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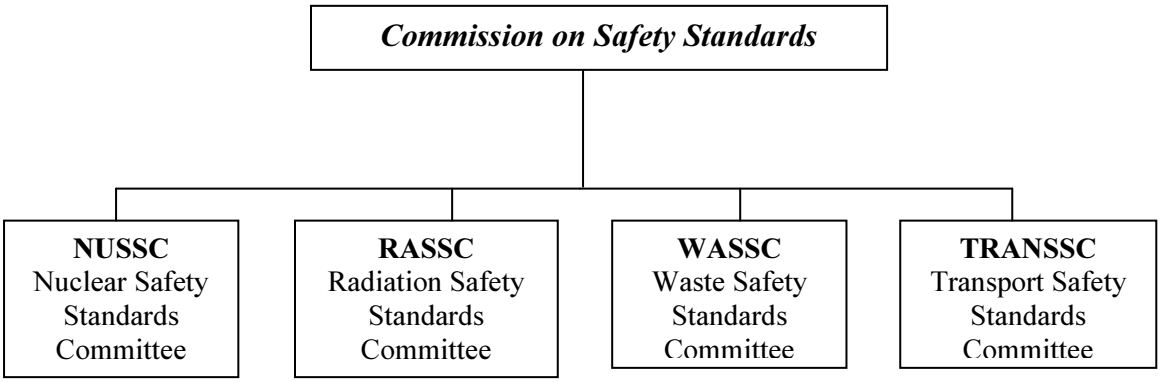
Commission on Safety Standards
Third Term Report
2004-2007

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) to oversee the four specialist Committees (for nuclear safety, radiation safety, transport safety and radioactive waste safety). The objectives of the CSS are to ensure coherence and consistency of the Standards and to provide guidance on the approach and strategy for establishing the IAEA Safety Standards. 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 third four-year term covering the period **January 2004 to December 2007**. In the third term the Commission held eight meetings. Its purpose 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. Implementation of the Action Plan for the Development and Application of the IAEA Safety Standards

The main developments at the beginning of the four-year term were essentially a continuation based on the initiatives taken during the previous term.

The CSS, in consultation with the Committees, prepared in 2002 a vision and strategy for the IAEA Safety Standards. This led to the development of the Action Plan for the Development and Application of the IAEA Safety Standards, approved by the Board of Governor in March 2004. The primary purpose of the Action Plan was to fulfil the vision of the Safety Standards as the global reference for protecting people and the environment through the creation and maintenance of a set of harmonized Safety Standards of high quality.

During the first half of the 2004-2007 period, the Commission reviewed the regular reports provided by the Secretariat on the implementation of the Action Plan. After consideration of the views from the Committees, the Commission approved a detailed overall structure for the IAEA Safety Standards (a set of thematic Standards complemented by facilities and activities specific Standards). The CSS made a number of suggestions on the following policy issues:

- A formal process for the review and revision of the Safety Standards, including criteria to assess the justification to start their revision;
- A revised policy for the review and revision of the IAEA Regulations for the Safe Transport of Radioactive Material approved by the Board of Governors in June 2005;
- A policy on the consideration of security related issues in the Safety Standards reflected in the introduction of the Safety Fundamentals published in November 2006;
- A policy and strategy for the development of Safety Guides, TECDOCs and Safety Reports presented also in 2005.

An overall report prepared by the Secretariat on the implementation of the Action plan was reviewed by the Commission in November 2005. The Commission noted with satisfaction the complete and successful implementation of the Action Plan and issued a statement acknowledging that it had resulted in significant improvement in the quality of the Safety Standards and their utilization by Member States. The report was then integrated in the overall report on measures to strengthen international cooperation in nuclear, radiation and transport safety and waste management submitted by the Director General to the Board of Governor in August 2006.

3. Unified Safety Fundamentals

The main achievement during the 2004-2007 period is the finalization of the unified Safety Fundamentals with its publication in November 2006.

The Board of Governors had approved the publication of IAEA Safety Standards in the Safety Fundamentals category on the safety of nuclear installations in June 1993, on the safety of radioactive waste management in March 1995 and on radiation protection and the safety of radiation sources in June 1995. In 1995 the Board also requested the Secretariat to consider the revision of the three Safety Fundamentals texts with the aim of combining them in a unified set of principles representing a common safety philosophy across all areas of application of the IAEA Safety Standards.

