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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
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
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

**Mission:** to enhance global nuclear security by developing, sharing and promoting excellence in nuclear security education
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)
International Nuclear Security Education Network

INSEN Event

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

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 ...

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

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 ...

Announcements

Network Bureau

1 Sep 2013

Read More

23 Dec 2013

Read More
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
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.
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
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
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
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
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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