Commission on Safety Standards
Seventeenth Meeting
6-7 June 2005
IAEA Headquarters, Vienna
Report of the Meeting

1. Opening

Mr. Taniguchi opened the 17th Meeting of the Commission on Safety Standards, extending a warm welcome to all participants and in particular to Mr. Weightman as a new member of the Commission.

Mr. Taniguchi paid tribute to Mr. Williams and acknowledged the achievements of the Commission during his chairmanship. He thanked Mr. Lacoste for accepting to chair the Commission, reaffirming the full support of the Secretariat during this period of growing importance and rising profile of the IAEA Safety Standards. Finally he presented an overview of recent activities and informed the Commission of the priorities for the Department and the issues facing each of the four committees during their new term:

- Priorities for the Department include:
  - Continuing with the strategy of enhancing the IAEA Safety Standards and their global acceptance through an integrated safety approach, with emphasis on feedback from their application;
  - Completion of the Safety Fundamentals for submission to the September 2006 Session of the Board of Governors for approval;
  - Filling the remaining gaps in the suite of Safety Standards by giving a higher priority to the completion of the outstanding Safety Guides rather than to the development of TECDOCs and Safety Reports.
- Priorities for NUSSC include:
  - Completion of the Safety Standards for Research Reactors and the Fuel Cycle Facilities;
  - Focus on emerging issues such as long term operation, risk informed regulations and early detection of anomalies at nuclear power plants;
  - Addressing the challenge of design review of new power plants;
  - Consideration of how best to respond to explicit commitments made at the 3rd Review Meeting of the Convention on Nuclear Safety and by the Member States to use the IAEA Safety Standards;
  - To review, in close cooperation with WASSC, Standards related to decommissioning to ensure that appropriate level of guidance is provided for this important area.
- Priorities for RASSC include:
  - Review of the Basic Safety Standards, taking into account publication of new Safety Requirements (such as Emergency, Governmental Infrastructure and Remediation), the draft ICRP recommendations, issues related to the protection of the environment and finally the increasing use of nuclear applications in medicine and industry;
  - Development of Safety Guides to fill the identified gaps in the area of radiation safety particularly those related to the industrial and medical applications.
- Priorities for TRANSSC include:
  - Shifting the focus from frequent revision of the regulations to harmonization of the transport regulations with the Basic Safety Standards
  - Completion of the planned Safety Guides.

- Priorities for WASSC include:
    - Close cooperation with RASSC for the revision of the BSS and development of requirements and guidance for the protection of the environment;
    - Completion of the set of new Safety Requirements and Safety Guides with focus on the comprehensiveness, consistency and practical applicability of these standards;
    - Special attention to be paid to the relationship between the Safety Standards and the Joint Convention.

2. Introduction, Adoption of the Agenda and Report of the 16th Meeting

Mr. Lacoste, the Chairman of the Commission, acknowledged the contribution of Mr. Williams to the work of the Commission and informed the Commission that he intends to write to Mr. Williams on its behalf and thank him for his valuable contribution as a member and as Chairman of the Commission. The Chairman also informed the Commission that he shares the priorities set by Mr. Taniguchi and will continue his efforts for ensuring that the IAEA Safety Standards are a reflection of good practices and sometimes, indeed, best practice. The Chairman also intends to keep in contact with several members between meetings in order to share the work and prepare for discussion of important issues.

The Agenda for the 17th Meeting of the Commission was approved. The approved agenda is attached as Annex I. The draft report of the 16th Meeting was approved.

3. Overview of Activities in the Department of Nuclear Safety and Security

3.1. Third Review Meeting of Convention on Nuclear Safety (CNS)

Mr. Brockman reported on the 3rd Review Meeting of the CNS, providing information on the elected officers and the use of a secure website for questions and comments. A panel discussion on 'Nuclear Safety in the Future: the Role of Leadership' was held during the review meeting. Mr. Brockman also reported on feedback from the meeting including:

- The establishment of a 'Continuity' Working Group to review the effectiveness and efficiency of the question and answer process, including use of the web, to develop guidance on posing questions and to recommend software improvements;
- Adoption of a resolution by the contracting parties on 'The Use of the IAEA Safety Requirements in the Review Process' to consider the relevant IAEA Safety Requirements as a tool to assist in the Review Process (Secretariat to provide within 12 months a synopsis of the relevant Safety Requirements, Articles 6 to 19, for consideration at the 4th Review Meeting);
- Adoption of a resolution by the contracting parties on 'Safety of Research Reactors' to request the Director General of the IAEA to convene meetings with all Member States with the objective of discussing how best to assure effective application of the 'Code of Conduct on the Safety of Research Reactors'.

