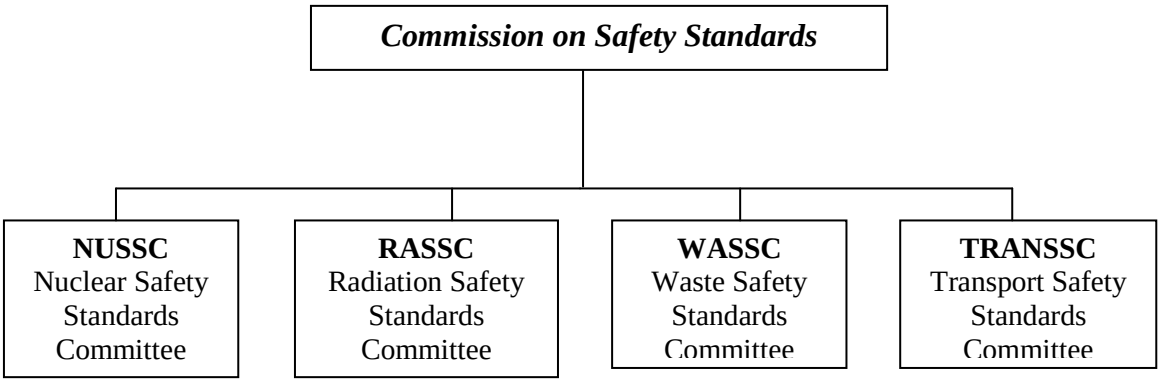
07 December 2011

Commission on Safety Standards
Fourth Term Report
2008-2011

André-Claude Lacoste
Chairman

1. Introduction

In August 1995, the Agency introduced a new approach for the preparation and review of its Safety Standards. The new approach created a Commission on Safety Standards (CSS) and the four specialist Committees (for nuclear safety, radiation safety, transport safety and radioactive waste safety). The CSS has a special overview role with regard to the Agency's safety standards and provides advice to the Director General on the overall programme on regulatory aspects of safety. The terms of reference are provided in Appendix 1.



The Director General appoints the Commission's members, and the members of the Committees are appointed by the Deputy Director General, Head of the Nuclear Safety and Security Department. The Commission members are appointed for a four-year term. The members of the Commission are given in Appendix 2.

This report provides a review of the work of the Commission on Safety Standards during the fourth four-year term covering the period **January 2008 to December 2011**. In the fourth term the Commission held eight meetings. The purpose of this report is to:

- record the work of the Commission, particularly on strategy and policy issues;
- report on progress on the review of the Standards under development and identify areas for particular attention; and
- record the Commission's recommendations to the Director General and Committees for the future direction of the work on Safety Standards.

2. Long term structure for the IAEA Safety Standards

During its previous term, in June 2006 meeting, the CSS achieved the completion of the unified Safety Fundamentals and issued a statement on important elements for consideration for the future collection of Safety Standards, in particular:

- Establish a vision on what the entire series would comprise in the future (the concept of a 'closed set' of Safety Standards);
- Establish a logical relationship between the unified Safety Fundamentals and the various Safety Requirements, as well as logical relationships between the Safety Requirements and the subsequent Safety Guides;
- Maintain a manageable number of publications and take into account the need for efficiency and timeliness for the future development of the Series.

A CSS working Group and then a Task Force was also established in 2007 to prepare a roadmap for the long-term structure of the IAEA Safety Standards with a view to:

- Identify the set of necessary Safety Requirements and take an evolutionary approach for their development.
- Consider development of a better distinction between what is a requirement and what is considered as guidance (a more rigorous approach to shall and should).
- Assign priority to the completion of the necessary Safety Requirements over the Safety Guides.
- Propose a unified format for the drafting of Safety Requirements.
- Consider harmonization and integration of all thematic requirements and propose a timetable for this integration.
- Define the 'closed set' of Safety Guides to be developed.
- Develop criteria for managing the transition period with a clear plan of action for minimizing the burden on the Member States and the committees for review of draft standards.
- Assign priorities for the development of the individual Safety Guides within the 'closed set' and identify the relevant committees for their review.

This resulted in a Roadmap for the long term structure of IAEA Safety Standards approved by the Commission in May 2008[1]. In September 2008, the CSS approved the implementation of the roadmap with the long term structure of the Safety Requirements, adopting an evolutionary approach toward integration of the thematic Safety Requirements into a set of General Safety Requirements applicable to all facilities and activities, complemented by a series of facility and activity specific Safety Requirements. For General Safety Requirements and Specific Safety Requirements, a new format was also adopted in September 2008 with a discrete set of overarching requirements followed by requirements of associated conditions to be met, both expressed as "shall" statements[2]. In September 2008, the CSS approved criteria for the optimization of the Safety Guides structure[3]. This resulted in a reference list of Safety Guides for the long term structure approved by the Commission in October 2009[4].

