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Executive Summary

This report describes the Asian Nuclear Safety Network (ANSN) activities implemented from January 2011 until December 2011.

More details about the results of activities described in this report are available in the main website of the ANSN at the following address: www.ansn.org.

The severe accident at the TEPCO's Fukushima Daiichi nuclear power station in March 2011 focused the world's attention on nuclear safety issues. Following the accident, in September 2011, the Action Plan on Nuclear Safety was adopted by the IAEA's Board of Governors and subsequently unanimously endorsed by the IAEA General Conference. The action plan defines a comprehensive programme to strengthen the global nuclear safety framework at the national, regional and international levels, in light of the accident. The Asian Nuclear Safety Network (ANSN) as a regional nuclear safety knowledge and experience sharing network, has and will proactively support implementation of the relevant actions of the IAEA's Action Plan on Nuclear Safety at the regional level.

In April 2009, the ANSN developed 'The Vision for the ANSN by the Year 2020': a strong human and advanced information technology network that is aimed at acquiring, creating and sharing nuclear safety knowledge and experience. In April 2010, the ANSN developed the 'Generic Action Plan for Establishing the Regional Capacity Building System in Asia' as a road map to achieve the ANSN Vision. Since then, the ANSN has made significant progress in line with the Vision and the Generic Action Plan.

There will still be a strong need for nuclear safety capacity building and infrastructure development in Asia to establish robust scientific and technological expertise and practical problem solving expertise to support the dynamic development of nuclear power programme in the region.

In 2011, capacity building activities for ANSN participating Member States embarking on a nuclear power programme (NPP) has entered a new area of practical application through the newly published IAEA Safety Guide on Establishing the Safety Infrastructure for a Nuclear Power Programme (IAEA Safety Standards

Series No. SSG-16, Vienna, published in 2012)

The ANSN Capacity Building Coordination Group (CBCG) in cooperation with the Regulatory Activities Section (RAS), within the Division of Nuclear Installation Safety (NSNI), organized a regional workshop on *Establishing a Nuclear Safety Infrastructure for a National Nuclear Power Programme* from 4 to 15 June 2011 in Vienna, Austria. RAS developed the workshop programme, delivered the content and coordinated the participation of 22 IAEA staff members from various divisions and offices within NS and other IAEA departments. This workshop was the first opportunity to practically apply the recently developed SSG-16 and its self-assessment guidelines by representatives from the ANSN participating Member States embarking on a NPP, in which is also in line with Action 8: *Facilitate the development of the infrastructure necessary for Member States embarking on a nuclear power programme*, of the IAEA Action Plan on Nuclear Safety (NSAP).

The ANSN also contributed to the IAEA's development of guidance and methodology for the assessment of Capacity Building in line with NSAP Action 9: *Strengthen and maintain capacity building*, via ANSN experts' participation in a consultancy meeting from 21 to 25 November 2011 in Vienna, Austria.

At the Steering Committee (SC) meeting in November 2011 in Daejeon, Republic of Korea, a comprehensive ANSN Work Programme for 2012 was adopted. The work programme includes a number of activities to provide support arrangement for Capacity Building and Infrastructure Development of ANSN Member States in line with Actions 8 and 9 of the IAEA's Action Plan on Nuclear Safety (Peer Review and Support Arrangement) and also those activities supporting feedback of lessons learnt from the Fukushima accident.

The current eight topical groups (TGs) remain at the forefront of ANSN activities. As an overview of the ANSN activities, 37 activities such as workshops, training courses and review missions have been conducted with 588 participants, support from 202 external experts and IAEA staff members, as detailed in Table 1. As a result, nuclear safety experts in the region are able to work more closely together, thus continuously improving nuclear safety capacity building and infrastructure development in the region.

Additionally, at the SC meeting in November 2011, the SC agreed to establish two new ANSN topical groups on Public Communication and on Management Systems for Regulatory Bodies. The SC acknowledged the significant achievements of the Nuclear Safety Strategy Dialogue (NSSD), including setting up the ANSN Vision 2020 in 2009, and the Generic Action Plan for establishing the Regional Capacity Building System in Asia in 2010 as a roadmap to implement this vision. Further to an IAEA proposal, the Steering Committee agreed to establish an ANSN Plenary which will replace the existing NSSD, in order to ensure high level commitment from ANSN Member States.

ANSN has also made significant progress in the implementation of the Capacity Building IT modules namely: an online nomination process, a pool of experts; and, online communication tools (Webinar). The online nomination process has been used successfully by participants and experts of ANSN activities during 2011. Almost 22 topical group events were opened for online nomination and 315 participants submitted their nominations online for these events. Implementation of pool of experts has been completed and registration of new experts from various nuclear safety fields would be completed during 2012. Thereafter, experts can be nominated online for several ANSN workshops and training courses as well as can be consulted for sharing their knowledge and experience on critical nuclear safety issues via email or through scheduled video-conferencing sessions. ANSN has also successfully evaluated and demonstrated the use of video-conferencing tool, namely Webex from CISCO, during the 14th SC meeting in KINS. The Webinar tool would also be available to all registered ANSN users during 2012.

The ANSN also attaches strategic importance to strengthen cooperation among the global and other regional networks and fora (.eg., Global Nuclear Safety Network (GNSSN), Ibero-American Forum of Nuclear and Radiation Safety and Security Regulatory Agencies (FORO), Forum for Nuclear Regulatory Bodies in Africa (FNRBA), Arab Network for Nuclear Regulators (ANNuR), European TSO Network (ETSON)). The ANSN participated in a coordination meeting among the regional safety networks from 21 to 22 March 2011, and the Round Table Discussion on Nuclear Safety and Security Knowledge Networking in September 2011 organized by the GNSSN.

Finally, it is also notable that the IAEA received a generous contribution from EC, Japan, Republic of Korea and USA for continuous improvement of nuclear safety in ANSN countries.

Table 1: Number of activities, participants and external experts in 2011

ANSN Management	10
SC	2
CBCG	3
ITSG	1
Other activities	4
Regional	22
E&TTG	7
EPRTG	2
GRITG	2
OSTG	1
RWMTG	2
SATG	6
SMRRTG	1
STG	1
National	5
China	2
Indonesia	2
Malaysia	1
Total number of activities	37
Total number of participants	588
Total number of external experts	108
Total number of IAEA staff members	94

Note: “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”

Table 2: Contributions in 2011

Country	Contributions
EC	Euro 573 805.57
Indonesia	hosted regional activities
Japan	Euro 751 149, including 2 cost-free experts
Rep. of Korea	USD 150 000 ~ Euro 106 550, 1 cost-free expert and hosted the 14th SC meeting and 5th CBCG meeting and regional activities
Malaysia	hosted a regional activity
Philippines	hosted a regional activity
Thailand	hosted the 8th IT Support Group meeting and regional activities
USA	USD 180 000 ~ Euro 131 220
Vietnam	hosted a regional activity

Introduction

As an introduction, messages received from the Chairperson of ANSN Steering Committee (SC) and the Coordinator of Capacity Building Coordination Group (CBCG) in September 2011, addressing perspectives of the ANSN for further facilitating regional knowledge and experience sharing in the post-Fukushima global nuclear safety framework, are quoted below.

Capacity Building in the ANSN

Message from the Chair of the ANSN Steering Committee (SC)

The IAEA Ministerial Conference on Nuclear Safety held in Vienna from 20–24 June 2011 has paved the way for an enhanced post-Fukushima global nuclear safety framework. The Ministerial Declaration issued at the conference underlined the need for States planning to embark on a nuclear power programme to create an effective nuclear safety infrastructure on the basis of the IAEA safety standards and relevant guidance and assistance. In response to the Ministerial Declaration, IAEA Director General Yukiya Amano has prepared an Action Plan on Nuclear Safety that includes actions to be taken for Member States planning to embark on a nuclear power programme and for strengthening capacity building.



Dr. Youn-Won Park, of the Korea Institute of Nuclear Safety, Chair of the ANSN Steering Committee.

“I am confident that, in the future, ANSN will play a fundamental role in developing nuclear safety infrastructure and promoting nuclear safety cooperation in the region.”

The Asian Nuclear Safety Network (ANSN) will continue its efforts to enhance nuclear safety regionally and work towards the fulfilment of the outcomes from the Ministerial Conference. ANSN will also proactively support implementation of the relevant actions of the IAEA’s Action Plan on Nuclear Safety.

There is a strong need for nuclear safety capacity building in Asia to establish robust scientific and technological expertise as well as practical problem solving expertise to support dynamic development of nuclear power programmes in the region. The ANSN functions as a platform for facilitating sustainable regional cooperation in capacity building with a view to establishing nuclear safety infrastructure through dynamic and interactive knowledge and experience sharing. This is accomplished, inter alia, through the activities of eight existing topical groups in governmental and

regulatory infrastructure; education and training; siting; safety analysis; operational safety; safety of radioactive waste management; emergency preparedness and response; and safety management of research reactors.

In April 2009, the ANSN developed ‘The Vision for the ANSN by the Year 2020’: a strong human and advanced information technology network that is aimed at acquiring, creating and sharing nuclear safety knowledge and experience. In April 2010, the ANSN developed the ‘Generic Action Plan for Establishing the Regional Capacity Building System in Asia’ as a road map to achieving the ANSN Vision.

Since then, the ANSN has been following the Vision and the Generic Action Plan and has made significant progress. Nonetheless, the ANSN will continue to encourage its Member Countries to take appropriate measures as outlined in the IAEA Action Plan on Nuclear Safety, continue to take a leading role in implementing the IAEA publication *Establishing the Safety Infrastructure for a Nuclear Power Programme* (Safety Series No. SSG-16) and continue to share lessons learned from the accident at the TEPCO Fukushima nuclear power stations. In so doing, ANSN Member Countries in the region and beyond that are embarking on nuclear power programmes, or have existing or are expanding their nuclear power programmes, will use this information, working to achieve higher levels of nuclear safety. Looking to the years ahead, Dr. Youn-Won Park, Chair of the ANSN Steering Committee, stated: “I am confident that, in the future, ANSN will play a fundamental role in developing nuclear safety infrastructure and promoting nuclear safety cooperation in the region.”

Learning from Fukushima

Message from the Coordinator of the ANSN Capacity Building Coordination Group

ANSN has been focusing its activities on capacity building for countries embarking on nuclear power programmes since 2009, when the Vision 2020 was adopted.

The accident that occurred at TEPCO’s Fukushima Daiichi Nuclear Power Station on 11 March 2011 has seriously affected the nuclear programmes, not only in the countries already operating nuclear power plants, but also in the new entrant countries.

In these circumstances, in his capacity as Coordinator of the ANSN Capacity Building Coordination Group (CBCG), Mr. Kazuhide Tomita, of the Japan Nuclear Safety Organization, proposed that the ANSN should also consider how to address the lessons learned from this accident as a part of its activities. “At present, the lessons learned can be grouped into two categories; one derived from the facts so far revealed and the other from those that will result after the accident is over,” Mr. Tomita noted. “The study focusing on the first category of lessons should start as early as possible in order to understand the lessons learned and extract the insights that are more applicable or practicable for the ANSN Member Countries from a capacity building standpoint,” he said.



“I look forward to further collaborating with the IAEA to strengthen ANSN’s capacity building activities and to implement the Action Plan on Nuclear Safety in the ANSN Member Countries that are embarking on nuclear power programmes”

Mr. Kazuhide Tomita, of the Japan Nuclear Energy Safety Organization, Coordinator of the ANSN Capacity Building Coordination Group.

Mr. Tomita suggested that the areas to be addressed by the study would include:

- Consideration of natural phenomena (e.g. earthquakes, tsunamis, severe storms, flooding, etc.) in the planning stage. These aspects should be addressed by the Topical Group on Siting.
- Consideration of severe plant conditions due to external events and the combination of external and internal events (e.g. station blackout) in the planning stage, including stability and robustness of off-site grid and availability of final heat sink. These aspects should be addressed by the Topical Group on Safety Analysis.
- Consideration of emergency preparedness and response, including public communication, cooperation with domestic and overseas/international organizations, training on emergency and accident management procedures, environmental monitoring, availability of external supports, and related social infrastructure. These aspects should be addressed by the Topical Group on Emergency Preparedness and Response.

Mr. Tomita felt that the above areas should be addressed in the framework of ANSN’s short term activities; longer term activities on the Fukushima accident within the ANSN framework would be discussed and developed as the short term activities progress. Mr. Tomita noted that such major issues as review and improvement of safety standards, guidelines and procedures and reform of the regulatory system would be discussed by other international or national organizations, “we at ANSN should focus on capacity building”, he said.

Mr. Tomita voiced the hope that all the topical groups would be able to look in further detail at the facts and lessons learned from the accident at TEPCO’s Fukushima Daiichi Nuclear Power Station and to incorporate the necessary issues and aspects into their action plans. “The CBCG will coordinate a strategic plan for all ANSN activities bearing in mind a cross-cutting point of view”, Mr. Tomita pointed out.

At the IAEA Ministerial Conference on Nuclear Safety on 20–24 June, all Member States recognized the importance of feedback from the lessons learned from the accident at TEPCO’s Fukushima Daiichi Nuclear Power Station for enhancing nuclear safety, emergency preparedness and radiation protection. This was addressed in the Action Plan, which highlighted, inter alia, that Member States should facilitate the development of the infrastructure necessary for countries embarking on nuclear power programmes, while maintaining and strengthening capacity building. In light of the outcomes of this Ministerial Conference, Mr. Tomita declared: “I look forward to further collaborating with the

IAEA to strengthen ANSN's capacity building activities and to implement the Action Plan on Nuclear Safety in the ANSN Member Countries that are embarking on nuclear power programmes.”

As another introduction, messages received in April 2011 from Mr. K. Mrabit, outgoing ANSN Programme Manager and Head of the Safety and Security Coordination Section, IAEA, and from Mr. P. Woodhouse, new ANSN Programme Manager and Head of the Safety and Security Coordination Section, IAEA, are quoted below.

Message from K. Mrabit, outgoing ANSN Programme Manager and Head of the Safety and Security Coordination Section, IAEA

Beginning 1 April 2011, I will be taking up a new position within the IAEA: I wish to take this opportunity to convey a message to all ANSN Newsletter readers.

First, I would like to express my sincere condolences to the people and Government of Japan for the lives and property lost as a result of the 11 March earthquake and subsequent tsunami.



My best wishes for success to all ANSN Newsletter readers in this new and challenging environment.

K. Mrabit, outgoing ANSN Programme Manager and Head of the Safety and Security Coordination Section. As from 1 April 2011, K. Mrabit will assume functions as the Director of the Office of Nuclear Security, Department of Nuclear Safety and Security, IAEA.

This extraordinary natural disaster also resulted in a serious accident at the Fukushima Daiichi nuclear power plant. The IAEA has been deploying great efforts, together with other countries, international organizations and partners, to help Japan bring the tragedy to an end and ensure that the effects of this accident are mitigated to the greatest extent possible. Partner international organizations in this endeavour include: the United Nations, the World Health Organization, the Comprehensive Test Ban Treaty Organization, the World Meteorological Organization and the Food and Agriculture Organization. The IAEA has been working closely with the Japanese Government and Japan's Nuclear and Industrial Safety Agency; it has provided authoritative and validated information on the nuclear accident as quickly as possible. The IAEA is also providing on-the-ground support to Japan. During the week of 13 March, I accompanied IAEA Director General Amano on his trip to Japan and conducted measurements of radiation levels in Tokyo and in outlying prefectures.

The crisis is not yet over: the priority remains to stabilize the nuclear reactors and restore safety. At the same time, we need to start thinking about the future. Director General Amano stated that it is of vital importance that we learn the right lessons from what happened on 11 March and afterwards to strengthen nuclear safety throughout the world. Director General Amano proposed that a high-level IAEA conference on nuclear safety be convened in Vienna from 20 – 24 June that would cover the following points: an initial assessment of the Fukushima accident, its impact and consequences; the lessons that need to be learned; launching the process of strengthening nuclear safety; and strengthening the response to nuclear accidents and emergencies.

I believe that the ANSN will continue to provide a unique platform for dynamic and interactive knowledge networking in the region and beyond, and play a leading role in the international nuclear safety community. The ANSN can be the perfect channel for proactive actions to achieve a high level of nuclear safety and security in the region, in coordination with the IAEA's initiatives and taking into account the lessons to be learned from the Fukushima accident. In this context, we should continue pursuing nuclear safety and security synergies in the global nuclear safety and security framework, in which the ANSN plays an important part.

It has been a great pleasure to work with my ANSN colleagues. The past two years have seen the development of the ANSN Vision 2020 and its generic action plan, the establishment of the Capacity Building Coordination Group to facilitate implementation of the ANSN Vision 2020, development of the Capacity Building IT Module and significant progress in the cooperation mechanism between the ANSN and other global and regional nuclear safety networks. Each of these achievements is the result of your engagement and close cooperation.

The ANSN will increasingly be called on to play a leading role in capacity building and in strengthening nuclear safety and security in the region. My best wishes for success to all ANSN Newsletter readers in this new and challenging environment.

Message from P. Woodhouse, new ANSN Programme Manager and Head of the Safety and Security Coordination Section, IAEA

As Khammar is assuming a new leadership role in the Office of Security, I will be taking over as Section Head at a time of crisis and loss for our colleagues in Japan. The inconceivable pictures of Japanese workers at the Fukushima Daiichi plant working day and night to recover the situation is a tribute to their courage and the strength of the human spirit. In times of crisis we come together; and networks— such as the ANSN, are powerful tools for providing support.



Through collaboration we are stronger and can achieve more. I look forward to working with you all in the challenging times ahead.

P. Woodhouse, as from 1 April 2011 ANSN Programme Manager, Head of the Safety and Security Coordination Section, Department of Nuclear Safety and Security, IAEA.

The ANSN has gone from strength to strength. It shows what can be done when there is a willingness to cooperate and a clear, shared vision. I intend to further strengthen the network and to help the development of similar networks in other regions through building upon all of the hard work that Khammar and the members of the network have done.

Two activities I consider important are:

- ✓ The further promotion of mutually beneficial cooperation with global and other regional networks (i.e. Global Nuclear Safety and Security Network (GNSSN), Ibero-American Forum of Nuclear and Radiation Safety and Security Regulatory Agencies (FORO), Forum for Nuclear Regulatory Bodies in Africa (FNRBA), Arab Network of Nuclear Regulators (ANNR) and European TSO

Network (ETSON). To assist with this effort, we intend to organize a round table discussion among knowledge networks as an NS-side event during the week of the IAEA General Conference in September. In addition, encouraging people from global and regional networks to meet in Vienna this September to discuss deepening mutually beneficial cooperation to achieve a common goal of knowledge and experience sharing.

- ✓ The need to vigorously pursue the ANSN capacity building activities in line with the ANSN Vision 2020. In particular, through encouraging senior officials from governments, regulatory bodies and operating organizations of ANSN countries embarking on NPPs to participate in a regional workshop to facilitate understanding and application of IAEA Safety Guide: *Establishing the Safety Infrastructure for a Nuclear Power Programme (formerly DS 424)*, 4-15 July 2011, VIC, Vienna, for developing and further elaborating their own National Action Plans on nuclear safety capacity building.

The existing ANSN Topical Groups (TGs) such as TG on Emergency Preparedness and Response (EPRTG) and TG on Siting (STG), and possible new TGs, such as: TG on Safety Management and Safety Culture, and a TG on Security —will be valuable mechanisms for sharing lessons and their learning from the Fukushima accident.

