

NUCLEAR SAFETY NETWORK IN ASIA (PILOT PROJECT)

Background

The IAEA in consultation with countries participating in the Extrabudgetary Programme on the Safety of Nuclear Installations in the South East Asia, Pacific and Far East Countries (EBP) is developing the concept of an Asian Nuclear Safety Network (ANSN).

The objective of the ANSN is to pool, analyze and share existing and new technical knowledge and practical experience to further improve the safety of nuclear installations in the South East Asia, Pacific and Far East Countries; and to serve as a model for other regional nuclear safety networks and, eventually, for a global network. The major functions of the ANSN are: Education and Training; Information Assessment and Knowledge Management and Communication among the experts and the public. Such functions should contribute to the safety enhancement of research reactors and nuclear power plants.

A more detailed description of the functions and the approach for implementation of the network, including national and regional Hubs, is contained in an earlier report ANSN 01.

PILOT PROJECT

Concept

In order to implement the ANSN concept, a step-by-step approach is proposed, starting with a pilot project to demonstrate the feasibility and value of the network.

The pilot project should be prepared in 2002 and implemented in 2003. The ANSN is expected to start operation in 2004 in the frame of the EBP.

Considering that education and training is a major ANSN objective and the volume of relevant material produced by the IAEA, France, Germany, Japan, Korea, Spain and U.S., the pilot project should focus on pooling and sharing information on education and training for nuclear safety. The knowledge base will be structured based on the IAEA Nuclear Safety Standards and consistent with the strategy agreed at the Advisory Group Meeting on Education and Training held in 2001. The taxonomy for classification of the material will be further discussed at a Consultative meeting to be organized by the IAEA on 6 August 2002 and hosted by NUPEC in Tokyo, Japan.

The IAEA is also exploring the interest of Russia to participate in the ANSN and to use the result of the co-operation of the International Nuclear Safety Centres (INSC) on the safety of Russian designed reactors.

Implementation

Staff from the IAEA and from the U.S. Argonne National Laboratory (ANL) met in May 2002 to exchange experience particularly that of ANL with the operation of its INSC established in 1995 under the Office of International Nuclear Safety and Co-operation, US Department of Energy.

Insights from this meeting suggests that:

- The EBP database and the INSC information network provide a logical starting point for developing the ANSN;
- The Tokyo meeting to be held in August 2002 will discuss the initiation of a pilot project to collect and classify nuclear safety information and further use in a training course;
- The Tokyo meeting will have as its goals: 1) to reach an agreement on the components of the database for the pilot project, identify specific information that would be useful in the database, and discuss the availability of this information, 2) to plan collecting the information, 3) to discuss IT requirements and protocols; and 4) to discuss the implementation of the ANSN beyond the pilot project.
- The results of the Tokyo meeting will feed into the preparation of a specific proposal for the EBP Advisory Group Meeting to be held in November 2002;
- By the end of 2003, the pilot project will develop the initial safety network and demonstrate the implementation of 1-2 training courses (e.g. Research Reactors or NPPs).

The proposed pilot project, although focusing primarily on education and training, will also deal with all other aspects of the network operation and Hubs, including:

- establishment of a knowledge database;
- data collection, analysis and classification;
- input and retrieve information;
- implementation of communication protocols;
- organization and conduct of training events at one or more Hubs.

Results of the pilot project will be assessed and recommendations will be made towards implementing the ANSN in 2004.

Figure 1 attached, depicts the milestone schedule for the establishment of ANSN. This includes three distinct phases, namely: preparatory planning phase (2002), pilot project (2003), full project implementation (2004) and beyond.

Figure 2, also attached, presents the taxonomy for classification and binning the training material for the pilot project.

As an illustration, a list of IAEA resources for education and training in nuclear safety is indicated in the table below.

IAEA RESOURCES FOR EDUCATION AND TRAINING IN NUCLEAR SAFETY

Nuclear Safety Tutorials are being developed by the IAEA as a complement or prerequisite for more traditional training in nuclear safety. It is to be noted that the material is of use both by professionals working in the area of RR and NPP safety.

Topics	Application	Availability
Basic Safety Concepts	NPPs, RR	Internet NUSAFE
Reactor Physics	NPPs, RR	Internet NUSAFE
Thermal Hydraulics	NPPs, RR	Internet NUSAFE
Legal and Governmental Structures	NPPs, RR	CD and video/PAL
IAEA Nuclear Safety Standards Requirements and Guides	NPPs	CD-ROM, lecture notes and video, and EBP internet database
Basic Professional Training Course on Nuclear Safety	NPPs, RR	CD-ROM, ANL lecture notes and video, CD-ROM, full text and EBP internet database
Probabilistic Safety Assessment Fundamentals and Applications	NPPs, RR	CD-ROM
Probabilistic Safety Assessment Level 2	NPPs	CD-ROM and EBP internet database
Probabilistic Safety Assessment Code	NPPs, RR	PSAPACK and internet NUSAFE
Regulatory Control of NPPs	NPPs	CD-ROM, full text and questions
Safety Analysis and Use of Computer Codes	NPPs, RR	CD-ROM and EBP internet database
Use of System Computer Codes for Accident Analysis	NPPs	CD-ROM
Safety of Research Reactors	RR	CD-ROM
Emergency Preparedness Response for Research Reactors	RR	CD-ROM
Safety Assessment and Regulatory Control of Research Reactors	RR	EBP internet database
Operational Safety of Research Reactors	RR	EBP internet database
Development of Regulatory Requirements for Licensing Research Reactors	RR	EBP internet database

RR research reactor

NPPs nuclear power plants