3.2 Issues Related to the Implementation of the Action Plan

Mr. Lederman presented the status of the Safety Standards published and in draft form in both, thematic and facility specific areas. He informed the Commission that a report on collecting feedback on the use of standards is expected to be ready for consideration by the Commission in November 2005 and by the Board of Governors (BoG) in March 2006. Mr. Lederman also provided information on radiation and transport safety and the related issues including:

- The review/revision process for Basic Safety Standards;
- Safety standards and other safety related publications;
- Priority assigned to the development of Safety Standards and the need to support the application of Safety Standards (Safety Reports or annexes to Safety Guides);
- Review/Revision of Transport Regulations, a draft policy presented to BoG, for consideration in June 2005.

4. Policy Issues

4.1 Security Related Issues in the Safety Standards

Mr. Lederman presented a paper entitled 'Policy on Security Provisions in the IAEA Safety Standards and on Security Series Publications', outlining the Secretariat position on the topic. It was generally agreed that the paper and particularly item 2 of the paper provides a good basis for synergy between safety and security areas. It was suggested that the last sentence of point 2 needs to be modified to reflect 'measures which specifically aim to protect against acts of terrorism …', while inclusion of specific examples of the protection measures would help the clarification and understanding of the text. The Commission requested the Secretariat to submit a revised version for consideration at the next CSS meeting [Annex II, 17.1].

4.2 Developments of Safety Standards for Radiation Protection

Mr. Magnusson presented a comprehensive report on the topic including his vision of radiation safety and the role of the Agency. A number of suggestions regarding the position of the Basic Safety Standards and the related planned Safety Guides in thematic and facility specific areas were made for consideration by the Commission. Mr. Magnusson outlined a plan of work for RASSC during the current term: to consider the status of the ICRP recommendations and work closely with the European Commission to ensure consistency with the revised Basic Directive, and to prepare a report by the Secretariat for consideration by RASSC in October 2005 and by the Commission in November 2005.

It was generally agreed that there is no need to wait for further advancement of the ICRP recommendations as the work on the review of Basic Safety Standards as well as supporting guides can go on in parallel. The Commission welcomed the preparation of the report as suggested by Mr. Magnusson. It was, however, pointed out that there is a need for safety standards in the area of medical and industrial applications.

5. Harmonization and Use of the IAEA Safety Standards

5.1 Activities of WENRA[1] for Harmonization of Safety Standards

Ms. Melin presented the objectives, membership and the work of WENRA since its establishment in February 1999, including the process of harmonization and the harmonization areas, schedule, role of IAEA standards and the reference levels adopted. The results of the work will be presented at a conference scheduled for 8-9 February 2006 in Brussels.

5.2 The Benchmarking and Review of HSE[2]'s Safety Assessment Principles Standards

Mr. Weightman presented the topic, the philosophy adopted, background and the programme for the project. The results of the exercise include identification of policy issues, gaps and differences (such as passive safety in waste management, strategies for decommissioning), issues of inconsistencies (in relation to siting, internal and external hazards, control room habitability and research reactors' upper power limit). It was concluded that IAEA Safety Standards are very important benchmarks, that the philosophy of continuous improvement is vital, that such reviews are very informative and that there is a need for stakeholder engagement.

6. The Use of Safety Standards and Related Regulatory Issues

Contributions on the use of Safety Standards and related regulatory issues, provided by the members of the Commission, were distributed. The contributions are an essential input to the feedback on the use of Safety Standards. A selected number of members chose to present topics of particular interest during the meeting. Mr. Wieghtman mentioned the recent incident at Thorp and informed the

[1] Western European Nuclear Regulators Association
[2] Health and Safety Executive

commission that the incident is still subject to formal regulatory investigation. The process of distributing the written text in advance and selecting the presentation of significant issues is considered more efficient than around-the-table presentation. It was generally agreed that a similar process should be adopted for future meetings.

7. Current Developments

7.1 Integrated Approach to Regulatory Review Missions

Mr. Philip presented an integrated approach to review missions on legal and governmental infrastructure including:

- Objectives (to promote self assessment, improve feedback, enable flexibility and consistency);
- Scope (integration of three separate types of mission for nuclear facilities, radiation safety and nuclear security);
- Basis (IAEA Safety Standards and security guidance);
- Concept (modular, self assessment, review organized by IAEA);
- Phases of mission (preparatory, main, follow-up).