Through collaboration we are stronger and can achieve more. I look forward to working with you all in the challenging times ahead.

Strategy and Coordination Activities

Coordination Meeting for Strengthening and Expanding ANSN Regional Capacity Building for Asian Countries Embarking on Nuclear Power Programmes

Vienna, Austria, 23–25 February 2011

Technical Officer: Mr Caruso GUSTAVO, Head/NSAT

The ANSN provides problem solving assistance and support for resolving nuclear safety issues in ANSN Member States through the human and IT networks in Asia. The core of the ANSN human network activities for sharing knowledge and experience continues to be the ANSN national and regional activities. These efforts were requested by the ANSN Topical Groups (TGs) and ANSN Member States and approved by the Steering Committee (SC) at its meeting in the third quarter of 2010. The ANSN Vision 2020 and its Generic Action Plan propose to establish the Regional Capacity Building System in Asia, which includes “Regional Peer Review and Support Arrangement (RePreSA).” This provides a dynamic and interactive system for enhancing capacity building and infrastructure development to keep pace with the progress of new and expanding nuclear power programmes in Asia, and will be available in 2011 (see ANSN Newsletters No. 104 and 105).

A coordination meeting among representatives of ANSN (to include the Chairperson of the SC, Coordinator of the Capacity Building Coordination Group (CBCG), the Coordinator of RePreSA) and representatives of the IAEA (the Heads of the Safety and Security Coordination Section and Regulatory Activity Section in the Nuclear Safety and Security Department (NS) and other staff of the sections) was organized with the aim of establishing a close collaboration on the basis of the IAEA Safety Guide: *Establishing the Safety Infrastructure for a Nuclear Power Programme* (former DS 424), which was approved in 2010.

The ANSN representatives and IAEA staff briefed the meeting participants on the progress of work in their respective organizations and discussed how to coordinate efforts to ensure complementarity and synergy.

The concept of RePreSA was defined as a systematic approach to support capacity building and infrastructure development, sequentially for self-assessment, peer review and regional and national activities for filling the gaps identified. The work will be carried out by the IAEA utilizing existing safety services, in collaboration with the ANSN and the Regulatory Cooperation Forum (RCF).



Experts and IAEA staff in Vienna to coordinate capacity building and infrastructure development for nuclear power programmes in Asia.

The concept of a *generic action plan* for building capacity in Member States presented by the IAEA was supported by the ANSN representatives. They shared the view that the *generic action plan* would be a basis to develop *national action plans* for ANSN countries embarking on nuclear power programmes.

Participants in the meeting discussed the work conducted at the IAEA and in Japan to support self-assessment. It was agreed that the work presented by Japan was very relevant and that it would be integrated into the current development of self-assessment methodology carried out by IAEA. The IAEA will complete the methodology for self-assessment and associated software tools based on the individual actions specified in DS 424. The ANSN representatives expressed their willingness to further collaborate with the IAEA and to participate in the consultancy meeting organized by the IAEA in Vienna from 14 to 18 March.

It was also agreed to organize a Regional Workshop for ANSN countries between 4 and 15 July at the IAEA in Vienna to facilitate the understanding and application of DS 424. The workshop will consist of lectures on this Safety Guide and group exercises. This workshop will be open to two or three participants from entrant countries outside the region.

Participants at the meeting agreed to involve the ANSN TGs in the development by the IAEA of the DS 424 “safety packages” for application of DS 424. The ANSN and the IAEA further agreed to support Vietnam in its intention to submit to RCF its list of needs for regulatory assistance at a meeting in June 2011.

The participants noted with satisfaction the collaboration between ANSN and the IAEA for capacity building and infrastructure development of new entrant countries in Asia and expressed confidence that this constructive collaboration would continue.

Consultancy Meeting to Develop a Methodology and Tool to facilitate Self-assessment against the IAEA Safety Guide SSG-16 (former DS424)

Vienna, Austria, 14–18 March 2011

As reported in the ANSN Newsletter No. 125, Dr. Y. Ueda, Coordinator of the ANSN Regional Peer Review and Support Arrangement (RepReSA), and Mr. Okano, of the Japan Nuclear Energy Safety Organization (JNES), participated as ANSN representatives in the consultancy meeting to develop a tool to facilitate self-assessment against IAEA publication SSG-16 *Establishing the Safety Infrastructure for a Nuclear Power Programme* (formerly DS-424). This meeting was held in Vienna from 14 to 18 March. The following report by Dr. Ueda summarizes the results of the meeting and follow-up actions.



Dr. Y. Ueda (JNES) participated as an ANSN representative in the IAEA Consultancy Meeting to Develop a Tool to Facilitate Self-assessment against DS 424.

The objectives of the meeting were to revise: (i) a draft methodology for self-assessments against SSG-16 and (ii) question sets for self-assessment against SSG-16. Participants in the meeting included safety experts from France, Japan, Romania, Slovenia, United Arab Emirates and Vietnam and IAEA staff members from the Regulatory Activities Section, Division of Nuclear Installation Safety. During the meeting, participants reviewed the draft methodology, which includes consideration of managerial and organizational aspects on conducting self-assessment against SSG-16, and revised it on the basis of their discussions. They also revised the question sets, which comprised primary and secondary questions, intended to highlight gaps in the fulfilment of the actions outlined in SSG-16.

It is expected that after internal IAEA review the revised methodology for self-assessment and question sets will be completed by the end of June 2011. The methodology and question sets will be instrumental for countries performing self-assessments that are fundamental requirements for implementation of management systems. In addition, they will be used during any accompanying IAEA self-assessment missions. It is further expected that these tools will be introduced in self-assessment training exercises at the upcoming ANSN Regional Workshop for facilitating understanding and the application of SSG-16, which is directed at ANSN countries embarking on nuclear power programmes. The workshop will be held from 4 to 15 July 2011 in Vienna, Austria.

Following the accident at the Fukushima Daiichi nuclear plant, there will be a need to increase the attention on building capacity in the establishment of a safety infrastructure for nuclear power programmes. From my point of view, the results of this meeting, that is, an agreed methodology and question sets for self-assessment against SSG-16 and its application will strengthen ANSN countries safety infrastructure and capacity building. ANSN's activities in the Asian region in collaboration with the IAEA will directly contribute to this outcome.

Coordination Meeting among the Regional Safety Networks

Vienna, Austria, 21–22 March 2011

Technical Officer: Mr Lingquan GUO, NS-SSCS

A coordination meeting among regional networks took place at IAEA Headquarters, Vienna from 21 to 22 March 2011. The purpose of the meeting was to exchange information on the recent development of the nuclear safety networks (i.e. the Global Nuclear Safety and Security Network (GNSSN), Asian Nuclear Safety Network (ANSN), Ibero-American Forum of Nuclear and Radiation Safety and Security Regulatory Agencies (FORO), Forum for Nuclear Regulatory Bodies in Africa (FNRBA), Arab Network of Nuclear Regulators (ANNuR) and European TSO Network (ETSON)) and to discuss cooperation among the regional nuclear safety networks under the GNSSN.

Following the opening of the meeting by Mr. P. Woodhouse, Head of the IAEA Safety and Security Coordination Section, a representative of the ANSN delivered a presentation that outlined the vision and strategy underpinning this network. In describing the structure, activities, IT platform and public communication capabilities of the ANSN, the representative observed that the network could be seen as an effective model of regional networking for implementing regional capacity building and for achieving and sustaining nuclear safety.

Mr. A. Mahjoub, Director General of the Arab Atomic Energy Agency, presented the ANNuR, a network in which 22 countries currently participated. Mr. Mahjoub stated that Arab countries had limited nuclear activities and capabilities and faced a gap in competent human resources; they needed to develop frameworks in all safety and security areas. He pointed out that networking in safety and security enabled knowledge sharing, experience and lessons learned among regulators and operators, but that information, relevant safety and security documents and training material should also be available in Arabic to reach a wider circle of specialists. This was especially important during emergency situations.

Professor S. Elegba, Director General of the Nigerian Nuclear Regulatory Authority and the chairperson of the FNRBA, informed the meeting that FNRBA had 33 member countries and that the common challenges for FNRBA were cancer therapy and the Programme of Action for Safe Nuclear Energy (PASNE). He noted that FNRBA was open to all regulatory bodies in Africa on a voluntary basis and that it functioned through a plenary meeting, a steering committee and nine thematic working groups.

Mr. H. Pauwels, representing the European Commission (EC), EuropeAid Cooperation Office, General Directorate of Nuclear Safety, gave a presentation on the Nuclear Safety Cooperation Instrument. In his presentation, Mr. Pauwels explained that the role of the EC was not to promote nuclear energy, but a high level of nuclear safety – EC support actions concentrated on safety culture (for nuclear operators), regulatory framework, enhancement of the regulatory body and international cooperation, in close coordination with the IAEA.

Mr. M.-G. Albert, Director for International Affairs, IRSN (Institute of Radiation and Nuclear Safety), France, made a presentation on the ETSON network, which was formally established in 2010. He stated that the core values of ETSON were independence of judgement, a holistic approach to safety expertise and members working on a non-profit basis. He explained that ETSON had several working groups, published guidelines and fostered exchange of information on safety analysis, technical practises and research and development. He suggested that the European Nuclear Safety Training and Tutoring Institute, which is located in France, organizes training sessions and tutoring; this institute could also be open to participants from other regions. He expressed the view that networking was

highly beneficial to the advancement of nuclear safety and recommended the establishment of networks with different focuses.

Mr. H. Teske, speaking on behalf of GRS (a technical service organization from Germany), presented the activities conducted in Germany in regulatory networking and information exchange. He stated that new tools such as SharePoint based Nextra “InforServer” and G8 – NSSG portal had improved the internal communication and cooperation, lead to a new and more efficient way of working in virtual communities and a new culture of sharing information using portals and networking techniques. He expressed his view that the GNSSN objective should be: to support national regulators and international organisations, to achieve and promote nuclear safety and security through international cooperation, to access information, dissemination of information about safety and security issues and the sharing of good practices.

The participants shared the view that regional safety networks had similar objectives and needs and it was important to enable and support interaction and benefit from common standardized solutions. They proposed that FNRBA and ANNuR follow ANSN practice, since the ANSN model had worked very well. They agreed that the GNSSN IT platform based on SharePoint would meet well the requirements of regional networks for information sharing, collaboration, communication and multilingual support.

4th Meeting of the Capacity Building Coordination Group (CBCG)

Vienna, Austria, 16–17 May 2011

Technical Officer: Mr Yasukazu FUKUDA, NS-SSCS

Participants at 4th Meeting of the Capacity Building Coordination Group (CBCG) at the Vienna International Centre, Vienna, Austria, included its Coordinator, the Coordinators of four Topical Groups, the ANSN Programme Manager, four Project Management Officers, the Technical Officers of three Topical Groups and an IAEA expert in charge of ANSN evaluation. A representative of Singapore attended the meeting as an observer.

In his opening remarks, Mr. K. Tomita, Coordinator of CBCG, welcomed all delegates and Mr. Paul Woodhouse, ANSN Programme Manager and Head of the Safety and Security Coordination Section at the IAEA Department of Nuclear Safety and Security. Mr. Tomita noted that IAEA and ANSN had made significant progress in strengthening capacity building activities in the region since the last meeting of CBCG in October 2010.



Participants at the 4th Capacity Building Coordination Group (CB) meeting at the Vienna International Centre.

Mr. Woodhouse, on behalf of the IAEA, expressed sympathy and solidarity with Japan over the devastating natural disaster of 11 March 2011 and the ensuing situation at the Fukushima Daiichi nuclear power plant. He pointed out that in times of crisis, nuclear safety knowledge networks such as the ANSN were powerful tools for providing support. As this was his first ANSN meeting, Mr. Woodhouse praised CBCG for the work done and voiced his commitment to work towards building capacity in the Asian region and strengthening cooperation among global and regional networks.

The CBCG discussed the Fukushima accident and its impact on the future activities of the Topical Groups and ANSN. Following a presentation by Mr. Tomita on the accident at Fukushima, the participants exchanged views on certain aspects of this accident, such as its progression and the countermeasures applied, the evacuation practice and the implications for safety management. The CBCG shared the view that the ANSN should continue to play a leading role in sharing the lessons learnt from the accident. In so doing and working in parallel with the IAEA, it contributed to achieving a high level of nuclear safety in countries with existing or expanding nuclear power programmes in the region and in those countries that were embarking on nuclear power. The CBCG agreed that the Topical Groups should remain at the forefront of ANSN activities and should continue

to boost capacity building for nuclear power programmes and strengthen nuclear safety infrastructures in ANSN countries.

The CBCG reported on the progress of the Topical Group's activities: the CBCG agreed that the Topical Groups should review the Action Plan taking into account the impact, consequences and lessons to be learned from the Fukushima accident. Further, the CBCG felt that the Topical Groups should plan regional activities in a timely manner to ensure an adequate response to regional capacity building needs.

Acknowledging the significant progress made in the collaboration between the IAEA and the ANSN, and, inter alia, the February coordination meeting and the March consultancy meeting (see ANSN Newsletters No. 125 and 127.), the CBCG shared the view that collaboration was key for facilitating the peer review and support arrangements in Asia. Considering the IAEA/ANSN Regional Workshop from 4 to 15 July 2011 in Vienna, Austria on understanding and applying the recommendations of IAEA safety publication SSG-16 (former DS 424): *Establishing the Safety Infrastructure for a Nuclear Power Programme*, for ANSN countries embarking on nuclear power programmes, the CBCG also shared the view that the ANSN should continue to act as a leading model for other regional networks in this field.

The CBCG took note of the IAEA progress report on the Global Nuclear Safety and Security Network and other regional nuclear safety networks. The CBCG reconfirmed the importance of strengthening cooperation among global and regional networks and welcomed the IAEA's initiative of organizing the 3rd round table discussion on knowledge networking during the week of the 55th IAEA General Conference in September 2011.

13th Meeting of the Steering Committee

Vienna, Austria, 18-20 May 2011

Technical Officer: Mr Lingquan GUO, NS-SSCS

The 13th meeting of the ANSN Steering Committee (SC) convened from 18 to 20 May 2010 at the Vienna International Centre, Vienna, Austria, and was attended by SC members from France, China, Indonesia, Japan, Korea, Malaysia, Philippines, Singapore, Thailand, the USA and Vietnam. Also present were the Coordinators of four ANSN Topical Groups, the ANSN Programme Manager, four Programme Management Officers, Technical Officers and the IAEA expert in charge of ANSN evaluation. The representatives of Bangladesh and Kazakhstan attended the meeting as observers.

Mr. D. Flory, IAEA Deputy Director General, Head of the Department of Nuclear Safety and Security, welcomed the distinguished delegations on behalf of IAEA. He then called on the meeting to observe a minute of silence to pay homage to the people of Japan over the devastating earthquake and tsunami of 11 March. Mr. Flory outlined the IAEA's efforts, together with other countries and international organizations, to help Japan bring the crisis at the Fukushima Daiichi nuclear power plant to an end and ensure that the effects of the accident were mitigated to the extent possible. He highlighted ANSN's unique role in serving as a dynamic platform for interactive knowledge networking in the region and beyond and its leadership in the international nuclear safety community. He observed that ANSN was poised to promote mutually beneficial cooperation with global and other regional nuclear safety networks.



Participants at the 13th ANSN Steering Committee (SC) meet-ing at the Vienna International Centre.

Dr. Y.W. Park, Chairperson of the SC for his first term, expressed his deep concern in relation to the Fukushima accident. Dr. Park highlighted the fact that the international nuclear community had moved beyond previous nuclear accidents like Chernobyl and Three Mile Island and had made continuous efforts to improve safety at nuclear power plants. He expressed confidence in ANSN as a very well-established nuclear safety network: it had a functioning mechanism in place with dynamic and running frameworks. In addition, the Topical Groups and CBCG Coordinators were actively promoting capacity building in the region.

The SC took note of the IAEA's report on ANSN activities since the last SC meeting of October 2010 and acknowledged that significant progress had been made in developing the Regional Capacity Building System, in line with 'the Vision for the ANSN by the year 2020' (Vision 2020).

The SC members made their national presentations on the status of their national centre websites, Country Knowledge Base, nuclear safety infrastructure and national action plans to develop capacity building; the SC members agreed to continue their efforts in these areas. The SC recommended that ANSN should try to adopt an outcome based approach in addition to performing tangible outputs, acknowledging that performance indicators could serve as a means to achieve this.

The SC received reports from the Coordinators of CBCG and Topical Groups and recognized the progress achieved by CBCG in its coordination role. This role was important for cross-cutting nuclear safety issues: the SC recommended that CBCG plan the Topical Groups' activities for 2012 to regionally share lessons to be learned from the Fukushima accident. Since performance indicators are representative of the effectiveness of the ANSN activities, the SC charged the CBCG with assisting the Topical Groups in further developing and elaborating their performance indicators and reporting on their progress to the SC.

A round-table discussion on the Fukushima accident was held in the afternoon of the second day. Following a very informative presentation by Japan, the ANSN members shared the latest information on and actions taken by each government represented at the meeting in response the Fukushima accident, including as to radiation monitoring; public communication; impacts on national policy and on nuclear power programme development; and lessons to be learned from the accident. The SC recognized that ANSN members should pay increased attention to the following issues: (a) strengthening emergency response mechanisms; (b) effective communication and coordination among ANSN members to share information and lessons to be learned; (c) public communication during the development of a nuclear power plant; (d) public information during a crisis at a nuclear power plant;

and (e) active participation in international instruments to further enhance the global nuclear safety framework. These issues will need to be addressed in the near future.

Regional Workshop on Establishing a Nuclear Safety Infrastructure for a National Nuclear Power Programme

Vienna, Austria, 4-15 July 2011

Technical Officer: Mr Stephen KOENICK, NSNI-RAS

A regional workshop on Establishing a Nuclear Safety Infrastructure for a National Nuclear Power Programme took place at the Vienna International Centre (VIC) for two weeks, from 4 to 15 June 2011 in cooperation among the IAEA, the ANSN and the Regulatory Cooperation Forum (RCF). This workshop was attended by 17 senior officials from governments and regulatory bodies of seven ANSN countries embarking on a nuclear power programme (NPP); Bangladesh, Indonesia, Kazakhstan, Malaysia, Philippines, Thailand and Vietnam, and a recipient country of the RCF, Poland, together with four external experts from Japan, Republic of Korea and Argentina and 22 IAEA staff from various divisions; Office of Legal Affairs; Safety and Security Coordination Section, Division of Nuclear Installation Safety, Division of Radiation, Transport and Waste Safety, Incident and Emergency Centre and Office of Nuclear Security in the Department of Nuclear Safety and Security; Division of Nuclear Power in the Department of Nuclear Energy; and Department of Safeguards.

The purposes of this workshop were

1. to provide ANSN countries embarking on nuclear power programmes with a broad overview of the institutional, organizational and technical elements and conditions that are needed for a country to establish a sound foundation for a sustainable high level of safety, based on the gradual application of the IAEA safety standards in the various phases of the nuclear power programme, i.e. the IAEA Safety Guide SSG 16 (formerly known as DS 424): Establishing the Safety Infrastructure for a Nuclear Power Programme; and
2. to encourage the development of their own national action plans for capacity building and infrastructure development for a NPP.



Participants at the regional workshop on establishing nuclear safety infrastructure for a national nuclear power programme at the Vienna International Centre.

