16 November 2015

Commission on Safety Standards

Thirty-seventh Meeting

20-22 April 2015

IAEA Headquarters, Vienna

Report of the Meeting

Overview of main results of the meeting

A. The following draft Safety Standards were endorsed for publication:

- DS447: Predisposal Management of Radioactive Waste from Nuclear Fuel Cycle Facilities (revision of WS-G-2.6)
- DS448: Predisposal Management of Radioactive Waste from Nuclear Power Plants and Research Reactors (revision of WS-G-2.5)
- DS453: Occupational Radiation Protection (revision and combination of RS-G-1.1, RS-G-1.2, RS-G-1.3, RS-G-1.6 and GS-G-3.2)

B. The following DPPs were approved:

- DS489: Storage of Spent Nuclear Fuel (revision by amendment of SSG-15)
- DS490: Seismic Design and Qualification for Nuclear Power Plants (revision of NS-G-1.6)
- DS491: Deterministic Safety Analysis for Nuclear Power Plants (revision of SSG-2)
- DS492: Human Factors Engineering in Nuclear Power Plants

C. The Commission agreed that the Safety Requirements reflect appropriately the principles of the Vienna Declaration of Nuclear Safety and as such do not require further review or revision in this respect. Rather the Safety Guides should now be the focus. The Commission requested that it be kept informed on the progress in reviewing the Safety Guides, and further requested that NUSSC be involved for the review of specific Safety Guides.

D. The members of the Commission presented a range of different views on the proposed establishment of a new committee on emergency preparedness and response, and requested that the Deputy Director General take these views into account in deciding whether to establish such a committee.

1. Opening Session

1.1 Opening of the Meeting

Mr Khammar Mrabit, Director of the Division of Nuclear Security and acting Deputy Director General of the Department of Nuclear Safety and Security, opened the 37th meeting of the Commission on Safety Standards and welcomed all members. He thanked the CSS for its efforts in achieving wider interest in and use of the Safety Standards worldwide as observed today. He noted that the work and achievements of the Commission were vitally important for continuous improvements in the Global Nuclear Safety and Security Framework, which, in turn, supported international efforts aimed at ensuring high levels of safety in countries with mature nuclear programmes and in those considering or embarking on new nuclear energy programmes.

Mr Mrabit noted that the IAEA Safety Standards and their application, in particular the peer reviews and advisory services, both at national and international levels, were essential components that support the harmonized implementation of international instruments such as the Convention on Nuclear Safety and the Joint Convention, and the development of effective national safety infrastructures. The IAEA Safety Standards were among the key instruments for sharing and applying knowledge among nuclear safety professionals worldwide.

Mr Mrabit informed members of the forthcoming Senior Regulators' Meeting, to be held during the General Conference in September 2015. As in previous years, there would be two parts to the meeting: a morning session on the security of radioactive material (last year it had been on the security of nuclear material); and an afternoon dedicated to long term operation and ageing and the corresponding regulatory challenges.

On the recent Diplomatic Conference and Vienna Declaration on Nuclear Safety, Mr Mrabit noted that it would be important to address the specific request made by the conference to the Director General to ask the CSS what implications this Declaration had on the safety standards, particularly the Safety Guides since the principles of the Declaration were already quite well covered at the Safety Requirements level.

Another important item on the agenda of this meeting was a document describing the rationale for the establishment of an Emergency Preparedness and Response Standards Committee (EPReSC), as an additional Safety Standards Committee, which would be established in the same way as the existing four Safety Standards Committees. The objective was to improve the contribution of emergency preparedness and response subject matter experts to the development of IAEA Safety Standards and to strengthen coordination of emergency preparedness and response within the IAEA Safety Standards. Creation of this committee under the CSS would better engage the emergency preparedness and response community in the overall process for the development of IAEA Safety Standards, provide feedback and recommendations to the Agency on the emergency preparedness and response programme and areas for improvement, and contribute to greater transparency, consensus, quality, coherence and consistency in relation to emergency preparedness and response in the development of IAEA Safety Standards. The views of the Commission would help the Deputy Director General of the Department of Nuclear Safety and Security in the process of establishing such a Committee.

