

**INTERNATIONAL NUCLEAR
SECURITY EDUCATION
NETWORK
(INSEN)**

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1. Background

The need for human resource development programmes in nuclear security was underlined at several *International Atomic Energy Agency (IAEA) General Conferences* and *Board of Governors' Meetings*. Successive *IAEA Nuclear Security Plans*, the most recent of which was agreed by the *Board of Governors* in September 2009, give high priority to assisting States in establishing educational programmes in nuclear security in order to ensure the sustainability of nuclear security improvements. The current Nuclear Security Plan¹ covering 2010-2013 emphasizes on the importance of considering existing capacities at international, regional and national levels while designing nuclear security academic programmes.

In the course of implementing the Plans, the IAEA developed — together with academics and nuclear security experts from Member States — a guide entitled *Educational Programme in Nuclear Security* that consists of a model of a Master of Science (M.Sc.) and a Certificate Programme in Nuclear Security. This guide was published as *IAEA Nuclear Security Series No. 12 – Educational Programme in Nuclear Security*² in April 2010 and aims at assisting universities or other educational institutes to develop academic programmes in nuclear security.

Independent to the development of this technical guidance document, some universities already offered academic programmes covering some areas of nuclear security. During the development of the *IAEA Nuclear Security Series No. 12 – Educational Programme in Nuclear Security*, several other universities expressed an interest in providing such programmes in the future. In the meantime, a number of universities have asked the IAEA to support the implementation of these programmes.

In order to better address current and future requests for assistance in this area, the IAEA organized a workshop in March 2010. The objectives of the workshop were to discuss current and future nuclear security academic programmes/courses of different universities worldwide, to share lessons learned in the development and implementation of nuclear security academic programmes and, to establish a collaboration network among universities who are providing nuclear security education or who are interested in starting an academic programme/course(s) in nuclear security.

¹ GOV/2009/54-GC(53)/18 [1]. GOV documents are restricted IAEA documents.

² For download: http://www-pub.iaea.org/MTCD/publications/PDF/Pub1439_web.pdf [2].

2. International Nuclear Security Education Network (INSEN)

During the workshop, a group of experts from academia, international organizations, and professional nuclear material management associations discussed, inter alia, on how to facilitate collaboration among educational and research institutes and *competent authorities*³ in order to ensure the sustainable establishment of nuclear security education. There was consensus that the creation of a collaboration network for higher education in nuclear security would be an important and suitable mechanism to support this endeavour. The experts and the IAEA took immediate action and established the International Nuclear Security Education Network (INSEN) in the framework of the workshop.

The INSEN is defined as a partnership between the IAEA and educational and research institutions, and competent authorities.

3. Mission

The mission of INSEN is to enhance global nuclear security by developing, sharing and promoting excellence in nuclear security education.

4. Objective

The overall objective of the INSEN is to support the promotion and establishment of nuclear security education.

This objective will be achieved through collaborating in the following areas/activities:

- Development of peer-reviewed textbooks, computer based teaching tools and instructional material, including exercises and materials for laboratory work;
- Faculty assignment and development in the different areas of nuclear security through mutual faculty exchanges and/or joint development and implementation of in-depth nuclear security training programmes or schools;
- Joint research and development activities to share scientific knowledge and infrastructure;
- Student exchange programmes to foster international cooperation and exchange of information;
- Quality assurance: consistency with IAEA defined terminology described in the IAEA Nuclear Security Glossary, the Fundamentals and the Recommendation documents;
- Theses evaluation, coordination and improvement;
- Performance of surveys on the effectiveness of nuclear security education among students and faculty.

³ Competent authority: A governmental organization or institution that has been designated by a State to carry out one or more nuclear security functions. Example: *Competent authorities* may include *regulatory bodies*, law enforcement, customs and border control, intelligence and security agencies, health agencies, etc. [3].