The Commission welcomes the effort devoted to the establishment of an integrated approach to the Agency's safety and security services. As several Members are intending to request review missions for the regulatory activities in their countries, they particularly expressed an interest in such an integrated approach .The Commission would like to be kept informed of further progress on the topic.

7.2 DS154 Geological Disposal of Radioactive Waste, Safety Requirements

Mr. Louvat informed the Commission that changes agreed on at the last CSS meeting have been taken into account and cleared by the Commission and WASSC Chairmen. The draft Safety Requirement is being submitted to the BoG for approval in September 2005. The NEA representative reaffirmed its sponsorship of the current draft.

7.3 DS298 Principles of Nuclear, Radiation, Radioactive Waste and Transport Safety, Safety Fundamentals

The Scientific Secretary presented the current draft of the Safety Fundamentals and introduced some of the comments received from Member States. The commenting period is to expire on 20 June and a new draft will be prepared on the basis of comments from Member States for consideration by the four committees at their next meeting. The Commission reaffirmed the importance it attaches to the common fundamentals and requested an update on the status of the draft at the next meeting [Annex II, 17.2].

7.4 Implementation of Action Plan: Progress Report

The Scientific Secretary presented a progress report on the activities relating to the Action Plan, informing the Commission of recent progress and issues raised in connection with implementation of the action plan, including:

- Progress on development of planned Safety Guides;
- Development and issuance explanatory material in support of the Safety Standards (as annexes to Safety Guides);
- Decision criteria for revision of Safety Standards (prepared in response to action 16.4 from the last meeting);
- Development of an alternative, more simplified, process for minor revisions (i.e. not leading to new requirements or recommendations) of Safety Standards (prepared in response to action 16.5 from the last meeting).

The Secretariat was requested to present the latter two points to RASSC, WASSC and TRANSSC and report back to the commission in November [Annex II, 17.3].

8. Status of the IAEA Safety Standards and Actions from the 16th CSS Meeting

The Scientific Secretary informed the Commission that five Safety Standards have been published since the last meeting. These include transport regulations (2005 edition), control of radiation sources (GS-G-1.5), geotechnical aspects of site evaluation (NS-G-3.6), design of reactor core (NS-G-1.12), and management of waste from small users (WS-G-2.7). In addition, a large number of translations of published Safety Standards were also published. The Safety Requirements for research reactors (NS-R-4) and four other Safety Guides are in the final stages of production.

The Commission was also informed that all actions agreed during the 15th CSS Meeting have been addressed. A paper by the Secretariat 'The Safety Standards Series: Manuscript Preparation and Written Style for Safety Standards' was distributed in connection with Action 16.6 (see Annex II of the report on the 16th Meeting of the CSS).

9. Activities of the Committees on Safety Standards

The Commission was informed that RASSC and WASSC, in connection with their new term, are considering new working methods to improve efficiency. Since, most standards are reviewed by more than one committee it is important to ensure a harmonized working methods for the committees.

9.1. Nuclear Safety Standards Committee (NUSSC)

Mr. Reiman informed the Commission of the new membership of the committee (45 members including six corresponding members and three international organizations). The Commission was informed of a number of issues related to the work of the NUSSC including:

- Consideration of a proposal for dealing with the issue of risk informed regulations in the IAEA Safety Standards and a plan to develop guidance on consistent use of PSA results and selected PSA applications;
- How to address risk in the new Safety Standards (safety goals, low probability/high consequences) and its bearing on the development of a planned Safety Guide on classification of structures, systems, components, services and functions important to safety (DS367). It was suggested that a presentation on related IAEA activities be arranged at the next meeting [Annex II, 17.4];
- Introduction of design basis accidents (DBAs) and beyond design basis accidents (BDBAs) into standards dealing with fuel cycle facilities;
- Openness and consistency of websites related to Safety Standards.

9.2. Radiation Safety Standards Committee (RASSC)

Mr. Magnusson informed the Commission of the new membership of the committee (52 members and ten international organizations). The Commission was informed that new working methods for RASSC are being discussed (see item 9 of this report) and a number of discussion papers are being developed in connection with the review and revision of the BSS (see also item 4.2 of this report).

9.3. Waste Safety Standards Committee (WASSC)

Mr. Pather informed the Commission of the new membership of the committee (47 members and three international organizations). The commission was also informed that a new process for review is being considered (see item 9 of this report) and that the next meeting of WASSC will be held in Tokyo from 10th to 13th October 2005, following on from the international conference on the safety of radioactive waste disposal scheduled for 3rd to 7th October 2005.

