

PROGRESS REPORT

(January 2010 – December 2010)



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



INTERNATIONAL ATOMIC ENERGY AGENCY

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International Atomic Energy Agency

Asian Nuclear Safety Network

**Extrabudgetary Programme (EBP) on the Safety of Nuclear Installations in the South
East Asia, Pacific and Far East Countries**

PROGRESS REPORT

EXECUTIVE SUMMARY

In 2010, the ANSN significantly progressed in developing *Regional Capacity Building System in Asia* in accordance with ‘*The Vision for the ANSN by the year 2020*’ (Vision 2020) endorsed at the 2nd meeting of Nuclear Safety Strategy Dialogue (NSSD) of ANSN, Seoul, Republic of Korea, 10 April 2009. The Vision 2020 was developed by the participating Ministers and senior officials responsible for nuclear safety in the ANSN countries. The Vision 2020 provides a long-term plan to enhance human and IT network and develop regional capacity building system for nuclear safety infrastructure, with high level commitment and support.

The implementation of the Vision 2020 was tasked out to the Steering Committee (SC), and the 10th meeting of SC, Singapore, 20-22 October 2009, approved a group for coordinating and monitoring Topical Groups (TGs) activities for achieving the Vision 2020, in particular for developing the regional capacity building system in Asia. The group was named Capacity Building Coordination Group (CBCG) and established in November 2010.

At its 1st meeting, 29-31 March 2010, Tokyo, Japan, the CBCG developed “*Generic Action Plan for establishing the Regional Capacity Building System in Asia*” as a road map to implement the Vision 2020. The Generic Action Plan proposes to establish mutual learning and active interaction through ‘horizontal sharing’ with mutual learning and active interaction. The Generic Action Plan seeks to increase face-to-face cooperative activities and interactive use of state-of-the-art IT networks among National Capacity Building Centres, inter alia, developing the *Capacity Building IT Modules*, namely e-Library, online communication, pool of experts and online nominations as some of the components of online planning by the IAEA in collaboration with IT Support Group (ITSG).

At the 3rd meeting of NSSD of ANSN, Yogyakarta, Indonesia, 22-23 April 2010, the ANSN renewed a high-level commitment to achieving the Vision 2020 and endorsed the Generic Action Plan. At the 3rd NSSD, ANSN Member States confirmed the necessity of preparing *National Action Plan* for implementing the Generic Action Plan, in particular expanding National Education and Training Centres to National Capacity Building Centres, and subsequently establishing a Network between them for the Regional Capacity Building System in Asia.

The CBCG at its 2nd meeting, 25 May 2010, Vienna, Austria, developed guidance for ANSN Member States to prepare their own National Action Plans, and identified the need of developing Action Plan for TGs (*TG Action Plans*) for establishing the Regional Capacity Building System in

Asia in a collaborative and well-coordinated manner. At the 11th meeting of SC, 26-28 May 2010, Vienna, Austria, the SC supported the proposal from the CBCG for the development of National Action Plan by the ANSN Member States and the TG Action Plans. The SC strongly encouraged the IAEA to further develop the Capacity Building IT Modules.

Since then the development of the Capacity Building IT modules has significantly progressed. ANSN started the online nomination process for all regional events to be held in 2011. Till as of May 2011, the online nomination process has been used for 13 events and 133 nominations altogether from all ANSN member states have been received. These nominations will facilitate to build a participants database. eMEETplus Webinar solution has been considered to be optimal solution for video-conferencing after detailed evaluation. Initial rounds of test sessions need to be done before procurement of the solution. IAEA is in a process to prepare the testing environment for this. e-Library for documents uploading as well as content browsing has been implemented by Japan using MediaWiki in 2010. Additional features like classification of documents based on existing taxonomy, full-text search and integration into centralised ANSN website are under consideration. Functional requirement specifications for experts database have been drafted and reported in the 11th SC meeting. Implementation will begin soon with target deadline estimated to be end of 2011.

Additionally, centralised ANSN website is under a restructuring phase to facilitate end –users to find all information pertaining to each topical group at a single location. Also the structure of Country Knowledge Base endorsed during the 11th SC meeting is completed and ANSN member states have started to update the content for Country Knowledge Base.

In 2010, significant progress was also made in the ANAN management since the new ANSN management team was established in November 2009. A third-party evaluation of the ANSN in-progress activities was initiated by the ANSN management team for the improvement of ANSN programme management. Based on the proposal of the ANSN management team, the SC agreed to redesign the Country Knowledge Base (CKB) on the ANSN website to enhance mutual learning and knowledge sharing under the responsibility of ANSN Member States.

Responding to the strategic guidance from the 3rd NSSD on the urgent need to develop terms of reference and criteria for future membership in the ANSN, as well as acknowledging requests for expanding the membership of the ANSN to other ANSN countries, the SC at its 11th meeting agreed to welcome Kazakhstan as a new Observer Country of the ANSN. At the 12th meeting of SC, 20-22 October 2010, Beijing, China, Bangladesh was welcomed as another new Observer Country of the ANSN.

The terms of reference (ToR) of ANSN SC were revised at the 11th SC meeting and defined the Chairs three-year term. At the 12th SC meeting, in accordance with the revised ToR, the SC unanimously agreed that Dr. Y.W. Park, the Korean Institute of Nuclear Safety (KINS), assumed the Chairperson of the SC and Dr. K. Huda, Indonesian Nuclear Energy Regulatory Agency (BAPETN), assumed the Vice Chairperson of the SC for the next three year term. The SC expressed the sincere thanks to Mr. T. Yokoyama, Japan Nuclear Energy Safety Organization (JNES), for his excellent work and leadership during his designated term as the Chairperson of the SC.

In 2010, it is notable that outreach activities are further promoted. The 2nd Round Table Discussion on Nuclear Safety Knowledge Networking was organized on 21 September 2010 during the 54th IAEA General Conference, sponsored by the JNES in cooperation with the IAEA, to promote cooperation between the ANSN and other networks (ex. the Global Nuclear Safety and Security Network (GNSSN), the Ibero-American Forum of Nuclear and Radiation Safety and Security Regulatory Agencies (FORO), the Forum of Nuclear Regulatory Bodies in Africa (FNRBA), the Arab Network of Nuclear Regulators (ANNuR) and the European TSO Network (ETSON)).

On 29 October 2010, the Regional Conference on 21st Century Capacity Building and Virtual TSO in Asia took place in Tokyo, Japan, following the International Conference on Challenges Faced by Technical and Scientific Support Organizations (TSOs) in Enhancing Nuclear Safety and Security, 25-28 October 2010. Both conferences were co-hosted by IAEA and the Japanese Government, through the Japan Nuclear Energy Safety Organization (JNES). Approximately 60 participants attended the Regional Conference from 20 countries—particularly from those countries participating in nuclear safety regional networks including the ANSN, the FNRBA, the ANNuR and the ETSON. The Regional Conference focused on strengthening and expanding the human network among global and regional nuclear safety knowledge networks. It also focused on establishing and further enhancing effective nuclear safety Capacity Building and Infrastructure Development to ensure sustainable high levels of nuclear safety in the 21st century, supported by cyber platforms, inter alia, Virtual TSO.

At the 3rd meeting of CBCG, 18-19 October, Beijing, China, the need of cooperation between the ANSN and the newly created Regulatory Cooperation Forum (RCF) was noted to optimize the limited resources.

It is also notable that the IAEA received generous contribution from EC on continuous improvement of nuclear safety in ANSN countries.

Finally, the TGs are still seen as the forefront of the ANSN activities. As an overview of the ANSN activities, 39 activities such as workshops, training courses and review missions have been conducted with 581 participants, support from 129 external experts and IAEA staff members, as indicated in the table below in more detail. As a result, nuclear safety experts in the region are able to work more closely together and nuclear safety Capacity Building and Infrastructure Development in the region has continuously improved.

Table *Number of activities, participants and external experts in 2009*

ANSN Management	11
NSSD	1
SC	2
CBCG	3
Regional Conference	1
Round Table Discussion	1
ITSG	2
Other activities	1
Regional	23
E&TTG	6
EPRTG	3
GRITG	2
OSTG	2
RWMTG	2

SATG	4
SMRRTG	3
STG	1
National	5
Indonesia	1
Malaysia	2
Philippines	2
Total number of activities	39
Total number of participants	581
Total number of external experts and IAEA staff members ⁴ +51=55	129

Note: “NSSD” stands for “Nuclear Safety Strategy Dialogue”
“SC” stands for “Steering Committee”
“CBCG” stands for “Capacity Building Coordination Group”
“ITSG” stands for “IT Support Group”
“E&TTG” stands for “Topical Group on Education & Training”
“EPRTG” stands for “Topical Group on Emergency Preparedness & Response”
“GRITG” stands for “Topical Group on Government & Regulatory Infrastructure”
“OSTG” stands for “Topical Group on Operational Safety”
“RWMTG” stands for “Topical Group on Radioactive Waste Management”
“SATG” stands for “Topical Group on Safety Analysis”
“SMRRTG” stands for “Topical Group on Safety Management of Research Reactors”
“STG” stands for “Topical Group on Siting”

INTRODUCTION

This report describes the activities implemented from January 2010 until December 2010.

More details about the results of activities described in this report are available in the main web site of the Asian Nuclear Safety Network (ANSN) at the following address: www.ansn.org.



Strategy and coordination

3rd annual meeting of the Nuclear Safety Dialogue

Yogyakarta, Indonesia, 22 -23 April 2010

The third meeting of Nuclear Safety Strategy Dialogue (NSSD) of the Asian Nuclear Safety Network (ANSN) took place during 22 to 23 April in Yogyakarta, Indonesia. It was hosted by the National Energy Agency (BATAN) and the Nuclear Energy Regulatory Agency (BAPETEN). The meeting was attended by: ANSN Ministers; Senior Officials responsible for nuclear safety; participants from the Association of South East Asian Nations (ASEAN); and, the Arab Network of Nuclear Regulators (ANNuR) as observers. The meeting objectives generally focused on discussing Asia's broader nuclear safety strategy and policy issues for facilitating and continuously improving effective and sustainable Capacity Building and Infrastructural Development. Also discussed were mechanisms for implementing the "Vision for the ANSN by the year 2020" (Vision 2020), endorsed at the second meeting of NSSD on 10 April 2009 in Seoul, Republic of Korea.



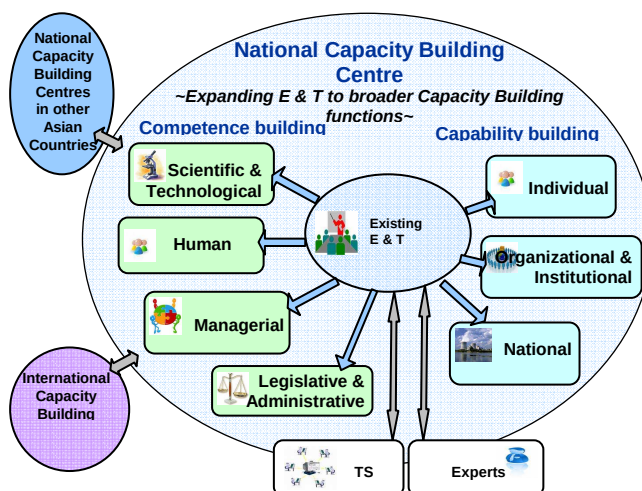
Minister for Research and Technology, Indonesia, H.E. Mr. Suharna Surapranata warmly welcomed the participants and highlighted the utmost importance of the ANSN for ASEAN Countries interested in launching nuclear power development programmes, in particular for enhancing the public acceptance of nuclear power programmes and supporting human resource development.

The meeting was co-chaired by Dr. Hudi Hastowo, Chairman of National Energy Agency (BATAN), and Dr. As Natio Lasman, Chairman

of Nuclear Energy Regulatory Agency (BAPETEN).

National Capacity Building Centres

Mr. T. Taniguchi, IAEA Deputy Director General for Nuclear Safety and Security, provided opening remarks, presenting a vision and oversight of the global and regional Capacity Building and Infrastructure Development. He emphasized the need for developing and establishing the National and Regional Capacity Building System in Asia to keep pace with nuclear power programme expansion throughout the region. Mr. Taniguchi also stressed the need for maintaining and strengthening the interaction among the Global Nuclear Safety and Security Network (GNSSN) and regional networks, including the ANSN.



National Capacity Building Centre—developing and continuously enhancing competences and capabilities.

Mr. Taniguchi further stated that IAEA attached strategic importance to supporting nuclear Safety Infrastructure and Capacity Building in its Member States, but their capacity and infrastructure should be built primarily by their own efforts and for their own interests. He also stated that commitments from ANSN Member States were crucial to: 1) achieving the Vision 2020 through establishing National Capacity Building Centres that function beyond conventional Education & Training Centres; and 2) developing the Regional Capacity Building Systems in Asia.

ANSN Member States confirmed the necessity of preparing National Action Plans for implementing the Generic Action Plan. In particular, they discussed expanding National

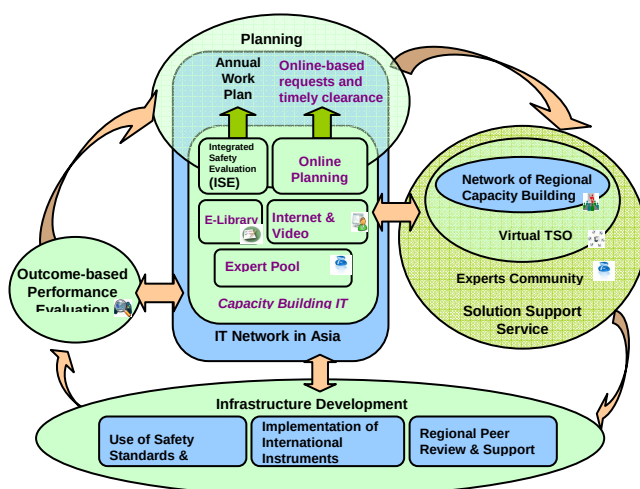
Education and Training Centres to National Capacity Building Centres and implementing the plans for establishing a Network of National Capacity Building Centres.

Regional Capacity Building System

Mr. K. Tomita, Coordinator of the Capacity Building Coordination Group (CBCG), presented the “Generic Action Plan for establishing Regional Capacity Building System in Asia”. Meeting participants appreciated and actively discussed the work done by the CBCG. As a result, they recognized the importance of the Generic Action Plan and renewed their strong commitment to implementing and tasking the Steering Committee (SC) with providing further technical details and practical implementation actions.