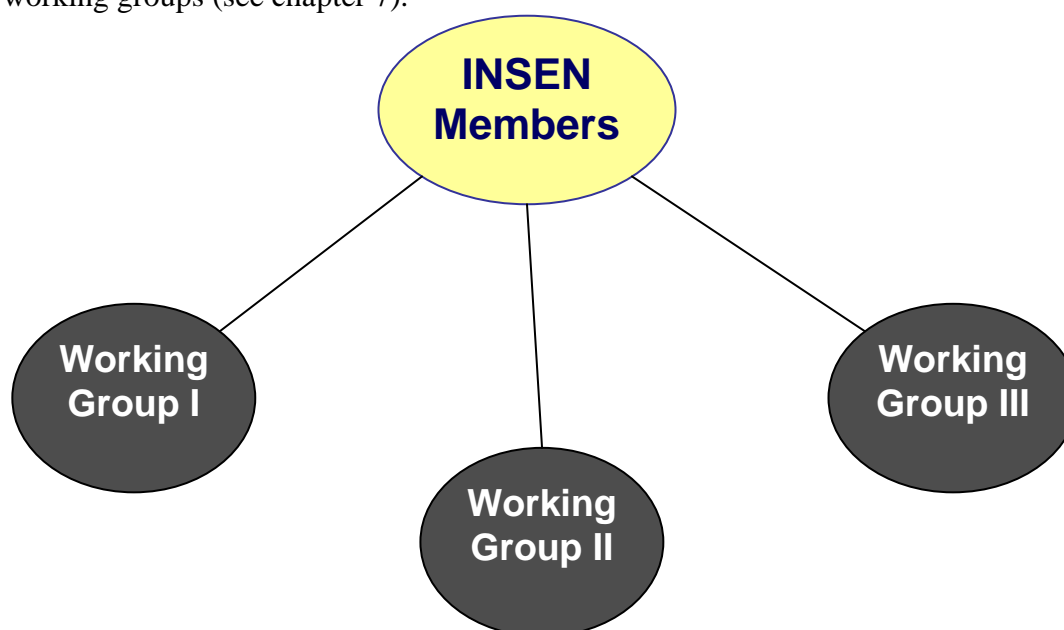
5. INSEN Membership

At this stage the INSEN membership is informal and open to any educational and research institution already involved or, that plans to be involved in nuclear security education in the future. The INSEN membership is open to any competent authority that is interested or involved in nuclear security education.

The INSEN membership can be requested by an authorized representative of any educational or research institution, or an authorized representative of competent authorities by sending an email to the IAEA INSEN point of contact insen@iaea.org.

6. INSEN Management and Structure

The INSEN is guided by all members of the network and consists of currently three working groups (see chapter 7).



The INSEN members will hold an annual regular meeting. During this meeting, the participants review the activities of the three working groups, discuss and identify issues to be addressed, task the working groups to develop action plans accordingly, and present, whenever appropriate, amended areas/activities to achieve the objective of the INSEN. At each annual meeting a chairperson is appointed for the coming year. Observers are welcome to participate in the annual meeting of INSEN.

The role of the educational institutions, the IAEA and of industry was discussed in detail during the workshop in March 2010 at the IAEA Headquarters (see workshop report).

The role of the IAEA includes convening the annual INSEN meetings, putting together the subjects for discussion (in consultation with the INSEN members) and reporting on the overall status of implementation of activities. In addition, the IAEA facilitates the INSEN hub through the provision and maintenance of the IAEA Nuclear Security web-Portal (see chapter 8).

In order to accelerate the operation of INSEN, the IAEA organizes meetings to support the establishment of the different INSEN Working Groups. In addition, the

IAEA fosters the political awareness and supports for nuclear security education and promotes the need for nuclear security professional development among the academic community and the competent authorities.

7. INSEN Working Groups

At this stage, the need for three working groups covering the following areas has been identified:

- Exchange of information and development of materials for nuclear security education
- Faculty development⁴ and cooperation among educational institutions
- Promotion of nuclear security education

Role of Working Groups

Each working group is responsible for the coordinating activities of the overall working group team, the liaison with the IAEA and for providing information/materials to be uploaded to the Nuclear Security web-Portal. Each group is made up of representation from INSEN members and the IAEA.

In order to establish the three working groups, individual meetings will be organized by the IAEA involving all INSEN members that are interested to participate in one or more groups. During these meetings, the working group members will appoint a chairperson for the coming year, discuss the means of communication, define the individual tasks of the group and develop an action plan for the operation of the individual working group.