9.4. Transport Safety Standards Committee (TRANSSC)

Mr. Colgan informed the Commission of the new membership of the committee (32 members and seven international organizations). The commission was also informed of the issues identified by Member States including the need for updated guidance for radiation protection programmes, public

training (e.g. custom officers), simultaneous publication of regulations and guidance material, guidance on transport security and publication of the standards in all official languages.

10. Safety Standards

10.1 A System for the Feedback of Experience from Events in Nuclear Installations (DS288); Safety Guide

Ms. Spiegelberg-Planer, Technical Officer for the development of this Safety Guide, presented the draft and outlined its development. This Safety Guide had been reviewed by NUSSC. The Commission was informed that a few comments that arrived late have been taken into account. The Commission requested Ms. Spiegelberg-Planer to consult the Chairman of NUSSC in connection with the comments received after the approval of the draft by NUSSC. Later in the meeting, the Chairman of NUSSC informed the Commission that the changes have been minor and he is in agreement with the text.

In this context, the chairman of the Commission took the opportunity to recall the approval procedures that ensure the quality of the IAEA Safety Standards: No change may be made to a draft Safety Standard that has already been finally approved by a Committee for submission to the Commission. Only Commission members may propose changes, and these are to be discussed within the Commission, with the involvement of the relevant Committee chairman.

The Commission approved the Safety Guide for publication and requested the Secretariat to ensure early publication of the Safety Guide.

11. Document Preparation Profiles (DPP) for Approval

11.1 Safety of Reprocessing Facilities (DS360); Safety Guide

The Commission was informed that the DPP is withdrawn from the agenda; it will be presented for approval at the next meeting.

11.2 Compliance Assurance for the Safe Transport of Radioactive Material (DS327); Safety Guide

Mr. Wangler, Technical Officer, presented the DPP for this Safety Guide. The DPP had been approved by TRANSSC. It was suggested that references should be updated to include TS-R-1 (2005 Edition). The Safety Guide is to supersede Safety Series No. 112, published in 1994. The Commission approved the DPP.

11.3 Radiation Protection Programmes in Transport of Radioactive Material (DS377); Safety Guide

Mr. Wangler, Technical Officer, presented the DPP for this Safety Guide. The DPP had been approved by TRANSSC, RASSC and WASSC. It was suggested that references should be updated to include TS-R-1 (2005 Edition) and target publication changed to 2006. The Commission approved the DPP.

11.4 Safety Assessment of Decommissioning of Nuclear Facilities (DS376); Safety Guide

Ms. Batandjieva, Technical Officer, presented the DPP for this Safety Guide. The DPP had been approved by WASSC, RASSC and NUSSC. The Commission approved the DPP.

11.5 The Use of Graded Approach in the Application of the Safety Requirements for Research Reactors (DS351); Safety Guide

Mr. Boado Magan, Technical Officer, presented the DPP for this Safety Guide. The DPP had been approved by NUSSC. It was suggested that the schedule for development of the guide be updated. The Commission approved the DPP.

11.6 Ageing Management for Nuclear Power Plants and Research Reactors (DS382); Safety Guide

Mr. Inagaki, Technical Officer, presented the DPP for this Safety Guide. The DPP had been approved by NUSSC. It was suggested that reference to TECDOCs should be avoided in Safety Standards. There was reservation regarding the scope of the guide (covering both nuclear power plants and research reactors). The Secretariat was requested to provide the Commission with an update on whether the scope of the guide needs to be modified. The Commission approved the DPP.

11.7 Seismic Evaluation of Existing Nuclear Facilities (DS383); Safety Guide

Mr. Godoy, Technical Officer, presented the DPP for this Safety Guide. The DPP had been approved by NUSSC. The Commission approved the DPP.

11.8 Severe Accident Management Programme for Nuclear Power Plants (DS385); Safety Guide

Mr. El-Shanawany, Technical Officer, presented the DPP for this Safety Guide. The DPP had been approved by NUSSC. The Commission approved the DPP.

12. Senior Regulators' Meeting: Provisional Programme 2005

The Commission was requested to consider the provisional programme for the Senior Regulators' Meeting, to be held on 27 September and to provide the Secretariat with comments.