The Secretariat would also provide a progress report on the development of the future IT platform for the feedback mechanism and the review/revision/publication of safety and security publications. The end of stage II of the project had now been reached and testing of the functionality of the system had been started.

Finally, Mr Mrabit introduced and welcomed the new Director of the Division of Nuclear Installation Safety, Mr Greg Rzentkowski.

Mr Mrabit concluded by wishing all participants a very productive session.

1.2 Introductions, Adoption of the Agenda, Approval of the 37th CSS meeting report

Mr A. Gurguí Ferrer, acting Chair of the Commission, welcomed all participants. He noted with regret

the absence of Ms D. Drábová and appreciated the trust placed in him to act in her stead. Mr Gurguí Ferrer welcomed Mr R. Awad, the new Chair of the Advisory Group on Nuclear Security, as observer to the Commission.

A complete list of participants is included as Annex I.

The provisional agenda was approved and is provided in Annex II.

Mr Gurguí Ferrer informed the Commission that the draft report of the 36th CSS meeting had been made available. Comments had been received from Argentina and these had been addressed.

The report of the 36th CSS meeting was approved, subject to these comments, and would be uploaded to the CSS web site [Annex III, Action 37.01].

1.3 Administrative arrangements for the meeting, status of the main topics for the 5th CSS term, status of endorsed standards, response to actions from the 36th Meeting

Mr D. Delattre informed the Commission of administrative arrangements for the meeting. He noted that all material had been made available more than two months in advance of the meeting for effective review by the Commission. He also indicated that, as requested by the Commission, his detailed presentation on the standards had been uploaded to the CSS web site in advance of the meeting.

Mr Delattre presented the status of the few outstanding main topics for the 4th CSS term and the main topics for the 5th CSS term (see Annexes IV and V) and the status of the roadmap for the long term structure of the General Safety Requirements and the Specific Safety Requirements.

Mr Delattre also presented the status of the endorsed safety standards. He informed the Commission that one safety standard had been published since the last CSS meeting and provided details on 13 further safety standards, endorsed by the Commission, that were being published. Lists of currently valid, published standards, projects and draft standards under preparation/revision and drafts of the Nuclear Security Series that are interface documents are included as Annexes VI, VII and VIII, respectively[1].

Mr Delattre also provided information on the response to the few outstanding actions from 34th and 35th CSS meetings and the actions from the 36th CSS meeting (see Annex IX).

Mr Delattre also reported on the topics planned for the 2015 Senior Regulators' Meeting, to be held in September during the IAEA General Conference. The morning session would cover Regulatory Challenges for the Security of Radioactive Material and Associated Facilities, while the topic of the afternoon session would be Ageing Management and Long Term Operation of Nuclear Power Plants.

2. End of Term Reports from the Safety Standards Committees meetings and information on the meetings of the Nuclear Security Guidance Committee

2.1 Nuclear Safety Standards Committee (NUSSC)

Mr F. Feron, NUSSC Chair, reported on the 38th NUSSC meeting, which had been held in part jointly with RASSC and WASSC. NUSSC had approved three standards for submission to the CSS (DS453, DS447 and DS448), five standards for submission to Member States for comment (DS427, DS442, DS432, DS476 and DS452) and four DPPs (DS489, DS492, DS490 and DS491). NUSSC had also cleared drafts and DPPs of the Nuclear Security Series (NST020, NST041 and NST051). Mr Feron's presentation is available on the CSS web site.

