courses and training available autumn 2013 We are pleased to announce a suite of Masters level courses for those looking to join the nuclear industry and for those in the industry looking to extend t ...

Read More

New Online Learning course - Systematic Approach to Training (SAT) 23 Dec 2013

As part of a wider e-learning project to support Newcomer countries, the IAEA Division of Nuclear Power, has just introduced a new online training module: "Systematic Approach to Training (SAT)", the ...

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IAEA supporting a pilot M.Sc. Programme on Nuclear Security based on NSS No 12 Educational Programme in Nuclear Security



Major Achievement

Participating Institutions

- Technical University of Delft, The Netherlands
- Fachhochschule Brandenburg, Germany
- Technical University Vienna, Austria
- University of Oslo, Norway

Implementation

- Launch of accredited Nuclear Security Master Programme: March 2013
- Expected graduation: December 2014
- Basis of teaching material: INSEN peer reviewed material, supported by IAEA Nuclear Security Fund

Supported by the IAEA & the European Commission

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Master of Science in Nuclear Security



18 April 2013 - Director General Amano at the Delft University of Technology in the Netherlands

Achievements in Nuclear Security Education

- Over 100 members in total (over 90 institutions from 40 member states, +10 International Organizations, +4 Observers)
- Development and peer review of teaching materials and textbooks
  - 14 course packages out of 23 are completed (the rest to be completed in 2014-2015)
  - three INSEN textbooks (Introduction to NS, Security of Nuclear and Other Radioactive Material in Transport, and Computer Security)
  - four textbooks are scheduled to be developed in 2014-2015
- Professional development courses for faculty in the areas of nuclear security attended by over 160 faculty and instructors from 31 member states
- NSS 12 *Educational Programme in Nuclear Security* to be revised on the basis of input from INSEN members and to reflect newly-developed guidance documents.
- INSEN members are implementing a pilot M.Sc. degree programme in nuclear security based on NSS12 curriculum and INSEN teaching materials.

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Education priorities for the future

- Incorporate feedback from the first pilot program into future academic activities in nuclear security
- Based on feedback from pilot program:
  - Revise the NSS12 guidance document
  - Update educational materials and textbooks
- Support INSEN members, which consider launching MSc programs at their institutions
- Continue promoting nuclear security education as part of existing degree programs (through certificate or concentration options)
- Support the use of new forms of teaching and learning in nuclear security education
  - Online e-learning degree programmes and modules
  - Learning by experience
  - Problem-oriented learning tailored to nuclear security functions

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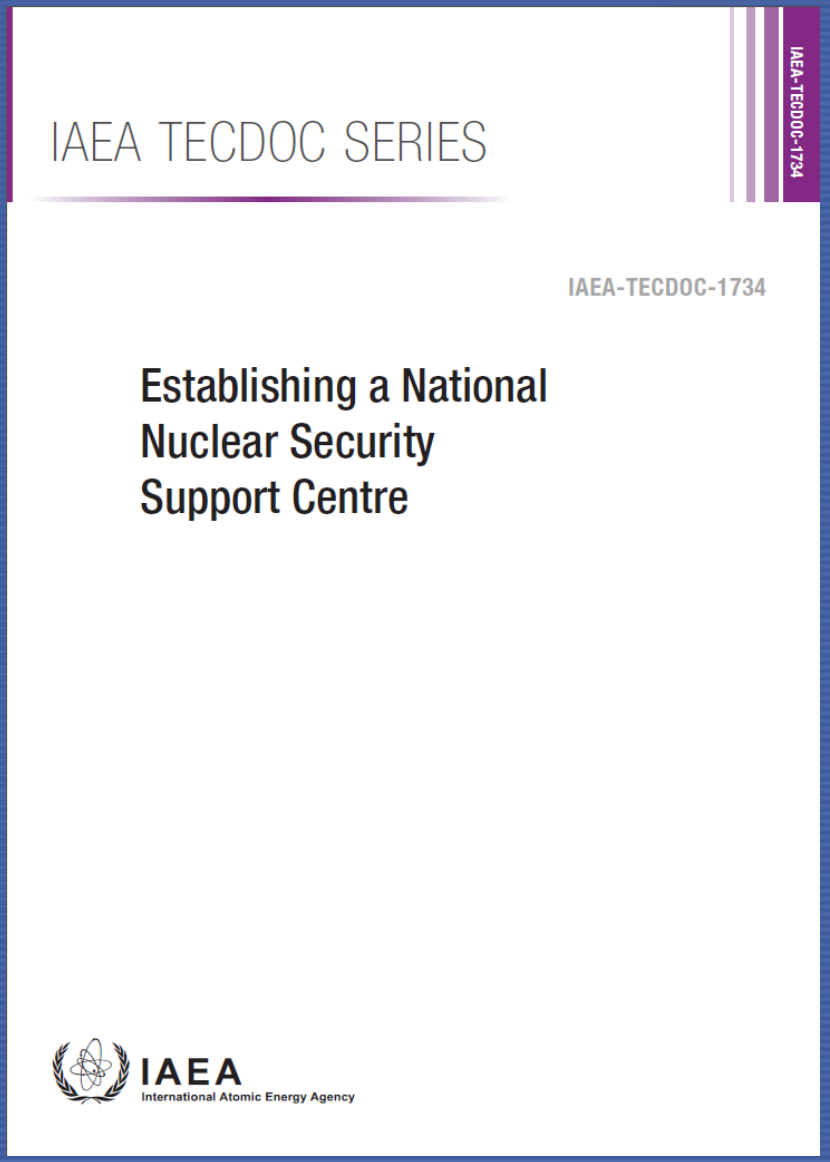
International Network of Nuclear Security Training and Support Centres (NSSC)