The INSAG report on “The Safe Management of Sources of Radiation, Principles and Strategies”, published as INSAG 11 in August 1999, dealt with the general principles governing the safety of all sources of radiation building upon the three Safety Fundamentals publications. In the foreword of this report, the IAEA Director General indicated that the report “intends to show that, at the conceptual level, the distinction traditionally made between nuclear safety and radiation protection is hardly justifiable.”

In 2000 the process to prepare a text on a unified set of principles was initiated. It developed seeking a broad international consensus of opinion to provide assurance that the Fundamental Safety Principles are supported by all IAEA Member States.

For the preparation of the draft, a specific procedure was established with a leading role being played by the Commission and the establishment of a CSS subgroup involving representatives of the different areas covered by the previous Safety Fundamentals. All the safety principles established in the earlier Safety Fundamentals publications were considered and consolidated into a coherent and consistent set of ten new principles. Some of the earlier safety principles were found to be more appropriately expressed as requirements and have been or are being established as such in Safety Requirements publications.

To the extent possible, the Fundamental Safety Principles were drafted in language that is understandable to the non-specialist reader. The intention was to convey the basis and rationale for the Safety Standards for those at senior levels in government and regulatory bodies and those who, while responsible for making decisions concerning the uses of nuclear energy and radiation sources, may not be specialists.

The new Safety Fundamentals SF-1 entitled Fundamental Safety Principles and published in November 2006 states the fundamental safety objective and ten associated safety principles, and

briefly describes their intent and purpose. The fundamental safety objective — to protect people and the environment from harmful effects of ionizing radiation — applies to all circumstances that give rise to radiation risks. The safety principles are applicable, as relevant, throughout the entire lifetime of all facilities and activities — existing and new — utilized for peaceful purposes, and to protective actions to reduce existing radiation risks.

The Fundamental Safety Principles are jointly sponsored with the European Atomic Energy Community (EURATOM), the Food and Agriculture Organization of the United Nations (FAO), the International Labour Organization (ILO), the International Maritime Organization (IMO), the Nuclear Energy Agency of the OECD (OECD/NEA), the Pan American Health Organization (PAHO), the United Nations Environment Programme (UNEP) and the World Health Organization (WHO).

Finally, the Fundamental Safety Principles provide the basis for requirements and measures for the protection of people and the environment and for the safety of facilities and activities. As such it is at the turning point between the implementation of the Action Plan mentioned above at section 2 and the discussion on beyond the action plan addressed here below in section 4.

4. Beyond the Action Plan. Preparation for the long-term structure for Safety Standards

At its June 2006 meeting, the CSS reviewed a report prepared by the Secretariat, which described the achievements under the Action Plan, identified new challenges and presented ways to respond to these in the future. The Commission welcomed the report and noted its timeliness, in particular in relation to the completion of the unified Safety Fundamentals. The CSS issued a statement (provided in Appendix 3) 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.

At its November 2006 meeting, the CSS examined a progress report prepared by the Secretariat on “Beyond the Action Plan: Proposed Structure for the IAEA Safety Standards”, taking account the discussions at the Safety Standards Committees. The CSS stated that this report provides a good basis for the review of the structure. It also stated that the publication of the Fundamental Safety Principles (SF-1) provided an incentive to take a top-down approach for further development of Safety Standards.

A Subgroup composed of the Committee Chairmen, the Commission bureau and the Secretariat was given the mandate by the Commission to further consider the structure and related issues:

- 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.

The Subgroup started its activities in January 2007 and a first report was prepared and submitted for review to the Committees and the Commission early in 2007. The Subgroup proposed a vision for the long-term structure adopting an evolutionary approach with a two steps transition process from the current structure to the long term structure so as to maintain regulatory stability. Step 1, 2007-2009, deals with completion of the Safety Requirements already in preparation and those that urgently need to be reviewed/revised. This will be done having in mind the final objective of later integration by 2013 of the present set of thematic requirements in one document. Step 2, 2010-2015, deals with the final integration by 2013 of the General Safety Requirements and the finalization of the Facilities and Activities specific Safety Requirements

The Subgroup was transformed in June 2007 into a Task Force with involvement of all the Nuclear Safety and Security Department managers. The Task Force started in September 2007 to study how to achieve the ultimate objective of establishing the General Safety Requirements deriving logically from the unified Safety Fundamentals and integrating in a coherent and harmonized manner the set of thematic Safety Requirements, including the revised BSS.