NUSSC had also discussed the development of a draft TECDOC on considerations on the application of the IAEA Safety Requirements on Safety of Nuclear Power Plants: Design (SSR-2/1), which would document the basis and explain the concepts of SSR-2/1 more fully. Mr P. Webster reported that work

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[1] Comprehensive, up-to-date information on the status of all standards, published and in draft, as well as on the status of all drafts of the Nuclear Security Series that are interface documents, is available at http://www-ns.iaea.org/committees/files/CSS/205/status.pdf

was currently underway, but that it was anticipated that some issues would need to return to NUSSC for clarification.

2.2 Waste Safety Standards Committee (WASSC)

Mr G. Williams, WASSC Chair, provided a presentation on the 38th WASSC meeting, which had been held in part jointly with NUSSC and RASSC. WASSC had approved three standards for submission to the CSS (DS453, DS447 and DS448), five standards for submission to Member States for comment (DS427, DS442, DS432, DS476 and DS452) and three DPPs (DS489, DS492 and DS491). WASSC had also cleared drafts and DPPs of the Nuclear Security Series (NST020, NST041 and NST051). Mr Williams' presentation is available on the CSS web site.

On the issue of the definition and use of dose constraints in relation to optimization, which had arisen in discussions on DS442, Mr C.-M. Larsson reported on the apparent confusion whereby a prescribed constraint is perceived as a regulatory limit, rather than as an incentive for optimization. An analogous issue was also relevant for the setting of reference levels for emergency response. Mr Williams and Mr T. Colgan indicated that the guidance in draft DS442, as now submitted to Member States for comment, was considered sufficiently general and flexible for the range of situations encountered in different Member States. It was not to be expected that consensus could be reached on a particular numerical value in this respect.

2.3 Radiation Safety Standards Committee (RASSC)

Mr G. Massera, RASSC Chair, provided a presentation on the 37th RASSC meeting, which had been held in part jointly with NUSSC and WASSC. RASSC had approved three standards for submission to CSS (DS453, DS447 and DS448), five standards for submission to Member States for comment (DS399, DS427, DS442, DS432 and DS476) and one DPP (DS491). RASSC had also cleared drafts and DPPs of the Nuclear Security Series (NST020, NST041 and NST051). A topical session had been held on radon exposure in homes, and discussions had also covered the attribution of health effects and inference of risk; activity concentrations for food and drinking water in non-emergency situations; and surface contamination of non-food commodities. RASSC established two working groups for future work in relation to attribution of health effects and inference of risk, and surface contamination of non-food commodities. Mr Massera's presentation is available on the CSS web site.

Ms Larsson indicated that the UNSCEAR report on attributability was expected to be published in the coming months; the Secretary of UNSCEAR would provide an overview of the report at the next RASSC meeting. However, it was not anticipated that the content of the report would have direct implication for the standards, rather that the concept would be clarified.

Mr K. Shimomura reported, for the information of members, on a recent OECD/NEA document providing a Framework for the Post-accident Management of Contaminated Food.

2.4 Transport Safety Standards Committee (TRANSSC)

Mr P. Hinrichsen, Chair of TRANSSC, provided an overview of the 29th TRANSSC meeting. He reported on the four technical transport working groups that had been held, and indicated that the 2015-2016 review cycle of the Transport Regulations and associated Advisory Material was now underway. The Advisory Material and the Schedules supporting the 2012 edition of the Transport Regulations had now been issued, but it was hoped that resources could be found to translate the Advisory Material into all official languages. Mr Hinrichsen also reported that a joint TRANSSC/WASSC working group had prepared a draft TECDOC on preparation of the safety case for a dual purpose cask for storage and transport of spent fuel. He also reported on the establishment of several regional networks for transport safety. Mr Hinrichsen's presentation is available on the CSS web site.