3. Establishment of, and follow-up actions on a list of main topics to be addressed during the fourth term

In addition to items covered by the Roadmap, the 23rd CSS meeting in March 2008, building from the four-year report of the CSS third term identified the following topics as priorities to be covered during the fourth term.

- Guidance and assistance to countries considering the launch of a nuclear programme and in particular to provide guidance on the establishment of the necessary safety infrastructure
- Guidance related to a new generation of nuclear reactor designs, the manufacturing of components, the quality of construction and commissioning of new plants
- Guidance and assistance related to the new applications of radiation sources

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[1] http://www-ns.iaea.org/committees/files/CSS/252/Roadmap.pdf

2 http://www-ns.iaea.org/committees/files/CSS/252/ApplicationoftehroadmapSR.pdf

[3] http://www-ns.iaea.org/committees/files/CSS/252/08-_Criteria_for_Safety_Guides_September_2008.pdf

[4] http://www-ns.iaea.org/committees/files/CSS/252/ReferencesetofSafetyGuidesforthelongterm20090320.doc

- Guidance on the extension of the operating lifetime of NPPs beyond their planned design life, while preserving the safety margins and the issues relating to the ageing management of structures, systems and components
- Guidance on seismic safety that considers the potential consequences of earthquakes in new designs and ageing management of operating NPPs' structures, systems and components
- Question on how best to design and implement safety measures and security measures in an integrated manner
- Assistance and additional safety guidance to countries dealing with expanded uranium exploration and mining
- Guidance on public exposures to natural sources of ionizing radiations (radon, NORM residues, aircrew…) and for the safety of uranium mining activities
- Crucial need to further improve promotion of the application of the safety standards on medical applications including recommendations that will reduce the frequency of over or under exposures related to nuclear medicine, and to enhance these standards as appropriate
- Improvement on the coverage of human and organizational factors in the safety guides

The CSS received regular report on progress, including through a mid-term report at the end of 2009. Good progress and achievement was noted in all areas identified. The status of progress is provided in Appendix 3.

4. Strategies and Processes for the Establishment of IAEA Safety Standards (SPESS)

The change in the approach initiated in 2006 involved a number of aspects that necessitated the reinforcement of the management of the safety standards related processes:

- The adoption of a top-down management approach for the strategies, the process management and the structure of the safety standards programme, while keeping a bottom-up approach for the collection, analysis and incorporation into revisions of the safety standards of feedback from the Member States and from IAEA safety services, etc.;
- The integration of the thematic areas to avoid gaps and overlaps;
- The need for the establishment or adaptation of a number of policies on, inter alia the structure of the safety standards, their format, their user friendliness, the harmonization of terminology, the collection of feedback.

During the previous term, in June 2007, the Secretariat informed the Commission of its initiative to revise the so-called "brown book" issued in 1998 on the preparation and review process for the safety standards, and to establish a system for the management of the entire planning, development, review/revision, approval and establishment of the IAEA safety standards. The Secretariat prepared a first draft by compiling material from various sources and updated incorporating the discussion in 2008 of the long term structure of the IAEA Safety Standards and other policy papers adopted, such as policy papers on stakeholder involvement in the drafting and review process for the standards. A first edition was approved by the CSS in March 2010, a revision 1 was issued in April 2010 and a revision 1.1 issued on 10 March 2011[5].

[5] http://www-ns.iaea.org/downloads/standards/spess.pdf

The document describes the strategies, the processes and associated responsibilities for the planning, development, review and revision, approval and establishment of the IAEA safety standards (SPESS).

It documents and strengthens the process which started with the establishment of the Commission on Safety Standards and the Safety Standards Committees in 1996, in order to achieve by the end of 2015 and maintain beyond this time:

- A genuine integration of all areas in the Safety Standards Series, using a top-down approach based on the unified Safety Fundamentals;
- A rationalization of the Series with a reasonable and manageable number of Safety Guides;
- A significant improvement in ‘user-friendliness’; and
- A rigorous and efficient process for the establishment of additional standards and revision of existing ones.

It is expected that these factors cumulatively will result in a major change in the use and application of the safety standards in the Member States.

The SPESS document is accompanied by a separate SPESS B manual on Step by Step Preparation and Review Process providing the detailed step by step procedure for the development, review and approval of the draft safety standards. Detailed guidelines, instructions and/or examples are also issued for use by technical officers and reviewers (SPESS C and SPESS D). An additional manual on the feedback, review and revision decision making processes is also being developed.