- Key to coordinated collaboration at the international and regional levels
- Members from over 50 institutions worldwide
- Information exchange, resource sharing, coordination with educational networks



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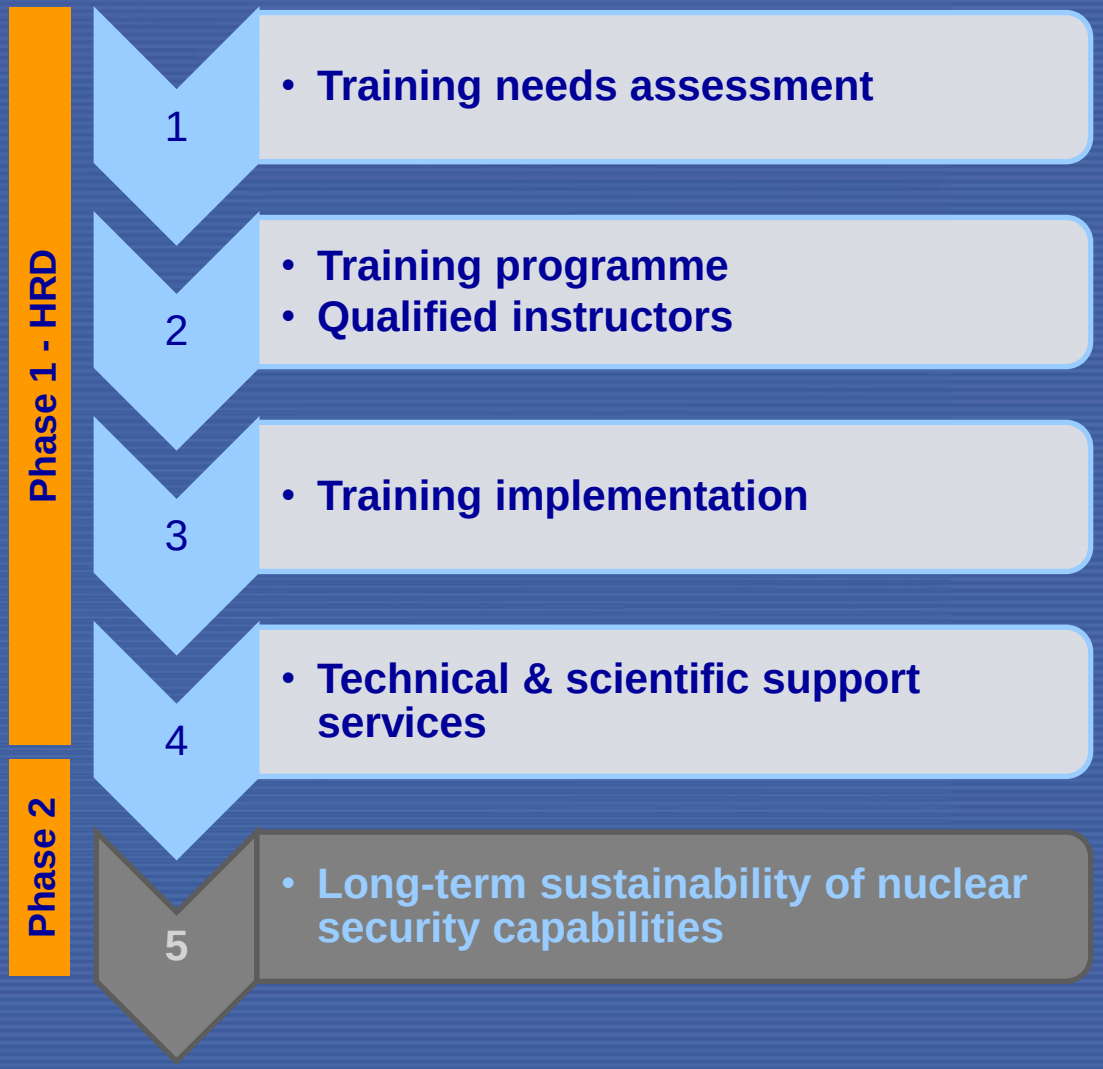
NSSC Network Objectives

- Promote a high level of nuclear security training and support services
- Facilitate the cooperation and assistance activities (including technical and scientific), to optimize the use (and leveraging) of available resources
- Contribute to the development of nuclear security training standards

Nuclear Security Support Centres

Primary objectives are:

- Develop **human resources** through the implementation of a tailored training programme
- Develop a **network** of **experts**
- Provide **technical support** for lifecycle equipment management and **scientific support** for the detection of and the response to nuclear security events



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Assistance in Establishing NSSC

- Methodology on how to establish and maintain a NSSC
- Methodology on how to assess training needs
- Development of tailored nuclear security training programme
- Preparation of instructors
- Facilitation of training for technical and scientific support
- Provision of technical equipment*





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* limited amount

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