The Task Force established a draft roadmap, whose key elements are provided in Appendix 4, for the long-term structure of the Safety Standards with three annexes on specific issues.

The draft roadmap and its annexes were discussed in November 2007 before their submission to the Committees and the Commission at the beginning of their new term.

5. Use of the 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 including China, Pakistan, UK and organizations such as WENRA 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.

Furthermore, at international conferences and Board of Governors meetings many countries expressed appreciation and support for the IAEA Safety Standards. The safety related conventions have also evolved into a forum for more substantive discussion on safety issues with direct reference to the IAEA safety review missions and the Safety Standards.

This results in an increasing recognition of the IAEA Safety Standards as the global reference for protecting people and the environment against nuclear accidents and the harmful effects of radiation exposure.

6. Review of draft Standards and Document Preparation Profiles

During the third four-year term, the Commission reviewed 27 draft Safety Standards. The list of endorsed Safety Standards and Document Preparation Profiles (DPPs) is provided in Appendix 5.

The draft Standards endorsed included the new Safety Fundamentals SF-1 and 5 Safety Requirements in the area of Management Systems, Decommissioning, Fuel Cycle Facilities, Transport Safety and Disposal of Radioactive Waste. This resulted in the two highest Safety Standards Categories being completed with the exception of the draft Safety Requirements on Safety Assessment and Verification, which is currently with the Member States for comments and the integration in the overall structure of the revision of the Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources.

The Commission also reviewed 50 Document Preparation Profiles. They related to the proposal for 39 new Safety Standards and 11 revisions of existing Safety Standards publications. In a number of occasions, the Commission requested further detailed review by the relevant Safety Standards Committees before approving the DPP. The Commission through the 4-year period reviewed more and more carefully these DPPs with a view to ensuring that there was enough justification for the proposal of new Safety Guides.

7. Future work

The activities that the Commission has started toward the development, in two steps, of an integrated structure for the Safety Standards are fundamental. The future development - starting by an overall evaluation of its impact for the Member States and the Secretariat and of the resources needed for the implementation of the process- will require a strong involvement and leadership from the member of the Safety Standards Committees, the Commission on Safety Standards and the Secretariat. A dedicated management structure with adequate resources will need to be established. The first step on completion of the current set of Safety Standards is a crucial step that will need to be implemented such that it permits and facilitates the achievement of the ultimate objective at the second step.

In this regards, the Commission welcomes the current development of a Management System that articulates in a comprehensive manner the mandate of the Agency, the vision for the safety standards, the set of policies and strategies and the derived processes and procedure so as to achieve the long term vision on the Safety Standards. It is looking forward to its presentation to the Committees and the Commission in 2008.

In addition to the development of the long-term structure for the Safety Standards, the Commission identified a number of key issues in terms of strategy, content of the safety standards and processes that the commission recommend for consideration and prioritisation during the next four-year term.

The future revision of the Safety Standards will be an opportunity to benefit from the increasing use of the standards by Member States and therefore an opportunity to better reflect the good and best practices in Member States, the feedback from the latest experience and technology development as well as the lessons learned from incident and accidents.

The safety standards should guide the States embarking on nuclear power programmes on the necessary safety infrastructure taking into consideration the report being prepared by the International Nuclear Safety Group INSAG. It will be particularly important to start the preparation of a document on how to progressively apply the safety standards.

In this regard it will be useful to further strengthen the exchange of information on the advising activities of INSAG and the CSS activities on the Safety Standards, which both aim at continuously enhancing the level of safety worldwide.

Issues related to a new generation of nuclear reactor designs, the quality of construction and commissioning of new plants and the manufacturing of components and new applications of radiation

sources give rise to the need for new thinking on safety issues. Such developments will indicate an increased need for harmonization of the national regulation and may require additional safety standards or new considerations in the possible revision of existing standards.

The extension of the operating lifetimes 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 are not really new but are giving rise to pressing concerns in a number of Member States to be well covered by the future safety guides on these issues.

Likewise, seismic safety issues and the need to consider the potential consequences of earthquakes in new designs and ageing management of operating NPPs' structures, systems and components will need to be addressed.