The CBCG acknowledged that the conventional ‘vertical transfer’ of capacity and infrastructure knowledge—based on the supplier-recipient relationship is currently insufficient, and that the dynamic ‘horizontal sharing’ of experience through mutual learning and active, in-depth and intensive interaction are necessary.

They also acknowledged that Education and Training for transferring ‘Established Common Knowledge’ is a basis for capacity building at individual, scientific, and technical levels. However, in addition, knowledge necessary for Problem Solving and Solution Support requires broader capacity building at the organizational and institutional levels, including: ‘Customised Specific Knowledge’ and ‘New and Creative Knowledge’.



Capacity Building System in Asia—Planning, Implementation and Feedback for Vision 2020.

ANSN Member States agreed to support the idea of developing a dynamic and interactive system

for enhancing capacity for Capacity Building in Asia (i.e., Regional Capacity Building System in Asia, including the Capacity Building IT Module development).

Collaboration among networks

ANSN Member States confirmed the importance of regional and international cooperation through effective coordination and collaboration among the GNSSN and regional networks (e.g. ANSN, Ibero-American Network (FORO), the newly created Forum of Nuclear Regulatory Bodies in Africa (FNRBA), and the Arab Network of Nuclear Regulators (ANNuR), while respecting specificities and conditions of each network.

Mutual and interactive learning among the GNSSN and regional networks would result in an added benefit of establishing a global platform for sharing knowledge and experience.

11th Meeting of Steering Committee

Vienna, Austria, 26–28 May 2010

On 26 – 28 May 2010, the 11th Steering Committee (SC) meeting was held in Vienna, and attended by SC members from Australia, China, Germany, Indonesia, Japan, Korea, Malaysia, Philippines, Thailand, United States of America and Vietnam, as well as TG coordinators and IAEA staff members.

The meeting was opened by Mr. T. Taniguchi, IAEA Deputy Director General for Nuclear Safety and Security, who gave a warm welcome to all the participants on behalf of IAEA. Mr. T. Taniguchi expressed his hopes for ANSN to grow and maintain safe and secure nuclear programmes through sustained commitment and support from member states. Following the DDG’s welcome address, Mr. T. Yokoyama, the Chairperson of the 11th SC meeting, on behalf of all SC members, expressed his sincere thanks to DDG Mr. T. Taniguchi for his long-term contributions and continuous support of ANSN activities — in particular for the establishment and continuous improvement of the safety infrastructure and capacity building efforts in ANSN member countries.

This was the first meeting for the SC since the CBCG and the ANSN management team (November 2009) were established. The SC appreciated the significant progress made by the

CBCG, the Topical Group (TGs) and the new ANSN management team since the last SC meeting, 20-22 October 2009, Singapore. The SC very actively discussed several strategically important issues, following the 3rd NSSD meeting in April 2010.

Further to the SC discussions, details of the revision of Terms of Reference (ToR) of the SC were provided as well as an agreement to assign two new vice-chairs to support the Chair; this included defining the Chairs three-year term. It was agreed that this new organization will start from the next SC meeting.

The SC supported the proposal from the CBCG for the development of National Action Plans by the ANSN Member States and the TG Action Plans. It also supported the CBCG's further work on the development of outcome-based performance indicators of capacity building activities of ANSN Member States, CBCG and TGs. The SC strongly encouraged the IAEA to further develop the Capacity Building IT Module (i.e., a dynamic and interactive e-Library and Expert Pool Database, facilitating Internet and Video Network Communication as well as the development and application of an Online Planning System in the ANSN website).

The SC welcomed the IAEA's initiative to execute a pilot project of applying an Online Nomination Process as an initial step to the eventual development of the Online Planning System to the forthcoming 'Regional Conference 21st Century Capacity Building and Virtual TSO in Asia, 29 October 2010 in Tokyo (see the ANSN website for more information on this conference).

The SC acknowledged the importance of third-party

evaluation of the ANSN in-progress activities as described in IAEA initiative for the improvement of ANSN programme management; it further encouraged the IAEA to accomplish this initiative. The SC also agreed to redesign the Country Knowledge Base on the ANSN website to enhance mutual learning and knowledge sharing under the responsibility of ANSN Member States. The SC discussed and supported other proposals from the ANSN management team, including standardization of home pages for SC, CBCG and TGs; opening of the ANSN documents to the public, operation of the Integrated Safety Evaluation (ISE) process. The SC supported and appreciated the initiatives

taken by the IAEA secretariat, and requested the IAEA to continue its efforts.

Responding to the strategic guidance from the 3rd NSSD meeting on the urgent need to develop terms of reference and criteria for future membership in the ANSN, as well as acknowledging requests for expanding the membership of the ANSN to other Asian countries, the SC agreed to welcome Kazakhstan as a new Observer Country of the; the Kazakhstan representative also gave a presentation to the ANSN of the current status of nuclear safety within the country.

Regarding the EC contribution to the ANSN activities, the SC discussed and supported the work programme proposed by the IAEA secretariat, and appreciated the generous contribution from EC on continuous improvement of nuclear safety in ANSN member countries.

It was decided that the 12th ANSN SC meeting will be held in Beijing China, from 20 to 22 October 2010. (Note: the 4th CBCG meeting will be held also in Beijing, from 18 to 19 October in 2010)

12th Meeting of Steering Committee Beijing, China, 20-22 October

The 12th Steering Committee (SC) meeting was held from 20 to 22 October in Beijing, China, hosted by CAEA through CNEA. It was attended by 40 participants from China, France, Germany, Indonesia, Japan, Korea, Malaysia, Philippines, Singapore, Thailand, USA and Vietnam, including ANSN SC members, TG coordinators, representatives from two new ANSN observer members (Bangladesh and Kazakhstan), IAEA staff members, and experts from local organizations.



Mr. Song Gong Bao, Deputy Director, International Cooperation Division, CAEA, warmly welcomed the distinguished delegations from ANSN countries to the 12th ANSN SC meeting. He highlighted the prominent role of IAEA for promoting nuclear energy, nuclear technology application and nuclear safety and security and noted the importance of ANSN as the regional platform for knowledge and experience sharing for promoting safety and a sustainable nuclear programme in Asia.

Mr. Jiang Wei, Deputy Director General, International Cooperation Department, National Nuclear Safety Administration (NNSA), China, also warmly welcomed all the participants, emphasizing the urgent need of promoting regional cooperation through ANSN for pursuing mutual learning among experts in the region to ensure high levels of safety of operating nuclear power plants as well as expanding and newly planned nuclear power programmes, and expressing NNSA's willingness to share their experience in regulatory capacity building and infrastructure development.

The scientific secretary of SC from IAEA presented on behalf of the IAEA and welcomed ANSN members as well as two new members: Bangladesh and Kazakhstan.

The SC temporarily appointed Mr. K. Tomita, Coordinator of CBCG, to the role of Chairperson for this meeting, noting the apology from Mr. T. Yokoyama, current Chairperson of the SC from Japan for events unforeseen preventing his attendance. Mr. K. Tomita introduced the recent and coming notable events, the Round Table Discussion on Nuclear Safety Knowledge Networking occurred on 21 September 2010 during the 54th IAEA General Conference, and highlighted the purpose of this outreach activity: to promote cooperation between ANSN and other networks, including the Global Nuclear Safety and Security Network (GNSSN), FORO, FNRNA, ANNuR and European TSO Network (ETSON). He also provided the updated information about the ANSN Regional Conference on 21st Century Capacity Building and Virtual TSO in Asia to be held on 29

October 2010 in Tokyo, Japan.

The SC noted the report of the ANSN activities since the last SC meeting (May 2010 in Vienna) made by the IAEA staff and appreciated that significant progress had been made since then for the improvement of ANSN management and the proactive efforts in developing the Regional Capacity Building System in Asia to achieve the ANSN Vision 2020.

Mr. K. Tomita, as the Coordinator of CBCG, presented the results from the 3rd meeting of CBCG held from 18 to 19 October, and reported a new initiative for the development of guidelines and the practical service of Regional Peer Review and Support Arrangement (RPRSA) and the promotion of collaboration with the Regulatory Cooperation Forum (RCF). The SC took note of the new proposal from the CBCG and suggested that the RPRSA should be compatible with the relevant international standards and guides and existing international review services, and that the development of guidelines should be pursued internationally, inter alia. IAEA, in collaboration with RCF since the guidelines were to be applied not only in Asia but also globally.

The IAEA staff, as the scientific secretary of the IT Support Group (ITSG), presented the results of 7th meeting of ITSG, 1-3 September 2010, Daejeon, Rep. of Korea, inter alia, "Online nomination process", "Countries Knowledge Base (CKB)", "Web Conference" and "E-Library". He emphasized the importance of applying on-line nomination process. (see ANSN Newsletter No. 114) The SC noted that the Web conference with support from Rep. of the Korean Institute of Nuclear Safety (KINS) was an effective tool to build the Capacity Building in the region. The SC encouraged further development of the e-library with support from the Japan Nuclear Energy Safety Organization (JNES).

The SC members mutually shared valuable information provided by each ANSN member countries on recent nuclear safety issues relevant to ANSN, the progress report from 2010, the results of Integrated Safety

Evaluation (ISE), National Activity Requests for 2011, the status of National Action Plans, the status of CKB and practical examples on the capacity building and infrastructure development. After the presentation from TG coordinators about their progress on Regional Activity Requests for 2011 and the TG Action Plans, the proposed ANSN Workplan for 2011 was reviewed and approved with some modifications.

Bangladesh, as an observer member of ANSN, introduced outlines and current status of their nuclear related activities and legislation. The IAEA staff presented the current status of GNSSN, the International Regulatory Network (RegNet) and other regional networks. The SC encouraged ANSN members to consider actively participating in the GNSSN and to nominate experts to participate in the upcoming Technical Meeting (TM) on development of GNSSN and RegNet to be held from 6 to 10 December 2010 in Vienna.

During the SC meeting, the KINS representative of Korea demonstrated the video-conference system (i.e., Webinar), and the SC appreciated the effort made by the KINS.

Finally, in accordance with the Terms of Reference of ANSN, the SC unanimously agreed that Dr. Y.W. Park, Director, International Nuclear Safety School (INSS), KINS, assumed the Chairperson of the SC and Dr. K. Huda, Deputy Chairman, Nuclear Energy Regulatory Agency (BAPETEN), Indonesia assumed the Vice Chairperson of the SC for the next three year term. The SC expressed the sincere thanks to Mr. T. Yokoyama for his excellent work and leadership during his designated term as the Chairperson of the SC.

1st meeting of the Capacity Building Coordination Group (CBCG)

Tokyo, Japan, 29 -31 March 2010

The 1st meeting of the Capacity Building Coordination Group (CBCG) was hosted by the Japan Nuclear Energy Safety Organization (JNES), and attended by the coordinators from eight ANSN Topical Groups (TGs) and two Project Management Officers (PMOs) from the IAEA. The chairperson of the ANSN Steering Committee (SC) and two ITSG members of Japan were also invited to attend the meeting.

The establishment of CBCG was approved at the tenth meeting of SC, Singapore, 20-22 October 2009, as a group of coordinating and monitoring TGs' activities for implementing and achieving the 'Vision for the ANSN by the year 2020' (Vision 2020). The CBCG was established in November 2009, and started the initial work of developing the group's Terms of Reference (ToR). The members of CBCG comprise the coordinators of TGs, the ANSN Programme Manager (PM) and the Project Management Officers (PMOs) from IAEA. Important CBCG roles include: developing a guidance document on Topical Groups regional capacity building activities; developing an action plan to implement and achieve the Vision 2020; and coordinating and facilitating the implementation of the guidance document and the action plan. Other important CBCG roles include: developing outcome-based performance indicators of ANSN activities, annually reviewing the activities based on the performance indicators and reporting back to the SC for their evaluation.

Mr. K. Nakamura, Deputy Director-General for Safety Examination, Nuclear and Industrial Safety Agency (NISA), Ministry of Economy, Trade and Industry (METI), opened the first meeting of CBCG by highlighting two important points: the need to strengthen the cooperation and coordination internationally and regionally, and also the need to build capacity for nuclear safety. In addition, Mr. T. Inagaki, Vice-President, JNES, on behalf of the hosting organization, warmly welcomed the participants and highly appreciated the recent changes and improvements in the ANSN.



The draft ToR of the CBCG was reviewed and agreed, acknowledging that the coordination and facilitation of TGs activities is a challenge that must be pursued by the CBCG. Then, the coordinators of the existing eight TGs presented the progress and future plans of their TGs' activities. The CBCG identified the value of regularly sharing the status of work among the TG coordinators for benchmarking and improved coordination.

The CBCG discussed the draft guidance document for regional capacity building. The CBCG members recognized the importance of this document for providing the guidance on implementation of regional capacity building activities. The draft guidance document will be further elaborated.

The CBCG thoroughly reviewed and discussed the draft of the 'Generic Action Plan for establishing the Regional Capacity Building System in Asia'. The CBCG agreed to submit a draft of the plan to the third meeting of Nuclear Safety Strategy Dialogue (NSSD), 22-23 April 2010, Indonesia for endorsement, acknowledging that commitment from the ANSN Member States was vital for the implementation of a work plan and the successful achievement of Vision 2020.

The CBCG also reviewed and discussed the draft outcome-based performance indicators of ANSN activities. It was agreed that to properly evaluate the outcome of Vision 2020, further elaboration on outcome-based performance indicators would be needed. The CBCG also agreed to develop outcome-based performance indicators for TGs' activities in specific fields.

In addition, the CBCG received a report of the result of the sixth meeting of the IT Support Group (ITSG), 3-5 March 2010, Vienna,

Austria, including a demonstration of the recent development of the ANSN website. Acknowledging the important role of the ITSG to support implementation of the Vision 2020 by state-of-the-art IT technology, the CBCG encouraged the ITSG to further pursue their work in close collaboration with the CBCG.

Video conference

On the second day of the meeting, a video conference with Mr. T. Taniguchi, Deputy Director General, Department of Nuclear Safety and Security, IAEA, was arranged. DDG Taniguchi urged the CBCG members to pay particular attention to four elements important for the future success of ANSN, as follows: 1) establishing the 'Network of Regional Capacity Building Centres in Asia'; 2) providing a 'Solution Support Service' by fully utilizing state-of-the-art IT technology; 3) promoting more active and interactive IT and human networks; and 4) showcasing the ANSN as a best-practice model for Regional Capacity Building.



During the conference, the CBCG members exchanged views with DDG Taniguchi on a range of issues affecting ANSN. He welcomed the work undertaken by the CBCG, while appreciating the effective communication afforded by the video conferencing technology. He encouraged further use of this powerful tool for cost effective and timely communication.

