

EBP-ASIA-129
ANSN 13
LIMITED DISTRIBUTION
AUGUST 2003

ASIAN NUCLEAR SAFETY NETWORK

TECHNICAL CONSULTATION MEETING

VIENNA, AUSTRIA
JULY 7-11, 2003

**EXTRABUDGETARY PROGRAMME ON THE
SAFETY OF NUCLEAR INSTALLATIONS IN THE SOUTH EAST ASIA,
PACIFIC AND FAR EAST COUNTRIES**

INTERNATIONAL ATOMIC ENERGY AGENCY

TABLE OF CONTENTS

1. INFORMATION TECHNOLOGY (IT) DEVELOPMENTS	3
2. ESTABLISHMENT OF TOPICAL GROUPS	6
3. ANNEX	8
4. LIST OF PARTICIPANTS.....	9

A report on the technical consultation meeting held at the IAEA in May 2003 with representatives from Japan, USA and the IAEA was given by the IAEA to review the current status of the Asian Nuclear Safety Network (ANSN) development. The final version of this meeting report will be finalized by Mr. Ulfkjaer and distributed to all ANSN members.

It was noted that one of the milestones previously established was the provision of education and training courses sample data from the different hubs. This data has not been received yet, and the representatives of each hub confirmed that the data will be made available shortly.

1. INFORMATION TECHNOLOGY (IT) DEVELOPMENTS

The ANSN management structures at the IAEA and ANL were shortly reviewed to compare the organizational structures in place at the individual hubs. This included the established communication structures in place between China, Japan, USA and the IAEA.

Mr. Hun-Cheol Yi confirmed his role as the ANSN point of contact for technical and organizational questions in Korea. The current list of primary contacts for ANSN communication at this time is:

Luis Lederman (General) and Lars Ulfkjaer (IT/Technical) at the IAEA
Shouhua Xiang (IAEA liaison) and Chunming Jing (BINE) for China
Hubert Ley for the US
Gerald Diepolder for Germany
Hun-Cheol Yi for Korea
Akiko Iwamoto for Japan

A short progress report was given by each of the hubs. This included demonstrations of the software developed and descriptions of the general status of work at each location.

To improve the communication between the experts at the individual hubs, it was decided to establish an informal monthly progress report. Each hub will contribute a short status report at the beginning of each month, and will list action items, milestones, new documents, remaining issues, and resolutions for previous issues. This report should also list upcoming meetings and other pertinent information (e.g. new assignments of contact persons, schedules). *Mr. Ley will take the lead on this effort.*

Mr. Yi suggested to maintain a common issue list to track open design issues, and to aid implementation by inviting support from the other hubs. *Mr. Yi will take the lead on this effort and will provide an initial list as an example.*

It was decided to develop a document to establish guidelines for the data entry. Such a document would make data entry more consistent between different organizations and lead to improved consistency in decisions with regard to the classification of existing and

future materials. *The lead for the development of such a document has been given to Mr. Bastos of the IAEA.*

The discussion of the proposed ANSN database design document led to a number of clarifications and improvements. It became obvious that there are no major differences in the current interpretation of the design. The design document, with minor modifications, can be finalized and distributed to the participants as a reference document. *This task has been taken by Mr. Ulfkjaer of the IAEA.*

While reviewing the database design document, it also seemed necessary to expand the list of electronic formats for important word processors currently in use in China and Korea. It was decided that the technical authority for modifications of all lookup tables (for media format, node names, languages, and the taxonomy) will lie with the IAEA, requiring agreement for additions and changes from all hubs.

Another important issue that has been discussed was the refined definition of the term single sign-on. It was always understood that a user browsing the master index server would have automatically access to the actual materials from any of the hubs. One logical approach would be the establishment of identical accounts and passwords on each hub. Another method would be the establishment of a communication scheme that would have each hub maintain only their own user list while user accounts established on other servers would be validated against their remote user databases. No final decision on any specific technical implementation has been made at this time. Mr. Ley and Mr. Xiang will be testing different techniques and propose a generalized solution to the other members at later time. This will probably result in a separate design document for the single sign-on implementation, which will be proposed to the other members.

In the ANSN database design document, each of the data tables maintained by the individual hubs has a field named TimeStamps. The exact meaning and format of this field has been discussed. The field is used to establish the date of insertion or modification of this record in the current database and is an attribute of the record, not of the entity that the record describes. Therefore, if the record is transferred by any means to another database, the time stamp will have to be reset to the current system time of the computer operating this database. This refined definition allows for the consistent and reliable use of the time stamp as a measure of identifying records that have been moved from one database to another, and will simplify synchronization of records between hubs.

The database design outlined in the database design document is the basis for the data exchange. The actual implementation of the databases at the hubs is irrelevant as long as data will be exchanged in the agreed-upon format. Initial tests were performed to demonstrate the basic capabilities of an XML-based data transport technique. Data at each hub will be exposed through the use of a web server script in form of an XML document. Each table will be separately transferred based on the timestamp associated with each record. This allows for a cyclical scheme for data synchronization. Different methods for the actual implementation of a data transfer scheme were discussed, including a polling and a pushing scheme. While no final conclusion was reached that

clearly favored one of the proposed schemes, it was decided to have *Mr. Ley and Mr. Xiang* work on an example implementation of the polling scheme. The US database is readily available on the Internet at this time, and XML exposure scripts have been previously developed. The goal is the development of a scheme that is easy to implement on the hubs and puts the burden on the master index server. This approach will minimize the development effort for the pilot project. Sample code and a design document will be written and proposed to the members at a later time.