5. Coordination of the Safety Standards Committees work

A significant enhancement of the cooperation between the Safety Standards Committees was observed during this fourth CSS term, which started in conjunction with the fifth Committee terms in 2008. Regular meetings of the Chairpersons of the Committees were organized in conjunction with each CSS meeting and in many circumstances between CSS meetings thus ensuring a continued cooperation between the Committees. The Chairs in particular exchange on the following issues:

- - Participation and membership at the Commission on Safety Standards meeting
- - Proposal on policy and strategies
- - Coordination for DPPs and drafts being submitted to several Committees
- - Verification of changes to initially agreed DPPs
- - Validation of changes made on draft already approved
- - Assessment of candidate IGOs and NGOs
- - Conduct of the meetings with regards to intervention of IGOs and NGOs
- - Assessment of proposed changes to the Safety Glossary
- - Review of updates of the SPESS document

The Commission also appreciates the organization of joint session of the safety Standards Committees as well as the representation on a case by case basis of one Committee at the meeting of another Committee. The Chairs of the CSS together with the Chairs of the Committees discussed a number of policy and strategy papers that are now put in place and reflected in SPESS.

6. Recommendations of the Advisory Group on Nuclear Security (AdSec) - Commission on Safety Standards (CSS) Joint Task Force

A joint session of the Advisory Group on Nuclear Security (AdSec) and the Commission on Safety Standards (CSS) met in April 2009, with the aim of exchanging views on issues relating to safety and security synergies and interfaces. At this joint session three options were presented for the future of the Safety Standards Series and the Nuclear Security Series:

- Option 1 was the full integration of both series (the Safety Standards Series and the Nuclear Security Series) into a new series with full coverage of safety and security issues;
- Option 2 was the status quo, keeping both series separated;
- Option 3 was integration of the security related aspects in the Safety Standards Series and discontinuation of the Nuclear Security Series.

The joint session recommended and the Secretariat decided to establish a joint AdSec-CSS Task Force, to be co-chaired by the Chairman of AdSec and the Chairman of the CSS, with equal participation of members from both groups and with active participation from the Secretariat. The initial aim in establishing the Task Force was to explore two topics, namely: practical improvement of the process for review and approval of draft Nuclear Security Series publications; and the long term feasibility of developing an integrated series of safety and security standards.

The Task Force met four times between October 2009 and May 2011. A joint report from the Task force was then submitted to both AdSec and the Commission at a joint session organized in November 2011.

The joint session agreed on the following four principles proposed by the Task Force:

1. Nuclear security and safety are equally important and the process for review/approval should reflect this;

2. Safety document preparation profiles (DPPs) and nuclear security DPPs should be reviewed to identify/define interfaces, if any;

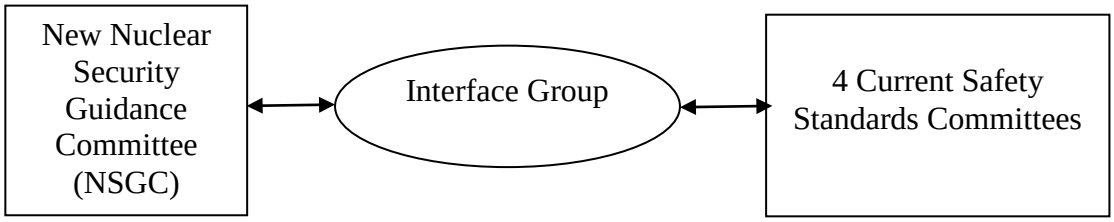
3. Draft safety publications and draft nuclear security publications that have an identified interface should be developed in consultation;

4. After implementation of points 2 and 3, draft safety publications and draft nuclear security publications should be reviewed and approved to ensure the coordination has been effective and that they are in accordance with the Safety Fundamentals and the Nuclear Security Fundamentals.

The joint session also agreed that instead of establishing a priori a detailed structure for the future Safety and Security Series, the Task Force proposed process for further studying this long term structure is appropriate.

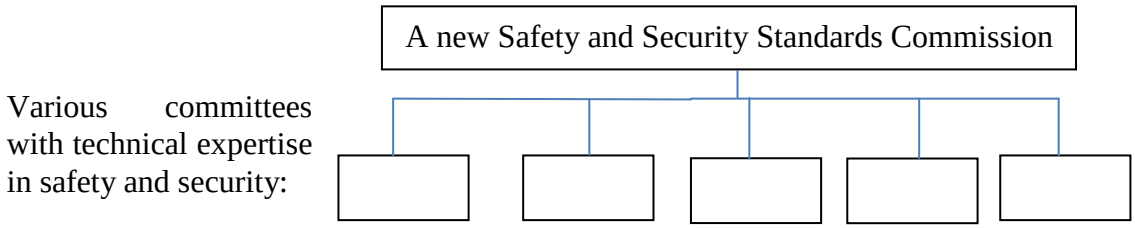
In this regard, the joint session finally reached a two-step conclusion for the committee structure for the review and approval of draft safety and nuclear security publications, as follows:

- As an intermediate committee structure:



whereby the 'interface group' reviews DPPs and refers them to the appropriate committee(s). The drafts issued from the review by the Safety Standards Committees would continue to be submitted to the CSS, as they currently do, and the drafts issued from the review by the new Nuclear Security Guidance Committee (NSGC) would be submitted to Deputy Director General (DDG) of the Department of Nuclear Safety and Security, who will decide on a case-by-case basis which further consultation is deemed necessary in order to ensure good cooperation and implementation of the four principles.