13. Dates and Agenda for the next Meeting

The schedule of the remaining meeting of the Commission for 2005 is

Commission: 28–29 November
Committees: TRANSSC 5-9 September, NUSSC 17–19 October, RASSC and WASSC 10–13 October

Tentative dates of Commission's meeting in 2006: 6–7 June and 20–21 November

Please note: The date for the June 2006 meeting is new (the previous proposed date was immediately after the completion of 2nd Review Meeting of the Joint Convention. Furthermore, the meeting will start on Tuesday 6 June, Monday being an Agency holiday)

The tentative lists of standards to be reviewed at the next meeting of the Commission include review of draft Safety Standards:

Decommissioning of Nuclear Facilities (DS333), Safety Requirements
Management Systems (DS338), Safety Requirements
Arrangements for Preparedness for a Nuclear or Radiological Emergency (DS105), Safety Guide
Implementation of the remediation process for past activities and accidents (DS172), Safety Guide
Storage of Radioactive Waste (DS292), Safety Guide

And DPPs for preparation of Safety Standards on:

Safety Assessment of Radioactive Waste Disposal Facilities (DS355), Safety Guide
Design and Operation of Near Surface Disposal Facilities (DS356), Safety Guide
Monitoring and Surveillance of Disposal Facilities (DS357), Safety Guide

ANNEX I

AGENDA

Seventeenth Meeting of the
COMMISSION ON SAFETY STANDARDS
6 – 7 June 2005

Meeting Room CO7-II, IAEA Headquarters, Vienna

1. Opening of the Meeting (14:00)
   T. Taniguchi

2. Introductions, Adoption of the Agenda and Approval of Report of the Sixteenth Meeting;
   A-C. Lacoste

3. Overview of the Activities in the Department of Nuclear Safety and Security
   - 3.1 Third Review Meeting of Convention on Nuclear Safety; *K.E. Brockman*
   - 3.2 Issues Related to the Implementation of the Action Plan; *L. Lederman,*

4. Policy Issues
   - 4.1 Security Related Issues in the Safety Standards; *L. Lederman*
   - 4.2 Developments of Safety Standards for Radiation Protection; *S. Magnusson*

5. Harmonization and Use of the IAEA Safety Standards
   - 5.1 Activities of WENRA for Harmonization of Safety Standards; *J. Melin*
   - 5.2 The Benchmarking and Review of HSE's Safety Assessment Principles; *M. Weightman*

6. The Use of Safety Standards and Related Regulatory Issues; *(CSS Members)*

7. Current Developments
   - 7.1 Integrated Approach to Regulatory Review Missions; *G. Philip*
   - 7.2 DS154 Geological Disposal of Radioactive Waste, Safety Requirements; *D. Louvat*
   - 7.3 DS298 Principles of Nuclear, Radiation, Radioactive Waste and Transport Safety, Safety Fundamentals; *A. Karbassioun*
   - 7.4 Implementation of Action Plan: Progress Report; *A. Karbassioun*

8. Status of the endorsed Safety Standards and Response to Actions from the Sixteenth Meeting;
   A. Karbassioun

9. Presentations and Discussion of Reports of Safety Standards Committees
   - 9.1 Nuclear Safety Standards Committee
     L. Reiman, Chairman/G. Feige, Scientific Secretary - NUSSC
   - 9.2 Radiation Safety Standards Committee
     S. Magnusson, Chairman/T.J. Boal, Scientific Secretary - RASSC
   - 9.3 Waste Safety Standards Committee
     T. Pather, Chairman/K. Hioki, Scientific Secretary – WASSC
   - 9.4 Transport Safety Standards Committee
     P. Colgan, Chairman/M. Wangler, Scientific Secretary – TRANSSC

10. Safety Standards for Approval

    10.1 A System for the Feedback of Experience from Events in Nuclear Installations (DS288); Safety Guide; *R. Spiegelberg-Planer, Technical Officer*

11. Document Preparation Profiles for Approval

    11.1 Safety of Reprocessing Facilities (DS360); Safety Guide; *P. Nocture, Technical Officer*

    11.2 Compliance Assurance for the Safe Transport of Radioactive Material (DS327); Safety Guide; *M. Wangler, Technical Officer*

    11.3 Radiation Protection Programmes in Transport (DS377); Safety Guide; *M. Wangler, Technical Officer*

    11.4 Safety Assessment of Decommissioning of Nuclear Facilities (DS376); Safety Guide; *B. Batandjieva, Technical Officer*

    11.5 The Use of Graded Approach in the Application of the Safety Requirements for Research Reactors (DS351); Safety Guide; *H.J. Boado Magan, Technical Officer*