2nd meeting of Capacity Building Coordination Group (CBCG) Vienna, Austria, 25 May 2010

The 2nd Capacity Building Coordination Group (CBCG) meeting was held at the IAEA in Vienna, and attended by the coordinator of CBCG, the coordinators of six Topical Groups (TGs), the Programme Manager (PO), three Project Management Officers (PMOs) and other IAEA staff members. Two members of the IT Support Group (ITSG) of Japan attended the meeting as guest experts, also members of the Steering Committee (SC) of Australia and Korea attended the meeting as observers.

Mr. K. Tomita, Coordinator of CBCG, made opening remarks and Mr. K. Mrabit, Head, Safety and Security Coordination Section, Department of Nuclear Safety, IAEA, made an opening address on behalf of IAEA.



Since the CBCG developed the draft of the 'Generic Action Plan for establishing the Regional Capacity Building System in Asia' at its first meeting (Tokyo, March 2010), it then presented the plan at the 3rd meeting of Nuclear Safety Strategy Dialogue (NSSD), 22-23 April 2010, Yogyakarta, Indonesia. This plan was then endorsed with renewed stronger commitment from the ANSN Member States, who are dedicated to completing the necessary actions for its implementation. At the 3rd NSSD, ANSN Member States confirmed the necessity of preparing National Action Plans for implementing this Generic Action Plan, in particular expanding National Education and Training Centres to National Capacity Building Centres, and subsequently establishing a Network between them for the Regional Capacity Building System in Asia.

At the 2nd meeting, the CBCG developed guidance for ANSN Member States to prepare their own National Action Plans, and identified the need of developing Action Plans of Topical Groups (TG Action Plans) for establishing the

Regional Capacity Building System in a collaborative and well-coordinated manner. The CBCG also prepared outcome-based performance indicators for capacity building activities of ANSN Member States, CBCG and TGs, and agreed to continue improving this important work.

3rd meeting of Capacity Building Coordination Group (CBCG) Beijing, China, 18-19 October

The 3rd meeting of the Capacity Building Coordination Group (CBCG) was hosted by the China Atomic Energy Agency (CAEA) through the China Nuclear Energy Agency (CNEA) and attended by the Coordinator of CBCG, Coordinators from three ANSN Topical Groups (TGs) (i.e., Topical Group on Education and Training (E&TTG), Topical Group on Radioactive Waste Management (RWMTG) and Topical Group on Safety Analysis (SATG)), replacement of the Coordinators of Topical Group on Emergency Preparedness and Response (EPRTG) and Topical Group on Operational Safety (OSTG), and two Project Management Officers (PMOs) from IAEA. One member of IT Support Group (ITSG) of Japan and two experts from Japan attended the meeting as guest experts.



Mr. K. Tomita, Coordinator of CBCG, provided opening statements, warmly welcoming the participants and expressing his congratulations to the significant progress of TGs' activities for supporting Regional Capacity Building and the development efforts of the TG Action Plans and Regional Activity Requests for 2011. Mr. K. Tomita stated that recently there was a notable trend that not only

ANSN, but also other global and regional initiatives owned and operated by IAEA Member States for knowledge sharing and mutual learning to enhance Capacity Building and Infrastructure Development, were emerging, including Regulatory Cooperation Forum (RCF), the Ibero-American Forum of Nuclear and Radiation Safety and Security Regulatory Agencies (FORO), the Forum of Nuclear Regulatory Bodies in Africa (FNRNA) and the Arab Network of Nuclear Regulators (ANNuR) and that this clearly indicated the existence of a strong need for collaboration —both regionally and internationally. He further stated, based on his recent experience that it was the right time to seriously explore an effective and efficient means of collaboration among ANSN, the IAEA Member States' initiatives and the RCF to optimize limited resources. Further, the RCF test case mission in Jordan in early September, 2010 indicated that the CBCG should play a leading role in this regard.

The PMO for CBCG at IAEA presented an opening address on behalf of the IAEA, emphasizing that the implementation of the Vision for the ANSN by the Year 2020 (Vision 2020) was moving forward to the next stage from 'Generic Action Plan' to 'National Action Plans' for responding to national specific needs for Capacity Building, in parallel with continuously promoting regional cooperative activities conducted by TGs and developing a common infrastructure for establishing the Regional Capacity Building System in Asia, inter alia, developing the Capacity Building IT Modules, namely e-Library, online communication, pool of experts and online nominations as some of the components of online planning by the IAEA in collaboration with IT Support Group (ITSG) members.

With regard to the development of National Action Plans for Capacity Building by ANSN countries, the CBCG shared a view that it was appropriate for the template for National Action Plans to fully refer to the IAEA Safety Guide on *Establishing the Safety Infrastructure for a Nuclear Power Programme* for conducting self-evaluation and

gap analysis and planning necessary actions to be taken by ANSN new entrant countries of nuclear power plants (NPP). The CBCG agreed with Mr. K. Tomita's proposal of milestones for 'ANSN Regional Peer Review & Support Arrangement for Capacity Building (RPRSA)', namely, the development of guidelines and the practical service of RPRSA, for elaborating and supporting implementation of National Action Plans for Capacity Building of ANSN NPP new entrant countries.

The CBCG welcomed Mr. K. Tomita's proposal of the need of exploring collaboration between ANSN and RCF. The CBCG shared the view that ANSN and RCF had the same objectives for Capacity Building for NPP new entrant countries, and agreed that the ANSN should proactively cooperate with the RCF to optimize the limited resources through RCF recipient countries' participation into relevant ANSN regional cooperative activities.

Coordinators and representatives of TGs presented their TG Action Plans for achieving the ANSN Vision 2020 via objectives, outputs, outcomes and outcome-based performance indicators. By its next meeting, the CBCG agreed to conduct self-evaluation of TGs' activities in accordance with the defined outcome-based performance indicators on a trial basis, for verifying the feasibility for setting performance indicators and for further elaboration and coordination.

The CBCG reviewed the draft ANSN Workplan for 2011 and made notes for suggested coordination, including the possibility of organizing a joint regional workshop between two TGs and of combining a national workshop on regulatory infrastructure development and a regional workshop on capacity building in collaboration with RCF.

6th Information Technology Support Group meeting

Vienna, Austria, 3 -5 March 2010

On 3-5 March 2010, the Information Technology Group (ITSG) held its 6th meeting, which was well-attended by representatives from Japan, Korea, Philippines, Malaysia, Vietnam, Thailand, and Indonesia and the IAEA. Mr. Khammar Mrabit, Head of Safety and Security Coordination Section, Safety and Security Department, IAEA, opened the meeting, highlighting its importance in facilitating “The Vision for the ANSN by the year 2020” (Vision 2020), in collaboration with the newly established Capacity Building Coordination Group (CBCG). After sharing the current status of the ANSN national centres website, the ITSG discussed IT support initiatives for efficiently and effectively implementing Vision 2020; in particular— developing and mobilizing a Regional Capacity Building System in Asia.

Since Vision 2020 anticipates a more dynamic and interactive ANSN, the ITSG discussed the major components of an IT concept to support Regional Capacity Building, which included: an e-Library, an expert-pool database, network communications—Webinars, etc., and an online nomination process; this will be the first step to the eventual development of an online assessment and planning system.

Japan has indicated their willingness to contribute to the development of the e-Library (one of the IT elements for establishing the Regional Capacity Building System). Furthermore, the Korea Institute of Nuclear Safety (KINS) demonstrated virtual communication via a Webinar between Dr. Yon-Won Park, Director, International Nuclear Safety School, KINS and Mr. Tomihiro Taniguchi, Deputy Director General, Head of the Department of Nuclear Safety and Security, IAEA. Mr. Taniguchi highlighted the importance of utilizing start-of-the-art IT technology and the vital role it will play in: 1) achieving a more interactive system of knowledge management where passive downloading of information could be further complemented with active uploading; 2) using Webinars to strengthen the human network, face-to-face and in a more interactive and real time manner. Korea agreed to assist the IAEA in evaluation of the Webinar tool to facilitate effective, efficient and real time

collaborative activities among ANSN member states.

The IAEA reported the rationale for online nomination process for regional as well as national activity requests and presented a conceptual workflow regarding the implementation approach. ITSG members agreed to explore the possibility of incorporating a mechanism in national centres websites to announce nomination process for regional events. In addition, the IAEA informed ITSG members regarding the migration of Country Knowledge Base (CKB) to the ANSN website. Acknowledging that the CKB can play significant roles in identifying future needs of member states, ITSG members expressed their willingness to take their initiatives to integrate the CKB for the respective member states in their national centres websites.



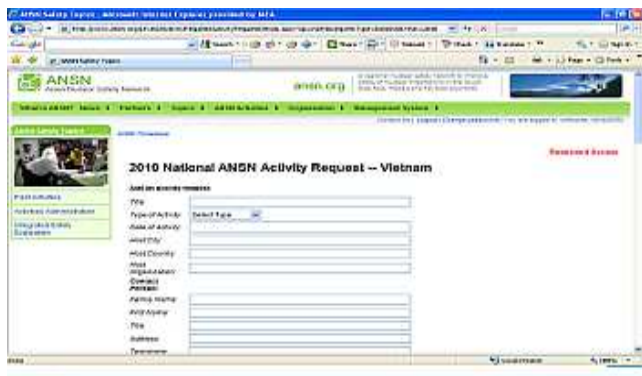
During the meeting, a common layout for all the national centres websites was agreed upon to achieve a consistent visual identity.

Online filing of regional needs:

During the 88th Issue of ANSN Newsletter, readers were briefed regarding the ISE (Integrated Safety Evaluation) system. Based on the ISE results and peer discussions, regional and national needs are identified and an annual work-plan is drafted. The ISE for 2009 was completed by the member states. Individual member states completed the process of submitting the regional as well as national requests within a pre-defined deadline. Details such as ISE justification, target audience,

relation to past ANSN activities, the responsible IAEA officer, etc were filled while submitting the national activity requests. Based on the ISE results, the topical groups entered the regional activity requests online in the ANSN system. The national and regional requests were further submitted to IAEA for the technical officer's comments and thereafter to be acknowledged and approved by the Steering Committee.

This process is broadly termed as "Assessment and Planning". Furthermore, ANSN is now planning to structure the process by applying a new dimension of "Results Based Management Approach" wherein the objectives are determined; outputs are measured and aligned to predefined outcomes. To facilitate this approach, one of the key steps was to facilitate the filing of regional needs or requests electronically.



The online filing process will contribute to fulfilment of participating member states needs in a more efficient and effective manner. It will also serve to implement the online nomination process which is the next initiative to be pursued as part of the "Assessment and Planning" component.

7th Information Technology Support Group meeting

Daejeon, Korea, 1 – 3 September 2010

The 7th Information Technology Support Group (ITSG) meeting was held in Daejeon, Republic of Korea, hosted by the Korean Institute of Nuclear Safety (KINS). The group was informed the results of the 3rd meeting of the ANSN Nuclear Safety Strategy Dialogue (NSSD), 22-23 April, 2010, Yogyakarta,

Indonesia and the 2nd meeting of Capacity Building Coordination Group (CBCG) and the 11th meeting of ANSN Steering Committee (SC), 25-28 May 2010, Vienna, Austria by IAEA staff (see ANSN Newsletters No. 105 and 107). In particular, the IAEA staff re-confirmed the importance of developing Capacity Building IT Modules namely e-Library, online communication, pool of experts and online planning in a steadily and timely manner in accordance with "The Generic Action Plan for Establishing the Regional Capacity Building System in Asia" as a road map for implementing and achieving "The Vision for ANSN by the Year 2020".

Japan presented the progress of the e-Library initiative using Wiki software. Korea demonstrated the integration of Webinar software in the ANSN national centres website. IAEA presented the progress of pool of experts and online nomination process as one of the components of the online planning. The group shared the significant progress of the development of Capacity Building IT Modules and the need of further work for completion of this important project, and agreed to report the progress to the forthcoming meetings of CBCG and SC, 18-22 October 2010, Beijing, China.



The group also agreed to prepare Key Performance Indicators for Capacity Building IT Modules for presenting them to the CBCG and SC meetings.

IAEA staff reported and demonstrated the implementation of Country Knowledge Base

in the ANSN website. IAEA staff also demonstrated the website of Global Nuclear Safety and Security Network (GNSSN) <<http://gnssn.iaea.org>> as a step towards enhancing coordination and collaboration among different regional nuclear safety and security knowledge networks including the Asian Nuclear Safety Network (ANSN), the Ibero-American Forum of Nuclear and Radiation Safety and Security Regulatory Agencies (FORO), the Forum for Nuclear Regulatory Bodies in Africa (FNRBA) and the Arab Network of Nuclear Regulators (ANNuR).

Consultancy Meeting for the Preparation of ANSN Background Information

Vienna, Austria, 25 January – 3 March 2010

The consultancy meeting took place in Vienna to develop background information of ANSN activities to provide input to an independent evaluation of the ANSN activities by a group of outside experts, to be organized by the IAEA.

Three consultants from Canada, France and Japan—involved for many years in the ANSN management activities (in particular meetings of ANSN Steering Committee) gathered and conducted an indepth and thorough evaluation on the ANSN activities.

The background information covered the history of the organization since the creation of the ANSN in 2002, summarized activities and achievements to date, outlined lessons learnt and made recommendations for its future improvement. Some of the aspects slated for improvement included: promoting regional capacity building in Asia, promoting outreach activities with global and other regional networks as a model for other regional networks, and contributing to efforts of the Global Nuclear Safety and Security Regime (GNSSR).



Outreach Activities

Round-table discussion on Nuclear Safety knowledge Networking

Vienna Austria, 21 September

On Tuesday, 21 September 2010, a round-table discussion on Nuclear Safety Knowledge Networking took place on the margins of the 54th General Conference at the Vienna International Centre (VIC). This discussion was co-hosted by IAEA and the Japanese Government through the Japan Nuclear Energy Safety Organization (JNES). Approximately 20 countries were represented by 50 attendees, participating in the nuclear safety regional networks (i.e. the Asian Nuclear Safety Network (ANSN), the Ibero-American Forum of Nuclear and Radiation Safety and Security Regulatory Agencies (FORO), the Forum for Nuclear Regulatory Bodies in Africa (FNRBA) and the Arab Network of Nuclear Regulators (ANNuR) and the European TSO Network (ETSON)).

The purpose of this round table discussion was to share experience and good practices in developing the future of global and regional knowledge networks and to explore enhancing collaboration and coordination among global and regional networks, international, regional and national Capacity Building Centres, and technical and scientific support organizations (TSO) for continuously improving Member States nuclear safety capacity building efforts.