Two weeks ago, the IAEA Ministerial Conference on Nuclear Safety took place in Vienna from 20 to 24 June 2011. The Ministers adopted a Declaration that, inter alia, “*underline the need for States planning to embark on a nuclear power programme to participate fully in the global nuclear safety framework and to create an appropriate nuclear safety infrastructure based on IAEA safety standards and relevant guidance and assistance, using, among others, effective IAEA technical cooperation mechanisms for supporting the safe and secure use of nuclear technologies*”.

Mr P. Woodhouse, Head of the Safety and Security Coordination Section, Department of Nuclear Safety and Security, IAEA warmly welcomed the participants and stated that this workshop was timely and a significant step forward in achieving the common goal of strengthening the post-Fukushima global nuclear safety framework. He stressed that the ANSN as a leading regional safety network and a cornerstone of the global nuclear safety network would play an important role in the Ministerial Conference in the implementation of future activities in the Asian region.

The Chairperson of the workshop, Dr. Y. Ueda, Coordinator of ANSN Peer Review and Support Arrangement (PReSA), made opening remarks, highlighting that this workshop was the initial ANSN regional activity of the PReSA to support the ANSN embarking countries to conduct self-assessment against SSG-16 and develop and elaborate their own *national action plans* for capacity building and infrastructure development. Dr. Ueda further highlighted that the workshop was the first opportunity to practically apply the recently developed question SSG-16 sets for the self-assessment by Member States.

The workshop was composed of a series of lectures and group exercises. On the first day, broad overviews of IAEA activities related to the 3S (safety, security and safeguards) were provided by IAEA staff. On subsequent days, IAEA staff made a series of presentations focusing on the actions on phases 1 and 2 up to the point where the invitations for bids are issued. Dr. Y.J. Choi, Korean Institute of Nuclear Safety (KINS), shared a very informative and insightful example and together with actual experience of the regulatory approach, human resources development and workforce planning in the Rep. of Korea. The series of lectures were well organized, integrated and carried out interactive and included clarifications, questions and comments by participants. The set of presentations will be a valuable asset not only for ANSN and RCF embarking countries but also all the other new entrant Member States.

The Group exercises started in the afternoon of the second day. The participants were divided into 4 groups (Bangladesh and Thailand; Indonesia and Malaysia; Philippines and Kazakhstan, Vietnam and Poland) and each group went through a set of questions of the modules against SSG-16. They actively answered self-assessment question sets on related topics. This was an exercise to gain familiarity with the self-assessment process and questions were answered in terms of national positions. A peer review was conducted by sharing the results of self-assessment which included useful observations and comments for improvement. The feedback to the question sets from the participants provided valuable inputs to the IAEA for further elaboration and improvement of the question sets.



Technical visit to the Bohunice NPP in Slovakia.

On Friday in the first week, a technical visit to the Bohunice Nuclear Power Plant in Slovakia was arranged and served as an invaluable opportunity for the participants to obtain first-hand experience of observing the leadership and management of safety in an operating organization of nuclear power plant, as well as walk down of the turbine hall and control room. The participants appreciated the invitation and the excellent hospitality of the staff of the Bohunice Nuclear Power Plant.

On the last day, the Chairperson presented his views for a self-assessment and PReSA milestones taking into account the progress of the workshop. It was pointed out that a self-assessment presents a status as compared to a goal with an outcome of the identification of gaps. In this sense a gap-analysis is not an independent activity. Furthermore, analysis of the gaps becomes the primary input for the action plan. Therefore, it was emphasized that, a comprehensive self-assessment is indispensable. The knowledge, skills and tools given through this workshop provide the participants with a better understanding of scope and magnitude of performing a self-assessment. A first step could be receiving a specific training/expert mission on the self-assessment methodology and tool. This would be followed by the member state performing the self-assessment. IAEA could then provide an expert mission to review the self-assessment and action plan. Given the magnitude of this effort and the impact on the organizations, the conduct of the self-assessment may be divided into different subjects/organizations and may need multiple review missions.

The group concluded by discussing the results of the 2 weeks workshop and considered that it

was very useful for them as a first step in obtaining an understanding of necessary actions specified in SSG-16 and how to conduct a self-assessment against them.

Voice from participants

“The scope of the Workshop is comprehensive. It enhances our understanding on the Safety Infrastructure for NPP, and we will apply the information obtained from the Workshop in order to prepare better Infrastructure for NPP after coming back to Indonesia.” (Indonesia)

“Most beneficial in its comprehensive coverage of the roadmap on Nuclear Safety Infrastructure. Also provides a platform for networking and a forum for exchange of experiences.” (Malaysia)

“The workshop was very informative and comprehensive, and had a good balance of lectures and exercises. The self-assessment exercises are good tools to identify the gaps in the establishment of a nuclear safety infrastructure for NPP.” (Philippines)

“The knowledge from the workshop cover concept of safety infrastructure which is proper to overview for country is embarking nuclear power programme. Moreover, filling the questionnaire enhances experience and provides a more understanding of SSG-16. The gain from the workshop is useful to encourage the newcomer to clarify and prioritize the activities to sustainably implement a nuclear power programme.” (Thailand)

“The workshop is a precious occasion for us to learn from IAEA as well as the member states in the ANSN key elements for the development of a sound safety infrastructure for a NPP. On this basis, we do hope that further activities would be followed to facilitate the application of this knowledge and the SSG-16” (Vietnam)

“This regional workshop has provided us a sound knowledge on Nuclear Safety Infrastructure as well as clear idea on self-assessment to identify own position towards progressive implementation of the first Nuclear Power Plant Project in our country.” (Bangladesh)

“Kazakhstan joins with ANSN since the summer of 2010 and started this activity only at April 2011. Now I can confirm that ANSN is very effective and useful mechanism for assistance to countries, which plan to develop nuclear energy. ANSN actively covers all aspects of establishing a Nuclear Safety Infrastructure. Cooperation of new comer countries with developed countries as Japan, Korea, China, etc. has a good prospective and future.” (Kazakhstan)

“It has been great pleasure to participate in the workshop and I would like to express my gratitude to the ANSN for involving Poland in this activity. The workshop provided good and comprehensive overview on safety infrastructure development and this knowledge will be utilized to address current needs of Polish Nuclear Power Programme.” (Poland)

8th Information Technology Support Group (ITSG) meeting and Regional Workshop on Capacity Building IT Modules

Bangkok, Thailand, 27 June – 1 July 2011

Technical Officer: Mr Sameer KUNJEER, NS-SSCS

The 8th Information Technology Support Group (ITSG) meeting and the workshop on Capacity Building IT Modules were held in Bangkok, Thailand, hosted by the Office of Atoms of Peace (OAP). The ITSG meeting took place from 27 to 29 June, attended by the ITSG members from Japan, Republic of Korea, Malaysia, Thailand and Vietnam, together with two IAEA staff. Following the meeting, the workshop from 30 June to 1 July was attended by four Steering Committee (SC) members from Indonesia, Malaysia, Thailand and Vietnam, along with the participants of the ITSG meeting.



Participants at the 8th ITSG meeting and workshop on Capacity Building IT modules.

ITSG meeting

The participants of the ITSG meeting were warmly welcomed by Mr. V. Vongsmarn, Deputy Secretary General of OAP. In the opening address, the IAEA highlighted the importance of the meeting as well as the ITSG members' role to facilitate development and implementation of the Capacity Building IT modules.

National Presentations

The ITSG members made presentations on the current status of their national centres. Among them, the ITSG member from Indonesia presented the Content Management System (CMS) to be adopted by the national centre website, and the participants appreciated the CMS system, as it can facilitate implementation of a consistent layout and content management among the national centre websites.

Progress and further development of Capacity Building IT Modules

The IAEA stressed their action plan for achieving the implementation of IT elements for Regional Capacity Building. This included an online nomination process, pool of experts, e-Library and online communication. These would support the Regional Capacity Building System in accordance with the ANSN Vision 2020. The progress of these IT elements was shared and a number of recommendations and agreements were made as a result of active discussions.

Regarding the pool of experts, it was recommended that the structure of expert database should be modified to comply with the Personal Information Protection Act.

Concerning the e-Library developed by Japan and its integration in the centralised ANSN website, it was agreed to organize a consultancy meeting to discuss the ANSN network infrastructure to facilitate seamless information sharing between the centralized ANSN website and national centre websites. It was also agreed that the ITSG members would continue to play a key role in achieving the objectives of e-Library, through migration and classification of relevant documents from national centres to the e-Library.

Based on the progress report of Webinar implementation from the IAEA, the ITSG members recommended considering Quality of Service (QoS), while formulating the minimum bandwidth guidelines for Technical and Scientific Support Organizations (TSOs) within ANSN member states. It was also proposed that the Webinar solution implemented by the Korean Institute of Nuclear Safety (KINS) could be used as an alternative.

The IAEA briefed on the results based management approach adopted by the ANSN framework in line with the Generic Action Plan for the ANSN Vision 2020, and presented a preliminary draft of the Performance Indicators (PIs) for new Capacity Building IT Modules. It was agreed that the ITSG would further discuss the approach for deriving PIs.

Regional Workshop on Capacity Building IT Modules

The workshop was opened by Dr. K. Huda, Deputy Chairman of Indonesian Nuclear Energy Regulatory Agency (BAPETEN), and SC member of Indonesia, who stressed the importance of the workshop from the regional capacity building perspective. The IAEA emphasized the SC members' role, in close coordination with the ITSG members' for the success of Capacity Building IT modules.

The SC members appreciated the results of the 8th ITSG meeting and acknowledged the progress made in the implementation of the Capacity Building IT modules.

Practical exercises on registration in centralised ANSN website, online nomination process, e-Library and Webinar were conducted with the SC members, and valuable suggestions and feedback for future enhancement were provided by them.

The IAEA briefed the participants on the functional requirements of the pool of experts. The SC member acknowledged that the expert database IT module would play a significant role in Capacity Building by enhancing sustainable nuclear safety in ANSN member states.

The role of ITSG members was discussed and it was proposed that the following items should be highlighted in the forthcoming SC meeting in November 2011, to ensure effective implementation and operation of Capacity Building IT modules in the long run; 1) review of the Terms of Reference of ITSG; 2) recognition of roles and responsibilities of ITSG members; 3) periodical consultation on ITSG members for status of national centre websites and ANSN activities; 4) resource management; 5) consideration of upgrading IT infrastructure; 6) actions for promotion of ANSN among wider audience in ANSN member states through national centre websites; and 7) participation in relevant workshops for Capacity Building IT modules.

During the closing session, Dr. Huda, Chairperson of the workshop recognised on behalf of the participants the efforts of the ITSG members in providing important information and suggestions to the SC members. He acknowledged that the workshop was beneficial for the SC members, in order to enhance Capacity Building in ANSN member states.

5th Meeting of the ANSN Capacity Building Coordination Group (CBCG)

Daejeon, Republic of Korea, 7–8 November 2011

Technical Officer: Mr Yasukazu FUKUDA, NS-SSCS

The Korea Institute of Nuclear Safety (KINS) hosted the 5th ANSN Capacity building meeting. Participants included the Capacity Building Coordination Group (CBCG) coordinator, the Peer Review and Support Arrangement (PReSA) coordinator, the coordinators of five ANSN Topical Groups (i.e. the Topical group on Education and Training (ETTG), the Topical Group on Emergency Preparedness and Response (EPRTG), the Topical Group on Governmental and Regulatory Infrastructure (GRITG), the Topical Group on Operational Safety (OSTG) and the Topical Group on Safety Analysis (SATG)), a Topical Group on Siting (STG) representative and ANSN Project Management Officers (PMOs). The representatives of Australia and the Republic of Korea, countries that are members of the ANSN Steering Committee, the representative of the United States Nuclear Regulatory Commission, the former Coordinator of ETTG and a member of the Information Technology Support Group (ITSG) of Japan attended the meeting as observers.

Mr. K. Tomita, CBCG Coordinator, in his opening remarks, welcomed the participants and shared the view that the ANSN should proactively support implementation of the relevant actions of the *IAEA Action Plan on Nuclear Safety*. Mr. Tomita noted that this plan had been approved by the 55th IAEA General Conference in September 2011 and that it defined a programme of work to strengthen the global nuclear safety framework following the accident at the Fukushima Daiichi nuclear power station. Mr. Tomita stated that the CBCG “should continue taking the lead in ANSN capacity building and the establishment of safety infrastructure in a needs-oriented manner with ANSN countries that are embarking on, introducing or expanding a nuclear power programme.”



Participants to the ANSN Capacity Building Coordination Group meeting in Daejeon, Republic of Korea.

On behalf of the IAEA, the Project Management Officer for the CBCG reiterated the importance of the *IAEA Action Plan on Nuclear Safety* in the context of ANSN. In this connection, the PMO highlighted the value of further promoting regional cooperation for the development of a comprehensive safety infrastructure and capacity building activities in the post-Fukushima global nuclear safety framework.

Mr. Tomita reviewed CBCG achievements in pursuing the Vision for the ANSN by the year 2020 (ANSN Vision 2020) and in particular (1) the Generic Action Plan for Establishing the Regional Capacity Building System in Asia as a roadmap for implementing the ANSN Vision 2020 and (2) the National Action Plan for Capacity Building by ANSN Member States embarking on a nuclear power programme. This Plan fully takes into account national specific needs. The meeting discussed a new initiative for the practical application of IAEA Safety Guide SSG-16, *Establishing the Safety Infrastructure for a Nuclear Power Programme*.

Dr. Y. Ueda, Coordinator of the Peer Review and Support Arrangement, reviewed the tasks of this function within the ANSN and the Topical Groups' future activities in the context of peer reviews and support.

Topical Group Coordinators reviewed the proposal to promote the application of the relevant self-assessment guidelines and safety packages (known as 'SSG-16 Modules') within the scope of their respective activities. Topical Group Coordinators agreed that each topical group should plan regional workshops to fill gaps identified within a reasonable and feasible time, taking into account the status of nuclear safety capacity building and infrastructure development of ANSN Member States embarking on a nuclear power programme.

Regarding the lessons learnt from the accident at the Fukushima Daiichi nuclear power station, Topical Group Coordinators agreed to continue planning ANSN regional activities addressing the lessons learnt beyond 2012, bearing in mind the short-term, medium-term and long-term perspectives.

The CBCG discussed the future outlook for ANSN capacity building activities with ANSN Member States and topical groups, and agreed to continue exploring how best to steer the ANSN programme in the coming years, including by revisiting the ANSN Vision 2020 and amending the terms of reference of CBCG.

Finally, CBCG members shared information on the results of Topical Group activities in 2011 and on their work plan for 2012. The CBCG shared the view that the draft ANSN work programme adequately coordinated ANSN activities among topical groups and further assigned them to five work packages, including a work package on feedback from the lessons learnt from the Fukushima accident

and one on the activities of the Peer Review and Support Arrangement on the basis of IAEA Safety Guide SSG-16.

14th Meeting of the Steering Committee

Daejeon, Republic of Korea, 9–11 November 2011

Technical Officer: Mr Lingquan GUO, NS-SSCS

The Korea Institute of Nuclear Safety hosted this meeting, which was sponsored by the Korea Nuclear Safety and Security Commission. The Steering Committee representatives from Australia, China, France, Germany, Indonesia, Japan, Republic of Korea, Malaysia, Philippines, Vietnam and USA participated in the meeting, along with a representative of the United States Nuclear Regulatory Commission, the Coordinator of the CBCG, the Coordinator of the Peer Review and Support Arrangement, the Coordinators of five ANSN Topical Groups (i.e. ETTG, EPRTG, OSTG, SATG and STG), the representative of STG, the ANSN Programme Manager, three ANSN Project Management Officers and an IAEA Officer. Representatives of Bangladesh and Kazakhstan and a member of the ITSG of Japan attended the meeting as observers.

Opening Session

Dr. Y.H. Park, Director, Division of International Nuclear Safety, KINS, and Steering Committee Chairperson, opened the meeting.



Dr. Y.H. Park, Steering Committee Chairperson (centre, holding microphone), inviting participants to hit their fist on the table to open the steering committee meeting at the Korea Institute of Nuclear Safety, Daejeon, Republic of Korea.

Mr. Jae-Sik Uhm, Director, Nuclear Safety Policy Division, Nuclear Safety and Security Commission, welcomed participants on behalf of the Government of Korea. Mr. Uhm took note of the large number of ANSN colleagues in attendance and highlighted the “importance of enhancing cooperation through the ANSN to strengthen nuclear safety and build capacity in the region”. Mr. Uhm also informed the meeting about the establishment in October 2011 of the Nuclear Safety and Security Commission of the Republic of Korea, a government agency that reported directly to the President of this country.

Mr. P. Woodhouse, Head of the IAEA Safety and Security Coordination Section and ANSN Programme Manager, welcomed meeting participants on behalf of the IAEA and thanked the Korean authorities for hosting this gathering. Mr. Woodhouse highlighted the significance of the *IAEA Action Plan on Nuclear Safety* approved in September at the 55th IAEA General Conference and its relevance to the ANSN. The ANSN Programme Manager noted the timeliness of this Steering Committee meeting to plan the future work of ANSN and the value of cooperation with other nuclear safety networks to share knowledge and experience.



Participants at the Steering Committee meeting in Daejeon, Republic of Korea. The Korea Institute of Nuclear Safety hosted this meeting.

The IAEA delivered progress reports on ANSN activities in 2011, covering information on technology modules for capacity building, the Global Nuclear Safety and Security Network and other networks.

National presentations

Mr. T. Bannai, Director of the International Affairs Office, Nuclear and Industrial Safety Agency of Japan, provided the meeting with a status update on the Fukushima accident. This was followed by national presentations by all ANSN country representatives on the results of the Integrated Safety Evaluation process in 2011 and the national activities requests for 2012. The presentations showed that significant progress had been achieved by ANSN countries in capacity building, safety infrastructure development and governmental and regulatory systems for nuclear safety.

IAEA Action Plan on Nuclear Safety and Progress Report on Capacity Building

Mr. S. Koenig, Regulatory Activities Section, Department of Nuclear Safety and Security, IAEA, introduced the *IAEA Action Plan on Nuclear Safety* and specifically Actions 8 and 9, i.e. “Member States planning to embark on a nuclear power programme” and “Capacity building”. The Steering Committee noted that the concept of capacity building was evolving at the IAEA and welcomed IAEA efforts in the area of development of a safety infrastructure for Member States embarking on a nuclear power programme. The Steering Committee further welcomed development by the IAEA of “modular packages of assistance” to ensure integration of Action Plan activities, taking into account the lessons learned from the Fukushima accident.

CBCG and TGs reports

Mr. K. Tomita, CBCG Coordinator, briefed the meeting on the results of the 5th CBCG meeting. The Steering Committee thanked the CBCG for its efforts and discussed the outlook for CBCG in strengthening capacity building and safety infrastructure activities within the framework of ANSN. The Coordinators of the Topical Groups briefed the Steering Committee on the status of their work and on their proposed regional activities for 2012.

ANSN Work Programme for 2012

Following the ANSN country presentations and reports by the CBCG and Topical Groups, the Steering Committee reviewed and approved the ANSN Work Programme for 2012.