2. ESTABLISHMENT OF TOPICAL GROUPS

Mr. Suk Ho Lee of the IAEA joined the meeting to participate in the discussions on the establishment of topical groups that will be part of the ANSN hub activities. Mr. Jong Kap Kim presented the preparations for such work (Annex) that has so far taken place at the Korean hub. To foster the development of a topical group on Safety Analysis, a strategy will have to be developed, consisting of the analysis of needs, the collection of feedback from participants, and the establishment of a clearly defined methodology.

The analysis includes a survey of the technical areas participants from recipient countries are especially interested in, as well as their level of expertise and the current means of communication and information exchange that are in place or that should be developed. Furthermore, the clear need for the establishment of a topical group needs to be determined, and other measures of support should be considered as well.

With regards to the feedback, the hubs will have to ensure that the group will have a clear goal and that the focus will stay on track to resolve the previously identified need.

The general method of implementing the topical group is based on the assumption that participants primarily those who attended the series of 4 workshops on Accident Analysis and Computer Code Utilization held at the Korea Institute of Nuclear Safety (KINS) in 2001-2002 participate voluntarily in these activities. It is understood that participants will be determined through the existing mechanisms of the EBP Asia, and that their participation, although voluntary, contributes towards the completion of safety goals that have been established under the framework of the EBP. Therefore, successful participation in this groups may well constitute a necessary activity to achieve the goals of the program for the recipient countries.

The exact methodology will be molded according to the needs of the participants in the groups and based on existing technology. This may involve online conferencing between individuals or the entire group, the use of modern information technology to distribute and archive documents and other pertinent records, but of course regular meetings and seminars on issues of common concerns. For example, meetings could be initiated as means of resolving previously identified issues that are easier to address in form of a technical meeting.

It is well understood that the physical presence of participants at a number of meetings will enhance the communication and efficiency of the collaboration. Additional venues, such as electronic communication and archiving of records will make it easier to follow up on an individual basis and to speed up communication over the long distance between participants.

The exact role of the hubs will evolve over time, but a few tasks are already taking shape. The selection of members, the composition of the group, the definition of tasks and goals, the establishment of a work plan and of milestones, and other such initial tasks will have to be implemented by one of the hubs that has specific capabilities, experience, and

means to provide efficient technical support to the group. On the infrastructure level, the hubs will have to provide the communication infrastructure at the hub, as well as evaluating the infrastructure available at the location of all participants, and to provide basic technical support to optimize the communication lines. This support work will benefit from the experience gained during the first phase of this project, and the experience gained should be shared between the hubs to make further support more efficient. Other responsibilities for the hubs may evolve during the implementation of the project and should be addressed at a later time.

The other hubs may take an active role in the topical groups as well, based on needs and the availability of technical support solutions. At the very minimum, the other hubs will have to create links to the established topical groups to guide users towards this important resource.

The IAEA will have to take an important role in this project. Their existing knowledge of managing such projects, as well as their guidance in the selection and prioritization of needs and goals for the participating countries, creates a unique resource for a number of tasks, such as the designation of an experienced and designated technical officer to the topical group, as well as financial support to hold meetings, provide technical support, evaluate the success of the project, and provide general guidance.

When fully established, the topical group on Safety Analysis should have both the role of facilitating training and communication between experts, and providing technical solutions to problems posed by users.

For the implementation of this topical group, Mr. Jong Kap Kim of KINS will be the group moderator and Mr. Suk Ho Lee will be the IAEA officer.

3. ANNEX

A Strategy to Foster Topical Group on Safety Analysis at ANSN Hub

1. A strategy of operation for topical group

A. Check the status of participants of safety analysis workshop

- Survey their interested area, experience of information exchange, etc.
- Check the need of information exchange
- Check the need of topical group at ANSN

B. Feedback

- Extract the main theme to discuss
- Establish the goal of the topical group

C. Method

- Based on their interests the topical group is operated by participants voluntarily
- On-line meeting
 - Communicate by using the MS messenger, 1:1 or 1:more
- Off-line Meeting
 - Hold workshop, seminar on common interest, theme, or issues raised during on-line meeting
 - Off-line meeting is essential for the success of the topical group

2. Request the IAEA to foster the topical group at ANSN

- 1 designated technical officer
- Financial support to hold the off-line meeting, for example, accommodations, airticket

4. LIST OF PARTICIPANTS

Lederman, L.	International Atomic Energy Agency
Bastos, J.L.	International Atomic Energy Agency
Dubois, D.	International Atomic Energy Agency
Ulfkjaer, L.	International Atomic Energy Agency
Kimoto, T.	International Atomic Energy Agency
Sanada, A.	International Atomic Energy Agency
Ley, H.	Argonne National Laboratory, USA
Xiang, S.	International Atomic Energy Agency
Kim, J. K.	Korea Institute of Nuclear Safety
Yi, H. C.	Korea Institute of Nuclear Safety