2.5 Information on the sixth meeting of the Nuclear Security Guidance Committee (NSGC)

Mr I. Barraclough, Scientific Secretary of NSGC, provided information on the 6th NSGC meeting, on behalf of its Chair Mr Emi Reynolds. NSGC had reviewed drafts NST020, NST009, NST041 and

NST036 (draft Technical Guidance on computer security for I&C systems at nuclear facilities, and thus not an interface document, but which had also been presented for information to NUSSC and WASSC), and approved all but NST009. The DPP for NST051 had also been approved. All interface documents in the Safety Standards Series (DS447, DS448, DS476, DS452 and DS489), which were at various stages of approval, had been cleared too. NSGC had held discussions on the OIOS review of the committee structure, and had expressed their general support to maintaining the current structure for some more time. Mr Barraclough's presentation is available on the CSS web site.

Mr Mrabit reported that Member States had recently been invited to nominate members for the second term of NSGC, the first meeting of which would take place in June 2015.

In relation to the further development of the Nuclear Security Series Glossary, Mr Barraclough reported that a paper would shortly be issued identifying a number of priority terms where further work on the definition was needed. Terminology in the nuclear security area needed time to mature before a joint safety-security glossary could be established, but information in each glossary could be included to provide comment on selected concepts. Close cooperation was taking place throughout the Department, to try to harmonize concepts and avoid confusion.

2.6 Summary of the Meeting of the Chairs held on 4 November before the CSS meeting

Mr Delattre provided a summary of the meeting of the four Chairs of the SSCs, and presented an overview of the main topics discussed:

- The candidature of the EUR utilities (the European electricity utilities involved in the making of the European Utility Requirements document) had been accepted for NUSSC, RASSC and WASSC, while for NSGC a decision would be made at the next meeting.
- The Chairs had not reached a clear conclusion on the establishment of a new Safety Standards Committee on Emergency Preparedness and Response (EPReSC) (see item 6.2)
- The issue of prioritization for the revision of the Safety Guides in light of lessons from the Fukushima Daiichi accident and of the Vienna Declaration on Nuclear Safety had been discussed (see item 3.1).

3. Review/revision of IAEA Safety Standards in light of the TEPCO's Fukushima Daiichi NPPs accident

3.1 Follow-up to the Vienna Declaration on Nuclear Safety

Mr Delattre introduced the request from the Contracting Parties to the Convention on Nuclear Safety to the IAEA Director General requesting him to transmit the Vienna Declaration to the CSS for its consideration of "the technical elements contained therein with a view to incorporating them as appropriate into the relevant IAEA Safety Standards". He also reported that the Director General had, in his request to the Chair of the CSS, Ms Drábová, considered "the progress achieved so far by the Commission on the revision of the relevant Safety Requirements" and so requested the views of the CSS as to "what actions the Commission recommends so as to ensure that the technical elements contained in the Vienna Declaration are incorporated and further developed in a timely manner in the relevant safety guides". Mr Delattre presented the table that had been provided to the Board of Governors on request at its March 2015 meeting, in which the content of the Vienna Declaration and the Safety Requirements was compared.

Mr Delattre proposed that the work on the relevant Safety Guides might be prioritized to address those Safety Guides already in the revision process, as listed in the following:

- DS479 - Operating Experience Feedback for Nuclear Installations
- DS481 - Design of the Reactor Coolant System and Associated Systems in Nuclear Power Plants
- DS482 - Design of Reactor Containment Systems for Nuclear Power Plants
- DS483 - Severe Accident Management Programme for Nuclear Power Plants

- DS484 - Site Evaluation for Nuclear Installation
- DS485 - Ageing Management and Programme for Long term Operation for Nuclear Power Plants
- DS487 - Design of Fuel Handling and Storage Systems for Nuclear Power Plants
- DS489 - Storage of Spent Nuclear Fuel
- DS490 - Seismic Design and Qualification for Nuclear Power Plants
- DS491 - Deterministic Safety Analysis for Nuclear Power Plants

And additionally the review of the following Safety Guides:

- SSG-25 - Periodic Safety Review for Nuclear Power Plants (for confirmation)
- NS-G-1.5 - External Events Excluding Earthquakes in the Design of Nuclear Power Plants
- NS-G-1.7 - Protection against Internal Fires and Explosions in the Design of Nuclear Power Plants
- NS-G-1.11 - Protection against Internal Hazards other than Fires and Explosions in the Design of Nuclear Power Plants
- NS-G-2.3 - Modifications to Nuclear Power Plants
- NS-G-2.6 - Maintenance, Surveillance and In-service Inspection in Nuclear Power Plants

Mr Delattre indicated those additional Safety Guides in red on his slide addressing prioritization of the Safety Guides (see agenda item 3.4), which is available on the CSS web site. He suggested that NUSSC also be requested for its views, before the Chair of the Commission responds to the Director General.

The members of the Commission agreed with the Secretariat's proposal that the Safety Requirements did not require further review or revision, but rather that the Safety Guides should now be the focus. The Secretariat was requested to keep the CSS informed on the progress in reviewing the Safety Guides, particularly with respect to the Vienna Declaration on Nuclear Safety. The CSS Chair should report to the IAEA Director General on the confirmation that the Safety Requirements reflect appropriately the principles in the Vienna Declaration and on the agreed approach, with involvement of NUSSC for the review of specific Safety Guides [Annex III, Action 37.02].

3.2 Progress report on DS462 (revision of GSR Part 1, NS-R-3, SSR-2/1, SSR-2/2 and GSR Part 4) and on the concomitant revision of GS-R-2 on Emergency Preparedness and Response (DS457) and of GS-R-3 on Leadership and Management System for Safety (DS456)

Mr Delattre reported that DS462 and DS457 had been approved by the Board of Governors, and that the Board had been informed that it was not expected that there would be any effect on these Safety Requirements in respect of the principles of the Vienna Declaration.

Ms H. Rycraft reported on the progress in the revision of GS-R-3 (DS456). The text had been significantly rewritten for clarity of language to ensure the safety intent was understood, to eliminate repetition, to improve the sequencing of the subject matter, to ensure the text can be related to known methods of implementation, and to enable representatives of TEPCO to be involved in consultancy meetings to ensure that issues relating to the Fukushima Daiichi accident were addressed. DS456 had now been submitted to the Safety Standards Committees for their review. She clarified that the scope covered all operating organizations and the regulatory body, but was not specifically addressed to vendors or suppliers.

3.3 Progress report on subsequent revision of the other Specific Safety Requirements (NS-R-4 and NS-R-5)

Mr D. Sears provided a progress report, which is available on the CSS web site. The revision of NS-R-4 (DS476) had been approved for submission to Member States for comment. The scope remained essentially unchanged, but subcritical assemblies were now covered, as was the interface between safety and security. Relevant feedback from the Fukushima Daiichi accident was also included, and guidance level material had been removed.

The revision of NS-R-5 (DS478) had been submitted to the Committees for their review. The scope remained essentially unchanged, but the interface between safety and security was now covered. Relevant feedback from the Fukushima Daiichi accident was also included, and guidance level material had been removed.

Mr Delattre confirmed that the IAEA and NEA were cooperating on work and activities relating to defence in depth, to enhance synergies.

3.4 Progress report on the review of Safety Guides

Mr Delattre showed again the slide of priority Safety Guides that had been considered under agenda item 3.1, and indicated the progress made so far in each individual area. The revisions of NS-G-1.10, NS-G-1.9 and NS-G-2.15 were the first three Safety Guides that had been identified as a pilot review and revision project, and drafting of these revisions was most advanced.

Mr Webster cautioned against identifying too many priorities and reminded that the revision of NS-G-1.5 was already in the list of priorities as identified by NUSSC in June 2013 as part of the second pilot study. Mr Gurguí Ferrer also urged caution so as to avoid changing guidance that remained valid, while not hesitating to include changes that would add value.