A new structure: the ANSN Plenary

The Steering Committee acknowledged the significant achievements of the Nuclear Safety Strategy Dialogue, including setting up the ANSN Vision 2020 in 2009 and the Generic Action Plan for Establishing the Regional Capacity Building System in Asia in 2010 as a roadmap to implement this vision. Further to an IAEA proposal, the Steering Committee agreed to establish an ANSN Plenary in replacement of the Nuclear Safety Strategy Dialogue to ensure high level commitment on the part of ANSN Member States.

Two new topical groups

The IAEA proposed to establish two new ANSN topical groups on public communication and on a management system for regulatory bodies, suggesting the modalities for setting up these new topical groups. The Steering Committee agreed to establish these new topical groups.

Videoconference

A demonstration videoconference was held linking the meeting in Daejeon and IAEA headquarters in Vienna. At the invitation of Chairperson Dr. Y.H. Park, Mr. D. Flory, IAEA Deputy Director General, Head of the Department of Nuclear Safety and Security, addressed the meeting via the live video connection. Mr. Flory thanked KINS for hosting the meeting and underscored the achievements of ANSN since its inception in 2002. Mr. Flory pointed out that ANSN had been a model for other regional safety networks. Speaking of *the IAEA Action Plan on Nuclear Safety*, Mr. Flory said: “this Action Plan is directed at all of the actors in the nuclear community, including the IAEA and its Member States”.

Responding to Mr. Flory, Mr. Woodhouse observed that ANSN, as a model regional safety network, should share its good practices and experience with other regional networks under the Global Nuclear Safety and Security Network, and that ANSN activities should be in line with the IAEA Action Plan.

This conversation involving speakers halfway around the world showed that videoconferences can also be considered as an effective tool for communication and cooperation amongst ANSN Member States.



Participants to the Steering Committee meeting in Daejeon, Republic of Korea, wearing traditional Korean dress.

Closing Session

At the close of the meeting, Chairperson Dr. Y.H. Park thanked the participants for their constructive contributions to the work of the ANSN and wished them well in dealing with the tasks ahead.

Cultural experience

Meeting participants thanked KINS for the well-planned meeting arrangements and the opportunity to experience traditional Korean culture.

Consultancy Meeting on Development of a Guidance and Methodology for Assessment of Capacity Building in Member States with or planning to embark on a Nuclear Power Programme

Vienna, Austria, 21–25 November 2011

A consultancy meeting was organized at the IAEA headquarters in Vienna, Austria from 21st to 25th November 2011, to develop guidance and a methodology for assessment of capacity building in Member States with nuclear power programme and those planning to embark on such programmes.. Nine international experts from Belarus, Brazil, China, Japan, Malaysia, Pakistan, Republic of Korea, Turkey and Vietnam participated in the consultancy meeting along with IAEA staff members, including two ANSN Project Management Officers (PMO).

The meeting was organized by the working group on capacity building created by the Secretariat to assist Member States in strengthening and maintaining their capacity building programmes, including the areas of human resources, knowledge management, knowledge networks and education & training. The purpose of the meeting was to define the concept of capacity building within the context of the IAEA Action Plan and develop a methodology and tool for self-assessment of capacity building programmes. The meeting was very productive and the consultants produced a draft document “Guidance and Methodology for Assessment of Capacity Building in the Member States with Nuclear Power Programmes and those planning to embark on such a programme”.

The consultant’s draft describes capacity building as an umbrella, as illustrated in Figure 1, consisting of the following four essential elements:

1. Human resource development

2. Knowledge management
3. Knowledge networks
4. Education & training

It considers capacity building to be defined at three levels, namely:

1. Governmental (or societal) level: Governments have an essential role to play in the capacity building process for having safe, secure and sustainable nuclear power programme. The governments should discharge their responsibility and provide effective coordination for capacity building to support a nuclear power programme. It is very important for governments to have cleared a policy and strategy and allocate resources to ensure a sound capacity building programme, along with its effective implementation.
2. Organisational (or Institutional) level: Organisations/Institutions have a dual role: to communicate to government their overall human resource requirements in order to ensure that appropriate capacity is available to support a nuclear power programme whether it is new, stable, expanding or being phased out, and to make effective use of the available infrastructure in order to ensure the capacity and competence of their own personnel. Hence organisations/institutions are pivotal in this process. In the context of the Agency's mandate and for the purpose of capacity building activities, the key relevant organizations are Government Ministries/NEPIO, regulatory bodies, operating organizations, technical support organizations and education & training institutions.
3. Individual level: "Individual capacity building" often refers to the development of individuals' knowledge, skills and competencies to enable them to fulfil specific responsibilities in specific organisations.

The figure also indicates that the capacity building elements can be developed and continuously improved only when an appropriate enabling infrastructure, including such elements as legal and regulatory framework, are put in place by the Member State. For effective capacity building, organizational governance also needs to be well established under a management system.

The consultants' document proposes that for the purpose of its guidance document the Agency should define capacity building as:

the systematic and integrated approach that includes human resource development, knowledge management, knowledge networks and education & training to develop and continuously improve governmental (societal), organizational and individual competences and capabilities necessary for achieving safe, secure and sustainable nuclear power programme.

Progressive capacity building in Member States would require specific consideration of their evolving needs. Member States with established nuclear power programmes would have different needs from the Member States thinking of embarking or expanding their nuclear power programmes.

An extensive capacity building programme is essential for the safety and sustainability of a nuclear power programme. Decision makers must be aware that capacity building for a nuclear power programme is a multidisciplinary and multi-institutional undertaking with a scope, level of effort and cost well beyond what is normally required for other industrial developments. This awareness is essential for an informed government commitment to facilitate decision making to embark on or expand an existing nuclear power programme.

Capacity building takes time and Member States embarking on, or expanding existing, programmes, early in the planning stage.

The consultants' draft document also defines the role of the government to support capacity building and describes the methodology for self-assessment, including a questionnaire to be used by the government for assessing that the mechanism and processes are in place to support the capacity building programme in the country.

The capacity building action plan working group has already planned a second consultants' meeting to finalize this draft so that it can be presented for discussion in a technical meeting planned for April 2012.

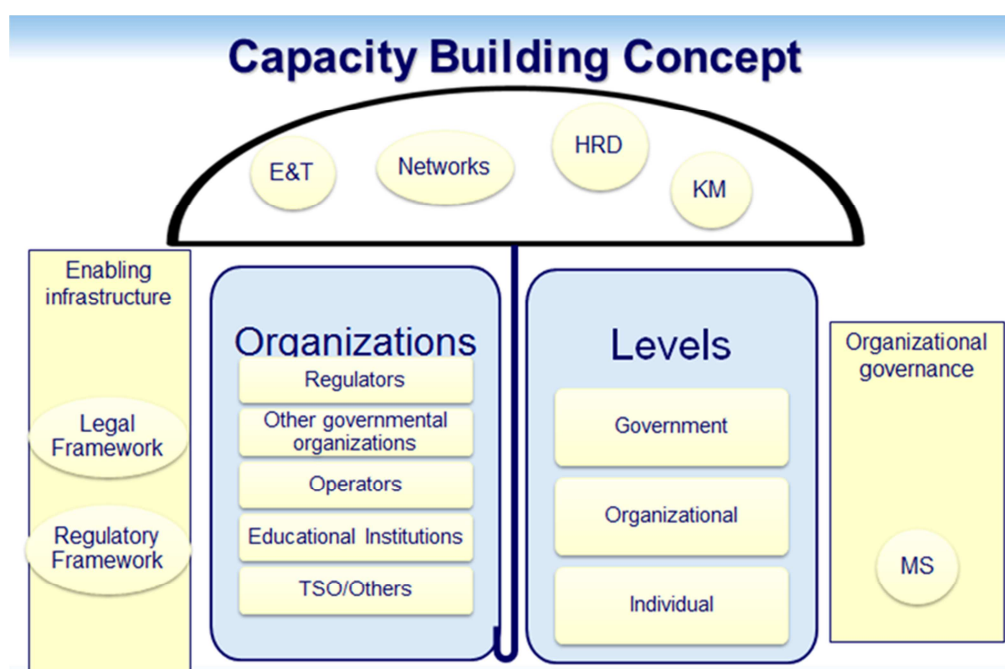


Figure 1. Capacity Building Umbrella

Voice of participants from ANSN countries

ANSN has been developing the Regional Capacity Building System, in line with 'the Vision for the ANSN by the year 2020' (Vision 2020). The consultancy meeting was held to develop a guidance and methodology for assessment of the essential four elements of capacity building, i.e. human resources development, knowledge management, knowledge networks and education & training. On this basis, the output of this activity is expected to be very useful to accelerate ANSN's activities and to provide us a sound knowledge on key elements for developing a sustainable nuclear safety infrastructure for a NPP. It was my great pleasure to participate in the consultancy meeting and I do hope that further efforts would be followed in an active manner and would make the draft document be a valuable one.

(Dr. Y. Ueda, Assistant Director-General, Japan Nuclear Energy Safety Organization (JNES) and Coordinator of ANSN Peer Review and Support Arrangement (PReSA))

In 5 days (November 21-25, 2011), the consultancy meeting was held to develop a guidance and methodology for assessment of capacity building in developing a sustainable nuclear safety infrastructure for a NPP. The output of the activity is expected to be very useful for many Member

States, especially for embarking countries such as Vietnam. It makes the draft document a valuable one that would provide sound knowledge on necessary elements in defining purpose and tools for capacity building. It was my great pleasure to participate in the consultancy meeting and exchange opinions with experts from other countries. I suggest that ANSN continue its activities to develop the Regional Capacity Building System, in line with the Vision for the ANSN by the year 2020' (Vision 2020).

(Mr. D. Le Chi, Deputy Director General, Vietnam Agency for Radiation and Nuclear Safety (VARANS))

Regional Activities

Education and Training Topical Group

Consultancy Meeting on Education and Training Review Services (ETReS)

Vienna, Austria, 21–25 February 2011

Technical Officer: Ms Abida KHATOON, NSNI-RAS

Participants in this meeting included the Coordinators of the ANSN Topical Group on Education and Training (ETTG) from Indonesia and the Republic of Korea, an expert from Spain in the field of education and training and two IAEA staff members – a Project Management Officer (PMO) of the ETTG and a Technical Officer of the ETTG.

The meeting was chaired by the Indonesian Coordinator of ETTG. The objectives of the meeting were: (i) to review and streamline the current guidelines for Education and Training Review Service (ETReS) with a view to producing a final draft for pilot review missions to ANSN countries pursuant to the last consultant meeting in May 2010 (see ANSN Newsletter No. 109), and (ii) to discuss the implementation of the guidelines for these missions. The ETReS is based on the ANSN Integrated Safety Evaluation (ISE) guidelines.

In his opening remarks, the Head of the Regulatory Activities Section of the IAEA Dept. of Nuclear Safety and Security emphasized the importance of the services to be provided to IAEA Member States, including ANSN countries and new entrant countries, for the review of their education and training in the field of nuclear safety. He stated that new programmes for education and training were needed for developing human resources for regulatory bodies, operating organizations, technical support organizations, educational institutions and technical and research institutions.

The PMO of the ETTG presented recent developments in ANSN. The Coordinator of the IAEA Working Group for Nuclear Safety and Security Education and Training Support to Member States provided an overview of the IAEA's strategic approach and activities supporting education and training for capacity building. The chair of this meeting gave a presentation on the recent achievements of ETTG; the external expert explained the current guidelines of ETReS and the work conducted in 2010 in this area.

Meeting participants discussed the objectives, stakeholders and other important aspects of ETReS. They agreed that the objectives of the ETReS were to assist ANSN countries and Member States embarking on nuclear power programmes to develop and maintain sustainable and adequate education and training programmes in nuclear safety. These programmes were to be consistent with the relevant IAEA safety standards and international good practices, with due recognition to national conditions.

The participants of the meeting agreed that the main stakeholder or contact point for this ETReS review service would be the regulatory body that would be responsible for coordination with other interested parties, including operating organizations, technical and scientific support organization and universities. For Member States embarking on nuclear power programmes that have not yet established a regulatory body, the point of contact would be the governmental organization responsible for overall implementation of the nuclear power programme.

The guidelines were thoroughly revised on the basis of the discussions at the meeting. Meeting participants shared the view that the guidelines were now ready to be applied to trial, pilot review missions in ANSN countries. Finally, meeting participants highlighted the need to

further develop complete question sets for self-assessment on education and training in nuclear safety, to be conducted by the Member State receiving the ETReS.

Workshop on Safety Assessment for Regulatory Control of Nuclear Power Plants

Daejeon, Republic of Korea, 4–8 April 2011

Technical Officer: Mr Manwoong KIM, NSNI-SAS

The International Nuclear Safety School of the Korea Institute of Nuclear Safety (KINS) hosted this workshop, which was attended by 12 participants from regulatory authorities and their technical and scientific support organizations (TSOs) of Bangladesh, Indonesia, Kazakhstan, Malaysia, Philippines, Thailand and Vietnam, along with experts from China and the Republic of Korea. The purposes of this workshop were to review, on the basis of the IAEA safety standards and in particular GSR-4, *Safety Assessment for Facilities and Activities*, general practices in the safety assessment of regulatory control and to consider the ways in which these standards had been implemented in specific countries for enhancing the safety of nuclear power plants (NPPs).

Safety assessment is useful in the early stages of regulatory and safety assessment for NPP projects, such as for siting evaluation, deterministic safety analysis, probabilistic safety assessment, severe accident analysis, assessment of design safety and radiological emergency preparedness. While the workshop lectures focused on the international requirements, methodologies and processes for safety review and assessment, the expert presentations discussed country practices in the areas of periodic safety review and operating license renewal.



Participants at the KINS-hosted workshop in Daejeon on building capacity in safety assessment and the regulatory control of NPPs.

Participants held discussions after lectures and presentations, including on the safety situation at the Fukushima Daiichi NPPs in Japan. Participants valued this workshop for the insights and practical experience gained in regulatory programmes and activities for safety reviews of NPPs and for understanding the roles and responsibilities of regulatory authorities and TSOs in these programmes and activities.

During this workshop, the participants were able to visit the Seismic Centre and the Atomic Computerized Technical Advisory System for a Radiological Emergency at the Korea Institute of Nuclear Safety and the thermal-hydraulic and severe accident facilities at the Korea Atomic Energy Research Institute.

Nuclear Safety Regional Training Workshop Tailored for Regulators

Daejeon, Republic of Korea, 30 May–10 June 2011

Technical Officer: Mr Ugur BEZDEGUEMELI, NSNI-RAS

The Korea Institute of Nuclear Safety (KINS) hosted this training workshop, which was attended by 14 participants from Bangladesh, China, Indonesia, Malaysia, Philippines, Thailand and Vietnam, along with experts from KINS and an IAEA officer. The purpose of the workshop was to provide knowledge and review regulatory practices on safety assessment in topical areas of mechanical and structural integrity of nuclear power plants.



Participants at the KINS-hosted nuclear safety training work-shop for regulators in Daejeon.

The experts and the IAEA officer gave lectures and facilitated discussions with the participants. Participants also made presentations on their national regulatory framework and practices for nuclear programmes. Following the lectures and discussions, participants had the opportunity to take a closer look at instruments and equipment relevant to some of the training topics, such as diagnostic equipment used for identifying defects during inspections and steam generator tubes.

At the end of the first week, participants and their hosts travelled on a technical visit to the Doosan Heavy Industry complex and the Shin-Kori nuclear power plant site, where they were able to observe the manufacture of important nuclear power plant components such as steam generators and reactor pressure vessels. At the plant site, they visited a plant unit in operation and two plant units under construction. Another technical tour to the HANARO research reactor and KNF fuel fabrication plant was arranged in the second week of the workshop.

Basic Professional Training Course on Nuclear Safety

Daejeon, Republic of Korea, 13-24 June 2011

Technical Officer: Ms Abida KHATOON, NSNI-RAS

The Korean Institute of Nuclear Safety (KINS) hosted this training course, which was attended by 14 participants from Bangladesh, Indonesia, Kazakhstan, Malaysia, Philippines and Vietnam, along with 23 experts from KINS and an IAEA officer. The purpose of the training course was to provide an overview and introductory training in the field of regulatory control of nuclear power plants as well as to support the regulatory bodies of ANSN countries embarking on a nuclear power programme in their own training activities.



Participants at the KINS-hosted basic professional training course on nuclear safety in Daejeon.

The IAEA officer introduced the objectives and expected outcomes of the Basic Professional Training Course (BPTC) emphasizing the need for human resource development as a key component in the establishment of a Nuclear Safety Infrastructure as an important step in the implementation of a nuclear power program.

The KINS experts and the IAEA officer gave 31 lectures covering various topics of regulatory control of nuclear power plants including experience of nuclear energy development and safety regulation in Korea; nuclear safety principles; leadership, management system and safety culture; siting; meteorological and hydrological evaluations; safety classification of system, structure and components (SSCs); operational safety; deterministic accident analysis; probabilistic safety analysis; in-plant accident management; emergency preparedness and response; waste management; decommissioning; and public communication.

During the training course, participants and their hosts visited the Doosan Heavy Industry complex, the Shin-Kori nuclear power plant site, and the HANARO research reactor and KNF fuel fabrication plant.

Annual Meeting of the Topical Group on Education and Training (ETTg) and Regional Workshop on the Establishment of an Education and Training System for Countries Embarking on a Nuclear Power Programme

Vienna, Austria, 26–30 September 2011

Technical Officer: Ms Maria Moracho RAMIREZ, NSNI-RAS

The annual meeting of the Topical Group on Education and Training (ETTg) and the Regional Workshop on the Establishment of an Education and Training System for Countries Embarking on a Nuclear Power Programme convened at the Vienna International Centre, Austria. In attendance were participants from Bangladesh, China, Indonesia, Japan, Republic of Korea, Malaysia, Philippines, Thailand and Vietnam, along with external experts from France and the IAEA. The IAEA was represented by the Programme Manager of ANSN, Mr. P. Woodhouse, the Scientific Secretary of the ANSN Steering Committee, Mr. L. Guo, the Project Management Officer, Mr. D.K. Kim, and the Technical Officer of ETTg, Ms. M. Moracho Ramirez.

Mr. Woodhouse opened the meeting. Mr. Guo summarized the outcomes of the last Steering Committee meeting in May 2011. Mr. Kim outlined the basic procedures of the ANSN and ETTg, including the Integrated Safety Evaluation (ISE) process and the on-line nomination process for ANSN regional activities and Ms. Moracho Ramirez updated participants on the IAEA training activities.



Participants at the annual meeting of ETTg and the regional workshop on the establishment of a national education system for countries embarking on a nuclear power programme.

Mr. K. Lokollo, Coordinator of ETTg, explained the new terms of reference of ETTg for the period 2011–2013 that were revised last year, underlining the importance of using the ETTg as a cross-cutting group for capacity building in Asia and in particular, for developing policy and leadership for effective training systems; effective and efficient management of training and organization competence and the systematic approach to training. Mr. Lokollo also presented ETTg's mid-term plan for 2011–2013.

Participants presented the status of education and training management in their countries. After discussion, meeting participants agreed on the ETTg activities for 2012, recognizing that these activities covered all of the objectives addressed in the new ETTg terms of reference.

The IAEA discussed IAEA publication SSG-16 and education and training for capacity building. The participants concluded that better human resources and in particular, human resource development, were important for implementing IAEA publication SSG-16. As a result of the general agreement among participants on the need for a workshop in this connection, a workshop on human resource development was incorporated in the planned ETTG activities for 2012.

