2000-01-11

Advisory Commission on Safety Standards
Sixth Meeting
22-23 November 1999
IAEA Headquarters, Vienna
Draft Report of the Meeting

1. Introduction

Participants were welcomed to the sixth Meeting of the Advisory Commission on Safety Standards (ACSS) by Mr. Z. Domaratzki, Deputy Director General, Head of the Department of Nuclear Safety. Mr. Williams acting Chairman of the Commission welcomed the participants.

2. Adoption of Agenda and Report of the Fifth ACSS Meeting

The agenda for the sixth meeting of the ACSS was approved (Annex I). The draft report of the fifth ACSS meeting was approved with amendments to Section 6, the approved version of the report was distributed during the meeting.

3. Overview of the Activities of the Department of Nuclear Safety

Mr. Domaratzki presented the main activities of the Department since the June meeting of the Commission, including:

- the approval of the three safety requirements at the September Session of the Board of Governors;
- the Conference on the Strengthening of the Nuclear Safety in Eastern Europe;
- Y2K related activities;
- interface with other international organizations;
- safety missions to Eastern Europe, China and Brazil;
- the timetable for preparation of the Programme for the year 2001.

4. Peer Review of the IAEA Safety Programme

Mr. Versteeg presented an overview of the results of the Peer Review of the IAEA Safety Programme, conducted in March 1999. The review resulted in a set 35 recommendations, an action plan is being prepared in response to each of the recommendations. The Commission expressed its support for the exercise and its extension to the other areas of the Agency activities. The discussion that followed was generally on the recommendation concerning use of risk informed methods and specifically on its effect on the Agency's safety standards . The Commission requested the Secretariat to proceed with caution by organizing a forum to explore issues related to risk informed decision making in relation to safety standards and report back to the Commission in the course of next year. The result of this exercise could then be used to prepare for related activities during 2002 and 2003.

5. Activities of the Advisory Committees

Mr. Lacey presented an overview of NUSSAC activities in 1999 including discussion of ACSS reports, the views of NUSSAC on the development of a common safety fundamentals and review of the IAEA activities on regulatory effectiveness. The Commission supported the effort being done to make the revised safety standards in the siting area more applicable to assessment of existing sites rather than the process of site selection. In this connection, it was suggested to call the set of standards in this area 'site consideration' to better reflect the approach adopted in their revision. NUSSAC will consider the suggestion at its next meeting.

Mr. Bilbao presented an overview of RASSAC activities including the proposed safety guide on security of radiation sources, the views of RASSAC on the development of a common safety fundamentals, the interest of other organizations to co-sponsor specific safety standards and the results of RASSAC deliberation regarding WHO guidelines for stable iodine prophylaxis following nuclear accidents. The Commission supported RASSAC's advice to the IAEA regarding WHO guidelines. The Secretariat was requested to prepare a report on the contact and formal agreements it has with other international organizations for discussion at the next meeting. In connection with the development of a safety guide on security of sources it was pointed out that industrial radiography sources are involved in the majority of accidents.

Mr. Delattre presented an overview of WASSAC activities including results of the review of a number of safety guides by WASSAC in its June meeting, preparation of terms of reference for the WASSAC sub-group, and arrangements for future meetings. The Commission stressed the need for guidance for geological disposal and requested WASSAC to consider development of appropriate safety guides on the topic to supplement safety requirements NS 154. In this connection retrieval of radioactive waste should be treated as a practical option with a discussion of its safety implications. The Commission questioned the treatment of decommissioning as part of predisposal activities. This issue will be considered at the next WASSAC meeting. ACSS will be informed of the results of the WASSAC deliberation at its next meeting. Mr. Delattre also gave a demonstration of a website being developed for WASSAC activities. The plan is to make the draft standards available to the members of WASSAC with appropriate password for access. The Commission encouraged the development of similar websites for other Advisory Committees.

Mr. Dicke presented an overview of TRANSSAC activities including the new revision cycle of transport regulations, transportation safety appraisal service and development of a hyper-text version of the regulations and its supporting documents. The Commission questioned the practicality of the new two year revision cycle of transport regulations and asked the Secretariat to prepare a report on the topic addressing the mechanics of the planned revision and effect of this on the users for consideration at the next meeting.

6. Status of the IAEA Safety Standards

The Commission requested the Secretariat to ensure that comments, on the safety standards, from the Legal Division (MTLG) are made prior to the endorsement of the standards by the Commission. The changes arising from these comments have been subject of the discussion at the Board of Governors meetings and have caused delays in the publication of the standards.