    11.6 Ageing Management for Nuclear Power Plants and Research Reactors (DS382); Safety Guide; *T. Inagaki, Technical Officer*

    11.7 Seismic Evaluation of Existing Nuclear Facilities (DS383); Safety Guide; *A. Godoy, Technical Officer*

    11.8 Severe Accident Management Programme for Nuclear Power Plants (DS385); Safety Guide; *S. Lee and M. El-Shanawany, Technical Officers*

12. Other Business

    12.1 Senior Regulators' Meeting: Provisional Programme 2005

13. Report of the Meeting, Date of the Next Meetings

ANNEX II

ACTIONS ARISING FROM THE MEETINGS OF THE COMMISSION

17.1. The Commission requested the Secretariat to submit a revised version of the policy paper on safety and security to he next CSS meeting (Re*f. Item 4.1).* **[Action: Secretariat]**.

17.2. The Commission reaffirmed the importance it attaches to the common fundamentals and requested an update on the status of the draft at the next meeting (Re*f. Item 7.3).* **[Action: Secretariat]**.

17.3. The Secretariat was requested to present the decision criteria for revision of standards and the simplified process for minor revisions to RASSC, WASSC and TRANSSC and report back to the commission in November (Re*f. Item 7.4).* **[Action: Secretariat]**.

17.4. The issue of how to address risk in the new Safety Standards (safety goals, low probability/high consequences) and its bearing on the development of a planned Safety Guide on classification of structures, systems, components, services and functions important to safety (DS367), was raised. It was suggested that a presentation on related IAEA activities be arranged at the next meeting (Re*f. Item 9.1, 2nd bullet).* **[Action: Secretariat]**.

PARTICIPATION

The Commission

A. Oliveira, Argentina
J. Loy, Australia
A. Souza de Assis, Brazil
J.K. Pereira, Canada
G. Li, China (sent apologies – unable to attend)
D. Drabova, Czech Republic
K. Ulbak, Denmark
S.B. Abdel-Hamid, Egypt
A-C. Lacoste, (Chairman) France
D. Mayer, Germany
S. K. Sharma, India
I. Levanon, Israel
K. Abe, Japan
Y-S. Eun, Korea, Republic of
J. Hashmi, Pakistan
A. Malyshev, Russian Federation
G.A. Azuara, Spain
L-E. Holm, Sweden
U. Schmocker, Switzerland
M. Weightman, United Kingdom
M. Virgilio, United States of America

Participants from International Organizations

C. Waeterloos, European Commission
L-E. Holm, International Commission on Radiological Protection
K. Shimomura, OECD Nuclear Energy Agency

Chairmen of Committees

L. Reiman, NUSSC
S. Magnusson, RASSC
P. Colgan, TRANSSC
T. Pather, WASSC

Representatives and associated experts

P.R. Costa Borges, Ms. B. Ecroyd, J-L. Lachaume, J. Gauvain, D. Delattre, S. Akimoto, T. Bannai, M. Kuroki, N. Yoda, A. Khamaza, Ms. I. Kaliberda, N. Kuznetsov, L. Santoma, P. Meyer, P. Dickenson

Western European Nuclear Regulators' Assocation (WENRA)

Ms. J. Melin, Director General, Swedish Nuclear Power Inspectorate and President of WENRA.

IAEA Staff Members

T. Taniguchi, Deputy Director General, Department of Nuclear Safety and Security
K.E. Brockman, Director, Division of Nuclear Installation Safety (NSNI)
L. Lederman, Acting Director, Division of Radiation, Transport & Waste Safety (NSRW) and Head, Safety and Security Coordination Section
A. Nilsson, Head, Office of Nuclear Security (NSNS)
G. Feige, Safety Assessment Section (NSNI)
K. Hioki, Waste Safety Section (NSRW)
M. Wangler, Radiation Safety Section (NSRW)

T. Boal, Radiation Safety Section (NSRW)
G. Philip, Safety and Security Coordination Section
D. Louvant, Head, Waste Safety Section (NSRW)
R. Spiegelberg-Planer, Incident and Emergency Centre (NS-IEC)
B. Batandjieva, Waste Safety Section (NSRW)
H.J. Boado Magan, Research Reactor Safety Section (NSNI)
T. Inagaki, Engineering Safety Section (NSNI)
A. Godoy, Engineering Safety Section (NSNI)
M. El-Shanawany, Safety Assessment Section (NSNI)
A. Karbassioun, Scientific Secretary, Safety and Security Coordination Section