The participants discussed the effectiveness of the trainers' training and proposed that the selection of participants in "train the trainers" courses should ensure that the trainers use the knowledge obtained at these courses to organize training courses in their home organizations.

Following several presentations and a discussion on the Education and Training Review Service (ETReS), meeting participants concluded that the guidelines on this service should be applied and further revisions should take place based on the first feedback, recognizing that a pilot ETReS mission was scheduled for 2012 in Indonesia.

Training Course for the Trainers on Public Communication of Nuclear Regulatory Organization

Daejeon, Republic of Korea, 24–28 October 2011

Technical Officer: Mr Jean-Rene JUBIN, NSNI-RAS

The Korea Institute of Nuclear Safety (KINS) hosted this course, which was attended by nine participants from Indonesia, Malaysia, Thailand, Philippines and Vietnam, together with three external experts from Philippines and the USA, three KINS experts and an IAEA Officer.



Participants in the regional training course for trainers in public communication for nuclear regulatory bodies.

The purpose of this course was to provide training for enhancing trainers' understanding of the concept of effective public communication and communication planning, for improving skills in public communication and for assisting in the preparation of training courses on this subject. This

course forms part of the IAEA's strategy to help regulatory bodies in strengthening their sustainability and the effectiveness and planning of their in-house training.

Mr. J.R. Jubin, IAEA officer, outlined the basic elements of public communication and introduced the IAEA training materials for trainers. He reviewed the IAEA safety standards that are applicable to public communication.

In a breakout session involving several working groups, participants performed practical exercises to develop skills in preparing training programmes on public communication on the basis of the IAEA safety standards. Working groups were requested to draft a training programme to develop in-house, regulatory organization competence for communicating with the public effectively and in a transparent manner. At the end of this session, course attendees reviewed the proposals of the various working groups in a plenary meeting.

For the purpose of establishing a common perspective, course panellists and participants described the status of public communication in their regulatory organizations. While KINS experts shared their experience in international public communication activities and in public communication for the Korean nuclear regulatory organization, course participants outlined the features of public communication in nuclear regulatory organizations in their respective countries. A KINS expert and Mr. S. Lee, a USA expert, shared their experiences in crisis communication after the Fukushima accident. Following this session, participants visited the KINS emergency centre.

Philippines expert, Mr. A. Palmones, discussed guidelines for press conferences and Mr. P. Shoemaker, expert from the USA, delivered a presentation on public communication planning. Following these presentations, the course participants conducted group exercises that focused on the main challenges in these areas and how to address them.

This course allowed participants to gain valuable knowledge on public communication for nuclear regulatory organizations through the sharing of experience and practical exercises. The commitment demonstrated by course participants underscored the strong interest of ANSN member countries in communication and public information issues in the nuclear regulatory arena.

Special On-The-Job Course on Quality Assurance Inspection for Nuclear Power Plant Construction

Daejeon, Republic of Korea, 1–9 December 2011

Technical Officer: Mr Manwoon KIM, NSNI-SAS

This special on-the-job training course hosted by the Korean Institute of Nuclear Safety (KINS) was attended by eight participants from Indonesia, Malaysia, Philippines, Thailand and Vietnam, along with four experts from KINS and an IAEA Officer. The objective of this training course was enhancing knowledge and basic capabilities of quality assurance (QA) inspection for nuclear power plants (NPPs) under construction.



Participants at the KINS-hosted course in Daejeon aimed at building capacity in the quality assurance inspection of NPPs under construction.

During 4-days of class room training, Mr. M. Kim, IAEA Officer, presented the relationship between design safety and QA activities, and introduced lessons learnt from the TEPCO Fukushima Dai-ichi Nuclear Power Station accident in terms of QA activities. Four experts from KINS delivered lectures on nuclear law and regulation regarding inspection, outline of nuclear QA, introduction of Korea Electric Power Code (KPEC) standards and QA inspection activities.

Following the class room training, participants were divided into small groups; each group conducted a QA audit simulation, either in the role of inspectors or as a counterpart. Through this practical experience, the participants learnt the importance of a sound QA programme for assuring the safety of NPP as well as approaches to conduct QA inspection at the site.

During the course, participants and their hosts travelled on a technical visit to the Doosan Heavy Industry complex and the Shin-Kori nuclear power plant site, where they were able to observe the manufacturing of important components such as steam generators and reactor pressure vessels and the installation of structures, systems and components in NPP.

Emergency Preparedness and Response Topical Group

Regional Workshop on Emergency Preparedness and Response on Longer Term Protective Actions and Related Matters – Annual Meeting of the Topical Group on Emergency Preparedness and Response

Phuket, Thailand, 19-23 September 2011

Technical Officer: Mr Peter ZOMBORI, NS-IEC

The Thailand Office of Atoms for Peace hosted this regional workshop; fifteen participants from Australia, Bangladesh, Indonesia, Japan, Malaysia, Philippines, Thailand and Vietnam, and the IAEA attended. This was the first gathering of the ANSN Topical Group on Emergency Preparedness and Response (EPRTG) since the occurrence of the TEPCO/Fukushima Daiichi nuclear power station accident in Japan. The workshop focused on the late phase issues of emergency response, a topic that is especially relevant in the context of Japan's nuclear emergency.



Participants of the ANSN Topical Group on Emergency Response and Regional Workshop on Emergency and Response meeting in Phuket, Thailand.

One of the first items of the meeting was an outline presented by IAEA on the goals of emergency preparedness and response and an overview of the newly agreed criteria for intervention and actions. The participants from Japan briefed the attendees in detail on the events and responses taken by the Japanese authorities in Fukushima, in particular with regard to agricultural countermeasures. Participants from other ANSN Member States gave presentations on their countries' policies generally related to longer term countermeasures after a nuclear or radiological emergency, and specifically on concrete measures taken in their countries after the emergency at Fukushima Daiichi.

Decontamination efforts taken within residential and agricultural areas after the Chernobyl accident were presented and compared with the challenges currently being faced by Japan. The longer term consequences of the Fukushima Daiichi emergency were also discussed in relation to the requirements of IAEA Safety Standards publication No. GS-R-2, *Preparedness and Response for a Nuclear or Radiological Emergency*.

The Annual Meeting of the Emergency Preparedness and Response Topical Group (EPRTG) took place on 22 and 23 September. Mr. H. Okuno, Coordinator of the EPRTG, reported on the activities

and achievements of the EPRTG during Phase II (2009-2011). The members of the Topical Group reviewed the results of the self-assessment conducted by ANSN Member States on the status of their emergency preparedness and response (EPR) in the ANSN Integrated Safety Evaluation (ISE) and noted that the EPR status of Member States had improved.

Meeting participants discussed the direction of the future activities of EPRTG in Phase III (2012-2014) and adopted the work programme for this period. During the discussion, it was emphasized that the long term consequences of the TEPCO/Fukushima Daiichi nuclear power station accident would provide topics for review and discussion as well as learning opportunities for the EPRTG.

Regional Workshop on Medical Emergency Preparedness and Response

Jakarta, Indonesia, 17–21 October 2011

Technical Officer: Mr Tetsuo YAMAMOTO, NS-IEC

The Indonesian National Nuclear Energy Agency (BATAN) hosted this regional workshop, which was attended by representatives from Bangladesh, China, Indonesia, Thailand and Vietnam, along with international experts from France and Japan and an IAEA Officer.

The purpose of this workshop was to provide health officials and medical professionals with the information necessary for building up and properly using the required capacity to respond to the medical consequences of a radiation emergency.



Participants in the regional workshop on medical emergency preparedness and response, hosted by the Indonesian National Nuclear Energy Agency (BATAN).

Mr. F. Hermana, Director of the Centre for Nuclear Technology Partnership, BATAN, welcomed workshop participants and Dr. T. Taryo, Deputy Chairman of BATAN, opened the workshop.

The first two days of the workshop were dedicated to lectures by the international experts. Dr. M. Benderitter, an expert from France, reviewed the biological effects of ionizing radiation; acute radiation syndrome; cytogenetic dose assessment and cutaneous radiation syndrome. Dr. M. Akashi, an expert from Japan, discussed external and internal radioactive contamination; medical management

of persons on-site and prior to hospitalization; and hospital management of persons contaminated and/or accidentally exposed.

The international experts shared lessons learned from accidents such as the exposure and contamination accident in Goiânia, Brazil, the criticality accident at Tokaimura, Japan, the accidents involving gammagraphy sources in Peru and Chile and the accident at the Fukushima Daiichi nuclear power station in March of this year. The impacts of these accidents were discussed and it was acknowledged that medical doctors responding to a radiation emergency need to have a basic knowledge about radiation for the proper medical management of radiation victims.

The participants from Bangladesh, China, Indonesia, Thailand and Vietnam gave presentations on the medical preparedness and response systems for radiation emergencies in their respective countries. This allowed participants and panellists to exchange views on common features in medical preparedness and response for radiation emergencies in these countries and on those aspects that are particularly relevant to public communication.

The workshop included a technical tour of the Centre for Safety Technology and Metrology of BATAN and a visit to the bioassay laboratory and the room for biodosimetry and decontamination. Following the technical tour, Dr. T. Yamamoto, IAEA Officer, demonstrated how to put on personal protective equipment and how to decontaminate contaminated wounds.

Government and Regulatory Infrastructure Topical Group

Annual Meeting of Topical Group on Governmental and Regulatory Infrastructure (GRITG) and Regional Workshop on Understanding and Implementation of the Convention on Nuclear Safety

Bangkok, Thailand, 20-24 June 2011

Technical Officer: Ms Abida KHATOON, NSNI-RAS

The annual meeting of the GRITG held from 20-21 June, hosted by the Thailand Office of Atoms for Peace (OAP), included 15 participants from Bangladesh, Indonesia, Japan, Republic of Korea, Malaysia, Philippines, Thailand and Vietnam, with an IAEA staff.

The coordinator of the GRITG reported on the activities of this group such as regional workshops conducted since the last annual meeting in July 2010. He also reported on the results of the 4th meeting of the ANSN-Capacity Building Coordination Group (CBCG) and the 13th meeting of ANSN-Steering Committee (SC) in May 2011, highlighting major agreements made at the meetings, including reflecting lessons to be learnt from the Fukushima Daiichi NPP accident into ANSN Topical Groups (TGs) activities and elaborating draft outcome-based Performance Indicators (PIs) of the TGs.

The participant from Japan gave a presentation on the Fukushima accident containing an overview of the accident responses by the Japanese government. Participants from other ANSN countries shared update information focusing on enhancement of their governmental and regulatory infrastructure and follow-up actions taken after the accident. It was agreed to conduct further GRITG activities response to the Fukushima accident.

The IAEA officer provided an overview of the IAEA safety guide SSG-16 (formerly known as DS 424): *Establishing the Safety Infrastructure for a Nuclear Power Programme*; highlighting the roles of the main entities in the establishment of national nuclear safety infrastructure and the important steps to safety in the implementation of a nuclear power programme. The corresponding self-assessment methodology and tool against SSG-16 which is under preparation was also introduced.

The GRITG coordinator presented a preliminary draft of PIs for GRITG and all the participants actively exchanged views on the draft. The draft PIs will be revised taking these views into account.

The participants discussed and agreed on mid-term objectives and on the strategy of the GRITG, including regional activities of the GRITG for 2012 and 2013.



Participants meet in Bangkok to exchange experience and practices in implementation of the Convention on Nuclear Safety.

The OAP, on behalf of the Government of Thailand through the Ministry of Science and Technology, hosted the regional workshop on understanding and implementation of the Convention on Nuclear Safety (CNS) from 21-24 June. The 15 participants together with two external experts from Germany and the Slovak Republic and the IAEA officer attended the workshop.

The purpose of the workshop was to exchange experience and practices in implementation of the CNS between contracting parties of the CNS, and States which are not yet contracting parties; and the participating countries that intended to embark on a nuclear power program.

The IAEA officer explained the history, objectives and status of the CNS, stating, that as of 2011, all the countries with operating NPPs were contracting parties to the CNS and that the number of Contracting Parties was increasing steadily. The 5th Review Meeting of the CNS was the first major International Nuclear Safety meeting after the Fukushima accident, and Contracting Parties had agreed to issue a statement reaffirming, inter alia, the paramount importance of nuclear safety in the use of nuclear energy and to convene an extraordinary meeting of Contracting Parties in August 2012.

The expert from Germany highlighted that openness and transparency is a key instrument in making the convention's review process successful and that the convention also supports the self-assessment process within the country. The expert from the Slovak Republic introduced the Guidelines regarding National Reports under the CNS (INFCIRC/572/Rev3).

The external experts and the participants shared their experiences with CNS.

An introduction to, and demonstration of the CNS Website was, provided and three working groups were created for the participants to have an opportunity to work on the CNS website on a trial basis. Each working group reviewed a selected national report and prepared questions and comments, and then posted them in a trial version of the CNS website. During the presentation of the work done by the groups, a number of issues were discussed, e.g. human and financial resources to implement the CNS, responsibilities for the preparation of the national report, establishment of a time frame for the preparation of the national report within the country.

Regional Workshop on Self-Assessment in the Preparation of Integrated Regulatory Review Service (IRRS) Missions

Bali, Indonesia, 26–30 September 2011

Technical Officer: Ms Abida KHATOON, NSNI-RAS

The Indonesian Nuclear Energy Regulatory Agency (BAPETEN) hosted this workshop; 14 participants from Bangladesh, Indonesia, Japan, Kazakhstan, Malaysia, Philippines, Thailand and Vietnam attended, along with external experts from the USA and the IAEA.

The purpose of this workshop was to exchange experience on the effectiveness of regulatory authorities' use of the IAEA methodology and tool as part of their preparatory work in advance of receiving IAEA Integrated Regulatory Review Service (IRRS) peer review missions.



Participants from the IRRS peer review self-assessment preparation workshop hosted by the Indonesian Nuclear Energy Regulatory Agency (BAPETEN).

The IAEA presented the principles and objectives of self-assessment of the national regulatory infrastructure and introduced the IAEA's Self-Assessment Methodology and Self-Assessment Tool (SAT). The IAEA also provided an overview of IAEA Safety Guide SSG-16: *Establishing the Safety Infrastructure for a Nuclear Power Programme*, and the corresponding safety-assessment methodology and tools. The external expert discussed, inter alia, regulatory activities for nuclear power programmes and siting considerations.

After a practical demonstration of the SAT by the IAEA, participants used it to practice conducting self-assessments. Participants reviewed the results of the answer and analysis phases and provided feedback on the self-assessment methodology and their use of SAT. The participants from Japan and Vietnam shared their experience on the implementation of the self-assessments in preparation for the IRRS missions to their respective countries. Workshop attendees expressed their desire to participate in more self-assessment workshops based on IAEA publication SSG-16.

Operational Safety Topical Group

Joint Regional Workshop on the Roles and Responsibilities of the Regulatory Body and Nuclear Power Plant Industry in Public Communication on Nuclear Energy and Safety Related Issues

Pasig City, Philippines, 17–20 October 2011

Technical Officer: Jean-Rene JUBIN, NSNI-RAS; Hirohisa TANAKA, NSNI-OSS

The Philippine Nuclear Research Institute (PNRI) hosted this workshop, in cooperation with the National Power Corporation of Philippines (NPC). Twenty-four participants from Bangladesh, Indonesia, Japan, Republic of Korea, Malaysia, Philippines, Thailand and Vietnam attended, along with external experts from the Czech Republic and Sweden, and three IAEA officers.

The purposes of this workshop were: (i) to exchange information on the role and responsibilities of the regulatory body and the nuclear power plant industry in public communication and (ii) to improve skills for communicating nuclear energy and nuclear safety issues to the public and interested parties.

Dr. A.M. Dela Rosa, PNRI Director, opened the workshop. Dr. C.C. Bernido, PNRI Deputy Director and ANSN Steering Committee member of Philippines, delivered welcome remarks, citing the importance of public communication to enhance public acceptance of nuclear energy. Mr. F.A. Tampinco, President of the NPC, mentioned the timeliness of this workshop for addressing anxiety and acceptance issues in the aftermath of the Fukushima accident. Mr. M. Takanashi, ANSN Project Management Officer at IAEA, noted that this meeting was the first ANSN regional workshop jointly organized by the Topical Group on Government and Regulatory Infrastructure (GRITG) and Topical Group on Operational Safety (OSTG) for handling the issue of public communication.

The expert from Sweden discussed communication and public involvement; the role of regulators, operators and experts in public communication; the legal framework and instruments for public communication. The expert from the Czech Republic shared public communication experiences of the nuclear power industry in his country and gave a presentation on understanding and dealing with the media and other stakeholders.

Mr. J.R. Jubin, Technical Officer (TO) of the GRITG at IAEA, reviewed the IAEA safety standards that related to public communication, highlighting the importance of communication and consultation with interested parties, including the public, in a transparent and open manner. Mr. H. Tanaka, TO of the OSTG at IAEA, introduced the International Nuclear Event Scale (INES), a key tool for communicating the safety significance of nuclear and radiological events to the public.

In breakout sessions, participants conducted practical exercises. In the first session, participants developed communication plans. Two groups acted as operators while the other two acted as regulators. A number of key elements for effective communication were highlighted in the exercises, such as: the importance of transparency for involving stakeholders, building confidence and gaining public trust; communicating in a positive manner with all stakeholders; dedicating significant time and special skills in preparing an effective communication plan; training organization staff in communication.

The second breakout session discussed how to deal with public communication in the future within the ANSN framework and to formulate expectations for future ANSN support in this area. Participants shared the view that the ANSN could provide support in fulfilling public communication

needs; facilitating information exchange, including by identifying contact persons/points; organizing workshops and training courses, including on communication during a crisis; implementing, as necessary, expert missions; and making available updated information, tools and guidance. Participants agreed to establish a new topical group on public communication on a trial basis for a period of three years. (This motion was approved by the Steering Committee at its 14th meeting, from 9 to 11 November 2011 in Daejeon, Republic of Korea, see ANSN Newsletter No. 142.)

To wind up the workshop, participants were led on a technical visit, organized by PNRI and NPC, to the mothballed Bataan Nuclear Power Plant in Morong, Bataan.



Participants in the workshop on public communication in Pasig, City, Philippines, hosted by the Philippine Nuclear Research Institute (PNRI), in cooperation with the National Power Corporation (NPC).

Radioactive Waste Management Topical Group

Regional Workshop on Waste Safety Practices and Establishing Regulations for Predisposal Management (Part 1)

Daejeon, Republic of Korea, 4–8 July 2011

Technical Officer: Ms. Monika KINKER, NSRW

The Korean Institute of Nuclear Safety hosted this regional workshop that was attended by representatives from Indonesia, Philippines, Thailand and Vietnam, along with international experts from Belgium and the Czech Republic and an IAEA Officer. The purposes of the workshop were to review the IAEA requirements and international best practices for predisposal management of radioactive waste and to support participants in preparing new draft regulations or revise existing regulations in this field.



Participants at the regional workshop on waste safety practices and establishing regulations for predisposal management of radioactive waste. This workshop was hosted by the Korean Institute of Nuclear Safety.

The lectures by the experts and the IAEA Officer addressed the IAEA approach to waste safety, the IAEA safety standards, the regulatory framework and legal instruments, national policy and strategy, facility licensing, and regulatory reviews and inspections. An introduction and overview of the IAEA model regulation for the safety of radioactive waste management was provided as the basis for practical exercises in drafting new regulations or revising existing ones.