Mr. T. Sato, Vice President of JNES, welcomed the participants and highlighted the importance of developing, establishing and sustaining the nuclear safety infrastructure, especially capacity building in newcomer countries for ensuring worldwide nuclear safety. He also emphasized the tremendous value of sharing knowledge, experience and good practices regionally and globally.

Mr. T. Bannai, Director for International Affairs Office, Nuclear and Industrial Safety Agency (NISA), Ministry of Economy, Trade and Industry (METI), also provided opening remarks, mentioning that nuclear energy was not only an option, but a part of the solutions for energy issues, including rapid global

environmental changes and economical interlinks. He further emphasized that since a significant number of nations were considering introduction of nuclear energy, the key approach in strengthening the nuclear safety infrastructure was through knowledge management, experience exchange, coordination and collaboration between networks.



D. Flory. IAEA Deputy Director General, Head of the Department of Nuclear Safety and Security

Mr. D. Flory, IAEA Deputy Director General for the Department of Nuclear Safety and Security, spoke to the group for the first time, and expressed his congratulations on their achievements in enhancing nuclear safety and security nationally, regionally and internationally. Moreover, he assured them that the IAEA would continue to work with them closely, providing the support necessary in promoting knowledge sharing and in further developing the global and regional networks. Additionally, he restated IAEA's commitment to working actively to enhance cooperation and collaboration among all of the nuclear safety networks. He also acknowledged that since the IAEA launched the Global Nuclear Safety and Security Network (GNSSN) and the International Regulatory Network (RegNet) in 2009, the IAEA has been dedicated to ensuring that critical knowledge, experience and lessons learned about nuclear safety and security were distributed and exchanged as widely as possible.

The round table discussion was chaired by Mr. K. Tomita, Coordinator of ANSN-Capacity Building Coordination Group (CBCG); Assistant Director-General, Office of International Programs, JNES, and had two sessions accordingly: Session 1; *Sharing the experience and good practice on the development and future of global and regional knowledge networks* and Session 2; *Strengthening the collaboration and coordination among global/regional networks*.



During the first session, Mr. K. Mrabit, Head of Safety Security Coordination Section, Department of Nuclear Safety Security, IAEA, presented experience and good practices on recent developments and future plans for further improvement of nuclear safety networks. He discussed the GNSSN and other related activities, emphasizing that GNSSN would play a more prominent role in strengthening and continuously improving the Global Nuclear Safety and Security Framework.

Dr. K. Huda, Deputy Chairman, Indonesian Nuclear Energy Regulatory Agency (BAPETEN) introduced their activities to enhance national knowledge networks, including: collaboration between Centres for Education and Training of BAPETEN and the Indonesian National Nuclear Energy Agency (BATAN); cooperation with national universities; and cooperation with relevant institutions in foreign countries. He concluded that national/regional competences and capabilities in nuclear safety needed to be continuously improved and maintained through exchanging knowledge and experience, as well as, sharing resources among stakeholders, and through the use of regional networks and reliable IT

infrastructures to channel this knowledge transfer and exchange.

Dr. Y-W Park, Director of International Nuclear Safety School (INSS), Korea Institute of Nuclear Safety (KINS), presented Capacity Building Systems in Korea. He highlighted their contribution to promoting the ANSN Regional Capacity Building System through the technical training programs for new entrants provided by the INSS/KINS as well as through promoting the establishment of video network communication among ANSN member countries. He also introduced KINS's cooperation with other regional networks.

Mr. P. Ortis Lopez, Safety Security Coordination Section, Department of Nuclear Safety Security, IAEA, made a presentation on behalf of the FORO that the network had been conducting various activities including technical projects in specific fields to promote radiation and nuclear safety and security at the highest level in the Ibero-America region.

Prof. S. Elegba, Director-General, Nigerian Nuclear Regulatory Authority, presented that the FNRBA was promoting Model Projects including Strengthening Radiation Protection Infrastructure in Member States; and Building Nuclear Safety Infrastructure in New Comer States, and Thematic Programming such as Programme for Action on Cancer Therapy, for pursuing its mandate of emplacing a sustainable legislative and regulatory infrastructure in Africa. He also emphasized the importance and great value of cross-linking of regional networks.

At the second session, Mr. K. Shimomura, Senior Advisor to the President of JNES, introduced the upcoming two conferences that will be held in late October this year in Tokyo, namely *International Conference on Challenges Faced by Technical and Scientific Support Organizations (TSO) in Enhancing Nuclear Safety and Security from 25 to 28 October 2010* and *ANSN Regional Conference on 21st Century Capacity Building and Virtual TSO in Asia on 29 October 2010*. He highlighted that the objectives of the international TSO conference were to develop a common understanding of the

responsibilities, needs and opportunity of TSO and to further promote the TSO to enhance nuclear safety, radiation safety and nuclear security. He also stated that the ANSN regional conference would address the challenges of developing a nuclear safety capacity building system and safety infrastructure in the 21st century in Asia. He further addressed the importance of fostering mutually beneficial cooperation among the global and regional nuclear safety networks to support nuclear safety capacity building and safety infrastructure development nationally, regionally and internationally.



Mr. W. Jiang, Director, International Affairs on Nuclear Safety, National Nuclear Safety Administration (NNSA), China, presented that Chinese government always attaches great importance to nuclear and radiation safety; Nuclear Power Plant development in China had entered into the stage of rapid development and was facing great challenges and that the Chinese government adopted IAEA safety standards.

Ms. R. Evans, Director, Regulatory and Policy Branch, Australian Radiation Protection and Nuclear Safety Agency (ARPANSA), shared her views on good program design, robust program assessment and continuous improvement of programs and processes for collaboration to enhance the effectiveness of national infrastructure through global and regional networks.

Mr. H. Steinhauer, Director General, Gesellschaft für Anlagen- und Reaktorsicherheit (GRS) mbH, gave a presentation on ETSON —founded in August 2010, as a forum for exchanging information on technical expertise in the field of nuclear safety and for contributing to the convergence of technical nuclear safety practices in Europe.

ETSON also promotes the definition and the implementation of nuclear safety research programmes, and further development of a European scientific and technical network for nuclear safety. Mr. Steinhauer introduced ETSON's future perspectives including the extension of knowledge management activities and the contribution to the GNSSN and the step-by-step increase of global technical cooperation.



Mr. K. Tomita, Chairperson, concluded that today's round table discussion was a good opportunity for the global and regional nuclear safety knowledge networking community to share information and discuss various issues not only for nuclear power programmes, but also for radiation protection and uranium mining matters. It was certainly made progress in enhancing cooperation among the networks. While recognizing that capacity and safety infrastructure should be built primarily by a Member States' own efforts and for their own interests, the participants reaffirmed their values in collaboration and coordination among global and regional networks for enhancing capacity building and infrastructure development.

According to Mr. Tomita overall, the participants commonly believed that it is time to encourage themselves to explore taking concrete collaborative actions to share knowledge and expertise among Member States. They strongly encouraged the GNSSN and the ANSN to further develop their IT infrastructure, as well as share the importance of exploring mutually beneficial way of establishing IT networking among GNSSN, ANSN, FORO, FNRBA, ANNuR and ETSON as appropriate for sharing knowledge and expertise. He further stated that they could

continue the discussion and further strengthen the human network built today at the international TSO conference as well as at the ANSN regional conference in Tokyo held the last week of October.

Regional Conference on 21st Century Capacity Building and Virtual TSO in Asia

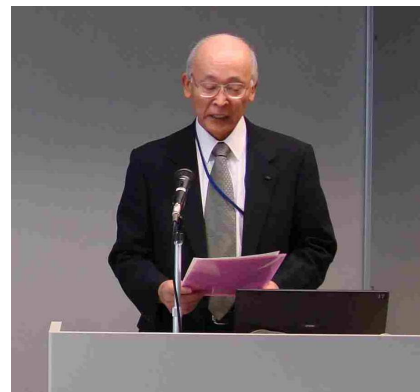
Tokyo, Japan, 29 October

On Friday, 29 October 2010, the Regional Conference on 21st Century Capacity Building and Virtual TSO in Asia took place in Tokyo, Japan, following the International Conference on Challenges Faced by Technical and Scientific Support Organizations (TSOs) in Enhancing Nuclear Safety and Security, 25-28 October 2010. Both conferences were co-hosted by IAEA and the Japanese Government, through the Japan Nuclear Energy Safety Organization (JNES). Approximately 60 participants attended the Regional Conference from 20 countries—particularly from those countries participating in nuclear safety regional networks including the Asian Nuclear Safety Network (ANSN), the Forum for Nuclear Regulatory Bodies in Africa (FNRBA), the Arab Network of Nuclear Regulators (ANNuR) and the European TSO Network (ETSON).

As a result of the dynamic change in the global nuclear community, including the emergence of new and the rapid expansion of existing nuclear power programmes and the wider use of radioactive sources, this Regional Conference focused on strengthening and expanding the human network among global and regional nuclear safety knowledge networks. It also focused on establishing and further enhancing effective nuclear safety Capacity Building and Infrastructure Development to ensure sustainable high levels of nuclear safety in the 21st century, supported by cyber platforms, inter alia, Virtual TSO.

Mr. K. Sogabe, President of JNES, warmly welcomed the participants and emphasised that

this Regional Conference would provide a timely opportunity for all participants to discuss proactive measures for furthering the global and regional networking and creating human networks in the area of nuclear safety. He also mentioned that Japan attaches high importance to regional cooperation in this area and that JNES had been actively collaborating with other Asian countries for the establishment and expansion of ANSN since its launch in 2002. JNES is always ready to share its experience in establishing and operating the ANSN for building other regional networks.



K. Sogabe. President of Japan Nuclear Energy Safety Organization (JNES)

Mr. K. Mrabit, Head of Safety and Security Coordination Section, Department of Nuclear Safety and Security, IAEA, expressing sincere thanks to the Japanese Government in hosting this important event through JNES, highlighted that the Regional Conference on Capacity Building and Virtual TSO was a perfect venue to address the complex challenges, opportunities and risks being faced by the nuclear community; and he also highlighted that the effective and efficient knowledge and experience sharing through active, in-depth and intensive interaction was a key for Capacity Building in the 21st century and to foster cooperation among the global and regional nuclear safety networks to support Capacity Building nationally, regionally and internationally.



K. Mrabit. Head of Safety and Security Coordination Section, Department of Nuclear Safety and Security, IAEA

The IAEA staff, Mr. M. Heitsch, Science Secretary of the International TSO Conference reported the conclusions and implications of this three day conference. The TSO conference covered four topical issues, to include: 1) Roles, Functions and Values that Guide TSOs; 2: Technical and Scientific Support for Nuclear Safety and Infrastructure Development and Capacity Building; 3) The Emerging Need for Nuclear Security Technical and Scientific Support; and, 4) Nuclear Safety and Nuclear Security Networking and Centres of Excellence. The following were some of the recommendations as result of the TSO conference:

- DS429—draft IAEA Safety Guide on External Expert Support on Safety Issues should be completed, approved and published as soon as possible, taking into account comments provided by Member States provide the basis for future IAEA peer review services, and allow for an objective evaluation of the performance of TSO functions, and the formulation of recommendations for their further improvement.
- The IAEA should initiate plans for a third international TSO conference, to be held in 2013–2014. In this respect, the conference welcomed the proposal of China to host this next conference.
- The IAEA should foster the establishment of a forum dedicated to nuclear safety infrastructure development issues related to scientific and technical support. This ‘TSO Forum’ would meet regularly in between the international TSO conferences.

- TSO functions should be extended to providing technical support to competent authorities in the field of nuclear security to achieve greater safety and security synergy.

The Regional Conference was divided into two panels accordingly: Topical Issue 1: Challenges of Capacity Building in the 21st Century in Asia and the establishment of a Network for Capacity Building Centres in Asia and Virtual TSO; and Topical Issue 2: Enhancing international and regional nuclear safety knowledge networking for internationally facilitating, establishing and enhancing capacity building. The first panel was chaired by Dr. Y. Nakagome, Vice-President of JNES, and the second panel was chaired by Mr. R.A.A. Raja Adnan, Director General of Malaysian Atomic Energy Licensing Board (AELB).



Keynote Panel Chairpersons; Y. Nakagome, Vice-President of JNES (right) and R.A.A. Raja Adnan, Director General of Malaysian Atomic Energy Licensing Board (AELB) (left)

During the first panel, Mr. C. Zhang, Nuclear Safety Center (NSC), China, presented nuclear power developments in China and its adherence to the principle of safety and quality first. He also discussed that the nuclear technology development and nuclear power programme brought forth both challenges and opportunities to NSC, China. He stated that NSC was willing to share their practices and welcomed all relevant organizations to participate in NSC activities and to share knowledge and experiences.

Dr. A.N. Lasman, Chairman of Indonesian Nuclear Energy Regulatory Agency (BAPETEN), presented the challenges of

capacity building, including human resource development, especially the gap between junior and senior staff resulting from discontinuous staff recruitment and the lack of an established national capacity building policy. He introduced that the Education and Training Centre had been established in November 2008 and some foreign experts had been invited to enrich the knowledge of BAPETEN's staff especially in the field of nuclear power plant (NPP) technology. He stated that the Virtual TSO could be utilized before the NPP project commenced as a vehicle for transferring knowledge between the advanced and developing countries—especially in the area of NPP license application. He further stated that from the advanced countries could provide information through the Virtual TSO medium as a means of sharing experience regarding siting, design and construction of the NPPs.



Keynote Panellists; A.N. Lasman, Chairman of Indonesian Nuclear Energy Regulatory Agency (BAPETEN) (middle) and C. Zhang, Chinese Nuclear Safety Center (NSC)(left)

Mr. N.H. Luu, Head, Division of Nuclear Safety of Vietnam Agency for Radiation and Nuclear Safety (VARANS), presented an overview of VARANS and its TSO, introducing their challenges for the NPP programme, namely: the need for a qualified professional staff, trained and experienced in applying principles and methods of multiple disciplines and a thorough knowledge of the legal requirements necessary to develop the legal infrastructure. He stated that a key solution for capacity building was international cooperation and experience sharing with Member States, the IAEA, the European

Commission, and that VARANS should have a strong TSO to support its regulatory activities, especially for its nuclear power program.