Over the last four years, it was also recognized that there are a number of issues in the waste safety areas and the radiation safety areas where further development is needed. Among those, the CSS identified as a first list of topical issues the need for guidance on the safety of uranium mining activities, for guidance on public exposures to natural sources of ionizing radiations (radon, NORM residues, …) and also a crucial need to further improve promotion of the application of the safety standards on medical applications and to enhance these standards as appropriate. .

An approach to the question of how best to deal with the interface between safety and security will have to be developed and implemented to ensure that Safety measures and security measures must be designed and implemented in an integrated manner so that security measures do not compromise safety and safety measures do not compromise security. A practical first step could be to implement a systematic review of draft safety standards by experts in the security area and of the draft security series publications by experts in the safety area.

The publication and translation of the IAEA Safety Glossary is a great achievement and efforts should be pursued to further harmonized the terminology used throughout the Safety Standards Series and ensure that these terms can be easily translated in different languages also considering the legal aspects involved.

Last but not least, the CSS role in promoting the use of the Safety Standards should take an important place in the future CSS activities.

8. Conclusion

The third four-year term of the Commission on Safety Standards has continued the good work of the first two terms and delivered significant achievements with the successful implementation of the Action Plan approved by the Board of Governors in 2004 and the almost completion of the two highest Safety Standards categories. The approval and publication in 2006 of the integrated Safety Fundamentals is undoubtedly the main achievement of this term. It provides a strong foundation for the future work of the Commission with a reflection on how to better integrate at the Requirement level the whole collection of Safety Standards adopting a two steps evolutionary approach.

There is now a worldwide recognition that the IAEA Safety Standards constitute the global reference for the high level protection of people and the environment against ionizing radiation. This has led to an increased use of them by the Member States. With the almost completion of the collection and in addition to the future integration, there will also be an evolution from the establishment of Safety Standards to more review/revision and overall maintenance and continuous improvement activities. In doing this it will be essential to better benefit form the experience feedback from the user with a systematic and efficient feedback collection and analysis mechanism.

As Chairman of the Commission since 2005, I would firstly like to thank Laurence Williams, chairman during the first year of this term for his impulsion which resulted in many of the achievement. 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 like to mention the continuous and high support from the IAEA Director General to the Commission's activities. His impulsion toward integration of the Safety Fundamentals and further integration of the whole Safety Standards series provided the driving force that greatly contributed to the success.

Finally I would 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 well recognized quality of the Safety Standards, with a special mention to the support and dedication of the Scientific Secretaries Ahmad Karbassioun and Dominique Delattre.

APPENDIX 1

TERMS OF REFERENCE

COMMISISON 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.
- 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 2004-2007

Argentina: A. Oliviera and Mr. A. J. González

Australia: J. Loy

Brazil: A. Caubit da Silva, A. Souza de Assis and L.A. Vinhas

Canada: J.K. Pereira

China, People's Republic of: G. Li

Czech Republic: D. Drabova

Denmark: K. Ulbak

Egypt: S. Abdel-Hamid

France: A.-C. Lacoste (Chairman 2005-2007), Jean-Luc Lachaume

Germany: D. Majer

India: S. Sukhatme and S. Sharma

Israel: I. Levanon

Japan: K. Abe, E. Hiraoka and A. Fukushima

Korea, Republic of: Y-S. Eun

Pakistan: J. Hashmi

Russian Federation: A. B. Malyshev, N. Yurasov and S. Adamchik

South Africa: M. Magugumela

Spain: J.A. Azuara

Sweden: L-E. Holm

Switzerland: U. Schmocker

United Kingdom: L.G. Williams (Chairman 2004) and Mike Weightman

United States of America: M. Virgilio

International Organizations (observers):

European Commission: C. Waeterloos

OECD Nuclear Energy Agency: K. Shimomura and T. Tanaka

Chairperson of the Safety Standards Committees:

NUSSC: L. Reiman

RASSC: I. Robinson and S. Magnusson

TRANSSC: C.N. Young, P. Colgan and J. Duffy

WASSC: L. Baekelandt and T. Pather

Scientific Secretary: A. Karbassioun and D. Delattre

APPENDIX 3

STATEMENT BY THE CSS

(Beyond the Action Plan on the Development and Application of Safety Standards)

The CSS recognizes that the quality of the Safety Standards in the new IAEA Safety Standards Series has been significantly enhanced, considering in particular that their content increasingly reflects good international practices and some of the best international practices.