3.5 Future activities

Mr Delattre requested CSS members for suggestions of further work relating to the Fukushima Daiichi accident, beyond that covered under agenda items 3.1 to 3.4, which could enhance the standards. Some Safety Requirements had not been revised, and this had been an informed decision (e.g. SSR-5, SSR-6, and GSR Part 5). But it was possible that the parts of GSR Part 3 covering emergency preparedness and response might warrant some updating to ensure they are in line with GSR Part 7.

Mr Gurguí Ferrer confirmed the consensus of the Commission that work was progressing well. RASSC was requested to consider implications on GSR Part 3 of findings and lessons from the Fukushima Daiichi accident and of the new Safety Requirements in GSR Part 7 [Annex III, Action 37.03].

4. Approval of draft publications and DPPs

4.1 Draft Safety Guide DS447 on Predisposal Management of Radioactive Waste from Nuclear Fuel Cycle Facilities

Ms M. Kinker presented the draft Safety Guide and indicated its background, objectives and structure. She indicated that the comment received from India had been accepted. A comment had been received at a late stage from Israel. After some discussion, it was decided not to include this proposed change.

Ms Kinker's presentation is available on the CSS web site.

The Commission endorsed the draft for publication.

4.2 Draft Safety Guide DS448 on Predisposal Management of Radioactive Waste from Nuclear Power

Ms Kinker presented the draft Safety Guide and indicated its background, objectives and structure. She indicated that comments had been received from India and Pakistan. Additional comments had been received at a late stage from Israel Editorial comments and changes for clarification had been accepted, but there was some discussion as to whether technical comments were appropriate at this stage. Ms Kinker's presentation is available on the CSS web site.

Mr Williams requested CSS members to ensure that technical comments are made, not at this stage of the process, but rather at the Committee approval stage, so that representatives of Member States with the necessary technical expertise are aware of proposed technical changes to the text. Mr Gurguí

Ferrer supported this, and further requested CSS members to respect deadlines for commenting, so as to maintain the efficiency of the review and approval process.

The Commission endorsed the draft for publication.

4.3 Draft Safety Guide DS453 on Occupational Radiation Protection

Mr J. Ma presented the draft Safety Guide and indicated its background, scope and structure. It was anticipated that the Safety Guide would be cosponsored by the International Labour Office. Comments had been received from India, South Africa and Pakistan, and a table of resolution of the comments had been provided. Mr Ma's presentation is available on the CSS web site.

Mr Ma reported that a Technical Meeting had been held to discuss the application of the new requirements in GSR Part 3 on the dose to the lens of the eye, and reminded CSS members that an IAEA TECDOC on this topic is in preparation. Mr Williams indicated that it had been agreed at the Committees that guidance on dose implications for 'self-help' activities in remediation circumstances would be included in draft DS432 (draft Safety Guide on Radiation Protection of the Public and the Environment), rather than in DS453.

The Commission endorsed the draft for publication.

4.4 Draft DPP DS489 on Storage of Spent Nuclear Fuel

Ms Y. Kumano presented the draft DPP, which was for a revision by amendment of Safety Guide SSG-15. She set out the background, objectives and scope, and summarized the discussions that had been held at WASSC and NUSSC. No comments had been received from CSS members. Ms Kumano's presentation is available on the CSS web site.

The Commission approved the DPP.

Mr Delattre indicated to the Commission that this proposal for a revision by amendment was a process that would be used in the future, and that this approach would support the prioritization of the work on revision of the Safety Guides.

4.5 Draft DPP DS490 on Seismic Design and Qualification for Nuclear Power Plants

Mr F. Beltran presented the draft DPP, which was for a revision of Safety Guide NS-G-1.6. He set out the background and justification for the revision, and the place of the Safety Guides in the overall structure. He indicated that comments had been received from India and these had been accepted. Mr Beltran's presentation is available on the CSS web site.

The Commission approved the DPP.