- As a long term vision:



The joint session concluded that the Director General should establish the NSGC, with terms of reference consistent with the four principles above, and implement the intermediate structure as soon as possible. The Task Force also suggested that the functioning of the intermediate structure should be reviewed – in particular as to whether it meets the four principles – after a suitable interval of operation, and the long term vision revised as necessary.

7. Review of IAEA Safety Standards following the Fukushima Daiichi accident

The 29th CSS meeting in May 2011 was the first meeting after the occurrence of the accident at the Fukushima Daiichi nuclear power plant in Japan and the Commission started to investigate what implications this would possibly have on the safety standards. The Commission concluded that the drafts recently endorsed should be published with, as necessary, a note indicating that they might need review and revision in the future in order to incorporate the lessons to be learned from the accident. The Commission noted that this feedback process will certainly take time and therefore envisaged that an action plan be established in order to organize this major activity in the coming years. In a letter from the CSS Chairperson to the IAEA Director General dated 23 June 2011, the Chair indicated that "the Commission is fully committed to support you in this endeavour and to contribute to the development and implement of an action plan on the implication of the accident for the IAEA safety standards development and their application in Member States. The Commission is also ready to assist you for implementing those actions related to the safety standards and their application that may be recommended by the Ministerial Conference from 20 to 24 June 2011".

In his answer to the CSS Chairperson dated 7 July 2011, the Director General welcomed the initial investigations of the Commission on Safety Standards as to the implications the Fukushima Daiichi accident may have on the IAEA safety standards and accepted the view of the Commission that it would be appropriate not to delay recently endorsed draft safety standards, particularly those that incorporate significant new recommendations compared to previous editions. At the same time, the Director General highlighted that it must be made clear, following the Commission's advice, that these standards will be part of the review process.

In particular, the Director General requested the Commission to review the standards, and report back within the next 12 months, with recommendations for strengthening the standards, where gaps would be identified, and for further promoting their universal application.

This action is further addressed by the IAEA Action Plan on Nuclear Safety (GOV/2011/59-GC(55)/14), and is detailed as follows:
Review and strengthen IAEA Safety Standards and improve their implementation

- The Commission on Safety Standards and the IAEA Secretariat to review, and revise as necessary using the existing process in a more efficient manner, the relevant IAEA Safety Standards in a prioritized sequence. [A footnote clarifies that this review could include, inter alia, regulatory structure, emergency preparedness and response, nuclear safety and engineering (site selection and evaluation, assessment of extreme natural hazards including their combined effects, management of severe accidents, station blackout, loss of heat sink, accumulation of explosive gases, nuclear fuel behavior and ways to ensure the safety of spent fuel storage).]

With a view to implementing this action, a first draft of a Safety Standards Action Plan was prepared by the Secretariat during the summer of 2011 and submitted to the Commission at its meeting in November 2011. The draft Safety Standards Action Plan describes the methodology for conduction the review of the IAEA Safety Standards in terms of scope, prioritization, topical approach and process, the timeline for the review, and possible options for the subsequent revision of those safety standards for which the review would conclude that there are issues to be addressed.

Taking into account the importance of the Fukushima Daiichi accident, the CSS recommended the establishment, by the Agency, of a technical central point for collecting, classifying and validating the information and the lessons learned from the accident.

With regards to the Safety Standards Action Plan, the CSS welcomed with satisfaction the first draft proposed by the Secretariat and the CSS members agreed to further contribute to its development. The CSS also welcomed the fact that the Secretariat had started its implementation.

The CSS noted that the review and revision, if necessary, of the relevant IAEA Safety Standards in the light of the Fukushima Daiichi accident is an on-going process as, in November 2011, we are just at the beginning of the collection of facts, understanding and learning. The process should nevertheless start by dealing with the issues that seem to be most obvious.

The CSS therefore noted that the proposed Action Plan will be a living document. It will be continuously updated so as to reflect future discussions at the Safety Standards Committees and CSS meetings, the result of national and regional actions following the Fukushima Daiichi accident, as well as the conclusions of the extraordinary meeting in August 2012 of the Contracting Parties to the Convention on Nuclear Safety and initiatives taken by other International Organizations.

The CSS is looking forward for its next meeting in March 2012, the first of the new term, to the results of the first review of the IAEA Safety Standards after consideration by the Safety Standards Committees in December 2011 and January 2012.

8. Review of draft Standards, Document Preparation Profiles for safety standards and other draft publications

During the fourth four-year term, the Commission reviewed 45 draft Safety Standards, compared to 27 in the previous term. The list of endorsed Safety Standards and Document Preparation Profiles (DPPs) is provided in Appendix 4.

The draft Standards endorsed included 9 Safety Requirements (5 during the previous term) in the areas of Governmental, Legal and Regulatory Framework for Safety, Safety Assessment for Facilities and Activities, Radiation Protection and Safety of Radiation Sources, Predisposal Management of

Radioactive Waste, Safety of Nuclear Power Plants: Design, Safety of Nuclear Power Plants: Commissioning and Operation, Disposal of Radioactive Waste and Regulations for the Safe Transport of Radioactive Material, 2009 and 20xx Edition.