With the aim of maintaining a continuous improvement, the CSS welcomes the report prepared by the Secretariat, which describes the achievements under the Action Plan, identifies new challenges and presents ways to respond to these in the future.

The CSS agrees that there are challenges giving rise to a need for further rationalization of the Safety Standards programme, including:

- the approval for publication of the unified Safety Fundamentals publication as the primary standard for the Safety Standards Series, which calls for a review of the relationship between the Safety Fundamentals and the various Safety Requirements;

- the increasing use of the IAEA Safety Standards by the Member States, which calls for greater stability;

- the strategic interest of achieving better international recognition and use of the Safety Standards as a reference and in particular of seeking joint sponsorship of the standards with other international organizations.

The CSS therefore supports the proposals from the IAEA Secretariat and requests it to elaborate on them further and to propose at its next meeting in November 2006 a policy paper together with a revised overall structure for the Safety Standards, which should:

- propose 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.

For the transition period, an analysis of the differences between the proposed future set and the current set should be presented, together with a proposal for prioritization of the work to be done.

Moreover, the CSS requests the Secretariat to analyze the potential need for more detailed publications to assist the Member States in implementing the recommendations of the Safety Standards. The CSS, in view of the link with the Safety Standards publications and the actual use of these technical documents by a number of Member States, is of the opinion that it may be useful to consider identifying a dedicated category for these publications as well as a dedicated, clear and flexible process for their review.

The CSS considers that continuous improvement relies on a strong commitment by, and shared responsibilities between, the CSS, the Safety Standards Committees and the IAEA Secretariat, and is looking forward to considering the proposal from the Department of Nuclear Safety and Security management team after discussion at the Committees.

APPENDIX 4

REVISED DRAFT ROADMAP from the CSS Task Force on the Long-Term Structure for Safety Standards (30 November 2007)

1) The fundamental safety objective is to protect people and the environment from harmful effects of ionizing radiation.

2) Ten Safety Principles presented in SF-1 form the basis upon which Safety Requirements are developed and safety measures are implemented in order to achieve the fundamental safety objective.

3) Arriving at a unified set of Safety Fundamentals has been a difficult task. It constitutes an important evolution, and not a revolution, and must be considered as a key milestone in a continuous improvement process.

4) There is now a unique opportunity to draw the inferences from the publication of the single set of Safety Fundamentals and use a combination of a top-down approach and a Requirements gap analysis for the identification of the most efficient and effective structure for the set of Requirements needed to ensure their implementation. The long-term structure should keep the current hierarchy with three levels and take into account the need for stability in regulatory approaches.

5) The intention is to establish a General Safety Requirements integrating all thematic areas in a coherent and harmonized set of publications, complemented by a series of facilities and activities specific Safety Requirements. The complete set of Safety Requirements should address all radiation exposure situations (actual and potential). The General Safety Requirements should apply to any facility/activity (as defined in the footnote of the paragraph 1.9 of the Fundamental Safety Principles SF-1), whereas the others should apply to specific facilities/activities.

6) Integration of safety related security issues should also be considered. Safety measures and security measures must be designed and implemented in an integrated manner so that security measures do not compromise safety and safety measures do not compromise security.

7) The treatment of NORM, radon and medical activities needs to be carefully considered and enhanced as appropriate.

8) Future documents should be user friendly; therefore, the concept of "user friendliness" must be clarified, keeping in mind that in most cases the national authorities and in particular the regulators are the principal users of the Standards. The future collection of Safety Standards should also be manageable and therefore consist of a manageable number of publications each of them being as concise as possible and addressing the essence of the safety issues.

9) The final aim of the process is a clear and complete set of Safety Requirements. But the process itself should be stepwise and flexible. Sufficient time must be devoted to achieving a consensus on the long-term structure. A rigorous process must be in place to ensure a strong consensus and a clear benefit for all changes from the current structure. This should include an evaluation of the overall impact for the Member States and the Secretariat and of the resources needed for the implementation of the process.

10) The work to be done cannot just be given to the Secretariat. There must be a personal involvement and leadership of the members of the Committees and the Commission, as it was the case for the Safety Fundamentals. The Task Force (involving the CSS and Committee chairmen as well as the NS managers) should further study how to achieve the ultimate objective of establishing the General Safety Requirements.