The exercises were performed in working groups (on a country specific basis) and began with a gap analysis of the existing national regulations compared to the IAEA model regulation for the safety of radioactive waste management. In the exercises, participants used the IAEA model regulations as the basis for drafting proposals for new regulations or revisions of existing regulations. The groups reviewed and discussed these drafts and revisions, in this way highlighting the various approaches to completing and putting into place national regulations.

Although all of the countries participating in the workshop have national regulations in place for some aspect of predisposal management of radioactive waste, it was felt that further work would be needed to fully implement the IAEA model regulation for the safety of radioactive waste management into national regulations. One of the recommendations of the workshop was that the terminology used in national regulations should be reviewed for consistency with the IAEA safety standards and

international good practices, taking into consideration the *IAEA Safety Glossary, Terminology Used in Nuclear Safety and Radiation Protection, 2007 Edition*. Workshop participants expressed an interest in the organization of further workshops on this topic in support of the work initiated during these exercises.

The workshop also included a technical tour of the predisposal waste storage facility at the Kyung-Ju disposal site, the spent fuel, dry storage at the Wolsong nuclear power plant site, and the intermediate level waste storage at the Wolsong site.

Regional Workshop on Waste Safety Practices and Establishing Regulations for Nuclear Surface Disposal (Part I)

Manila, Philippines, 26-30 September 2011

Technical Officer: Mr Gerard BRUNO, NSRW

The Philippine Nuclear Research Institute (PNRI) hosted this regional workshop; fifteen participants attended from Indonesia, Malaysia, Philippines, Thailand, Vietnam and Bangladesh, along with international experts from Germany, Sweden and the IAEA. The purpose of this workshop was to strengthen safety capabilities necessary for near surface disposal facilities for low level radioactive waste; it also included topics on licensing for site selection, design, construction and safety case development.



Participants at the Regional Workshop on Waste Safety Practices and Establishing Regulations for Nuclear Surface Disposal, in Manila. This workshop was hosted by the Philippine Nuclear Research Institutes.

The experts discussed the IAEA's approach to safety in the disposal of radioactive waste, the Joint Conventions on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management along with a presentation on the development of radioactive waste management strategies and policies. Following these presentations, participants shared experiences and reported on the status of radioactive waste management in their countries.

Turning to the demonstration of the safety of near surface disposal facilities, the lecturers reviewed the IAEA safety standards; in particular, the safety requirements on the disposal of radioactive waste and guidance on the safety case and safety assessment for disposal of radioactive waste. The experts addressed the licensing process of near surface disposal facilities for radioactive waste and the siting and design of near surface disposal facilities. Following this review, workshop participants took turns presenting nuclear surface disposal projects and regulations in their respective countries.

Supplementing the lectures, an exercise on developing and reviewing a safety case for near surface disposal of radioactive waste, focusing on the site selection phase was completed by two working

group teams. On the last day, the results of the exercises were presented and discussed. These discussions highlighted the need for developing comprehensive national radioactive waste management strategies, including disposal, inter alia, and that early development of the safety case based on the relevant IAEA safety standards was essential for those countries working on near surface disposal of radioactive waste. The discussion also led to suggestions for potential new ANSN regional activities in the field of radioactive waste management.

Safety Analysis Topical Group

3rd Consultancy Meeting for drafting practical guidance on Verification and Validation of Safety Analysis Codes

Vienna, Austria, 10–14 January 2011

Technical Officer: Mr Chan Oh PARK, NSNI-SAS

This consultancy meeting took place in Vienna to develop practical IAEA guidance on verification and validation (V&V) of system hydraulics (SYS TH) codes for safety analysis within the framework of ANSN. The meeting was attended by three experts from Italy, France and the Republic of Korea and a Senior Safety Officer of the IAEA.

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



Experts in Vienna to develop guidance on verification and validation of safety analysis codes.

The V&V of safety codes has been discussed in the IAEA Safety Standards. In spite of the progress made to date, it is acknowledged that the IAEA guidelines on the V&V of safety codes are still too general—in particular for those Member States embarking on nuclear power programmes (particularly the ANSN countries) to apply. A more practical guidance on code V&V was sought in the form of a guidance document to complement existing Safety Standards—such as the relevant parts of GSR Part 4: Safety Assessment for Facilities and Activities (2009) and of SSG-2: Deterministic Safety Analysis for Nuclear Power Plants (2010). Three sequential consultancy meetings (CS) had been scheduled within the framework of the ANSN to respond to this need. This CS was the third, and was attended by the same experts who had joined the first and second meetings held in January and July 2010 (see ANSN Newsletters No. 99 and No. 111).

At this third meeting, the participants thoroughly reviewed a complete draft. They checked consistency in terminologies, approaches and level of depth in description among sections of the draft. They also identified parts or sections of the draft that needed to be rearranged and further elaborated.

After internal review within the IAEA, an amended draft will be reviewed by external experts both for its technical content and to achieve an international consensus. A wrap-up consultancy meeting will be held in Vienna in June 2011.

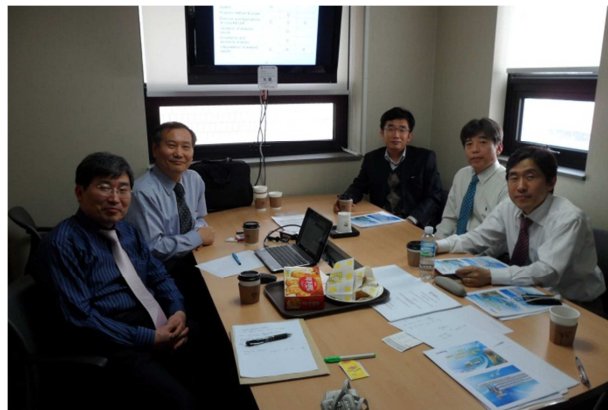
Bureau Meeting on Roadmap for Capacity Building in Safety Analysis

Daejeon, Republic of Korea, 14-15 April 2011

Technical Officer: Mr Chan Oh PARK, NSNI-SAS

A Bureau meeting of the Topical Group on Safety Analysis (SATG) took place in Republic of Korea to draft a roadmap for capacity building in safety analysis in the region. The meeting was attended by four experts from the regulatory body, research institute, utility and fuel vendor in the Republic of Korea.

This Bureau meeting was a follow-up activity to the workshop of SATG in August 2010 in Malaysia, where the vision statement of SATG was agreed and the need for developing a roadmap was recognized (see ANSN Newsletter No. 119). This need arises from the multidisciplinary and complex nature of safety analysis and from the rising demand for safety analysis in the framework of capacity building, especially for countries embarking on nuclear power programmes.



Experts in the Rep. of Korea to develop a roadmap for capacity building in safety analysis.

The participants discussed the structure and specific target of the roadmap and the categorization of safety analysis topics, and drafted a template structure of roadmap. The specific target was set as: Capability to prepare a Safety Analysis Report and Safety Evaluation Report, which in particular would be relevant to a loss of coolant accident (LOCA) and Non-LOCA analysis. The safety analysis topics were categorized into three levels, namely, fundamental, basic and practical application. Considering the fact that the scope of safety analysis is very broad, the experts suggested that the SATG focus on the practical application level, and in particular, the application of the code.

The participants shared a common recognition that the roadmap would benefit not only technical staffs, but also decision makers.

Regional Workshop on LOCA Analysis using ViSA/RELAP

Daejeon, Republic of Korea, 18–22 April 2011

Technical Officer: Mr Chan Oh PARK, NSNI-SAS

The Korea Institute of Nuclear Safety (KINS) hosted this regional workshop. The workshop was well-attended by participants from Indonesia, Malaysia, Philippines, Thailand and Vietnam, and included experts from the Republic of Korea and the IAEA.

The purpose of this workshop was to build capacity in the use of the Visual System Analyser (ViSA/RELAP) code. Due to the interest in the progression of the Fukushima Daiichi Nuclear Power Plant accident, a presentation on analytical simulation of total station blackout in a Pressurized Water Reactor (PWR) was also provided with the aid of ViSA/RELAP.



Participants at the KINS-hosted workshop aimed at building capacity on the use of the ViSA/RELAP safety analysis code.

The participants reviewed the roadmap for capacity building in safety analysis that was prepared at the bureau meeting, from 14 to 15 April 2011 (see ANSN Newsletter No. 128). The participants agreed that this roadmap would be valuable in achieving the vision of the Topical Group on Safety Analysis (SATG), of becoming an instructor of safety analysis by 2020. They agreed that the roadmap should be continuously updated. In connection with capacity building in safety analysis, two experts from the fuel vendor and the system design company gave presentations on their experience in the area of Loss of Coolant Accident (LOCA) analysis and Non-LOCA analysis.

At the last annual meeting of SATG in October 2010, it was emphasized that SATG members would need to exercise considerable efforts through self-study (see ANSN Newsletter No. 121). The participants presented the results of these efforts since the last meeting and agreed that they would continue to study the same topics independently. They also agreed to prepare presentations focusing on relevant practical examples during the next meeting of SATG.

All of the participants were provided with a reference, a steady state input deck for a typical PWR, and a number of transient input decks. These included LOCA, Reactivity Induced Accident (RIA), Steam Line Break (SLB) accident and Loss of Feedwater Accident (LOFA). A plant system description was also provided. At the beginning of the ViSA/RELAP exercise, an expert from the

Korea Atomic Energy Institute (KAERI) provided insights on the accident sequence. Participants initiated the accident exercise and interpreted the results of the ViSA/RELAP run. The importance of the validation of the input deck, which typically consists of a few thousand lines of code in a nuclear power plant model, was repeatedly underlined. As a follow-up to the course, it was suggested that participants should perform exercises with simple models, as a further form of self-study and to effectively build capacity in input deck preparation and validation.

At the end of the workshop, participants declared that it had been very beneficial for gaining technical knowledge and skills as well as for strengthening their professional networks.

Annual Meeting of the Topical Group on Safety Analysis (SATG) and Regional Workshop on LOCA Analysis using ViSA/RELAP

Jakarta, Indonesia, 10–14 October 2011

Technical Officer: Mr Manwoong KIM, NSNI-SAS

The Indonesian Nuclear Energy Regulatory Agency (BAPETEN) hosted this annual meeting and regional workshop.



Participants in the BAPETEN-hosted annual meeting of the SATG and regional workshop on LOCA analysis using the ViSA/RELAP computer code for safety analysis.

Eleven participants from Indonesia, Japan, Malaysia, Philippines, Thailand and Vietnam attended the annual meeting, together with experts from China, Japan and the Republic of Korea. Dr. A.N. Lasman, Chairman of BAPETEN, opened the meeting. In his statement, Dr. Lasman underscored the importance of nuclear safety analysis, in particular in the light of the Fukushima accident and the expected development of nuclear power programmes in Asian countries and other geographical regions.

Mr. M. Kim, Technical Officer of the Topical Group on Safety Analysis (SATG) at the IAEA, briefed the meeting on the accomplishments of this Group in 2011 and on its proposed work plan for 2012. In an on-line teleconference (the so-called “webinar”) from the Korean Institute of Nuclear Safety in Daejeon, Republic of Korea, Mr. J.S. Park, the SATG Coordinator, briefed the meeting on the recent

updates to the technical roadmap of the SATG. Pursuant a proposal by Mr. Kim, the meeting agreed to change the name of the SATG to Topical Group on Safety Assessment, bearing in mind nuclear safety from a holistic point of view. The meeting endorsed the work plan of SATG for 2012 and agreed to submit it to the ANSN Steering Committee for approval. (This work plan was approved by the Steering Committee at its 14th meeting in Daejeon, Republic of Korea, from 9 to 11 November 2011; see ANSN Newsletter No. 142.)

The participants reviewed the status of the roadmap on capacity building in safety analysis and agreed that the roadmap should be updated through both on-line and face-to-face meetings. Participants shared feedback from the first on-line meeting in July 2011 and confirmed their intention to continue using face-to-face meetings to achieve the SATG goal.

Following the annual meeting, a three-day workshop was held on sharing safety analysis practices, in particular through exercises simulating a small break loss of coolant accident (SBLOCA) using the ViSA/RELAP computer code for safety analysis. Thirty-two participants, including Indonesian nuclear safety experts, attended this workshop.

Workshop panellists made presentations to provide background information on nuclear safety assessment, simulation exercises and accident scenarios. Mr. M. Kim reviewed the IAEA's activities in the area of safety assessment and highlighted IAEA's planned actions after Fukushima. The Korea Atomic Energy Institute expert described the basic theory, functions of and input preparation for simulation exercises with simple cases and simulations of SBLOCA. The expert from the China Nuclear Power Engineering Ltd. gave insights into sequences of events under transients and loss of coolant accidents.

Owing to the renewed interest in safety analysis consecutive to the Fukushima accident, the expert from the Institute of Applied Energy, Japan, gave a special presentation on the analysis of a simulation of the Fukushima accident progression.

At the workshop's closing session, Dr. K. Hudea, Deputy Chairman of BAPETEN, said that he believed that this workshop had contributed to strengthening nuclear safety knowledge in the region by providing participants with an improved capability to use the ViSA/RELAP computer code for performing nuclear safety analyses.

Consultancy Meeting on updating Accident Management Guides on Safety Aspects of Lessons Learnt from Fukushima Accidents: embedded Workshop on Harmonization and Integration between Sever Accident Management Guides (SAMG) and Emergency Operating Procedures (EOP)

Daejeon, Republic of Korea, 14–16 November 2011

Technical Officer: Mr Manwoong KIM, NSNI-SAS

The Central Research Institute of Korea Hydro and Nuclear Power Company (KHNP-CRI) hosted this consultancy meeting embedded workshop, which was attended by eleven international experts from Belgium, Canada, France, Indonesia, Netherlands, USA and Vietnam and more than seventy local participants including experts from the host organization (KHNP-CRI), the Korea Institute of Nuclear

Safety (KINS), the Korea Atomic Energy Research Institute (KAERI), Korea Hydro and Nuclear Power Company (KHNP) and an IAEA Safety Officer.

The purpose of this meeting was to improve and extend safety aspects of current accident management guides for various types of nuclear power plants. In this regard, during a 3-day meeting there was an exchange of practices and experiences on the development and implementation of the irrespective severe accident management guides (SAMG) and emergency operating procedures (EOP) was conducted in order to harmonize and integrate between the SAMG and the EOP, as well as reflecting lessons learnt from the Fukushima Dai-ich Nuclear Power Station accident.

The EOP and the SAMG are a set of documents describing detailed actions to be taken by response personnel during an emergency. Recently emphasis has been put on the correct execution of the EOP prior core damage, the transition from the EOP domain to the SAMG domain, and the proposed execution of the integrated accident management guide for the entire range of accident management. In particular, after the Fukushima accident caused by an earthquake and tsunami, there was a necessity to re-assess applicability of the current EOP and SAMG focusing on operational safety aspects, as well as considering lessons learnt from the Fukushima accident.



Participants in the consultancy meeting to update safety aspects of accident management guides; embedded workshop to harmonize and integrate severe accident management guides and emergency operating procedures, hosted by the Central Research Institute of Korea Hydro and Nuclear Power Company (KHNP-CRI).

For the first couple of days, a series of presentations were made from the eleven international experts, six local experts and Mr. Manwoong Kim-IAEA Safety Officer. Mr. Kim presented the current status of IAEA Safety Standards related to severe accident management programme as well as IAEA Action Plan on Nuclear Safety.

Presentations from the experts covered three topics: 1) transition from the EOP domain to the SAMG domain, 2) implementation, training and exercises of the EOP and the SAMG, 3) integration of feedback lessons learnt from the Fukushima accident in the SAMG.

On the last day, a panel discussion took place with those themes identified during the presentation session and explored the future direction for improving the accident management programme in case of extreme events and for harmonizing and integrating the EOP, SAMG and the extended damage mitigation guideline (EDMG). The panel also suggested further tasks for the IAEA in revising relevant IAEA Safety Standards.

After the panel discussion, participants visited research and development installations at KAERI such as those for ex-vessel steam explosion, in-vessel retention and ex-vessel cooling.

4th Consultancy Meeting for finalizing a practical guidance on Verification and Validation of Safety Analysis Code

Vienna, Austria, 19–21 December 2011

Technical Officer: Mr Manwoong KIM, NSNI-SAS

This consultancy meeting (CM) took place in Vienna to develop practical IAEA guidance on verification and validation (V&V) of system hydraulics (SYS-TH) codes for safety analysis within the framework of ANSN. The meeting was attended by three experts from Italy, France and the Republic of Korea and an IAEA Safety Officer.

In order to protect human beings and environment from nuclear hazards, various safety analysis concepts such as deterministic safety analysis and probabilistic safety assessment were developed, to ensure the safety of nuclear power plants. Since 1960s, due to the complexity of the physical phenomena to be considered in design-based accidents, development of computational tools including the SYS-TH codes was initiated.

It is commonly known that, due to the formidable complexity in geometries and phenomena addressed by SYS-TH codes, simplifications and approximations along with experimental correlations were virtually inevitable and led to significant challenges to V&V of SYS-TH codes development.

The V&V of safety analysis codes have been discussed in the IAEA Safety Standards, and the IAEA published GSR Part 4: Safety Assessment for Facilities and Activities (2009) and of SSG-2: Deterministic Safety Analysis for Nuclear Power Plants (2010). Despite the progress made till date, it is acknowledged that the IAEA guidelines on the V&V of safety analysis codes are still too general to be applied—in particular for those Member States embarking on nuclear power programmes (particularly the ANSN countries). Hence, there was a need of more practical guidance on safety analysis code V&V to complement the existing Safety Standards.

In this regard, three sequential CMs were conducted in January 2010, July 2010 and in March 2011 (see ANSN Newsletters No. 99, No. 111 and No. 124) respectively. This current CM was attended by the same experts who had contributed as primary editors at the last three meetings.

At this fourth meeting, the participants thoroughly reviewed the comments and action items from peer review results by independent experts on a draft TECDOC report for V&V of SYS-TH codes. In addition, they reviewed and updated descriptions of all sections in terms of consistency, terminology, approaches and level of depth, and finalized the draft TECDOC report. They concluded that the final draft would proceed for publication in 2012.

Web-based Seminar (Webinar) use by the Topical Group on Safety Analysis (SATG)

Technical Officer: Manwoong KIM, NSNI-SAS

The ANSN Topical Group on Safety Analysis (SATG) was established with other several TGs in 2003 under the ANSN framework. The main objective of the SATG is to provide a forum for the exchange of experiences in the area of safety analysis in order to share safety analysis knowledge

among members through human networks, to maintain and improve the knowledge on safety analysis method, to enhance the utilization of computer codes, to pool and analyse issues related with safety analysis of research reactor, and to facilitate the mutual interest of safety analysis among ANSN Member States. Since 2004, the SATG has provided its group members with a forum for continuous exchange of information among specialists dealing with safety analysis of research reactors. Moreover, it has been used as a means to maintain and improve the knowledge on safety analysis methodology and use of computer codes. The activity of the SATG has now been extended to cover the safety analysis of nuclear power plants as well as research reactors.

1. Vision and Strategy of SATG

□ Vision

Be a instructor of safety analysis

□ Goal

Preparation of SAR / SER

□ Strategy

- Share the knowledge of safety analysis
- Information Exchange between MS
- Case study using VISA/RELAP

During 2004 – 2011, the SATG conducted 23 activities in total such as workshops, training courses, consultancy meetings and web-based seminars so as to promote the capacity building of safety analysis among the members. In 2010, the SATG established its vision and strategy and the 3-year Action Plan which aimed to effectively and efficiently share and enhance the safety analysis knowledge associated with the design and license of nuclear power plants among the members.

