

## **COURSE MODULES ON NUCLEAR SAFEGUARDS AND NON-PROLIFERATION**

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One of today's major concerns in the nuclear field is the conservation of developed knowledge and expertise. The relevance of this subject is steadily increasing for several current reasons: retirement of the generation of first industrial development of nuclear energy, only one new reactor under construction in Europe while several in Eastern and Asian countries, the public's concern on safety, radioactive waste and safeguards aspects, and some lack of interest common to many activities in engineering and physics. Moreover nuclear safeguards is nowadays characterised with an enlarged scope and no longer strictly limited to the accountancy of nuclear material; today it encompasses non proliferation of nuclear material, and deals with the control of dual use equipment and technologies, illicit trafficking and External Security.

Some higher education networks, such as the European Nuclear Engineering Network (ENEN), have been established to make better use of dwindling teaching capacity, scientific equipment and research infrastructure, through co-operation amongst universities and research centres. The European Safeguards Research and Development Association (ESARDA) initiated the set-up of course modules under an e-learning medium, to preserve knowledge in nuclear safeguards. These course modules should be considered as basic pedagogical documentation, which will be accessible via the Internet. Monitoring or controlling of the accesses will be ensured.

The modules are structured with an increasing level of detail, in function of the audience. On one hand the course modules should be attractive to University students in nuclear/chemical/mechanical engineering, radiochemistry, statistics, law, political science etc. at universities or specialised institutes. On the other hand the course modules aim to give professionals, working on specific safeguards or non-proliferation issues an overview and detailed technical information on the wide variety of nuclear safeguards activities and the large community active on this issue.

These courses aim at becoming, in the future, a European reference for the transfer of knowledge in the area of nuclear safeguards and non-proliferation. An important point is that this documentation will be "validated" by the European safeguards community.