The Scientific Secretary presented the document and informed the Commission that the status will be made available on the IAEA website from early next year, it is also planned to make available the text of the published safety guides on this site, after the necessary approvals have been granted within the Secretariat. It was suggested that an explanation of the numbering system for the safety standards be made available on the website.

In response to questions regarding the delay in publication of safety guides for research reactors (NS 259, NS 260, NS 261 and NS 262) the Secretariat informed the Commission that the safety guides required extensive technical editing to harmonize the guidance provided, taking into account the draft of the revised safety requirements on design and operation of research reactors. The Commission was also informed that the safety guide on preventing, detecting, and responding to illicit trafficking in radioactive materials (NS 61) also requires extensive technical editing which will delay its publication. The final texts of these safety guides will be re-submitted to the Commission for review before they are sent for publication.

7. Endorsement of Safety Standards

One Safety Requirements and five Safety Guides were submitted to the Commission for final endorsement. In order to expedite the development of the draft of the safety requirements (NS 181) and safety guides NS 263, NS 185 and NS 264 were submitted to ACSS and NUSSAC for review at the same time. This was done in consultation with the Chairman of the Commission. The changes resulting from the review by NUSSAC (27-29 October) were distributed at the meeting. The following is a summary of the discussion of the safety standards.

7.1 The Safety of Nuclear Power Plants: Design (NS 181), Safety Requirements

Mr. Gasparini, Technical Officer for the development of the Safety Requirements NS 181, presented the document, its development and the changes introduced as a result of the review by NUSSAC in its October meeting. Written comments from Mr. Burns were distributed during the meeting; in addition a number of comments were made during the discussion. One member of the Commission did not agree with the safety principles (paragraphs 202 to 206) reproduced directly from the Safety Fundamentals publication. The Commission endorsed the transmission of the safety requirements to the Board of Governors for approval subject to the resolution of the written comments and incorporation of the following amendments:

- page 18 ‘Equipment Qualification’ Paras. 545 and 546, should only refer to ‘items important to safety’;
- page 19, para. 548, the first sentence should be replaced by ‘The design shall be operator friendly and shall be aimed at limiting the effects of human error.’

7.2 Advisory Material for the Regulations for the Safe Transport of Radioactive Material (NS 245), Safety Guide

Mr. Dicke, Technical Officer for the development of the safety guide, presented the document and its development. Copies of written comments from Mr. Gauvain were distributed. A number of comments were made during the discussion of the safety guide. The publication of the safety

guide was endorsed by the Commission subject to the resolution of the written comments and the following amendments:

- the exemption values from Table 1 of the safety requirements ST-1, should be incorporated in this safety guide;
- Values given in column (d) of table AII-2 should be checked. The secretariat should ensure that correct values are used in the published document;
- the ICRP publications in the list of references should be checked to ensure that the latest edition of the publications are referenced.

7.3 Planning and Preparing for Emergency Response to Transport Accidents involving Radioactive Material (NS 246), Safety Guide

Mr. Dicke, Technical Officer for the development of the safety guide, presented the document and its development. A number of comments were made during the discussion of the safety guide. The publication of the safety guide was endorsed by the Commission with the following amendments:

- Para. 525, table 1 , delete, values given in brackets in column 3 of the table;
- IAEA-TECDOC-953 'method for the development of emergency response preparedness for nuclear or radiological accidents, should be included in the bibliography.

7.4 Fire Safety in the Operation of Nuclear Power Plants (NS 263), Safety Guide

Mr. Vaisnys, Technical Officer for the development of the safety guide, presented the document, its development and the changes introduced as a result of the review by NUSSAC in its October meeting. Written comments from Mr. Burns were distributed during the meeting; in addition a number comments were made during the discussion. The Commission endorsed the publication of the safety guide subject to the resolution of the written comments and incorporation of the following amendment:

- Para. 3.2 (7), change to read 'Training in fire safety including exercises.

7.5 Operational Limits and Conditions and Operating Procedures (NS 185), Safety Guide

Mr. Vaisnys, Technical Officer for the development of the safety guide, presented the document, its development and the changes introduced as a result of the review by NUSSAC in its October meeting. Written comments from Mr. Burns were distributed during the meeting; in addition a number comments were made during the discussion. In the light of the significant number of changes introduced after the NUSSAC meeting and the comments made at the ACSS meeting, the Commission decided not to endorse the publication of the safety guide. The Technical Officer is requested to consult the Chairman of the NUSSAC regarding the changes made after the October meeting and to resolve the comments made by the members of the Commission including:

- Para. 6.7, last sentence ‘ Shorter inoperability periods than those derived from PSA analysis may be stipulated in the OLCs on the basis of other information such as preexisting safety studies or the operational experience’. One member of the Commission could not agree with this statement;
- Section 8, the requirement for the approval of ‘operating procedures’ by the regulatory body should be stated;
- Paras. 8.16 and 8.17, the treatment of design basis accidents, beyond design basis accidents and severe accidents, should be made compatible with the safety requirements on design of NPPs.