2. Road Map of Safety Analysis

□ Work scope

Fundamentals

- Basic Technology
 - Reactor Physics
 - Thermo Hydraulics
 - NSSS
- Safety Analysis
 - Regulatory reqmt.
 - Analysis methods
 - Computer codes
 - Operating experience
- Safety Analysis
 - Regulatory Req.

Essentials

- DSA
 - Scope of analysis
 - DBA / BDBA
 - Code application I (SET)
- PSA
 - Level I
 - Level II & III
- Licensing Practice I
 - Licensing procedure
 - Code & Standard

Applications

- Code Application II
 - IET / NPPs
 - Uncertainty Treatment
- Licensing Practice II
 - SAR / SER
 - Preparation exercise
 - Independent review
- PSA
 - Level I
 - Level II & III

Since 2011, due to the increase in the needs of education and training from members, the SATG started to apply a Web-based seminar, so called Webinar, for sharing information and training on a variety of topics. A key feature of the Webinar is its interactive elements such as; the ability to exchange information, along with active interaction between the presenter and the participants. Presentations in the form of PowerPoint slides and documents can be shared via live web session. Participants can sit in front of their computers and view the lectures on the Web. Since no travel is needed, the Webinar can save time and cost for the participants and for the organizers of the seminar as well. Besides, the Webinar can have a wider visibility and access without accommodating a meeting room. Hence, the Webinar is beneficial in three ways. First, it is possible to increase the

number of participants in a seminar-based course. Second, a seminar can take place at any time. Third, a seminar can take place anywhere.

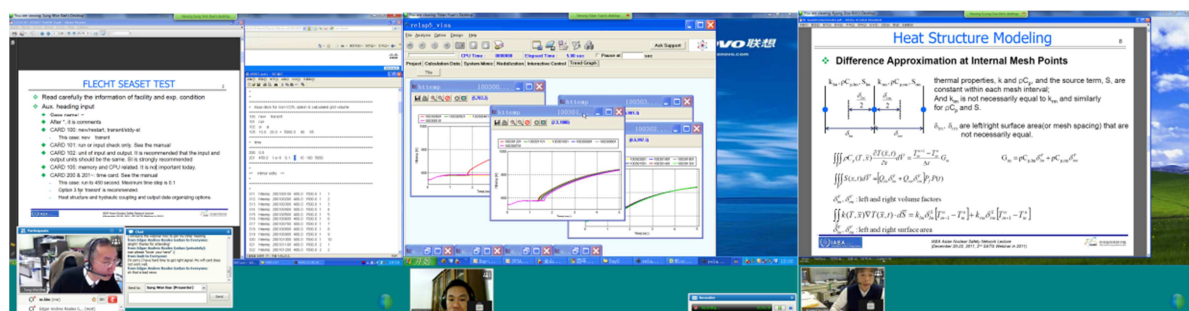
The first trial SATG Webinar was successfully held from 19 to 21 July 2011 on the topic of “Critical Flow Modelling and Best Estimated LOCA Analysis” and the second Webinar on “Heat Transfer Modelling for RELAP5 Basic Exercise” took place from 20 to 22 December 2011.

The second Webinar took up three training topics; the basic theory of heat structure model in RELAP-5 code, vertical pipe uniformly heated by electrical heaters (Bennett Tube) and FLECHT-SEASET Boil Off Test. And the training course progressed with three parts: (1) lecture on technical background on sample problem, (2) exercise using the using the IAEA ViSA/RELAP code package, and (3) home based assignment. The home based assignment was delivered in advance of the Webinar course, in order to enhance the efficiency of lecture materials and to have discussion on the assignment work during course. The Webinar invited three international experts as lecturers and progressed for three hours every day.

In the opening session, Mr. Peter Hughes, Section Head of Safety Assessment Section of IAEA, welcomed all participants and emphasized “The Webinar is a useful tool to enhance the safety analysis capability by sharing safety analysis practices and experiences among Member States anytime and anywhere. IAEA is continuously encouraging the Member States to promote the on-line training and exercises for the safety analysis using IAEA computer codes using the Webinar.”

Thereafter, IAEA Technical Officer of SATG, Mr. M. Kim, introduced the objective of this Webinar and introduced invited experts. On the first day, a lecture on FLECHT-SEASET Boil off Test modelling exercise training was conducted by Mr. SW Bae (KAERI, Republic of Korea). On the second day, a lecture on vertical pipe uniformly heated by electrical heaters (Bennett Tube) experiment modelling and exercise training problems with solutions were carried out by Mr. Y Yuan (CNPE, People’s Republic of China). On the third day, Mr. K.D. Kim (KAERI, Republic of Korea) delivered a lecture on basic theory of heat structure model in RELAP-5 code and exercised training problems. During the Webinar, all the participants interactively participated in the lectures for practical exercises.

The second SATG Webinar was successful in providing the participants with valuable information, knowledge and practical exercises on heat transfer modelling for basic experiments using the ViSA/RELAP code in the Global Safety Assessment Network (G-SAN) of IAEA. All lecture materials were uploaded in the ANSN Website to be used for self-working. To achieve the harmonization of capacity building of safety analysis among the Members States, Webinar is a useful tool to provide training on a variety of topics anytime and anywhere, for increasing education and training needs and with savings in time and cost. The SATG will continuously promote the on-line trainings and exercise programmes through the Webinar under the ANSN framework.



Safety Management of Research Reactors Topical Group

Regional Workshop on Operational Radiation Protection and Safety for Research Reactors

Dalat, Vietnam 9–13 May 2011

Technical Officer: Mr Hassan ABOU YEHIA, NSNI-RRSS; Mr Laszlo SAGI, NSNI-RRSS

The Vietnamese Nuclear Research Institute hosted the regional workshop, which was attended by 24 research reactor operators and regulators from Australia, Bangladesh, Indonesia, Japan, Kazakhstan, Rep. of Korea, Malaysia, Thailand and Vietnam, along with the Technical Officer of the ANSN-Topical Group on Safety Management of Research Reactors (SMRRTG) at the IAEA, and experts from the US. This workshop focused on the exchange of information and experience on the establishment of effective operational radiation protection programmes for research reactors.



Participants at the Vietnamese Nuclear Research Institute, which hosted the workshop to exchange information and experience on operational radiation protection and safety for research reactors.

At the workshop, the Technical Officer of SMRRTG discussed the major safety issues and trends in research reactors and operational radiation protection programmes for research reactors on the basis of IAEA Safety Guide NS-G-4.6: *Radiation Protection and Radioactive Waste Management in the Design and Operation of Research Reactors*, and international best practices in this field.

An IAEA expert gave a presentation on the classification of areas from the radiation protection point of view, types of instruments for ensuring radiological surveillance at research reactors, and training for operational radiation protection at research reactors. The experts from the US shared insights on the inspection programme and significant events at research reactors in the US.

Two working groups were formed amongst the participating operators and regulators. The ‘operators’ group worked on: defining the contents of typical operational radiation protection and waste management programmes for research reactors; establishing the list of the radiation protection operating procedures; and identifying topics needing improvement. The ‘regulators’ group worked on: establishing the programme for a regulatory inspection; indicating the list of topics to be covered during the inspection and list of questions to be asked by the inspectors; and providing an outline of the content of the inspection report.

Participants presented and discussed the results from each working group in a dedicated session. The areas needing improvement from the operators’ side included training and emergency drills. The regulators’ group indicated the need for improving the training and qualification of inspectors and for

conducting regular inspections. This workshop provided a useful forum for participants to discuss national practices and exchange knowledge and experience on the workshop topics.

Siting Topical Group

Regional Workshop on Volcanic, Seismic and Tsunami Hazard Assessment related to NPP Siting Activities and Requirements

Jakarta, Indonesia, 13–17 June 2011

Technical Officer: Mr Ovidiu Lucian COMAN, NSNI-ISSC

The Indonesian Nuclear Energy Regulatory Agency (BAPETEN) hosted this regional workshop, which was attended by 39 participants from Indonesia, Japan, Republic of Korea, Malaysia, Thailand and Vietnam, along with five external experts from France, Germany, Italy, Turkey and the UK, and three IAEA officers. The purposes of this workshop were to review the safety aspects related to the site selection and site evaluation of new nuclear power plants (NPPs) as reflected in the relevant IAEA Safety Standards, to share practical experience in the field of site selection in countries that operate NPPs, and to share information on the current status of nuclear power programmes and site selection in those countries embarking on nuclear power programmes.



Participants at the BAPETEN-hosted workshop aimed at building capacity on volcanic, seismic and tsunami hazards assessment for the siting of nuclear power plants.

The external experts and IAEA officers briefed the participants on the important aspects of site survey, site selection and site evaluation for nuclear installations on the basis of the relevant IAEA Safety Standards. These aspects included site evaluation requirements; geology, seismo-technic and seismic hazard; tsunami hazard; human induced events; and management and site preparation.

Participants from countries that operate nuclear power plants shared experiences in connection with volcanic, seismic and tsunami hazards – these experiences included: the 2011 Pacific Coast of Tohoku Earthquake and Tsunami and Fukushima Daiichi accident in Japan; an overview of the siting methodology against tsunamis and seismic hazards in Japan; geologic, seismic and geotechnical engineering review in the siting of new nuclear power plants in the USA; regulatory framework, standards and issues for site evaluation, and tectonic hazard evaluation and monitoring in the Republic of Korea.

Participants from the countries embarking on a nuclear power programme gave presentations on the current status of site selection and evaluation in their countries and their regulatory challenges.

During the workshop, participants engaged in lively discussions after each presentation. Participants called for the organization of further workshops of this kind to share the lessons to be learnt from the Fukushima Accident and to receive specific training on volcanic, seismic and tsunami hazards on the basis of the most recent technical information available. Participants from countries embarking on new nuclear power programmes also underscored the importance of good public communication to gain public acceptance.

National Activities

China

National Workshop on Level 2, 3 and External Events Probabilistic Safety Assessment (PSA)

Beijing, China, 23-27 May 2011

Technical Officer: Mr Artur LYUBARSKIY, NSNI-SAS; Mr Chan Oh PARK, NSNI-SAS

This workshop was hosted by the Nuclear Safety Centre (NSC) of the National Nuclear Safety Administration (NNSA), the regulatory body of China. Eighty-two participants from various Chinese organizations involved in safety analysis of nuclear power plants attended, along with an external expert from the USA, an external expert from the Republic of Korea and an IAEA expert. The workshop was aimed at providing basic, updated information on Internal and External Events PSA, Level-2 and Level-3 PSA and risk-informed decision making.



Participants meet with external and IAEA lecturers in Beijing, China to discuss Level 2, 3 and External Events PSA.

The IAEA expert gave a presentation covering general PSA aspects and the IAEA activities conducted in the area of PSA, integrated risk informed decision making and internal events PSA, including internal fires and internal floods. The USA expert reviewed different aspects of Level-2 PSA and the basic aspects of Level-3 PSA. In his lecture, the external expert from the Republic of Korea discussed theoretical external hazards, PSA aspects and practical experience with external events PSA in the Republic of Korea. Each presentation was followed by a question-and-answer session. Participants voiced appreciation for the information provided during the workshop.

National Workshop on Nuclear Power Plant Life Extension Strategies and Preparation

Wuhan, Hubei Province, China, 23–26 August 2011

Technical Officer: Mr Liszka ERVIN, NSNI-OSS

This workshop was hosted by the Research Institute of Nuclear Power Operations (RINPO) of China; it was attended by 37 participants from the Government of China, the regulatory body of this country and various Chinese research, engineering and nuclear operating organizations. Also present were three external experts from France, the Czech Republic and the USA, and one IAEA Officer.



Participants at the national workshop on nuclear power plant life extension strategies and preparation, hosted by the Research Institute of Nuclear Power Operations in Wuhan, Hubei Province, China.

The purpose of the workshop was to share experiences in periodic safety review in connection with long term operation, implementation of the ageing management programme and time limited ageing analysis of nuclear power plants. The IAEA Officer introduced the IAEA activities on plant life management and highlighted the relevant IAEA Safety Guides for this topic, *Periodic Safety Review of Nuclear Power Plants* (NS-G-2.10) and *Ageing Management for Nuclear Power Plants* (NS-G-2.12). The IAEA Officer also described the IAEA safety services, including, the peer review mission on safety aspects of long term operation of water moderated reactors (SALTO). The external experts shared practical examples and national experiences in periodic safety review, long term operation of plants, ageing management programmes, time limited ageing analysis, feasibility studies and environmental impact assessment.

Participants gave presentations on their country's nuclear industry, nuclear safety regulations and status of ageing management at plants in China. They also discussed specific issues in relation to the establishment and implementation of ageing management programmes.

A general presentation was made on the characteristics of the Chinese nuclear power programme as well as on the position of the nuclear industry following the Accident at the TEPCO nuclear power plant at Fukushima, Japan. Following a review by the IAEA Officer of the conclusions of the IAEA Ministerial Conference on Nuclear Safety, 20–24 June 2011, a round table discussion was organized as the final session of this workshop. This discussion centred on the expected impact of the Fukushima accident on the long term operation of plants currently in service and developments in the area of ageing management and long term operation.

The workshop concluded that, based on the current situation and knowledge, the establishment of a general strategy for plant life management and for assessment of safe continued operation was desirable in China. The workshop also felt that the application of periodic safety review was the most

effective and practical approach for Chinese nuclear plants in respect of preparations for continued operation. A general procedure needed to be prepared for ageing management analyses and review, using the oldest unit as a pilot case and reference. It was pointed out that efficient preventive maintenance is key to ageing management programmes and to continued and long term operation. Finally, the workshop outlined some recommendations for future activities in these areas in China.

Indonesia

National Training Workshop on Core Structural Integrity Assessment for Research Reactors

Serpong, Indonesia, 6–10 June 2011

Technical Officer: Mr Manwoong KIM, NSNI-SAS

The national training workshop was hosted by the Indonesian National Nuclear Energy Agency (BATAN); it was attended by 24 participants from the regulatory body of Indonesia and its technical and scientific support organizations along with three experts from the Japan Nuclear Energy Safety organization, the Korean Electric Power Corporation Engineering and Construction Company, KINS and an IAEA officer.

The purpose of the workshop was to provide an overview of safety assessment and practices for structural integrity assessment for research reactor cores. This overview focused in particular on: the degradation mechanism of structures, systems and components (SSCs) of research reactors; methods for conducting in-service inspections of SSCs and evaluating the results of in-service inspection (ISI); and determination of the current structural integrity condition of the BATAN research reactor based on its ISI activities.

While the presentation by the IAEA officer focused on the safety standards relating to structural integrity assessment, the expert lectures highlighted structural integrity evaluation and its various practices. These included: stress analysis and stress categories for design; design stress intensity; environmental fatigue curve; remaining life assessment method for safety cases such as periodic safety review, ageing management programme and time limited ageing analysis; wall thinning due to flow acceleration corrosion; weld residual analysis method; mitigation methods to welding effects using structural weld overlay; and radiation embrittlement management for research reactor pressure vessels. Also reviewed and discussed were structural integrity against external natural events including earthquakes and external human events and their potential effects.



Participants at the Indonesian National Nuclear Energy Agency (BATAN), which hosted the national training workshop for building capacity in core structural integrity assessment for research reactors.

During the workshop, a technical visit to the BATAN research reactor was arranged to understand the current status of the reactor, followed by a discussion on the lifetime evaluation of reactor tank irradiation and ageing management of core structure and equipment. This workshop was especially fitting, as it provided participants with information, knowledge and practical experience for building capacity in the structural integrity assessment of the BATAN research reactor precisely when the licensing application for continued operation of the reactor was being prepared.

Expert Mission on Siting for a Radioactive Waste Disposal Facility in Java Island

Java, Indonesia, 6–10 June 2011

Technical Officer: Mr Gerard BRUNO, NSRW-WESS; Mr Kai Dieter MOELLER, NSRW-WESS

The mission was hosted by the Indonesian National Nuclear Energy Agency (BATAN). An IAEA officer, an expert from France and an expert from Sweden visited Indonesia to review the site selection process. The review covered the relevant regulatory and legislative frameworks and evaluated the progress made since the last mission in 2008, which had been entitled “Review of Site Evaluation Activities for a Radioactive Waste Disposal Facility in Java Island”. The mission was also aimed at providing recommendations on the investigations related to the selection of potential sites for a radioactive waste disposal facility and to the candidate site for a demonstration disposal facility at the Serpong Nuclear Centre.



IAEA mission team and participants at the BATAN-hosted expert mission on the siting for radioactive waste disposal facility in Java.

The mission team was briefed by the Radioactive Waste Technology Centre (RWTC), BATAN on the status of their project and activities and of the situation in the country concerning site selection for a radioactive waste disposal facility. Discussions took place on the existing regulatory framework in Indonesia for the siting, selection, design and operation of a radioactive waste disposal facility, as well as for its licensing.



Field trip to a potential area for a radioactive waste disposal facility in Java Island.

The mission team reviewed the implementation of the last IAEA recommendations and held meetings with RWTC, BATAN. The team conducted a field trip to a potential area for the establishment of a radioactive waste disposal facility in the Serang area located in West Java.

The last day of the mission was devoted to discussion and development of conclusions, with a focus on the work performed and recommendations on planned actions for the future. The mission team observed good practices during the review and discussions with BATAN including: good geological and socio-economic approach for the candidate sites; stages of the siting process in line with IAEA Safety Series No. 111-G-3.1, *Siting of Nuclear Surface Disposal Facilities*; and comprehensive geological survey and characterization work for the demonstration facility site.

Malaysia

National Workshop on Expert Review on Guideline of License Application for Nuclear Power Plant

Dangkil, Malaysia, 21–25 November 2011

Technical Officer: Ms Abida KHATOON, NSNI-RAS

The national workshop was hosted by the Malaysian Atomic Energy Licensing Board (AELB); it was attended by nine participants from the AELB together with two external experts from Pakistan and Romania and an IAEA Officer.

The purpose of this workshop was to review the draft guidelines for the licensing process of nuclear power plant (NPP) during siting, construction, operation and decommissioning stages in the light of the IAEA Safety Standards applicable to the regulatory body, and to exchange information and experience in the licensing process.



Group photo of the IAEA team and Malaysian participants during the national workshop in Dangkil.

Following a presentation on the status of the national nuclear power programme and regulatory infrastructure of Malaysia from the AELB counterpart, Ms. A. Khatoon- IAEA Officer, introduced the relevant IAEA Safety Standards, in particular, General Safety Requirements (GSR) Part 1: Governmental, Legal and Regulatory Framework for Safety, and IAEA Specific Safety Guide (SSG)-12: Licensing Process for Nuclear Installations.

The expert from Romania presented the licensing process of Romania including the mechanism for license fee and public participation in the licensing process, as well as practices of other countries in this field. The expert from Pakistan made a presentation on regulatory requirements starting from the bidding process up to siting, release from regulatory control and decommissioning stages and shared the experience of Pakistan's licensing process.

Discussions between the IAEA team and the participants from AELB were active and covered various aspects and stages of the licensing process.

The review of the draft guidelines was conducted and the IAEA team provided a number of recommendations for improvement. The participants from the AELB identified future work to be done as well as the need for further information exchange and experience sharing with other countries and further assistance from the IAEA in various areas.