Keynote Panellists; N.H. Luu, Head, Division of Nuclear Safety of Vietnam Agency for Radiation and Nuclear Safety (VARANS)(right) and M-G Albert, Director for International Affairs, IRSN, France (left)

Mr. M-G Albert, Director for International Affairs, IRSN, France, introduced that the European Technical Safety Organization Network (ETSON), initiated in 2006, with the objective of being a forum for exchanges on safety analyses and R&D in the field of nuclear safety and that ETSON would develop further with new European Members as well as non-European Associate Members. He also introduced that as an initiative of European Technical Safety Organization, the European Nuclear Safety Training and Tutoring Institute (ENSTTI) provided vocational training and tutoring in performing nuclear safety assessments and nuclear security and radiation protection. He stated that networking was highly beneficial to the advancement of nuclear safety, and recommended the establishment of links between ETSON activities and other international networks.

After the Keynote speeches, panel discussions took place focusing on: 1) Networking and capacity building, and 2) the Virtual TSO.

Concerning the first topic of networking and capacity building, the panellists and attendees expressed various views and opinions. Among them, they expressed views regarding administrative procedures —while thought to be important, were not sufficient in themselves for nuclear safety; decision-making required

reliable information and a science-based approach; sharing and networking requires that each State have something concrete to share and bring to the table and networking could not compensate for those not having anything to share. A clarification was made from the IAEA that the Capacity Building Centre included more than just education and training, it also provided for expert advice, peer reviews and advisory services. It was noted that education and training materials available through the networks were valuable, but they could not replace classroom training only complement it. Acknowledging the differences in the ANSN and ETSON networks, there was a view that we could create more effective cooperation among networks if we connected different aspects of them.

With regard to the second topic of Virtual TSOs, the panellists and attendees expressed various views and opinions. There was a view that e-learning could be effective to check the basics in the first level of training, but might reach its limits in further levels where direct training from the trainer was most effective. There was another view that the Virtual TSO could be used at the beginning to trigger discussions among experts. Some issues about the Virtual TSO were raised in terms of timeliness, responsibility and compensation. There were some views that the Virtual TSO could work best under some sort of formal framework, like a Memorandum of Understanding (MoU) between two or more countries, and that a TSO network or forum might be effectively formed first under such a framework, and then something virtual could be explored.

During the second panel, Dr. Y-W Park, Director of International Nuclear Safety School (INSS), Korea Institute of Nuclear Safety (KINS), presented Korea's contribution to the global and regional knowledge networks, to include: KINS as an IAEA-affiliated regional training centre for capacity building, KINS' advisory service for regulatory infrastructure building for new entrants, and coordination of four ANSN Topical Groups in the field of education and

training, government and regulatory infrastructure, safety analysis and siting. He highlighted Korea's international cooperation among new entrants and NPP countries in a flattening world, harmonising safety approaches for mixed reactor generations and fostering transparency and objectivity in new environments.



Keynote Panellists; Y-W. Park, Director, International Nuclear Safety School (INSS), Korea Institute of Nuclear Safety (KINS) (middle) and S.B. Elegba, Director General, Nigerian Nuclear Regulatory Authority (left)

Dr. A.M. Dela Rosa, Director, Philippine Nuclear Research Institute (PNRI), focused on the biggest challenge faced by both the current players and the new entrants was to source a critical mass of competent human resources who had in-depth understanding of the complexities of the nuclear power technologies. She introduced the training courses and framework of PNRI, their human resource development strategies (strengthening the PNRI Nuclear Training Centre by linking it with Regional Training Centres and sending staff for training abroad through bilateral or multilateral mechanisms) and their methods for maximising benefits from international and regional cooperation in ANSN, EC, IAEA, etc. She stated that countries in Asia could draw from each other's strength through regional networking to further the common interests and aspiration of a better life for the majority of the people in the region and that Asia could share its knowledge and expertise in nuclear power with the other regions.

Prof. S. Elegba, Director-General, Nigerian Nuclear Regulatory Authority, presented that the FNRBA was promoting its Model Project Approach and Thematic Working Groups for

pursuing the enhancement, strengthening and harmonization of the radiation protection, nuclear safety and security regulatory infrastructure and framework in Africa. He emphasized the importance and great value of cross-linking the networks, stating that safe and secure operation of NPP was of global concern and people must not only think globally, but also act globally.



Keynote Panellists; A.M. Dela Rosa, Director, Philippine Nuclear Research Institute (PNRI)(right), A. Mahjoub, Director General, Arab Atomic Energy Agency (AAEA) (middle) and K. Mrabit, IAEA (left)

Dr. A. Mahjoub, Director General, Arab Atomic Energy Agency (AAEA), introduced their recently developed: 'Arab Strategy for Peaceful use of Atomic Energy up to 2020'. He stated that this was approved by the Arab Leaders and AAEA's mandate was to assist Arab states to develop their nuclear infrastructure and act as coordinator between member states to foster the exchange of experience. He also mentioned that ANNuR launched recently to: 1) enhance, strengthen and harmonize the regulatory infrastructure among Arab countries; 2) provide mechanisms for ANNuR to be an effective and efficient internationally recognized network for exchange of regulatory experiences and practices among the nuclear regulatory bodies in Arab states. He further announced that ANNuR formulated a three phase project—planning & analysis, identification of scope—in 2010 with project implementation planned to begin in 2011 with full implementation from 2012.

Mr. K. Mrabit, IAEA, presented the Agency's perspectives on Capacity Building and Global Nuclear Safety and Security Network (GNSSN). He introduced the Agency's broad

range of Capacity Building efforts, to include: the establishment of the Vision for Capacity Building and the Principles for Capacity Building; establishment of the International Nuclear Safety Centre (INSAC); establishment of the Regulatory Cooperation Forum (RCF); and its promotion of cooperation and collaboration among GNSSN and regional networks. He stated that GNSSN was launched to ensure that critical knowledge, experience and lessons learned about nuclear safety and security were distributed and exchanged as widely as possible. He also stated that GNSSN would play a more prominent role in strengthening and continuously improving the Global Nuclear Safety and Security Framework. He highlighted that Member States needed to build their own strategy for capacity building, and that enhancing collaboration and coordination among the global and regional networks was crucial to face the current and future dynamic and complex challenges. He emphasized that commitment and support from all the stakeholders was essential.

After the Keynote speeches, the panellists and the floor discussed the value of networking and the optimization of resources when developing further networks. Chairman Raja Adnan concluded the session, summarizing: 1) no cyber linkage have been developed among networks yet; 2) further development of GNSSN is needed, acknowledging GNSSN could provide significant value as a one-stop centre providing global access to all information and providing a bridge to all networks to disseminate and share this information among the networks. On the other hand, it was cautioned that GNSSN should not be another layer of bureaucracy and should avoid unnecessary duplication and accumulation of network activities; its important is to maximize and optimise resources for pursuing further development and cooperation among networks.

At the closing session, Chairman Nakagome and Chairman Raja Adnan reviewed the conclusions of the panel discussions and expressed their appreciation to the panellists

for their valuable presentations and to all the attendees for their active participation to the constructive panel discussions. They further thanked JNES for their extraordinarily fine hosting and also thanked the IAEA secretariat for its efforts in organizing the event.

.Regional Activities

Education and Training Topical Group

OBJECTIVE

1. To identify and share best practices for national training strategies
2. To identify training needs and specific training projects
3. To identify training material needs
4. To contribute to revise and continuously improve the training material available in the ANSN

Consultancy Meeting to prepare new Terms of Reference (ToR) and Mid-term Work Programme of the Topical Group on Education and Training (E&TTG) and Guidelines for Education and Training Peer Review Service Vienna, Austria, 10 – 19 May 2010

Experts from India and Spain and two experts from US who have a lot of experience in the field of education and training, the coordinators of E&TTG, Mr. G. Lokollo and Mr. Y.J. Choi, and IAEA staffs members attended the consultancy meeting.

The purposes of the meeting were to draft a revised terms of reference (ToR) of the E&TTG, to draw up a Mid-term Plan of activities of the E&TTG, which should be in line with the Vision for the ANSN by the year 2020 (Vision 2020), and to develop a draft “Guidelines for the Nuclear Safety Education and Training Peer Review Service.”

IAEA staff members made presentations on current situations of the ANSN including the Vision 2020 and its action plan for establishing the Regional Capacity Building System in Asia. The role and activities of the E&TTG were reviewed and discussed among the participants for sharing common understanding of E&TTG’s mission and objectives. The “Steering Committee of training for regulators” which is being operated to advise the IAEA on its E&T activities for the

regulatory bodies was also presented by an IAEA staff member.

After the plenary presentations from the first day, the meeting was divided into two working groups. The first group composed of the invited experts developed a draft “Guidelines for the Nuclear Safety Education and Training Peer Review Service.” The second group, composed of the coordinators of E&TTG and the IAEA staff members, revised the ToR of the E&TTG and developed a mid term work programme of the group.

The revised ToR and the mid term plan were discussed and agreed among the whole participants at a plenary session with further improvements.

It was agreed that the revised ToR, mid term plan for E&TTG, and draft guidelines for education and training peer review service will be further reviewed and modified as needed, and approved during the annual meeting of E&TTG combined with a workshop on training management from 9 to 13 August, 2010 in Indonesia.

Basic Professional Training Course (BPTC) in Nuclear Safety

Daejeon, Republic of Korea, 21 June – 2 July 2010

The training course was held in Daejeon, Republic of Korea, hosted by the Korean Institute of Nuclear safety (KINS). Ten participants from five ANSN member countries

attended the course; in addition, five more participants from South America and Europe have completed the course.

The training course covered the overall aspects of nuclear safety at the post-graduate level. Participants learned about the key issues of nuclear safety, such as basic safety principles, the concept of defence in depth, nuclear reactor principles, radiation protection, environmental effects, and so on, and how they should be taken into account in the conception and operational phases of a nuclear power plant.



The evaluations from the participants include the following comments: *“Separate courses for regulators from the R&D people are necessary, as a large part of the course could be shared by both groups but the remaining part could be specific and specialized for a particular group”*; *“Some course materials should not be too technical considering the varying levels of backgrounds amongst the participants.”* The training evaluation questionnaire revealed that an overwhelming majority of the trainees had responded positively to this course. Additionally, the increase in the non-ANSN member countries’ interest and participation could be an indication of positive endorsement in ANSN’s education program.

Training Course on Regulatory Control of Nuclear Power Plants Daejeon, Republic of Korea, 26-30 July 2010

The training course was held in Daejeon, Republic of Korea, hosted by the Korean Institute of Nuclear Safety (KINS). The purpose of this training course was to provide knowledge and experience on the regulatory

control of the nuclear power plants (NPP) and research reactors.



Lectures based on the IAEA’s training book, *Regulatory Control of Nuclear Power Plants (Training Course Series No. 15)*, were delivered by the experts provided by KINS. The course included the following subjects: regulatory framework, regulatory organization, regulatory guidance, licensing and licensing documents, assessment of safety, and regulatory inspection and enforcement. Most presentations were supplemented with the lecturers’ country-specific practices, which enabled the trainees to receive a more tangible understanding of the topics.

Trainees were satisfied with the training course, and the results of the pre-exam from the course showed that the trainees reasonably enhanced their knowledge through the lectures.

Annual Meeting of the Topical Group on Education and Training (E&TTG) and Workshop on Management of Training

Daejeon, Republic of Korea, 9-13 August 2010

The annual meeting of the E&TTG and the Workshop on Management of Training that were held in KINS from 09–13 August, were attended by E&TTG members from China, Indonesia, Japan, Rep. of Korea, Malaysia, Philippines, Thailand and Vietnam together with external experts from France and one IAEA staff.



At the annual meeting, the progress of Capacity Building Coordination Group (CBCG) activities for implementing and achieving the 'Vision for the ANSN by the year 2020' (Vision 2020), and the update of the Nuclear Safety Strategy Dialogue and the Steering Committee (SC) were reported by Mr. G. Lokollo, Coordinator of E&TTG. The participants thoroughly discussed the new role of E&TTG for supporting the establishment of Regional and National Capacity Building System in Asia in collaboration with the CBCG and other topical groups (TGs) and the SC. Accordingly, the Terms of Reference of E&TTG were revised and the E&TTG Action Plan as its mid-term activity planning with their objectives, outcomes, outputs and outcome-based performance indicators were also developed.

During the workshop, a presentation on the European Nuclear Safety Training and Tutoring Institute (ENSTTI) was given by an external expert from France, other participants gave presentations on the management of training in their countries. It was observed that most ANSN countries applied and implemented all phases of the Systematic Approach to Training (SAT) for their policy and strategy of training. Good practices were acknowledged in some ANSN countries for certifying in partial or whole training management process, such as, training plan, design, delivery and evaluation by internationally accredited certification organizations.

It was noted that developing the necessary infrastructure for future nuclear power development is a major concern in most

ANSN countries. In particular, the participants shared a view that solid education and training policies should be available and implemented in national and institutional level at those countries embarking on NPP so that the education and training could meet the needs in a timely manner.

Training Course of Train the Trainer Daejeon, Republic of Korea, 14-16 September

The Korean Institute of Nuclear Safety (KINS) hosted this training course; ten participants attended from Indonesia, Malaysia, Philippines, Thailand and Vietnam, along with trainers including the Coordinators of ANSN Topical Group on Education and Training (E&TTG) from Indonesia and the Republic of Korea.

The purpose of this training course was to provide knowledge and experience on the design and development of training. The information about IAEA activities on the education and training programme was provided to the participants. An overview on the process and methodology of systematic training needs assessment and an introduction of the IAEA competency model given in IAEA-TECDOC 1254: *Training the staff of the regulatory body for nuclear facilities: A competency framework*, were presented. The participants learned the design and development of training based on the results of a systematic training needs assessment, to best meet the needs for improving and achieving the desired performance.



The participants designed and developed training based on desired performance as they defined and then presented the results of this training exercise. Trainees valued this exercise for strengthening their comprehension in the process, design, development and methodologies they learned and practiced.

**KINS hosts Special Course on
Regulatory Safety Review of NPPs
under Construction**
Daejeon, Republic of Korea, 8–19
November 2010

This special, on-the-job training course hosted by the Korean Institute of Nuclear Safety (KINS) was aimed at enhancing knowledge and basic capabilities in the safety of nuclear power plants (NPPs), in particular in relation to the regulatory safety review of NPPs under construction.

audit simulation, either in the role of inspectors or of counterparts. This exercise allowed participants to deepen their knowledge of a sound QA programme for ensuring the safety of NPPs under construction and how to conduct QA inspections.

As a complement to the training sessions, a technical tour of two and a half days was organized that took the trainees to three sites: Doosan Heavy Industries and Construction plant, where major components of NPP control systems are manufactured; the Wolsung NPP site, where several NPPs are under operation and new plants are being built; and, the Hanaro research reactor of the Korea Atomic Energy Research Institute and Korea Nuclear Fuel Co. This technical tour provided trainees with unique insights into the actual operation of nuclear facilities and manufacture of nuclear components.