11) The BSS is being revised. The result will be a key element among the thematic requirements. It will integrate the new ICRP recommendations. The revision of the BSS should be pursued according to the approved DPP. The possibility of further extending its scope in a second step should be considered so that it can serve as the basis for the future General Safety Requirements. Like for the revision of the BSS, it will involve close consultation of, and collaboration with co-sponsoring organizations about the relationship between the revised BSS and the General Safety Requirements.

ANNEX A

Safety Standards User-Friendliness

With a view to facilitating the use of the Safety Standards by the Member States, the Safety Standards should be user-friendly. This involves the following main aspects:

- The users of Safety Standards in the Member States differ depending on the category of Safety Standards. In any case, the direct users are the regulatory bodies and other relevant national authorities. The Safety Standards are de facto also used by co-sponsoring organizations, many organizations that design, manufacture and operate nuclear facilities as well as organizations involved in the use of radiation related technologies;

- The structure of Safety Standards should be such that the users may easily identify among the whole collection of Safety Standards those that are particularly applicable to the specific facility or activity they are dealing with. The application of this concept is reflected by a Safety Standards Structure with thematic safety requirements and guides applicable to all facilities and activities complemented by a set of facility/activity specific safety requirements and guides;

- The overall number of Safety Standards should be manageable. The application of this concept is reflected through the proposal for the long-term collection of Safety Standards;

- The format and style of the Safety Standards and particularly the Safety Requirements should facilitate their use for the establishment of the regulatory framework in the Member States. The Safety Requirements in the future will therefore be written in regulatory style (shall statements) with a discrete set of requirements followed, when necessary by short explanations. To the extent practicable the structure and layout of the Safety Standards Series documents should be uniform;

- The use of cross-references should be optimized. When small parts of other Safety Standards publications are to be used, it will be preferred to copy these. When large parts of other Safety Standards are to be referenced, the cross-referencing without duplicating the text will be the preferred option. The application of this concept will be facilitated with the long-term structure through the integration of all the thematic Safety Requirements into one publication which will then prevent the need for many cross-references. It will also be facilitated by the use of a numbering system for each individual discrete requirement and modern IT techniques so as to help building a logical relationship between the set of safety requirements and the set of safety guides. Thus, after completion of the set of Safety Requirements, the subsequent revision of Safety Guides will refer to these numbers;

- The terminology used should be harmonized throughout the Safety Standards Series and such that the terms can be easily translated in different languages also considering the legal aspects involved; and

- The Safety Guides are currently complemented by TECDOCs and Safety Reports. Part of this material could be incorporated as annexes to the future Safety Guides.

ANNEX B

Format for the Safety Requirements

As indicated in the CSS Subgroup report part A, it is proposed to adopt for all Safety Requirements a format similar to the one used for the Fundamental Safety Principles with a discrete set of requirements followed by explanatory text, as necessary. It is expected that the level of detail in each chapter will be similar (annex IV of the CSS subgroup report par A elaborates on a better definition of the level of the Safety Requirements with some examples). The main reasons are as follows:

- In term of user-friendliness, the format and style of the Safety Standards should facilitate their use for the establishment of the regulatory framework (see annex A to the roadmap on user-friendliness). The Safety Requirements should be short enough to encourage their reading and actual use in the Member States;
- In the current set of Safety Requirements, references are often made to specific concepts but their explanation is given in many cases in the subsequent Safety Guides. In the future, it is expected that the explanation of the concepts will be provided in the Safety Requirements so as to facilitate their interpretation for use in establishing national regulatory requirements. The purpose of the Safety Guides will not be to explain these concepts but to focus on the recommendations on how the requirements can be implemented;
- In addition, each individual discrete requirement will be allocated a number which, by appropriate references in the Safety Guides, will help building a logical relationship between the set of safety requirements and the set of safety guides. Thus, after completion of the set of Safety Requirements, the subsequent revision of Safety Guides will refer to these numbers; and
- Requirements must address what must be achieved/done while the guides will address how this could be achieved/done.

ANNEX C

Strategy for work on Safety Guides

The following strategy has been established to guide work on Safety Guides. It was described in the CSS Subgroup report part B:

Goals:

• To be responsive to the needs of Member States;

• To limit the burden to the Secretariat, the members of the Committees, the Commission and the Member States as well as ensuring stability in the set of Safety Guides, the complete set proposed is established on the basis of recently published Safety Standards and those in development;

• To have a manageable number of standards by:
- Limiting the number of Safety Guides in the thematic areas to those of a generic nature;
- Developing Safety Guides in the facility specific areas that cover the whole lifetime of the facility (site evaluation, design, commissioning, operation and decommissioning);
- Identifying among the facility specific guides those that may be applicable to several types of facilities so as to avoid the establishment of guides addressing the same topical issue for different types of facilities/activities;
- Including, wherever possible, additional topics as part of the revision of existing Safety Guides, rather than by developing new Safety Guides.