4.6 Draft DPP DS491 on Deterministic Safety Analysis for Nuclear Power Plants

Mr P. Villalibre presented the draft DPP, which was for a revision of Safety Guide SSG-2. He set out the background and justification for the revision, and the implications of the Fukushima Daiichi accident on the revision. No comments had been received from CSS members. Mr Villalibre's presentation is available on the CSS web site.

The Commission approved the DPP.

4.7 Draft DPP DS492 on Human Factors Engineering in Nuclear Power Plants

Mr A. Duchac presented the draft DPP for a new Safety Guide. He described the justification for the Safety Guide, its proposed objective and scope, and summarized how implications from the Fukushima Daiichi accident relating to the human machine interface would be taken into account. Comments had been received from Japan, India and Pakistan. While some comments had been

accepted, the Secretariat proposed not to extend the scope to cover all nuclear installations, as an attempt to address the different purposes, layouts, operational states and accident conditions of different nuclear installations would lead to guidance that was too general to be useful. Mr Duchac's presentation is available on the CSS web site.

The Commission discussed the challenges of trying to 'scale' a standard for nuclear power plants to other types of nuclear installation; yet it was also agreed that it was not advisable to develop too many separate standards. Mr Delattre explained the policy in this regard: to the extent possible guidance in a new area should be included in the revision of an existing Safety Guide; if this was not practicable, then a new Safety Guide could be initiated. Mr Duchac also indicated the importance of the subject matter in making such a choice: the guidance for I&C systems and for electrical power systems was provided in separate Safety Guides for nuclear power plants and for research reactors.

Mr Hirano referred to a comment of Japan's, namely the need to address human and organizational factors, such as safety culture, in the design of the human machine interface. It was agreed to add an additional section to the draft Safety Guide, which could provide a general outline of relevant aspects of human and organizational factors.

The Commission approved the DPP, subject to the modification agreed.

5. DPPs for draft Nuclear Security Series publications for information

5.1 DPP NST051 on Security during the Lifetime of a Nuclear Facility

Mr A. Garrett presented the draft DPP for information. He explained that the draft had initially been proposed as Technical Guidance, and hence had not initially been an interface document. NSGC, at its meeting in November 2014, had however decided to approve the development of the draft as an Implementing Guide, meaning that interfaces with safety needed to be taken into account in the review and approval process. Mr Garrett set out the scope and objective of the draft, and indicated how the various phases in the lifetime of a nuclear facility are delineated in the safety, security and safeguards communities. Mr Garrett's presentation is available on the CSS web site.

In the discussion that followed, Mr Garrett explained that transport off the site was not within the scope of the draft. He also emphasized the importance of the safety-security interface at the stage at which operations have ceased but decommissioning has not yet begun.

6. Policy discussion

6.1 Presentation on the main results of recent OIOS reviews and their implications for the IAEA Safety Standards

Mr P. Woodhouse presented the outcomes of a recent OIOS evaluation on the IAEA Safety Standards for operation of nuclear power plants and research reactors and their role for the safety infrastructure of Member States. Several good practices had been identified, including praise for the standards development process, the structure of the standards, the review services, outreach activities, the future IT platform, and supporting publications such as TECDOCs and Safety Reports. Some of recommendations made by OIOS related to the further enhancement of the drafting, review and approval process and the feedback process, and further improvements in quality, including application of the Safety Glossary, and in the standards web site. Mr Woodhouse also confirmed that the good work of the standards committees and the CSS had been recognized by OIOS. Mr Woodhouse's presentation is available on the CSS web site.

The CSS requested the Secretariat to ensure that the implementation of actions in response to the OIOS recommendation to enhance the efficiency of the approval and publication processes reflects the need to ensure the quality of the standards as a primary consideration [Annex III, Action 37.04].

6.2 Establishment of an Emergency Preparedness and Response Standards Committee (EPReSC)

(For this agenda item, Mr A. González and Ms Drábová joined the meeting by video conference.)