The Commission also reviewed 30 Document Preparation Profiles (DPPs), compared to 50 during the previous term. They related mainly to the revision of existing safety standards. The change in the number of DPPs submitted for approval illustrates the optimization of the number of safety guides discussed above on the long term structure of the IAEA Safety Standards.

With the above achievements during the fourth term, 4 General Safety Requirements out of 7 planned in the roadmap were finalized and the DPPs for the last three General Safety Requirements were approved thus permitting the achievement of the objective of finalizing the General Safety Requirements by the end of 2013, as initially established.

The two Specific Safety Requirements for Nuclear Power Plants as well as the Specific Safety Requirements for the Disposal of Radioactive Waste were also finalized during this term. Two editions of the Specific Requirements on Transport of Radioactive Material were also finalized during the term.

In addition to reviewing DPPs and draft standards, the CSS also reviewed the DPP and the draft Safety Framework on the Safety of Nuclear Power Source Applications in Outer Space, prepared jointly by the IAEA and the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space.

Moreover, following an Interoffice Memorandum involving the Nuclear Energy Department and the Nuclear Safety and Security Department, a procedure for joint NS-NE coordination was established by both Department indicated cases where the Safety Standards Committees and the CSS could be consulted on draft Nuclear Energy Series publications. During the fourth CSS term, the Commission reviewed three Nuclear Energy Objectives draft publications on Nuclear General Objectives, Waste Management Objectives and Nuclear Fuel Cycle Objectives. The commission also discussed documents on barge mounted Nuclear Power Plants at several occasions.

9. Use of the IAEA Safety Standards

The Commission has established as one of its regular agenda item the reports from the CSS participants on the use of IAEA Safety Standards in the Member States. Recent reports at the CSS by several countries confirm the wider use of IAEA Safety Standards both as a benchmark for harmonization and as a basis for the review of national regulations or their incorporation in the body of national regulations.

The Ministerial Conference organized in June 2011 following the Fukushima Daiichi accident further emphasized the importance of the use of the IAEA Safety Standards in Member States recognized that these provide the global reference for protecting people and the environment against nuclear accidents and the harmful effects of radiation exposure. The Commission notes in particular the item 6 of the Ministerial Declaration emphasizing “the importance of implementing enhanced national and international measures to ensure that the highest and most robust levels of nuclear safety are in place, based on IAEA safety standards, which should be continuously reviewed, strengthened and implemented as broadly and effectively as possible and commit to increase bilateral, regional and international cooperation to that effect”. The Ministerial Declaration also underlines “the need for States planning to embark on a nuclear power programme 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”.

10. Future work and proposed revised Section of SPESS on the function and working method of the CSS

Throughout the fourth Commission Term, a significant investment has been done in integrating and rationalizing the whole Safety Standards Series, its structure and the format of safety requirements as well as in formalizing the strategies and rigorous processes for their establishment. The Commission hopes that this investment will facilitate the future work of the Committees and the Commission for the next years, such that the Commission may rely on it and focus more in the future on the effective use of the IAEA Safety Standards and their user-friendliness.

In this regard, the collection and analysis of feedback from the use of safety standards will be a key activity for the Safety Standards Committees and the Commission, in parallel to the analysis of the implications to the safety standards of the lessons learned and to be learned from the Fukushima accident. This new focus on feedback from the use of IAEA Safety Standards and their promotion is to be reflected in a revision of the section 3.A of SPESS on the function and working method of the Commission.

In addressing the feedback from the Fukushima Daiichi accident, the Commission also recognize that there are other high priority issues to be addressed in parallel. One example relates to medical exposures. As was done at the first meeting of the fourth term, it is recommended that at the first meeting of the next term the Commission established an updated list of main topics to be addressed as priorities, taking into account the discussions at the CSS meetings at the end of its fourth term.

During the fourth term, the Commission also established working practices that its felt should be continued in the future, such as the above mentioned list of priorities and the mid-term report of progress on these. The commission recommends these practices to be included in the revision of the section 3.A of SPESS.

11. Conclusion

The fourth four-year term of the Commission on Safety Standards has continued the good work of the first three terms and delivered significant achievements in integrating and rationalizing the whole Safety Standards Series, its structure and the format of safety requirements as well as in formalizing the strategies and rigorous processes for their establishment.

The Fukushima Daiichi accident will lead to a long feedback analysis process and the lessons learned and to be learned will need to be reviewed in light of their potential implication on the Safety Standards. This will certainly affect the work of the Commission for the future years.

The progress toward addressing synergies and interface between the Safety Standards Series and the Nuclear Security Series will also lead to significant changes in the structure for the review and approval of these series in the future.