Strategy:

Therefore, in terms of process for the decision to work on safety guides, separate consideration will be given to the revision of existing guides and to the proposal for of new guides. In the later case:

A report should be prepared to justify the need of additional topics to be addressed in Safety Guides. It should indicate to which Safety Requirements the proposed additions relates and presents the overall coverage (scope and issues addressed) of the current set of Safety Guides implementing these requirements.

The report should also review the status of these safety guides and indicate the time-frame expected for their next revision. In most cases, it will be possible to address the additional need by expanded the scope of an existing guide at its next revision.

Therefore, a proposal for the establishment of a new Safety Guides in the whole collection, together with a "SPECIAL DPP FOR ADDITIONAL PUBLICATION" will be considered by the Secretariat, the Committees and the Commission only if there is a justification for an urgent need and either:

1- This need cannot be achieved by expanding the scope of an existing Safety Guide; or

2- This need could be addressed by expanding the scope of an existing Safety Guide, but it is not expected to revise this Guide sufficiently soon to address the urgent need. In this case, the Special DPP will contain an additional line in the production section indicating to which Safety Guide the material will be later integrated and the related target date for integration so as to maintain as far as possible the initial closed set of Safety Guides.

A section should be added to each DPP on justification of the proposed publication in terms of member states need, result of gap analysis, expected safety improvements, overall cost/benefit. This should apply equally to documents being revised as well as new documents being proposed.

APPENDIX 5

List of endorsed draft Safety Standards in the period 2004-2007

DS298 SF-1 Fundamental Safety Principles (2006)

Emergency Preparedness and Response

DS105 GS-G-2.1 Arrangements for Preparedness for a Nuclear or Radiological Emergency (2007)

Management Systems

DS338 GS-R-3 The Management System for Facilities and Activities (2006)

DS339 GS-G-3.1 Application of the Management System for Facilities and Activities. (2006)

DS315 The Management System for Technical Services in Radiation Safety

DS336 Management System for the Processing, Handling and Storage of Radioactive Waste

DS337 Management System for the Disposal of Radioactive Waste

Radiation Safety

DS161 RS-G-1.7 Application of the Concepts of Exclusion, Exemption and Clearance (2004)

DS343 RS-G-1.9 Categorization of Radioactive Sources (2005)

DS114 RS-G-1.10 Safety of Radiation Generators and Sealed Radioactive Sources (2006)

Decommissioning and Termination of activities

DS333 WS-R-5 Decommissioning of Facilities Using Radioactive Material (2006)

DS332 WS-G-5.1 Release of Sites from Regulatory Control upon the Termination of Practices (2006)

Remediation

DS172 WS-G-3.1 Remediation Process for Areas affected by Past Activities and Accidents(2007)

Transport Safety

TS-R-1 Regulations for the Safe Transport of Radioactive Material 2005 Edition

DS377 TS-G-1.3 Radiation Protection Programmes for Transport Radioactive Material (2007)

DS346 Advisory Material for the IAEA Regulations for the Safe Transport of Radioactive Material

DS326 Management System for the Safe Transport of Radioactive Material

Nuclear Power Plants

DS313 NS-G-1.13 Radiation Protection Aspects of Design for Nuclear Power Plants (2005)

DS288 NS-G-2.11 A System for the Feedback of Experience from Events in Nuclear Installations (2006)

DS347 Conduct of Operations at Nuclear Power Plants

Research Reactors

DS259 NS-G-4.1 Commissioning of Research Reactors (2006)

DS260 NS-G-4.2 Maintenance, Periodic Testing and Inspections of Research Reactors (2006)

DS350 Core Management and Fuel Handling for Research Reactors

DS261 Operational Limits and Conditions for Research Reactors

DS325 The Operating Organization and the Recruitment, Training and Qualification of Personnel for Research Reactors

Fuel Cycle Facilities

DS316 Safety of Fuel Cycle Facilities

Waste Disposal Facilities

DS154 WS-R-4 Geological Disposal of Radioactive Waste (2006)