The revised draft, agreed by the Chairman of NUSSAC, should be circulated to the members of the Commission for review, allowing one month to respond. The Chairman of the Commission will review the comments received and decide either to endorse the safety guide for publication or submit the draft to the next ACSS meeting for review.

7.6 Software for Computer Based Systems Important to Safety in Nuclear Power Plants (NS 264), Safety Guide

Mr. Duong, Technical Officer for the development of the safety guide, presented the document, its development and the changes introduced as a result of the review by NUSSAC in its October meeting. Written comments from Mr. Burns and Travers were distributed during the meeting. The Commission endorsed the publication of the safety guide.

8. Report of the ACSS Activities 1996-1999

The Scientific Secretary presented the report which provides a summary of the Commission’s activities over the past four years the report was approved with few amendments. The Chairman will send the report to the Director General with a covering letter.

9. Policy Issues

Safety Fundamentals: Mr. Barraclough presented the draft DPP (Document Preparation Profile) for the development of a common safety fundamentals. The Commission agreed that there is a need for such document. The documents should address protection and safety as a single concept (the second alternative in the footnote), and it was suggested to delete item (ii) of section 4 of the draft DPP. It was stressed that the document should be as universal as possible and should include the totality of what is involved in the protection of the public (e.g. nuclear, radiation, radioactive waste, transport and the safety of fuel cycle facilities). The Secretariat was requested to consider the question of co-sponsorship by other international organizations and contact the appropriate organization in due course.

Quality Assurance: The Scientific Secretary presented the report on the IAEA safety standards for quality assurance. The report was prepared in consultation with the Department of Nuclear Energy which has the responsibility for development of safety standards for quality assurance. Representatives from the Department of Nuclear Energy were present during the discussion. The Secretariat pointed out that the development of safety standards on the topic will follow the established procedure (i.e. the approval process through the Advisory Committees and the

Commission). The Commission discussed the topic, in the course of the discussion it was pointed out that having the responsibility for quality assurance with the Department of Nuclear Energy is inconsistent with the articles of Convention on Nuclear Safety which puts an obligation on the contracting parties to ensure an effective separation between regulatory and promotional activities. The Chairman will write to the Director General regarding this issue.

Fuel Cycle Facilities: Ms. Ranguelova presented the report on the status of regulations for fuel cycle facilities in member states. The report was prepared in response to a request made at the fifth meeting of the ACSS. The Commission discussed the topic, it was generally agreed that the guidance to be developed should be facility related rather than theme or subject related. The need for development of guidance on criticality related issues was stressed and it was pointed out that since the facilities are more dependent on human actions particular attention should be paid to human factors and safety culture. The secretariat was requested to develop an integrated structure for the development of safety requirements and guides related to the topic by taking into account the available information, identifying the important issues and the associated priorities.

Glossary: Mr. Barraclough presented the draft glossary prepared on the basis of comments from Advisory Committees, international organizations, and comments received internally from technical officers, translators and editors. The Commission discussed the glossary and encouraged its use by technical officers and experts involved in the drafting of safety standards. The Commission endorsed the 'basic principles' for drafters and plans for future updating of the glossary. The Commission was informed that the glossary will be made available on the IAEA website; this will include arrangements for feedback from the users. The Commission suggested to do the same on the cover page of the hard copy. There were a number of specific comments on the definitions provided which will be taken into account before the release of the document for general use. It was also suggested to delete 'radiation protection and' from the title.

Report of the Commission's sub-group: The Secretariat was requested to prepare a report on the implementation of the sub-group recommendations for consideration at the next ACSS meeting.

10. Topics for Senior Regulators Meeting and Peer Discussion Group

The Commission discussed the topics and decided that the Secretariat in consultation with the Chairman should prepare a list of topics for consideration at the next meeting of the Commission. It was generally agreed that the list should provide a balanced approach to the four areas of nuclear, radiation, waste and transport safety and should include a number of alternatives.

11. Dates and Agenda for the next meeting

The schedule of ACSS meetings for the year 2000 is as follows:

5-7 June;
27-29 November.

Tentative list of safety guides to be reviewed at the June 2000 meeting:

- NS 22 Radiation Protection in Medical Exposures;

- NS 73 Building Competence in Radiation Protection and for the Safe Use of Radiation Sources;
- NS 171 Decommissioning of Nuclear Fuel Cycle Facilities;
- NS 250 Operating Organization;
- NS 252 Instrumentation and Control for Systems Important to Safety in NPPs;
- NS 253 Safety Assessment and Verification;
- NS 258 External Man Induced Events in Relation to NPP Siting;
- NS 276 Fuel Handling and Storage Systems in NPPs.