As Chairman of the Commission since 2005, I would also like to thank the members of the Commission for their active and efficient contribution to the success of the Commission’s work and in particular with regards to the strategic orientations.

I would also mention the continuous and high support from the IAEA Directors General M. ElBaradei and Y Amano to the Commission’s activities that greatly contributed to the success.

I would also like to thank all the staff of the Nuclear Safety and Security Department for their dedication and the significant progress achieved and remind that they are the first contributors to the now well recognized quality of the Safety Standards.

I would finally like to commend the Scientific Secretary of the Commission, Dominique Delattre, for his continuous support and dedication, and particularly for the preparation of a significant number of important policy papers, the preparation of the SPESS system of document and for the excellent organization of all meetings which facilitated efficient work of the Commission.

APPENDIX 1

TERMS OF REFERENCE
COMMISSION ON SAFETY STANDARDS

The Commission on Safety Standards (CSS) is a standing body of senior government officials holding national responsibilities for establishing standards and other regulatory documents relevant to nuclear, radiation, transport and waste safety. The CSS has a special overview role with regard to the Agency's safety standards and provides advice to the Director General on the overall programme on regulatory aspects of safety.

Functions

The functions of the CSS are:

- To provide guidance on the approach and strategy for establishing the Agency's safety standards, particularly in order to ensure coherence and consistency between standards;
- To resolve outstanding issues referred to it by the committees involved in the Agency's preparation and review process for safety standards;
- To endorse, in accordance with the Agency's preparation and review process for safety standards, the texts of the Safety Fundamentals and Safety Requirements to be submitted to the Board of Governors for approval and to determine the suitability of Safety Guides to be issued under the authority of the Director General;
- To provide general advice and guidance on safety standards issues, relevant regulatory issues and the Agency's safety standards activities and related programmes, including those for promoting the worldwide application of the standards.

Membership

- Member States will be requested to nominate senior officials holding responsibilities in national regulatory organizations and having recognized expertise in nuclear, radiation, transport and waste safety as candidates. In appointing the CSS members, the Director General will seek to ensure a balance of regional approaches and experience in the areas covered by the Agency's safety standards. The Director General will appoint the members for a term of four years. The members may each be accompanied by one technical adviser when attending the CSS meetings. In addition the Chairpersons of the four committees on safety standards will be invited to participate fully in the CSS meetings.
- Observers from specialized international organizations and relevant non-governmental bodies may be invited by the Director General to attend CSS meetings.
- The Deputy Director General, Department of Nuclear Safety and Security, or a designated substitute will participate in all CSS meetings.

Working Methods

- The Director General will appoint a Chairperson from among the CSS members for a four year term.

- A Scientific Secretary to serve the CSS will be designated by the Deputy Director General, Department of Nuclear Safety and Security.
- Ordinarily, the CSS will meet twice a year for up to five working days. Extraordinary meetings may be called as required.
- The CSS will submit an annual report on its work to the Director General.
- The Meetings will be conducted in English.

Resources

- The Secretariat will provide all the resources necessary to permit the efficient working of the CSS.

All costs involved in the participation of each CSS member, including travel and per diem expenses, will be borne by the nominating Member State.

APPENDIX 2

Commission Membership for the period 2008-2011

Argentina: A. J. González

Australia: J. Loy, P. Johnston, C.-M. Larsson

Belgium: J.-P. Samain

Brazil: L. A. Vinhas

Canada: R. Jammal

China, People's Republic of: Liu Hua

Egypt: M. Barakat

Finland: J. Laaksonen

France: A.-C. Lacoste (Chairman), Jean-Luc Lachaume

Germany: D. Majer, M. Herttrich

India: S. K. Sharma, S. S. Bajaj

Israel: I. Levanon

Japan: A. Fukushima, K. Nakamura

Korea, Republic of: C.-H. Yun

Lithuania: G. Maksimovas

Pakistan: M. S. Rahman, M.A. Habib

Russian Federation: S. Adamchik, D. A. Bryunin, V. S. Bezzubtsev

South Africa: M. T. Magugumela, G. Clapisson

Spain: J. Barceló Vernet, A. Gurguí Ferrer

Sweden: C.-M. Larsson, L. Moberg

Ukraine: O. Mykolaichuk

United Kingdom: M. Weightman

United States of America: M. Virgilio

Vietnam: L. C. Dung

Observers:

AdSec: J. A. Hashmi, A. Raja Adnan

EC: C. Waeterloos, P. Faross

ICRP: L.-E. Holm, C. Cousins

INSAG: R. Meserve

OECD/NEA: T. Tanaka, U. Yoshimura

Chairpersons of the Safety Standards Committees:

NUSSC: G. Vaughan, F. Feron

RASSC: S. Magnusson, G. Massera

TRANSSC: E. W. Brach

WASSC: T. Pather, G. Williams

Scientific Secretary: D. Delattre

APPENDIX 3

STATUS OF MAIN TOPICS OF THE 4TH CSS TERM

#	Main topics	Reference set of SG	Status/action
1	Guidance and assistance to countries considering the launch of a nuclear programme and in particular to provide guidance on the establishment of the necessary safety infrastructure	Item 1	DS424 endorsed by the CSS, being published (SSG-16)
2	Guidance related to a new generation of nuclear reactor designs, the manufacturing of components, the quality of construction and commissioning of new plants	Items 22, 42 and 43	DS349 published (GS-G-3.5). Construction: Revised DPP DS441 approved by the CSS. Draft approved by NUSSC for MS consultation and submitted to WASSC (Dec.2011) Commissioning: Draft DS446 for MS consultation
3	Guidance and assistance related to the new applications of radiation sources	Items 68 to 76	DS409 published (SSG-8) DS408 published (SSG-11) DS419 and 420 expected for the SSCs in 2012 before MS consultation DS434 for a safety guide on radioisotope production facilities being drafted. DPP approved by the CSS
4	Guidance on the extension of the operating lifetime of NPPs beyond their planned design life, while preserving the safety margins and the issues relating to the ageing management of structures, systems and components	Items 40 and 45	Final draft DS 426 on periodic safety reviews approved by the CSS in November 2011. It includes the LTO aspects NS-G-2-12 on ageing management recently published
5	Guidance on seismic safety that considers the potential consequences of earthquakes in new designs and ageing management of operating NPPs' structures, systems and components	Item 18 and Item 41	DS422 published (SSG-9) DS383 published (NS-G-2.13) Note additional work on other external hazards: DS417 endorsed by the CSS (in publication) DS405 endorsed by the CSS (in publication)
6	Question on how best to design and implement safety measures and security measures in an integrated manner	NA	Joint AdSec/CSS session in April 2009 and joint AdSec/CSS Task Force established in June 2009 Meetings in October 2009, March 2010, September 2010 and 24 May 2011 Final Joint AdSec CSS Session in November 2011

7	Assistance and additional safety guidance to countries dealing with expanded uranium exploration and mining	Item 83	DS 421 being drafted Consideration for re-assessing with the SSCs how to adequately cover all aspects in a few guides Revised DPP DS421 being submitted to RASSC as well as a new DPP DS459
8	Guidance on public exposures to natural sources of ionizing radiations (radon, NORM residues, aircrew…) and for the safety of uranium mining activities	Item 5	
9	Crucial need to further improve promotion of the application of the safety standards on medical applications including recommendations that will reduce the frequency of over or under exposures related to nuclear medicine, and to enhance these standards as appropriate	NA. Relates to the application of SS, in particular of item 68	DS399 being drafted
10	Improvement on the coverage of human and organizational factors in the safety guides	Item 6 and 42	DS349 published (GS-G-3.5)

APPENDIX 4

List of endorsed draft Safety Standards in the period 2008-2011

Governmental, Legal and Regulatory Framework for Safety

DS415 GSR Part 1 Governmental, Legal and Regulatory Framework for Safety

DS416 SSG-12 Licensing Process for Nuclear Installations

DS424 Establishing the Safety Infrastructure for a Nuclear Power Programme

Management Systems

DS349 GS-G-3.5 The Management System for Nuclear Installations

Safety Assessment

GSR Part 4 Safety Assessment for Facilities and Activities

Radiation Protection and Safety of Radiation Sources, including Remediation

DS379 GSR Part 3 Interim Edition Radiation Protection and Safety of Radiation Sources, International BSS 2011 Edition

DS408 SSG-11 Radiation Safety in Industrial Radiography

DS409 SSG-8 Radiation Safety of Gamma, Electron and X ray Irradiation Facilities

DS410 National Strategy for Regaining Control over Orphan Sources and Improving Control over Vulnerable Sources

DS411 Orphan Sources and other Radioactive Material in the Metal Recycling and Production Industries

Predisposal Management of Radioactive Waste

DS353 GSR Part 5 Predisposal Management of Radioactive Waste

DS390 GSG-1 Classification of Radioactive Waste

DS284 Safety Case and Safety Assessment for Predisposal Management of Radioactive Waste

Decommissioning and Termination of activities

DS376 WS-G-5.2 Safety Assessment for the Decommissioning of Facilities Using Radioactive Material

Emergency Preparedness and Response

DS44 GSG-2 Criteria for Use in Preparedness and Response for a Nuclear or Radiological Emergency

Site Evaluation

DS422 SSG-9 Seismic Hazards in Site Evaluation for Nuclear Installations

DS417 Meteorological and Hydrological Hazards in Site Evaluation for Nuclear Installations

DS405: Volcanic Hazards in Site Evaluation for Nuclear Installations

Nuclear Power Plants

DS414 Safety of Nuclear Power Plants: Design

DS413 SSR-2/2 Safety of Nuclear Power Plants: Commissioning and Operation

DS382 NS-G-2.12 Ageing Management for Nuclear Power Plants

DS383 NS-G-2.13 Evaluation of Seismic Safety for Existing Nuclear Installations

DS385 NS-G-2.15 Severe Accident Management Programmes for Nuclear Power Plants

DS395 SSG-2 Deterministic Safety Analysis for Nuclear Power Plants

DS394 SSG-3 Development and Application of Level 1 Probabilistic Safety Assessment for Nuclear Power Plants