List of DPPs reviewed in the period 2004-2007

Legal and Governmental Infrastructure

DS415 Governmental and Regulatory Framework for Nuclear, Radiation, Radioactive Waste and Transport Safety, revision of GS-R-1

DS416 Licensing Process for Nuclear Installations, to be combined at step 2 with the revisions of GS-G-1.1 to 1.4, WS-G-2.3 and WS-G-5.1

Management Systems

DS349 Management Systems for Nuclear Installations

Assessment and Verification

DS348 Safety Assessment and Verification

DS365 Risk-Informed Decision Making

DS407 Criticality Safety

Site Evaluation

DS417 Hydrological and Meteorological Hazards in Site Evaluation for Nuclear Installations, revision and combination of the Safety Guides NS-G-3.4 and NS-G-3.5

Radiation Protection

DS379 Revision of the International BSS

DS401 Justification of Practices

DS400 Protection of the Public against Exposure to Ionizing Radiation from Natural Sources (see DS421)

DS421 Protection of the Public against Exposure to Natural Sources of Radiation including NORM residues, DPP revised for the combination of the proposed Safety Guides DS352 and DS400, whose DPP were already approved by the CSS

Radioactive Waste Management

DS353 Predisposal Management of Radioactive Waste, revision of WS-R-2

DS352 Management of Waste Containing Naturally Occurring Radioactive Materials (see DS421)

DS390 Classification of Radioactive Waste

Decommissioning

DS376 Safety Assessment for Decommissioning of Facilities using Radioactive Material

DS402 Decommissioning of Nuclear Power Plants and Research Reactors, revision of WS-G-2.1

DS403 Decommissioning of Medical, Industrial and Research Facilities, revision of WS-G-2.2

DS404 Decommissioning of Nuclear Fuel Cycle Facilities, revision of WS-G-2.4

Transport Safety

DS345 Regulations for the Safe Transport of Radioactive Material, revision of TS-R-1

DS327 Compliance Assurance for the Safe Transport of Radioactive Material

DS377 Radiation Protection Programmes for Transport Radioactive Material

DS387 Schedules of Provisions of the IAEA Regulations for the Safe Transport of Radioactive Material

Safety of Nuclear Power Plants: Design

DS414 Safety of Nuclear Power Plants: Design, revision of NS-R-1

DS367 Safety Classification of Structures, Systems and Components in Nuclear Power Plants

DS395 Deterministic Safety Analyses and their Application for Nuclear Power Plants

DS394 Development and Application of Level 1 PSA for Nuclear Reactors

DS393 Development and Application of Level 2 PSA for Nuclear Power Plants

Safety of Nuclear Power Plants: Operation

DS413 Safety of Nuclear Power Plants: Operation, revision of NS-R-2

DS382 Ageing Management for Nuclear Power Plants

DS383 Seismic Evaluation of Existing Nuclear Facilities

DS385 Severe Accident Management Programme for Nuclear Power Plants

DS388 Chemistry Programme for Water Cooled Nuclear Power Plants

Safety of Research Reactors

DS340 Radiation Protection and Radioactive Waste Management in the Design and Operation of Research Reactors

DS350 Core Management and Fuel Handling for Research Reactors

DS351 Grading the application of the Safety Requirements – A guidance for Research Reactors

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

DS397 Safety in the Use and Modification of Research Reactors

DS412 Ageing Management for Research Reactors

Fuel Cycle Facilities

DS360 Safety of Reprocessing Facilities

DS371 Storage of Spent Fuel

DS381 Safety of Fuel Cycle Research and Development Facilities

Radiation related Facilities

DS399 Safety in Medical Uses of Ionizing Radiation

DS408 Radiation Safety in Industrial Radiography

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

DS410 Development of a national strategy for regaining control over orphan sources and improving control over vulnerable radioactive sources

DS411 Orphan Radioactive Sources and Radioactively Contaminated Material in the Metal Recycling Industry

Waste Disposal Facilities

DS354 Disposal of Radioactive Waste, revision of WS-R-1 and WS-R-4)

DS355 The Safety Case and Safety Assessment for Radioactive Waste Disposal Facilities, revision of WS-G-1.1

DS356 Near Surface Disposal Facilities

DS357 Monitoring and Surveillance of Radioactive Waste Disposal Facilities