ANNEX I

AGENDA Sixth Meeting of the
ADVISORY COMMISSION ON SAFETY STANDARDS
22 - 23 November 1999
Meeting Room CO7-V, IAEA Headquarters, Vienna

1. Opening of the Meeting (9:30) -*Z. Domaratzki DDG-NS*

2. Introduction, Adoption of the Agenda and Summary Record of the Fifth ACSS Meeting
   Mr. L.G. Williams

3. Overview of the Activities in the Department of Nuclear safety - *Z. Domaratzki DDG-NS*

4. Overview of the PPAS: Peer Review of the IAEA Safety Programme - *J. Versteeg Head NSSC*

5. Presentation and discussion of reports of Safety Standards Advisory Committees
   - 5.1 Nuclear Safety Standards Advisory Committee
     D. Lacey Scientific Secretary - NUSSAC
   - 5.2 Radiation Safety Standards Advisory Committee
     A. Bilbao Scientific Secretary - RASSAC
   - 5.3 Waste Safety Standards Advisory Committee
     D. Delattre Scientific Secretary - WASSAC
   - 5.4 Transport Safety Standards Advisory Committee
     G. Dicke Acting Scientific Secretary - TRANSSAC

6. Status of the IAEA Safety Standards
   A. Karbassioun

7. Safety Requirements and Safety Guides
   - 7.1 The Safety of Nuclear Power Plants: Design (NS 181), Safety Requirements; *M. Gasparini Technical Officer*
   - 7.2 Advisory Material for the Regulations for the Safe Transport of Radioactive Material (NS 245), Safety Guide; *G. Dicke Technical Officer*
   - 7.3 Emergency Response Planning and Preparedness for Transport Accidents involving Radioactive Material (NS 246), Safety Guide; *G. Dicke Technical Officer*
   - 7.4 Fire Safety in the Operation of Nuclear Power Plants (NS 263), Safety Guide; *P. Vaisnys Technical Officer*
   - 7.5 Operational Limits and Conditions and Operating Procedures (NS 185), Safety Guide; *P. Vaisnys Technical Officer*
   - 7.6 Software for Computer Based Systems Important to Safety in Nuclear power Plants (NS 264), Safety Guide; *M. Duong Technical Officer*

8. Report of ACSS Activities (1996-1999)

9. Policy Issues
   - 9.1 Safety Fundamentals (Draft DPP)
   - 9.2 Quality Assurance
   - 9.3 Fuel Cycle Facilities
   - 9.4 Glossary

10. Presentation and Discussion of Regulatory Issues (*ACSS Members)*

11. Topics for Senior Regulators Meeting (GC, September 2000)

12. Any other business

13. Report of the Meeting and Recommendations

14. Date of Next Meeting

ANNEX II

PARTICIPATION

P. Burns, Australia
R.M. Duncan, Canada
B. Xiong, China
A-C. Lacoste, France
J. Gauvain, France
R.D. Wendling, Germany
K. Sumita, Japan
K. Muramatsu, Japan
Y. K. Lim, Korea, Republic of
M. Lipár, Slovak Republic
A. Alonso, Spain
L-E. Holm, Sweden
L.G. Williams, (Chair) United Kingdom
P.W. Dickenson, United Kingdom
J. Wilson, United Kingdom
W.D. Travers, United States of America
D. Lange, United States of America
J. Valentin, ICRP
J. Royen, (OECD Nuclear Energy Agency

IAEA Staff Members

Z. Domaratzki, Deputy Director General, Department of Nuclear Safety
A. Carnino, Director, Division of Nuclear Installation Safety (NSNI)
A. Gonzalez, Director, Division of Radiation & Waste Safety (NSRW)
F. Niehaus, Head, Safety Assessment Section
J. Versteeg, Head, Safety Co-ordination Section
D. Lacey, Safety Assessment Section
A. Bilbao, Radiation Safety Section
D. Delattre, Waste Safety Section
G. Dicke, Radiation Safety Section
P. Vaishnys, Operational Safety Section
M. Gasparini, Engineering Safety Section
M. Duong, Engineering Safety Section
V. Ranguelova Safety Assessment Section
I. Barraclough, Safety Co-ordination Section
I.L. Ianev, Department of Nuclear Energy, Planning and Economic Studies Section
M. Raynal, Department of Nuclear Energy, Waste Technology Section
A. Karbassioun, Scientific Secretary, Safety Co-ordination Section