Participants at the KINS-hosted course in Daejeon aimed at building capacity in the regulatory safety review of NPPs under construction.

For the practical courses dealing with experiences in quality assurance (QA) audit simulation, several senior managers from an engineering company and a company that operated an NPP in the Republic of Korea had been invited as trainers: these were individuals directly in charge of QA programmes in their organizations. Trainees were divided into small groups; each group conducted a QA

Emergency Preparedness and Response Topical Group

OBJECTIVE

1. To identify and share best practices for national EPR strategies
2. To identify EPR needs and strategic EPR programme
3. To serve as a forum for information exchange
4. To plan and to provide EPR training courses
5. To assist to learn the EPR through national and international level exercises.

Workshop on National Intervention Levels for Taking Urgent Protective Actions and Protection of Workers and 5th meeting of Topical Group on Emergency Preparedness and Response (EPRTG) Jakarta, Indonesia, 10-14 May 2010



Twenty-four participants from Australia, Japan, Indonesia, Malaysia, Philippines, Thailand, Vietnam and an IAEA staff member participated in this workshop (10-12 May 2010) and the 5th meeting of this topical group (13-14 May 2010) hosted by the Nuclear Energy Regulatory Agency (BAPETEN) in Indonesia.

The objective of this workshop was to compare both the national intervention levels to take urgent protective action and the dose guidance values for emergency workers. On the first day, the IAEA presented their approach on the goals of emergency preparedness and response and the criteria for interventions and protective actions. Following the presentation, the participants from Australia and Japan provided an account of their national intervention levels. The participants discussed the presentations and the paper on Japan's experience regarding the JCO criticality accident.

On the second day, presentations on National Intervention Levels were given by the representatives of Indonesia, Malaysia, Philippines, Thailand and Vietnam. It was indicated that the ANSN countries had begun adopting the values and criteria set forth by the relevant IAEA standards and guidelines and started necessary improvements for their implementation. On the third day, the compilation of the data was completed for the comparison of Generic Intervention Levels (GIL), Generic Action Levels (GAL) and Emergency Worker Guidelines (EWG) and the results of comparative assessment showed that there were no significant differences among the national intervention levels adopted by most of the countries.

At the 5th meeting of EPRTG, results of the Integrated Safety Evaluation (ISE) were discussed and progress of the emergency response capabilities recognized in all ANSN member states conducting the ISE; their efforts in this endeavour were also acknowledged. The EPRTG also discussed modification of its Terms of Reference (ToR) and its Performance Indicators, and agreed on its mid-term

objectives, mid-term strategy, specific milestones and activities for 2010 and 2011.

Workshop on Radiation Emergency Management for Decision Makers and Technical Supporters

Hitachi-naka, Japan, 28 June– 2 July 2010

The Nuclear Assistance and Training Centre of the Japan Atomic Energy Agency (NEAT/JAEA) hosted this workshop; thirty-two participants attended from Indonesia, Japan, Malaysia, Philippines, Thailand and Vietnam along with IAEA staff.

On the first three days, after introductory presentations from IAEA staff, discussions focused on the experience of Japanese experts, who participated in the interventions and response activities after the JCO criticality accident in 1999. The lecturers, who were personally involved in the management and technical support tasks of this response, gave a first-hand account of what happened and how the consequences of the accident that occurred on 30 September 1999, were handled. Additional information was also provided by Japanese experts regarding valuable tools to support emergency responses, including: SPEEDI, a system for the prediction of environmental emergency dose information; ERSS, a system for the prediction of accident progression of nuclear power plants; and ECHO, a system for collection of information during emergencies. The IAEA staff also gave lectures on emergency response processes and international requirements for emergency preparedness and response. Vital discussions were held after every presentation and information was also shared among all participants; especially during the discussion on Japan's experience with the JCO criticality accident.

During the last two days, national presentations on emergency management for decision makers and their technical support were delivered by representatives of Indonesia, Japan, Malaysia, Philippines, Thailand and Vietnam. For the 15 protective actions selected from the IAEA GS-G-2.1: Arrangements for Preparedness for a Nuclear or Radiological Emergency, they assigned decision makers, decision criteria and implementation. These data were compiled for

comparison. Criteria for the different protective actions focused the participants' attention and triggered dynamic discussions. A better understanding of international standards, mutual understanding and harmonization among member states, were significantly promoted through these discussions, which can lead to development and/or improvement of their capacity for emergency preparedness and response and their own national emergency response plans.

Workshop on Effective Methods and Procedures for Evaluation of Emergency Preparedness and Response, and Observation of Member State's Exercise

Hitachinaka and Omaezaki, Japan, 18-22 October 2010

The Nuclear Emergency Assistance and Training Center of Japan Atomic Energy Agency (NEAT/JAEA) hosted this workshop; 25 participants from Indonesia, Japan, Korea, Malaysia, Philippines, Thailand, Vietnam along with IAEA staff. The purpose of this workshop was to share the progress on ANSN Member States' emergency preparedness and the experience regarding national exercises that tested their emergency preparedness and responses capabilities, and also to observe Japan's national nuclear emergency exercise.

On the first day, presentations were given by representatives of Indonesia, Japan, Korea, Malaysia, Philippines, Thailand and Vietnam on effective methods and procedures for evaluation of emergency preparedness and response. Vital discussions followed regarding evaluation procedures of these exercises. It was noted that large scale exercises provide a good opportunity to test and/or verify the effectiveness of emergency preparedness and response systems.

Site tours were conducted in the afternoon on the second day to Hamaoka No. 5 nuclear power plant and related facilities of Chubu Electric Power Company, and Hamaoka Off-site Center (Nuclear Emergency Response Center in Shizuoka). Presentations on national exercises and lessons-learned were also delivered. Sharing such information and experiences is extremely

important when planning and organizing national exercises in their own countries.

The Japanese nuclear disaster prevention exercise started at 13:00 on 20 October and ended at 13:00 on 21 October. Observation of the exercise was conducted for such items as initial response at Hamaoka OFC, preparation for environmental radiation survey (an aerial survey) at Shizuoka Environmental Radiation Monitoring Center, emergency transport of an injured person by an ambulance helicopter at Omaezaki ground, emergency response at Hamaoka OFC, evacuation and screening of residents at Niino Sheltering site, and press conference at Hamaoka OFC. Special attention was paid to communication among all participating organizations, information sharing among them and public announcements especially to the media.

A round table discussion with NISA officers after the exercise gave a valuable opportunity to the participants to exchange EPR views directly with Japanese regulatory staff. Discussions were held on decision making for environmental radiation monitoring and evacuation, notification of an accident to neighboring countries, and so on.

On the last day, each participant presented her/his impressions, comments and questions to the Japanese exercise. Vital discussions were held among the participants to enhance understanding of these exercises.

Government and Regulatory Infrastructure Topical Group (GRITG)

OBJECTIVE

1. To promote co-operation, share the best practice and lesson learnt among the member countries in the region
2. To enhance the governmental and regulatory infrastructure in the region using the international safety standards
3. To identify the needs and specific projects to assist member countries in the area of development of governmental and regulatory infrastructure
4. To improve governmental and regulatory infrastructure continuously and sustainability in the member countries

Annual meeting of the Topical Group on Governmental & Regulatory Infrastructure (GRITG) and Workshop on the Lessons Learned from Peer Review Missions (IRRS) Hanoi, Vietnam, 6 – 9 July 2010

Twenty participants from China, France, Indonesia, Japan, the Republic of Korea, Malaysia, Philippines, Thailand and Vietnam along with IAEA staff, participated in this annual meeting and workshop hosted by the Vietnam Agency for Radiation and Nuclear Safety (VARANS).

IAEA staff made presentations about the current status of ANSN activities and reported the results of the 3rd meeting of the ANSN Nuclear Safety Strategy Dialogue (NSSD), 22-23 April, 2010, Yogyakarta, Indonesia and the 2nd meeting of Capacity Building Coordination Group (CBCG) and the 11th meeting of ANSN Steering Committee (SC), 25-28 May 2010, Vienna, Austria (see ANSN Newsletters No. 105 and 107).



The participants discussed and agreed upon the updated terms of reference for GRITG. They also discussed the GRITG action plan to

support the establishment of the ANSN Regional Capacity Building System. They agreed to develop the GRITG action plan by the end of September 2010.

Dr. Dang Thanh Luong, Deputy Director General of VARANS opened the workshop on 7-9 July 2010. In his address, Dr. Dang cited a good example of an IRRS mission conducted in Vietnam last year. This mission provided results that successfully helped VARANS to identify issues for further improvement.

The IAEA staff provided general information about the IRRS mission programme and Self-Assessment Tool (SAT). The participants recognised that the IRRS process (i.e. Self-assessment, IRRS mission and follow-up mission) provides powerful tools to enhance Regulatory Bodies' organisation and practices and contributes to the international harmonisation of regulatory approaches, including mechanisms to share good practices across ANSN countries.

During the workshop, participants gave presentations on the IRRS Mission and shared lessons learned based upon these presentations from experts from China, France, Japan, the Republic of Korea and Vietnam. The participants identified the need for organizing an ANSN regional workshop on self-assessment for the continuous improvement of government and regulatory framework including the use of SAT during 2011.

**Workshop on Governmental and
Regulatory Infrastructure**
Daejeon, Republic of Korea, 9-12
November 2010

This workshop, hosted by the Korean Institute of Nuclear Safety (KINS), included ten participants from Indonesia, Malaysia, Philippines, Thailand and Vietnam, with six experts from France and Republic of Korea and IAEA staff.

Experts from France, KINS and IAEA presented multiple lectures and facilitated group discussions. The participants also gave presentations on their national regulatory framework, practices, and national nuclear power programs, as well as actively participated in various discussions. The discussions addressed the following issues: IAEA safety standards for regulatory bodies; responsibilities and functions of the government; the global safety framework; comparison of countries' approaches to Technical and Scientific Support Organizations (TSO); and the licensing process for new nuclear installations.



**Participants meet at KINS to discuss building
regulatory infrastructure.**

The participants highlighted the importance and usefulness of this workshop's discussions, especially for the countries embarking on nuclear power programmes.

Operational Safety Topical Group

OBJECTIVE

1. To identify and share best practices for the safe siting, design, construction, operation (including ageing management), modification and decommissioning of nuclear power plants as well as to be a source of expertise in these matters
2. To promote the mutual exchange of information through ANSN and to foster
3. the sharing of knowledge and experience on the safety of nuclear power plants
4. To promote the mutual cooperation between both operators and regulators of participating Member States in the safe operation of nuclear power plants

Workshop on Commissioning Preparation and Management and Annual Meeting of the Topical Group on Operational Safety

**Qingdao, Shandong Province, China 18 -22
January 2010**

China Power Investment Corporation (CPI) hosted and held this workshop from 18 – 20 January 2010; 46 participants attended, representing 22 organizations from 8 ANSN Member States, including one IAEA staff and an external expert from Romania. The purpose of the workshop was to share practices and experiences on commissioning preparation and commissioning management.

The workshop programme included presentations by the IAEA, by the external expert and by participants from regulatory bodies and technical support organization of Indonesia and NPP, operating companies in China, France and Japan. IAEA presented relevant IAEA-specific documents, including “Safety Standards on Commissioning”, “TECDOC on Commissioning Experience” and “Commissioning Viewpoints and Good Practices from IAEA pre-OSART missions.” A practical exercise was also undertaken, utilising facts found in pre-OSART missions. The presentation by the external expert covered various aspects of commissioning, including NPP commissioning and management, commissioning training and mobilisation, interfaces and turnover. The workshop participants gave presentations for sharing their experiences of commissioning.

Question and answer sessions were held after each presentation, with a final discussion on all topics held each day. The workshop provided a forum for discussion and exchange of information related to commissioning preparation and management and was well received with active interaction and discussions among participants. The fourth Annual Meeting of the Topical Group on Operational Safety (OSTG), hosted by CPI, was held from 21 – 22, January 2010, attended by 33 participants from ten ANSN Member States and two IAEA staff members.

IAEA made a presentation on recent developments on the policy and structure of the ANSN, including discussion of “Vision 2020” — the ANSN’s longrange plan for the Development of Regional Capacity Building System for Nuclear Safety Infrastructure in Asia. In addition, the newly established Capacity Building Coordination Group (CBCG) and ANSN management team will further improve the implementation of ANSN capacity building activities. IAEA also presented the current operating safety issues and improvements identified by the IAEA.

Thailand, Malaysia and the Philippines made presentations on the status of nuclear power development within their respective countries. China made a presentation on the current situation of nuclear power development in China and Japan presented the current status of nuclear safety regulations in Japan. The Republic of Korea presented the current activities of Operating Experience Feedback (OEF) in Korea and France shared EDF

experiences in China. At the meeting, the mid-term OSTG work plan was discussed and the OSTG agreed that each national representative to the OSTG would submit specific action plan. The OSTG also discussed the draft Terms of Reference (TOR) that reflected the recent changes of the ANSN management and structure. In addition, development of an OSTG Expert Databank was discussed. It was agreed that the expert databank would be valuable for the OSTG and the expert resources would be shared within IAEA.

Radioactive Waste Management Topical Group

OBJECTIVE

1. To identify and share best practices for safety of national radioactive waste management strategies
2. To establish usable support systems and database for safety of national radioactive waste management strategies
3. To assist to join and meet national obligations of the Joint Convention
4. To serve as a forum for information exchange and to provide training course

Workshop on Evaluation of Decommissioning Waste including Waste Inventory and Characterization Jakarta, Indonesia, 17-21 May 2010

This workshop was hosted by the National Nuclear Energy Agency (BATAN) in Indonesia and was attended by approximately 20 scientific, technical and regulatory personnel from Indonesia, Japan, Malaysia, Philippines, Thailand and Vietnam who are involved in development of decommissioning plans, as well as two external experts from USA and an IAEA staff member. The purpose of the workshop was to provide training on development of a decommissioning plan, specifically waste inventory assessment, volume estimation, and management, and provide detail on the concept and process of characterization and its relationships to safety standards and safety assessment.



The course was introduced with a series of presentations on the Concepts of Decommissioning Planning and Safety

Assessment, IAEA activities related to development and implementation of guidance, and a test case facility that was used as the basis for group exercises throughout the week. Prior to the technical site visit, the participant from Japan provided an account of their national approach to decommissioning planning, which reinforced the concepts presented during the week. National presentations were given by the participants, reflecting their varying levels of preparedness for decommissioning planning; however, all the participants were actively engaged in classroom discussions and exercises, and the group exercises and subsequent discussions illustrated that the majority of participants grasped the concepts presented.