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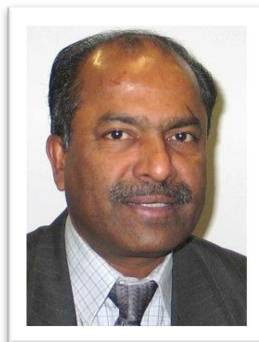


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Attachment

ANSN Work Programme 2011

TG/member state	Name of activity	Host Org / Country / City	TO	PMO	Start Date	End date
SATG	3rd Consultancy Meeting for drafting practical guidance on V&V of Safety Analysis Code.	Vienna, VIC	Park Chan Oh	Kim Dae Ki	10-Jan	14-Jan
ETTG	CS to further develop guidelines for the peer review mission on ETTG in Vienna	Vienna, VIC	Abida Khatoon	Kim Dae Ki	21-Feb	25-Feb
CBCG	Coordination Meeting on the Collaboration between the ANSN and RAS/NSNI for Capacity Building and Safety Infrastructure for Nuclear Power Programmes in Asia	Vienna, VIC	Caruso Gustavo	Fukuda Yasukazu	23-Feb	25-Feb
SATG	Contracts to improve the quality of the practical guidance on V&V of Safety Analysis Code (2 small home-based contracts)	N/A	Park Chan Oh	Kim Dae Ki	24-Feb	03-Mar
ETTG	Regional Workshop on Regulatory Control of NPP	KINS, Korea, Daejeon	Manwoong Kim	Kim Dae Ki	04-Apr	08-Apr
SATG	Bureau Meeting on Roadmap of Safety Analysis Capacity Building and Regional workshop on LOCA analysis using ViSA/RELAP	KINS, Korea (Daejeon)	Park Chan Oh / Kim Manwoong	Kim Dae Ki	18-Apr	22-Apr
SMRRT G	Regional workshop on Operational Radiation Protection & Safety	DALAT, Vietnam	Abou Yehia Hassan	Fukuda Yasukazu	09-May	13-May
Management	4th CBCG and 13th SC meeting	Vienna	Fukuda Yasukazu / Guo Lingquan	Fukuda Yasukazu / Guo Lingquan	16-May	20-May
China	Workshop on Level 2, 3 and external events PSA	China, Beijing	Artur Lyubarskiy / Park Chan Oh	Guo Lingquan	23-May	27-May
ETTG	Nuclear Safety Training Workshop tailored for Regulators	KINS, Korea (Daejeon)	Bezdegemeli & Ovidiu (Altinyollar didn't go)	Kim Dae Ki	30-May	10-Jun
Indonesia	National Training Course of Core Structural Integrity Assessment	BATAN, Indonesia (Serpong)	Manwoong Kim	Kim Dae Ki	06-Jun	10-Jun
Indonesia	Expert Mission on Siting for radioactive waste disposal in Java island	Indonesia, Java	Kai Moeller & Bruno Gerard	Fukuda Yasukazu	06-Jun	10-Jun

TG/member state	Name of activity	Host Org / Country / City	TO	PMO	Start Date	End date
ETTG	Regional Workshop on Basic Professional Training in Nuclear Safety	KINS, Korea (Daejeon)	Abida Khatoon	Kim Dae Ki	13-Jun	24-Jun
SATG	2 small contracts of home-based work to prepare lecture materials for Webinar(I) Actually 3 contracts	Korea / China	Park Chan Oh / Kim Manwong	Kim Dae Ki	13-Jun	17-Jun
STG	Regional Workshop on Volcanic, Seismic, and Tsunami Hazard Assessment Related to NPP Siting Activities and Requirements and Annual Meeting of STG	BAPETEN, Indonesia (Jakarta)	Altinyollar & Coman Ovidiu	Kim Dae Ki	13-Jun	17-Jun
GRITG	Annual meeting of the GRITG and Regional Workshop on the understanding and implementation of Convention on Nuclear Safety	OAP, Thailand (Bangkok)	Abida Khatoon	Guo Lingquan	20-Jun	24-Jun
Management	8th ITSG meeting and regional workshop on the IT modules supporting achievement of the Vision 2020	Thailand	S. Kunjeer	Guo Lingquan	27-Jun	01-Jul
CBCG	Regional Workshop on Capacity Building and Infrastructure Development for Nuclear Power Programmes part 1	VIC, Vienna, Austria	Koenick Stephen	Fukuda Yasukazu	04-Jul	15-Jul
RWMTG	Regional workshop on waste safety practices and establishing regulations for predisposal management - Part 1	KINS, Korea (Daejeon)	Monika Kinker	Takahashi Masakazu	04-Jul	08-Jul
China	Nuclear Power Plant Life Extension Strategies and Preparation	RINPO, China (Wuhan, P.R. China)	Liszka Ervin	Guo Lingquan	23-Aug	26-Aug
EPRTG	Annual meeting of the EPRTG and regional workshop on Emergency Preparedness and Response on Longer Term Protective Actions and Related Matters	OAP, Thailand (Phuket)	Peter Zombori	Takahashi Masakazu	19-Sep	23-Sep
ETTG	Annual Meeting and Workshop on Establishment of National Education System for Countries Embarking on Nuclear Power Program	Vienna, VIC	Moracho Ramirez Maria	Kim Dae Ki	26-Sep	30-Sep
ETTG	Bureau Meeting for ETTG	Vienna, VIC	Moracho Ramirez Maria Josefa	Kim Dae Ki	26-Sep	27-Sep
GRITG	Regional Workshop on Self Assessment in the preparation of IRRS Mission	Indonesia, Bali	Abida Khatoon, Teodros Gebremichael HAILU	Guo Lingquan	26-Sep	30-Sep

TG/member state	Name of activity	Host Org / Country / City	TO	PMO	Start Date	End date
RWMT G	Workshop on Waste Safety Practices and establishing regulation for near surface disposal (1)	Manila, Philippines	Bruno Gerard	Takahashi Masakazu	26-Sep	30-Sep
SATG	Annual Meeting and Regional workshop on LOCA Analysis using ViSA/RELAP	Indonesia, Jakarta	Manwoong Kim	Kim Dae Ki	10-Oct	14-Oct
EPRTG	Regional workshop on Medical Emergency Preparedness and Response	BATAN, Indonesia (Jakarta)	Tetsuo Yamomoto	Takahashi Masakazu	17-Oct	21-Oct
Joint WP GRITG/ OSTG	Regional workshop on Role and responsibilities of the Regulatory Body and NPP Industry in Public Communication on Nuclear Energy and Safety related Issues and Annual OSTG Meeting	Philippines	Tanaka Hiro / Jean-Rene Jubin	Takahashi Masakazu	17-Oct	21-Oct
RWMT G	Regional workshop on Clearance of decommissioning waste - Part 1	TINT, Thailand, Bangkok	Vladan Ljubenob / Bruno Gerard	Takahashi Masakazu	17-Oct	21-Oct
ETTg	Regional Workshop on Train the Trainers for nuclear Safety	KINS, Korea (Daejeon)	Jean-Rene Jubin / Moracho Ramirez Maria Josefa	Kim Dae Ki	24-Oct	28-Oct
Management	5th CBCG and 14th SC meeting	Korea	Fukuda Yasukazu/Guo Lingquan	Fukuda Yasukazu/Guo Lingquan	07-Nov	11-Nov
SATG	Consultant's Meeting on Updating Accident Management Guides on Safety Aspects of Lessons Learnt from Fukushima Accidents	NETEC, Dae-Jeon, Korea	Manwoong Kim	Kim Dae Ki	14-Nov	16-Nov
CBCG	CS for development and review of the paper "Building Capacity in States to Strengthen Nuclear Safety and Security for States Embarking upon, or expeanidng an existing nuclear power programme"	Vienna, VIC	Sahid Mallick		21-Nov	25-Nov
ETTg	Regional Workshop on the Design of Basic Nuclear Safety Training Programme for Embarking NPP.	BAPETEN, Indonesia	Moracho Ramirez Maria Josefa	Kim Dae Ki	21-Nov	25-Nov
Malaysia	Expert review on guideline for licensing process for NPP at siting, construction, operation and decommission stage	AELB, Malaysia (Dengkil)	Abida Khatoon	Guo Lingquan	21-Nov	25-Nov
SATG	Regional workshop on the practice and experience of safety analysis licensing review	OAP, Thailand	Manwoong Kim	Kim Dae Ki	21-Nov	25-Nov

TG/member state	Name of activity	Host Org / Country / City	TO	PMO	Start Date	End date
SMRRT G	Regional workshop on Periodic Safety Review for Research Reactors	Bangkok, Thailand	Abou Yehia Hassan	Fukuda Yasukazu	28-Nov	02-Dec
ETTG	Special On the Job Training (OJT) workshop on NPP construction	KINS, Korea (Daejeon)	Manwoong Kim	Kim Dae Ki	01-Dec	09-Dec
SATG	Contracts to prepare lecture materials for Webinar(II) (2 small home-based contracts) Actually 3 contracts	Korea / China	Park Chan Oh / Kim Manwong	Kim Dae Ki	05-Dec	09-Dec
SATG	Consultancy meeting to finalize the technical guideline on V&V Safety Analysis Code	Vienna, VIC	Manwoong Kim	Kim Dae Ki	19-Dec	21-Dec

ANSN Work Programme 2012

TG / area / state	Name of activity	Country, venue	TO	PMO	Start date	End date
ETTG	Consultancy Meeting to finalise the Guidelines for the Education and Training Self assessment and Peer Review Service	Vienna	Moracho Maria	Kim Hokee	27-Feb	02-Mar
RWMTG	Regional Workshop on waste safety practices and establishing regulations for near surface disposal (2)	Indonesia, BAPETEN	Gerard Bruno	Takahashi	05-Mar	09-Mar
LMSTG	Consultancy Meeting to develop terms of reference (ToR) of the LMSTG to be newly established	Vienna, B1174	Abida Khatoon	Kim Hokee	08-Mar	09-Mar
CTG	Consultancy Meeting to develop terms of reference (ToR) of the newly established CTG	Vienna, B0915	Jean-Rene Jubin	Fukuda	12-Mar	13-Mar
Malaysia	Expert Review on the Final Draft of Atomic Energy Regulation on Nuclear Installation	Malaysia, Dengkil, AELB	Abida Khatoon	Guo	19-Mar	23-Mar
Indonesia	National Workshop on Nuclear Fuel Cycle Facility Licensing System	Indonesia, Jakarta, BAPETEN	Jones Geoffery	Kim Hokee	26-Mar	30-Mar
Indonesia	Self-Assessment for Pilot Peer Review Mission on the Education and Training System for Nuclear Safety Human Resources Development	Indonesia	Moracho Maria	Kim Hokee	09-Apr	13-Apr
ETTG	Regional Workshop on the Basic Professional Training on Nuclear Safety	Korea, KINS	Moracho Maria	Kim Hokee	09-Apr	20-Apr
SATG	Regional Workshop on Safety Analysis Practice and Exercise using Computer Codes: In-depth understanding of LOCA and Modelling of LOCA Test (IET)	Korea, KAERI	Kim, Manwoong	Kim Hokee	09-Apr	13-Apr
Mgt	15 th SC meeting	Vienna	Guo	Guo	11-Apr	13-Apr
CBCG	TM on Capacity Building from 17 to 20 April 2012 in Vienna	VIC	Mallick Sahid	Fukuda	17-Apr	20-Apr
SMRRTG	Regional Workshop on Periodic Safety Review for Research Reactors	Thailand, TINT	Abou Yehia Hassan	Fukuda	30-Apr	04-May
STG / Fukushima	Consultancy contract on development of technical guideline on concept of safety and design margin of NPPs in view of the Fukushima accident	N/A	Kim, Manwoong	Kim Hokee	01-May	31-May
SATG	Consultancy Meeting to develop engineering evaluation exercise cases for fluid and structure interaction for off-line Workshops	Japan, JNES	Kim, Manwoong	Kim Hokee	21-May	24-May
EPRTG	Regional Workshop on Emergency Preparedness and Response on Doses Assessment	Indonesia, BAPETEN (tentative)	Zombori Peter	Takahashi	21-May	25-May

TG / area / state	Name of activity	Country, venue	TO	PMO	Start date	End date
and Annual Meeting						
ETTG	Regional Workshop on Regulatory Control of NPP	Korea, KINS	Moracho Maria	Kim Hokee	21-May	25-May
RWMTG	Regional Workshop on the Safety Case and Safety Assessment on Predisposal Facilities	Vietnam	Monika Kinker	Takahashi	28-May	01-Jun
China	Expert Mission on Setting Up Master Materials Catalogue for Inventory Management in NPP	China, RINPO	Kearney Mark	Guo	04-Jun	06-Jun
Mgt	9 th ITSG meeting	Indonesia	Kunjeer	Guo	11-Jun	13-Jun
STG / Fukushima	Regional Workshop on Site Evaluation and Safety Improvement focusing on the Post-actions after Fukushima NPPs Accident and Annual Meeting of the STG	Korea, KINS	Coman, Ovidiu Lucian	Kim Hokee	11-Jun	15-Jun
Indonesia	Pilot Peer Review Mission for Self-Assessment on the Education and Training System for Nuclear Safety Manpower Development	Indonesia	Moracho Maria	Kim Hokee	18-Jun	22-Jun
ETTG	Regional Workshop on Special On the Job Training (OJT) for NPP newcomers	Korea, KINS	Moracho Maria	Kim Hokee	21-Jun	29-Jun
SATG	Annual Meeting and Regional Workshop on the Practice and Experience of Safety Analysis Licensing Review and Exercise using Computer Codes	Thailand, Bangkok, OAP & MOST	Kim, Manwoong	Kim Hokee	09-Jul	13-Jul
ETTG	Regional Workshop on Systematic Approach to Training (SAT) in Nuclear Safety for the Trainers	Korea, KINS	Moracho Maria	Kim Hokee	09-Jul	13-Jul
GRITG / PReSA on SSG-16	Regional Workshop on Peer Review of Self-Assessment of Status of Nuclear Safety Capacity Building and Infrastructure Development for a National Nuclear Power Programme	Vienna	Koenick, Stephen Scott	Fukuda	06-Aug	10-Aug
Malaysia	National Workshop on preparation and assessment of the EIA for the NPP site.	Malaysia, Dengkil, AELB	Oviedo	Guo	03-Sep	07-Sep
ETTG	Workshop on Nuclear Safety Tailored for Regulators	Korea, KINS	Moracho Maria	Kim Hokee	03-Sep	14-Sep
Mgt	1 st Plenary meeting	Vienna	Guo	Guo	12-Sep	01-Sep
IAEA/CB CG / PReSA on SSG-16	Participation of ANSN representatives to the Technical Meeting (TM) on Implementation of IAEA Self-Assessment Methodology and Tools	Vienna	Nicic Adriana	Fukuda	01-Oct	05-Oct

TG / area / state	Name of activity	Country, venue	TO	PMO	Start date	End date
Malaysia	National Workshop on the Review of Site Evaluation Report for NPP	Malaysia, Dengkil, AELB	Oviedo	Guo	08-Oct	13-Oct
ETTg	Regional Workshop on Public Communication of Nuclear Safety	Korea, KINS	Moracho Maria	Kim Hokee	15-Oct	19-Oct
Mgt	16 th SC meeting	Philippines	Guo	Guo	12-Nov	16-Nov
Philippines	National Workshop on Government and Regulatory Infrastructure	PNRI, Philippines (Quezon City)	Ugur Bezdegu emeli & Jubin Jean-Rene	Fukuda	TBD	TBD
ETTg	Annual Meeting and Regional Workshop on the Development of National Policy on Human Resources Development to embark Nuclear Power Programme	Vietnam	Moracho Maria	Kim Hokee	TBD	TBD
OSTG	Regional Workshop on Occupational Health and Psychological Test and Evaluation of NPPs Staff and Annual Meeting	China, RINPO	Tanaka & Polyakov	Takahashi	TBD	TBD
Indonesia	National Workshop on the Application of SAFRAN and ECOLEGO for assessing Radiological Risk at the PUSPIPTEK Research Centre	Indonesia, Jakarta, BAPETEN	Vesterlin d, Axel Magnus	Kim Hokee	TBD	TBD
ETTg	Regional Workshop on implementing the Actions for Human Resources Development within the SSG-16	Vienna	Moracho Maria	Kim Hokee	TBD	TBD
RWMTG	Regional Workshop on Clearance of decommissioning waste-Part 1 and Annual Meeting	Thailand	Gerard Bruno	Takahashi	TBD	TBD
RWMTG	Regional Workshop on the Demonstration of Safety of Radioactive Waste Disposal Facilities	Malaysia	Gerard Bruno	Guo	TBD	TBD
CTG	1 st Annual Meeting of CTG	Vienna (or the home country of PCTG Coordinator to be appointed)	Nicic, Adriana	Fukuda	TBD	TBD
Mgt	Regional Workshop on Implementation of Capacity Building IT Modules	TBD	Kunjeer	Guo	TBD	TBD
GRITG /PReSA on SSG-16	Annual Meeting and Regional Workshop on Continuous Improvement of GRI in the MS through Self-assessment	Philippines	Jubin Jean-Rene	Guo	TBD	TBD
Mgt	CS on development of IT modules	Vienna	Kunjeer	Guo	TBD	TBD

TG / area / state	Name of activity	Country, venue	TO	PMO	Start date	End date
LMSTG	1 st Annual Meeting of LMSTG	Vienna (or the home country of MSTG Coordinator to be appointed)	Nicic, Adriana	Fukuda	TBD	TBD
SATG	Consultancy Meeting on Development of Standards Exercise Cases for off-line Workshops	Korea, KINS	Kim, Manwoong	Kim Hokee	TBD	TBD
SMRRTG	Regional Workshop on Use of Graded Approach for the Application of Safety Requirements for Research Reactors and Annual Meeting	Vietnam, VARANS	Abou Yehia Hassan	Fukuda	TBD	TBD
Vietnam	Expert Mission to assist Vietnam in filling the Gaps in EPR identified by the IRRS Mission	Vietnam, Hanoi, VARANS		Kim Hokee	TBD	TBD
SATG	Consultant service contract on development of safety analysis on-line training modules in 2012 for Webinar Standards Exercise Cases	N/A	Kim, Manwoong	Kim Hokee	TBD	TBD
SMRRTG	Regional Workshop on Establishment of a Regional Advisory Safety Committee for Research Reactor Operating Organizations	Indonesia, Jakarta, BAPETEN	Abou Yehia Hassan	Fukuda	TBD	TBD
8 TGs and CBCG jointly / Fukushima	Regional Workshop on Continuous Improvement of Safety within the ANSN framework in the light of Lessons from the Accident at TEPCO's Fukushima Daiichi Nuclear Power Station	Japan, JNES	Jubim Jean-Rene/ Fotedar	Fukuda	TBD	TBD
Mgt	6 th CBCG meeting	Vienna	Fukuda	Fukuda	TBD	TBD
Mgt	Field visit by external experts	Selected ANSN countries	Guo	Guo	TBD	TBD
CBCG	ANSN Peer Review & Support Arrangement for Capacity Building (PReSA) Mission(s)	TBD (upon request)	Nicic, Adriana	Fukuda	TBD	TBD
Mgt	CS to analyse the ANSN Survey and to prepare the field visit	Vienna	Guo	Guo	TBD	TBD
Mgt	CS to prepare the final report on the ANSN evaluation	Vienna	Guo	Guo	TBD	TBD