DS393 SSG-4 Development and Application of Level 2 Probabilistic Safety Assessment for Nuclear Power Plants

DS388 SSG-13 Chemistry Programme for Water Cooled Nuclear Power Plants

DS426 Periodic Safety Review of Nuclear Power Plants

Research Reactors

DS340 NS-G-4.6 Radiation Protection and Radioactive Waste Management in the Design and Operation of Research Reactors

DS412 SSG-10 Ageing Management for Research Reactors

DS396 Safety Assessment for Research Reactors and Preparation of the Safety Analysis Report

DS351 The Use of a Graded Approach in the Application of the Safety Requirements for Research Reactors

DS397 Safety in the Utilization and Modification of Research Reactors

Fuel Cycle Facilities

DS317 SSG-6 Safety of Uranium Fuel Fabrication Facilities

DS318 SSG-7 Safety of Uranium and Plutonium Mixed Oxide Fuel Fabrication Facilities

DS344 SSG-5 Safety of Conversion Facilities and Uranium Enrichment Facilities

DS371 Storage of Spent Fuel

Radioactive Waste Disposal Facilities

DS354 SSR-5 Disposal of Radioactive Waste

DS334 SSG-14 Geological Disposal of Radioactive Waste

DS335 SSG-1 Borehole Disposal of Radioactive Waste

DS355 The Safety Case and Safety Assessment for Disposal of Radioactive Waste

Transport Safety

DS345 TS-R-1 Regulations for the Safe Transport of Radioactive Material 2009 Edition

DS437: Regulations for the Safe Transport of Radioactive Material, 20XX Edition

DS327 TS-G-1.5 Compliance Assurance for the Safe Transport of Radioactive Material

DS387 TS-G-1.6 Schedules of Provisions of the IAEA Regulations for the Safe Transport of Radioactive Material

List of DPPs reviewed in the period 2008-2011

Governmental, Legal and Regulatory Framework for Safety

- **DS424** Establishing the Safety Infrastructure for a Nuclear Power Programme
- **DS429** External expert support on safety issues
- **DS455**: Establishing a National Radiation Safety Infrastructure

Management Systems

- **DS456**: **Leadership and Management for Safety**

Safety Assessment

Radiation Protection and Safety of Radiation Sources, including Remediation

- **DS419** Radiation Safety in Well Logging
- **DS420** Radiation Safety for Nuclear Gauges
- **DS432**: Radiation Protection of the Public and the Environment
- **DS434**: Radiation Safety of Radioisotope Production Facilities
- **DS453**: Occupational Radiation Protection

Predisposal Management of Radioactive Waste

- **DS427** Radiological Environmental Impact Analysis for Facilities and Activities
- **DS442**: Regulatory Control of Radioactive Releases to the Environment from Facilities and Activities
- **DS447**: Predisposal Management of Radioactive Waste from Fuel Cycle Facilities
- **DS448**: Predisposal Management of Radioactive Waste from Reactors
- **DS454**: Management of Waste from the Use of Radioactive Materials in Medicine, Industry, Research, Agriculture and Education

Decommissioning and Termination of activities

- **DS450 Decommissioning and Termination of Activities**
- **DS452**: Decommissioning of Nuclear Facilities, except Facilities using NORM and Medical, Industrial, Research and Disposal Facilities

Emergency Preparedness and Response

- **DS457**: **Preparedness and Response for a Nuclear or Radiological Emergency**

Site Evaluation

- **DS422** Seismic Hazards in Site Evaluation for Nuclear Installations
- **DS405** Volcanic Hazards in Site Evaluation for Nuclear Installations
- **DS433** Safety Aspects in Siting for Nuclear Installations

Nuclear Power Plants

- **DS426** Periodic Safety Review of Nuclear Power Plants
- **DS431** Design of I & C Systems for NPPs
- **DS440**: Design of Auxiliary and Supporting Systems in NPPs
- **DS446**: Commissioning for Nuclear Power Plants
- **DS441**: Construction of Nuclear Installations

Research Reactors

- **DS436**: Instrumentation and Control and Software Important to Safety for Research Reactors

Fuel Cycle Facilities

- **DS439**: **Addendum to NS-R-5, Appendix IV "Reprocessing Facilities" and Appendix V "Fuel Cycle Research and Development Facilities"**

Radioactive Waste Disposal Facilities

Transport Safety

DS437: **Regulations for the Safe Transport of Radioactive Material, 20XX Edition**

DS425: Advisory Material for the IAEA Regulations for the Safety Transport of Radioactive Material

DS451: Addendum to the Schedule of Provisions of the IAEA Regulations for the Safe Transport of Radioactive Material (2009 Edition)