Annual Meeting of the Topical Group on Radioactive Waste Management (RWMTG) and Workshop on the Joint Convention, including a Supporting Internet-Based System for Data Reporting (NEWMDB)

**Tokyo, Japan, 27 September-1 October
2010**

The Nuclear and Industrial Safety Agency (NISA), Ministry of Economy, Trade and Industry (METI), Japan, in cooperation with the Japan Nuclear Energy Safety Organization (JNES) and supported by Japan Atomic Energy Agency (JAEA), hosted the annual meeting of the RWMTG, held on 27 and 29 September

2010; representatives from Australia, China, Indonesia, Japan, Korea, Malaysia, Philippines, Thailand and Vietnam along with one external expert from the US and IAEA staff attended.

Mr. Hisanori Nei, Deputy Director-General for Nuclear Fuel Cycle, NISA, stressed in his welcoming address the importance of RWMTG activities, stating that Japan would continue contributing to the RWMTG activities and to the promotion of ratification/accession of the Joint Convention on the Safety of Spent Fuel Safety Management and on the Safety of Radioactive Waste Management.

The group was provided results from the 3rd meeting of ANSN Nuclear Strategy Dialogue, 22-23 April 2010, Yogyakarta, Indonesia and the requests to each topical Group (TG) agreed at the 2nd meeting of Capacity Building Coordination Group, 25 May 2010, Vienna, Austria—to prepare a TG Action Plan for implementing ANSN Vision 2020 and Outcome-based Performance Indicators of TG activities. The RWMTG Coordinator proposed a draft RWMTG Action Plan and Outcome-based Performance Indicators and the group agreed to the proposal with necessary modification.

The IAEA Staff and the Technical Officer (TO) of RWMTG, reported on the summary of the main activities in the 1st phase (2007-2009), the summary of RWMTG Activity Plan in the 2nd phase (2010-2012) and the overview of RWMTG activities since the last annual meeting of RWMTG in September 2009. Representatives from China, Indonesia, Korea, Malaysia, Philippines, Thailand and Vietnam presented their relevant country activities, including the current status of the radioactive waste management issues. Based on the RWMTG Activity Plan in the 2nd phase and the country presentations, the group agreed to specific RWMTG activities for 2011 and 2012.

The RWMTG Coordinator reported the overview of RWMTG activities for ratification/accession of the Joint Convention. Representatives from Indonesia, Malaysia, Philippines, Thailand and Vietnam, who had not yet ratified/accessed to the Joint Convention, reported on their follow-up actions. As a result of discussions, the Action Plan for Ratification/Accession of the Joint Convention established last year at the RWMTG was revised. In addition, the group recognised the

importance of further contacts and actions to high level policy makers of their own government, including other ministries and the necessity of effective support by IAEA and related organizations.

At a special session by Japan, three presentations were given by experts from the Japan Atomic Power Company (JAPC), the JAEA and the Japan Nuclear Fuel Limited (JNFL).

NISA/METI, Japan hosted the Workshop on the Joint Convention, including NEWMDB, from 28 to 30 September 2010, in cooperation with JNES. Representatives from five Contracting Parties and from nine Member States not Contracting Parties to the Joint Convention and IAEA staff participated in the workshop.

The objectives of the workshop were as follows: to provide information on the current status of the Joint Convention; discuss common facts that might affect ratification/accession; review lessons learned in the Joint Convention Review Process; to promote early ratification/accession; and, to provide information about the NEWMDB.

Following these presentations, a Joint Convention Country Group session was held to discuss draft national reports from Indonesia and the Philippines. The participants appreciated the workshop as they received useful insight on the details of the functioning of the Joint Convention, on the elaboration of the National Report and on being prepared for the Review Meetings.

Safety Analysis Topical Group

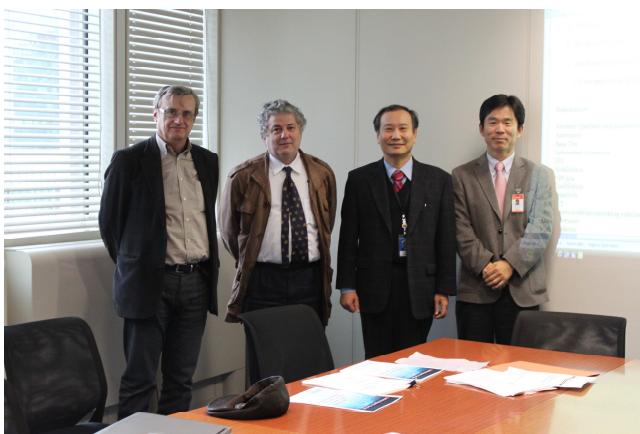
OBJECTIVE

1. To provide a forum for the exchange of information and documentation
2. To maintain and improve the knowledge acquired during the TG activities

Consultancy Meeting to develop IAEA Guidance on Verification and Validation of Computational Tools in Safety Analysis Vienna, Austria, 18-22 January 2010

The consultancy meeting took place in Vienna to develop a technical guidance document on verification and validation (V&V) of computational tools for safety analysis complementing the relevant IAEA Safety Standards. The meeting was attended by three experts from Italy, France and Korea and an IAEA staff.

The safety analyses of Nuclear Power Plants (NPP) require complex and interdisciplinary expertise heavily relying on computer codes. There is a strong need to have more detailed guidelines in this field in those countries embarking on NPP in particular the ANSN Member States.



Due to the safety significance of computer codes, code V&V has been a subject of IAEA Safety Standards and Guides. In particular, IAEA Safety Standard, GSR Part 4: Safety Assessment for Facilities and Activities (2009) stipulates that any computer codes used in the

safety analysis shall undergo V&V. IAEA Safety Standard Guide SSG-2: Deterministic Safety Analysis for Nuclear Power Plants (2009) provides general guideline on how to meet the requirement of GSR Part 4. It has been acknowledged, however, that the guidelines on the code V&V are still too general to apply.

Therefore the ANSN organized the consultancy meeting as an activity of the Topical Group on Safety Analysis (SATG) to develop an IAEA TECDOC or Safety Report Series (SRS) on the code V&V aiming to complement GSR Part 4 and SSG-2. At the meeting, a preliminary table of contents was outlined. When the guidelines are developed and completed, the guidelines will be fully used within the SATG activities to ensure a proper application of the relevant IAEA Safety Standards in the ANSN Member States.

2nd Consultancy Meeting on Development of a document related to Safety Analysis Code Verification and Validation

Vienna, Austria, 5 – 9 July 2010

The consultancy meeting took place in Vienna from 5 to 9 July 2010 to develop practical IAEA guidance on verification and validation (V&V) of system hydraulics (SYS TH) code for safety analysis within the framework of ANSN. The meeting was attended by three experts from Italy, France and Korea and an IAEA staff.

It is commonly known that, due to the formidable complexity in geometries and phenomena dealt by SYS TH code, simplifications and approximations along with experimental correlations are virtually inevitable, posing significant challenges not only for its development but also for its V&V.

The code V&V has been a key subject of the IAEA Safety Standards. In spite of the progress made to date, it is acknowledged that the IAEA guidelines on the code V&V are still too general—in particular for those Member States embarking on NPP (particularly the ANSN countries) to apply. A more practical guidance on code V&V was sought in the form of a document or Safety Report Series (SRS) to complement existing Safety Standards—such as, relevant parts of GSR Part 4: Safety Assessment for Facilities and Activities (2009) and SSG-2: Deterministic Safety Analysis for Nuclear Power Plants (2009). Three sequential consultancy meetings (CS) had been scheduled, within the framework of the ANSN, to respond to this need. This CS was the second one, and was attended by the same experts who joined the first consultancy meeting held in January 2010 (see ANSN Newsletter No. 99).

In this second meeting, in-depth discussions on the draft guidance focused on inconsistencies and organizational structure—to determine if the approach and descriptions among the authors were cohesive, and to identify the parts or sections of the draft that should be rearranged, merged, elaborated, added or eliminated.

An Action plan for the next CS was established, with the end goal of having the first full draft completed by the end of October 2010 to presented at the 3rd CS. Moreover, it was suggested that the final draft should also undergo an independent experts' review prior to its publication—with the goal of gaining further consensus on the approach and guidance presented. Apart from and prior to the independent review, it was also recommended that the draft be peer reviewed to improve the writing quality as well as the structure and logical flow; this peer review should be done in close contact with the authors and completed by the end of February 2011.

Workshop on Web-based Safety Analysis Competency Building
Selangor, Malaysia 16-20 August

The Malaysian Atomic Energy Licensing Body (AELB) hosted this workshop; 25 participants attended along with one IAEA staff and an expert from the Korea Atomic Energy Research Institute (KAERI). The purpose of this workshop was to demonstrate the operability of the Web-based Seminar (Webinar) and to provide an opportunity to the participants to be more familiar with the Visual System Analyser (VISA/RELAP) code.

During the workshop, various trials were made to find a stable, yet effective way of conducting Webinars between AELB and KAERI; the operability was successfully demonstrated (depending on the internet speed). Three case studies using VISA were also carried out. All the participants were given reference input decks for getting practical experience on how VISA/RELAP works. The participants appreciated VISA for its outstanding functionally and easy user interface.



At the workshop, the vision of the Topical Group on Safety Analysis (SATG) and its implementation strategy were discussed along with action items to be taken. The SATG agreed to its vision statement of being an instructor of the safety analysis by 2020. The SATG chose the LOCA analysis as the priority area for the first three years.

Annual Meeting of the Topical Group on Safety Analysis (SATG) and Workshop on Practical Approach to Safety Analysis for Nuclear Power Plants

Daejeon, Republic of Korea, 4-8 October 2010

The annual meeting of the SATG and the Workshop on Practical Approach to Safety Analysis for Nuclear Power Plants were both

held at the Korean Institute of Nuclear Safety (KINS) from 4-8 October 2010; 12 participants together with three experts from the Korea Atomic Energy Research Institute (KAERI) and two IAEA staff, namely Technical Officer (TO) and Project Management Officer (PMO) for SATG attended the meeting.



During the first two days of the annual meeting, recent changes and progress of ANSN activities were reviewed, including: the ANSN Vision 2020 implementation strategy and the draft road map for safety analysis capacity building (covering SATG activities until 2013). It was further emphasized that SATG members would need to exercise considerable and consistent effort through self-study, frequent use of Webinars and face-to-face meetings if they wanted to become a safety analysis instructor by 2020—as indicated in the SATG strategy document.

Various presentations were given on the topic of safety analysis experience. KAERI delivered online lectures on the general concept of safety analysis, and also demonstrated the practical value and operability of Webinars.

Following the annual meeting, a two-day workshop took place providing participants with information on the use of the Visual System Analyser (VISA/RELAP) code. Two practical cases, i.e. the small break loss of coolant accident (LOCA) and the loss of flow accident (LOFA) that were assumed to occur in a typical 4 loop PWR, were carried out using VISA to give insights into plant behaviours after accidents. Sensitivity studies were also provided to deepen the understanding of VISA/RELAP usage and of plant behaviour. The participants

appreciated the VISA for its excellent functionalities and easy user interfaces.

The last day provided a meeting wrap-up as well as discussions summarizing future activities and milestones.

Safety Management of Research Reactors Topical Group

OBJECTIVE

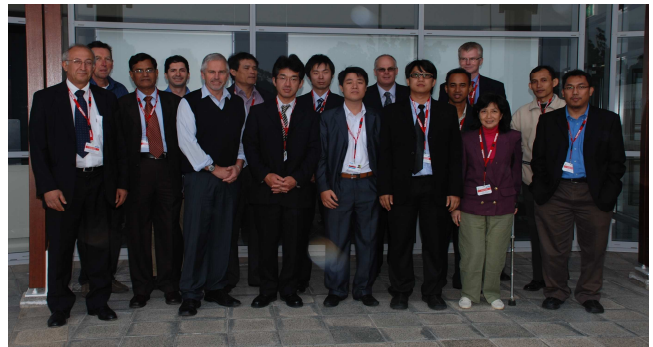
1. To identify and share best practices for the safe design, construction, operation (including ageing management), modification and decommissioning of Research Reactors as well as to be a source of expertise in these matters
2. To promote the implementation of the Code of Conduct on the Safety of Research Reactors and the application of IAEA Safety Standards
3. To promote the mutual exchange of information through ANSN and to foster the sharing of knowledge and experience on the safety of research reactors
4. To promote the mutual cooperation between participating Member States in the safe operation of Research Reactors

Workshop on Ageing Management of Research Reactors

Sydney, Australia, 5 – 9 July 2010

The Australian Nuclear Science and Technology Organization (ANSTO) hosted this workshop; sixteen participants attended from Australia, Indonesia, Japan, Malaysia, Thailand and Vietnam along with IAEA staff and external experts from India and Norway. This workshop focused on the exchange of information and experience on the management of aging of research reactors safety.

The presentations by the IAEA staff members covered the feedback from Agency activities on the safety of research reactors, the establishment of a systematic ageing management programme for research reactors based on the *Safety Guide NS-G-4.7: Ageing Management for Research Reactors*, the safety aspects of refurbishment and modernization projects, the periodic safety review and safety documents for research reactors. These presentations highlighted the importance of establishing and implementing ageing management programmes, taking into consideration that about two-thirds of the facilities in current operation were more than 30 years old and that the main root causes of events reported in the Incident Reporting System for Research Reactors (IRSRR) were due to ageing.



The external expert from India, in three separate presentations, provided various aspects related to ageing management, including minimization of ageing degradation, detection, assessment and mitigation of ageing and refurbishment and safety upgrading of research reactors. These presentations included a number of practical examples related to CIRUS (40MW) and APSARA (1MW) research reactors.

The external expert from Norway also gave three presentations, covering the maintenance, periodic testing and inspection programmes for research reactors, the management of obsolescence, and provided practical examples on ageing management programmes for Halden research reactor.