Working Group I: Exchange of information and development of materials for nuclear security education

The role of Working Group I is to establish a mechanism to coordinate and assist in the development of peer-reviewed text books as well as instructional materials for nuclear security academic programmes and to foster the exchange of materials through the Nuclear Security Web Portal (NUSEC). Further, its role is to incorporate results of nuclear security research in instructional materials on a regular basis, and to liaise with other INSEN working groups.

There was a common understanding among the participants to identify and to peer review existing instructional material for all 22 courses described in the IAEA Nuclear Security Series No 12 – Educational Programme in Nuclear Security and to develop new material, if necessary. All materials will then be uploaded to the NUSEC.

Working Group II: Faculty development and cooperation among universities

The role of Working Group II is to enhance faculty development in the area of nuclear security. Activities in this area include:

⁴ In this document *faculty development* is defined as a mechanism for supporting faculty members and/or teachers working at other educational institutions to assume new academic duties in emerging disciplines (such as nuclear security) for which they have received no formal education. This can apply through paying attention to the competencies needed by individual teachers required to promote nuclear security academic excellence e.g. attending in-depth training courses, or visiting fellows programs at educational institutions.

- Identification of educational institutes willing to host nuclear security in-depth courses for teaching staff provided by leading experts;
- Assistance in the development of tailored curricula for nuclear security in-depth courses;
- Liaison with INSEN Working Group I for the development of instructional materials for nuclear security in-depth courses;
- Assistance in the implementation of these courses;
- Development of a nuclear security teaching staff roster;
- Establishment of a mechanism to facilitate the exchange of students, teaching staff and researchers;
- Provision of materials/information to be uploaded to the Nuclear Security Web Portal (NUSEC).

Working Group III: Promotion of nuclear security education

The role of Working Group III is to engage with all nuclear security competent authorities and other appropriate institutions to promote nuclear security education. In addition, the role of this group is to identify requirements for nuclear security specialists, to assist in the development of nuclear security job descriptions and to provide materials/information to be uploaded to the Nuclear Security Web Portal (NUSEC).

In addition to the above mentioned Working Groups, the formation of Ad Hoc Groups should be considered if necessary, in order to address issues on nuclear security education that transcend the mandate of INSEN Working Groups.

8. Objective and use of the Nuclear Security Portal

During the workshop in March 2010, the INSEN members agreed to use the *IAEA Nuclear Security Portal* (a restricted, collaborative web-portal) as the INSEN information and communication platform.

The portal provides the INSEN USER Group the infrastructure for promoting, managing, sharing and preserving nuclear security knowledge and facilitating INSEN activities. Each working group and INSEN Member Institute has a dedicated area on the portal and is responsible for the provision and regular update of information/material related to its area of responsibility.

The Portal can be used:

- as communication platform suitable for exchange of information and experience for INSEN members.
- information about the INSEN such as the mission, members, structure and activities
- as database of organized content, such as instructional material, nuclear security academic curricula/syllabi, nuclear security roster, etc
- as database of educational institutes and faculty members/experts
- for document revisions and comments
- as calendar of relevant nuclear security academic events, INSEN meetings, workshops or conferences, etc

- for announcements (vacancies, scholarships, internships, What's New, etc.)

The following features are available on the portal:

- Content Management
- Events Calendar / Announcements / Links
- Document Sharing / Exchange (upload / download) and Collaboration (versioning and comments)
- Media Gallery for pictures, videos, Audio, Flash etc.
- Discussion Forums
- Surveys / Voting / Feedback
- Integration with other IAEA data sources

REFERENCES

- [1] Nuclear Security Plan 2010-2013 GOV/2009/54-GC(53)/18, IAEA, Vienna (2009).
- [2] INTERNATIONAL ATOMIC ENERGY AGENCY, Educational Programme in Nuclear Security, IAEA Nuclear Security Series No. 12, Vienna (2010).
- [3] INTERNATIONAL ATOMIC ENERGY AGENCY, Nuclear Security Glossary, Revision 3F, Draft 28 July 2010.