Two working groups were formed and prepared and presented ageing management programmes for the primary coolant system and for the instrumentation and control system, respectively. The work done by the working groups improved the understanding of participants on ageing mechanisms and their identification for systems

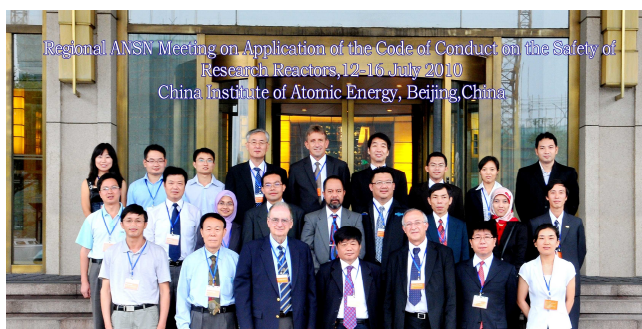
important to safety. The working group session was also an occasion for the participants to exchange their experience and share ageing management practices applied in their facilities. The host organization arranged technical visits for the participants to OPAL research reactor (22 MW) and HIFAR (10MW), which was currently under decommissioning. During the visits, the participants discussed with the operating staff different safety issues related to the topics covered by the workshop.

Workshop on Application of the Code of Conduct on the Safety of Research Reactors

Beijing, China, 12 – 16 July 2010

Twenty-four participants from China, Indonesia, the Republic of Korea, Malaysia, Philippines, Thailand and Vietnam with IAEA staff and external experts from the Netherlands and the USA, participated in this workshop hosted by the China Atomic Energy Authority (CAEA). The objective of this workshop was to exchange information and experience on the effective application of the Code of Conduct on the Safety of Research Reactors.

The IAEA staff member and external experts gave nine presentations on the topics covered by the workshop, including the IAEA Safety Standards applied to research reactors, the IAEA requirements for safety assessment and the provisions of the Code of Conduct applicable to the focus areas of the workshop. Practical examples were provided to the participants on the operational radiation protection programme of the High Flux Reactor at Petten (the Netherlands) and on the repair of the reducer in the coolant piping of this reactor.



Eleven presentations were given by representatives of operating organizations and regulatory bodies of the participating countries.

Four working groups were formed covering the ageing management and remediation of ageing-related problems, operational radiation protection programmes improving safety of experiments, utilization and operation of research reactors and decommissioning. Progress was made in application of the Code of Conduct overall and in the specific areas addressed in the workshop. The participants gained an improved appreciation of the need for careful and rigorous safety assessment of all modifications and experiments, even those having no safety significance.

The participants visited two research reactors, one undergoing commissioning, the China Advanced Research Reactor (CARR) and the other loading fuel prior to initial criticality, China Experimental Fast Reactor (CEFR). These visits were very informative, providing a look at two of the most modern research reactors in the world.

Workshop on Inspection, Review and Verification of Research Reactor Safety

Daejeon, Republic of Korea, 27 September - 1 October

The workshop was hosted by KINS and attended by 20 participants representing regulatory authorities and operating organizations from seven Asian countries. IAEA staff and two external experts attended as well. The objective of the workshop was to provide practical information and guidance to research reactor regulators and operators on inspection and safety review and assessment methods.

The first three days of the workshop were dedicated to presentations from the IAEA representatives and from the participating countries. The IAEA staff presented the Agency's recent activities on the safety of research reactors, and the regulatory oversight requirements based on the IAEA safety standards. The external experts gave presentations on their national practices and experience regarding the regulatory process and inspections practices for research reactors. The presentations addressed the current status of research reactors operating in the participating countries and the practices

applied for reactors in the field of inspection, review and assessment of safety documents.



During the last two days, the working group exercises focused on discussions and verification of the relevance of and consistency within the IAEA Safety Standard NS-R-4: *Safety of Research Reactors*, of the Postulated Initiating Events considered in the Safety Analysis Reports of research reactors in the participating countries, and on the preparation of an inspection programme on maintenance and periodic testing of research reactors. The workshop programme also included a technical visit to the Hanaro research reactor, which is operated by the Korean Atomic Energy Research Institute (KAREI).

The participants indicated that the workshop was an efficient means for sharing knowledge and experience on the inspection and safety review of research reactors, and appreciated the guidance provided by the workshop on these subjects.

Siting Topical Group

OBJECTIVE

1. To serve as a forum for exchanging and sharing information, experience and knowledge on all safety aspects related to the selection and evaluation of sites for nuclear power plants among member countries
2. To identify, collect, analyze and share the best methodologies, criteria and practices and lessons learnt for dealing with and resolving the issues related to the selection and evaluation of sites for NPPs
3. To plan and implement an action plan based on performing activities for capacity building in the area of siting
4. To plan, develop and operate a pool of qualified experts and/or organization in all interdisciplinary fields of site selection and evaluation aspects existing in the member countries

Workshop on Regulatory Requirements for Site Selection and Evaluation for Nuclear Power Plants

Hanoi, Vietnam, 7 – 11 June 2010

The workshop was hosted by Vietnamese Nuclear Regulatory Authority (VARANS) and was attended by 45 participants from China, Indonesia, Japan, Korea, Malaysia, Philippines, Thailand and Vietnam, as well as two staff members of IAEA and five external experts from France, Italy, Japan and New Zealand.

The objectives of the workshop were to provide information about IAEA Safety Standards related to site selection and evaluation, to share experience in siting of Nuclear Power Plants (NPP) and to identify the cooperation needs for siting activities of embarking countries.



The IAEA staff members and external experts provided a comprehensive description of the site selection and evaluation processes

covering the global nuclear safety regime and the present structure of the IAEA Safety Standards on site selection and evaluation. This was followed by detailed presentations on the current and under-revision safety guides, along with some case studies for seismic hazards, including geology and seismotectonic aspects and flooding hazards.

China, Japan and Korea presented their siting experience, and Indonesia, Malaysia, Philippines, Thailand and Vietnam presented the current status and challenges of the siting activities for the first NPP.

At the workshop, there were interactive discussions between IAEA staff members, external experts and the representatives of three countries with NPPs and five countries embarking on NPPs. The potential areas where the NPP operating countries could provide support to the embarking countries for their site selection and site evaluation were identified. The presentations from the embarking countries provided a good basis for finding out their needs for assistance in relation to site selection and site evaluation for the first NPP.

National Activities: Indonesia

Workshop on Review and Assessment of the Licensing Process for Nuclear Power Plants and Public Communication in the Regulatory Process

**Jakarta, Indonesia 30 August - 3
September**

should be taken into account when revising the current legislative and regulatory framework of Indonesia for their future nuclear power programmes.

The objective of the workshop was to provide assistance to the Indonesian Nuclear Energy Regulatory Agency (BAPETEN) for developing their regulatory framework for the licensing process of nuclear power plants (NPPs) and for appropriately communicating with the public during the regulatory process. The workshop hosted by BAPETEN was conducted by one IAEA staff and two external experts from France and Finland; it was attended by representatives of all the Indonesian stakeholders concerned with potential Indonesian nuclear power programmes.

During the first three days, a number of presentations were made regarding NPP licensing issues, including: regulatory requirements from DS416 (NPP licensing process guide) and GSR part 1: Governmental, Legal and Regulatory Framework for Safety; sharing experience and feedback during the construction of new NPPs in France and Finland; and, reviewing roles and responsibilities of BAPETEN during transfer of nuclear technology, acquisition of components, and regulatory oversight from site evaluation to commissioning. The IAEA Basic Professional Training Course (BPTC) materials were also provided. In addition, the French practices regarding legislation and regulation for public communication, transparency and openness were presented.

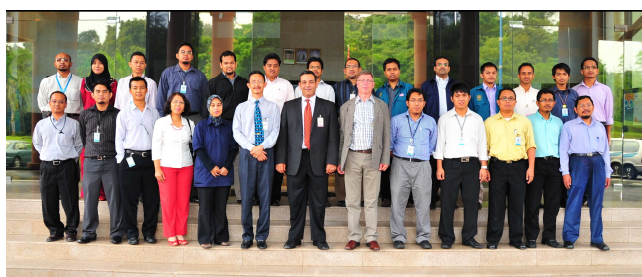
During the last two days, the self-assessment performed by the BAPETEN against DS416 was reviewed. Eight Recommendations were agreed upon among the IAEA, BAPETEN and other Indonesian stakeholders' participants. It was also agreed that the recommendations

National Activities: Malaysia

Training Course on Shielding Design and Modeling Related to Reactor Upgrading Activities

Kuala Lumpur, Malaysia, 31 May – 4 June 2010

The training course was attended by 28 specialists from the Malaysia Nuclear Agency and the regulatory body. The purpose of the course was to provide the trainees with theoretical and practical information on radiation shielding design and modeling for research reactors with a focus on the requirements and practical aspects of the envisaged power upgrading of the PUSPATI research reactor (PTR).



The course consisted of lectures, practical exercises, and use of computer codes for shielding design of research reactors with several case studies. The lectures from the IAEA representatives covered the IAEA safety requirements on radiation safety including radiation shielding for research reactors, and the theoretical aspects of shielding calculation and design. At the training session, the participants exercised in using the shielding calculation computer codes available at the PTR.

The case studies, which were performed under the guidance of the IAEA representatives, handled shielding design of a spent fuel element transportation cask and spent fuel element storage pool as well as estimation of the coolant radioactivity for the case of PTR increase from 1 to 3 MW, and the associated requirements on radiological protection.

The exercises included identification of the existing sources of radiation in the PTR with

their locations, forms and strengths, and the associated shielding arrangements as well as the tasks related to radiological protection and shielding design for the PTR power upgrade activities.

The participants highlighted the importance of the training to their work and expressed their appreciation to its technical contents and the practical guidance provided on shielding design and operational radiological protection programme associated with PTR reactor power upgrade.

Advisory Mission to Review Draft Guidelines and Workshop on IAEA Safety Guides

Kuala Lumpur, Malaysia, 29 November–3 December 2010

The Malaysian Atomic Energy Licensing Board (AELB) hosted this mission, during which two IAEA staff members and one external expert from Germany visited Malaysia to review the Malaysian regulatory draft entitled “Guidelines for Site Selection and Evaluation of Nuclear Power Plants” on the basis of the related IAEA Safety Standards and Guides. Beyond AELB, other Malaysian governmental organizations participated in this mission, namely, the Department of Environment of the Ministry of Natural Resources and Environment, the Radiation Safety Division of the Malaysia Nuclear Agency, the Ministry of Science, Technology and Innovation, and the Meteorological Department of the Ministry of Science, Technology and Innovation.

The Malaysian counterpart presented an outline of the progress of preparations for their nuclear power programme and a preliminary study on site selection. For its part, the IAEA review team presented the requirements for site evaluation as reflected in Site Evaluation for Nuclear Installations, IAEA Safety Standard NS-R-3.



Group photograph of the IAEA team and Malaysian participants during the advisory mission in Kuala Lumpur.

Discussions between the review team and their Malaysian counterpart focused on the structure and content of the draft Guidelines, completeness of the requirements and compliance with IAEA Safety Standard NS-R-3. Following these discussions, the IAEA review team conducted a workshop introducing the IAEA Safety Guides for site selection and evaluation, since the AELB had adopted these Guides as national regulatory documents in 2009.

The counterpart agreed with all recommendations made by the IAEA review team and decided to adopt IAEA Safety Standard NS-R-3 as a national regulatory document. The counterpart also decided to deploy further efforts for establishing national guidance documents with a view to supplementing the adopted IAEA Safety Guides with specific, national data, where appropriate, in order to ensure consistency with the national legislation and regulatory framework.

National Activities: Philippines

Expert Mission to review the National Policy and Strategy on Radioactive Waste Management

Manila, Philippines, 7 – 11 June 2010

The mission took place in Manila 7-11 June 2010 and was hosted by the Philippines Nuclear Research Institute (PNRI). One IAEA staff member and two external experts from Japan and USA visited the Philippines to advise the government on the development of the national policy and strategy on the radioactive waste and spent fuel management. A number of government departments and involved organizations in addition to PNRI, namely: the Department of Energy, the Department of Environment, the National Power Company and the University of Philippines, attended the mission.



The IAEA staff member gave presentations on the elements of national waste and spent fuel management policy and strategy and on the legal and regulatory framework for waste and spent fuel management and led discussions throughout the week. The external experts from USA and Japan gave presentations on the policy and strategy for the waste and spent fuel management in their respective countries, and they presented a session on the regulator framework for waste and spent fuel management – including decommissioning management.

The mission team reviewed the draft national policy and strategy developed by PNRI and provided suggestions for further refinement of the document and some aspects that would

need to be addressed to implement the strategy. A debriefing was provided to PNRI management at the end of the week.

Review Mission of Emergency Preparedness (EPREV) Infrastructure

Manila, Philippines, 12 – 16 July 2010

A 4-member EPREV team—with experts from Australia, Belarus, Malaysia and the IAEA—visited Philippines to gather information on the country's preparedness for response to nuclear or radiological emergencies arrangements, in accordance with the Emergency Preparedness Review Team Guidelines. The work focused on assessing the current prevailing situation in Philippines, regarding nuclear and radiological emergency potential (threats) and response capabilities (preparedness); determining if arrangements for preparedness and response for radiation emergencies in the country are in compliance with international requirements (more specifically with the IAEA Safety Standards Series No. GS-R-2, 'Preparedness and Response for a Nuclear or Radiological Emergency'); identifying methods and means of improving compliance with the international standards (GS-R-2, EPR-METHOD 2003) and other good practices, where (and if) applicable; reviewing and commenting the previously developed and submitted draft national radiation emergency plan (RADPlan).



During the first-day introductory and the last-day exit plenary sessions, the EPREV team met with representatives of the main responsible authorities, agencies and organizations involved in the national nuclear

and radiological emergency preparedness and response system. During the other days visits to the headquarters and discussions with the senior staff were organized at the Office of Civil Defence (OCD, the Bureau of Fire Protection (BFP), the Health Emergency Management System (HEMS) and the Philippine Nuclear Research Institute (PNRI).

A special session was devoted to detailed discussions on the draft RADPlan.

While the main elements of a good radiation emergency preparedness and response system are in place in Philippines, with a well based legal background, distribution of roles with clearly assigned responsibilities, high-quality technical support and well trained and properly equipped first responding organization, some further steps for upgrading the current capabilities were suggested to the counterpart.

CONTRIBUTIONS 2010

Country	Contributions
Australia	hosted a regional activity
China	hosted the 12 th Steering Committee and 3 rd CBCG meetings and regional activities
EC	Euro 573 805.57
Indonesia	hosted the 3 rd Nuclear Safety Strategy Dialogue meeting and regional activities
Japan	Euro 702 006, including 1 cost-free expert, hosted 1 st CBCG meeting, the Round table Discussion, the Regional Conference and regional activities
Malaysia	hosted a regional activity
Republic of Korea	USD 150 000 ~ Euro 74 671, 1 cost-free expert and hosted the 7 th IT Support Group meeting and regional activities
USA	USD 175 000
Vietnam	hosted regional activities