Mr González provided a brief overview of the background to the establishment of the Committees and Commission, in the 1990s. At the time, it had been decided to use a structure that both reflected the organizational structure of the IAEA and provided continuity from earlier advisory groups in the various subjects. Around 10 years ago there had been an initiative to establish a Committee addressing emergency preparedness and response, but this had not been accepted at the time.

However, there was a need to approach the rationale for and structure of the Committees in a more logical way. It was Mr González's belief that the Committees would be better organized along thematic lines, rather than in accordance with the Agency's internal structure. As the Commission does not discuss technical issues, it was all the more important that the Committees have the necessary technical expertise.

Ms E. Buglova then provided a presentation on the proposal; the presentation is available on the CSS web site. The goal of such a committee was to strengthen the role of EPR subject matter experts in the overall process of establishing IAEA Safety Standards, by ensuring greater coordination and consistency of EPR aspects within the standards in a transparent manner and improved coordination of EPR between safety and security. Ms Buglova outlined the history, setting out major milestones, including the establishment in 2013 of the EPR Expert Group (EPREG), an advisory group to the DDG. She also indicated the extent of coverage of EPR in the standards and in the Nuclear Security Series, and noted that the current committees contain very few experts on EPR. She set out some general considerations for the proposed EPR committee (EPReSC), including its membership, processes, and working methods.

Ms Drábová indicated her support for the proposal. She noted that EPR is a cross-cutting area, which needs support from all committees, but also need specific experts to be able to create comprehensive and consistent standards. She recalled that much of the discussion on the draft GSR Part 7 had been challenging, owing to the absence of capacity in EPR within the committees. Furthermore, the existing EPREG could act as a cornerstone for the establishment of such a committee. She requested the members of the CSS to approach the proposal with an open mind.

Mr M. Weber felt there was a lot of merit to the proposal, but questioned whether RASSC had been consulted on the matter, as they currently had the lead role for EPR standards. He also drew attention to the issue of resources, noting that some Member States might be challenged in supporting another committee.

Mr M. Markovits recognized that EPR is an important area; however, he raised several concerns for consideration: the existing committees should deal with all levels of defence in depth within their respective areas, up to and including EPR if safety measures fail; experience until now has shown that indeed the existing committees are capable of addressing EPR issues; and EPR issues are in part, and should be, binding, and not exist only in standards. He proposed that EPR expertise within RASSC might be upgraded, and that joint meetings be better employed to enhancing dealings with EPR standards.

In response to the request from Mr J.-L. Lachaume for clarification on various matters, Ms Buglova indicated that the membership of EPReSC would be open to EPR experts in off-site and on-site authorities such as civil defence, civil protection, and coordinators of EPR activities at national and international levels. She also indicated that, on the establishment of EPReSC, EPREG would be discontinued to avoid duplication of resources. She acknowledged that EPR standards such as GSR Part 7 would not necessarily have been improved by the existence of a dedicated EPR committee; rather a greater concern was with those standards that contain only some elements of EPR. Within the Secretariat it was possible, thanks to the internal Coordination Committee, to maintain consistency,

but when such standards were sent for review by Member States, they were not necessarily reaching appropriate EPR subject matter experts. It was certainly undesirable to have inconsistent or conflicting messages in any area of EPR.

Mr Larsson voiced his support for the proposal, although he could see the resource challenge the establishment of a new committee might bring. However, he was not convinced that some of the arguments presented in support of the new committee were particularly robust. He gave the example of research reactors, for which there are many standards but no special committee. He also indicated that the issue of access to expertise is the same for other cross-cutting issues, not only for EPR. His reason for supporting the proposal was another, namely that the establishment of an EPR committee would enhance the integration of safety and security in the standards.

Mr I. Lund reported that the neither the Swedish regulatory body nor the Swedish government was strongly in favour of the proposal. In particular, there was concern that the IAEA was not the correct forum for liaison of civil defence expertise. He considered that further reflection was warranted before he could form a position, and that a broader view should consider the role and structure of all the committees. He was also unconvinced by the argument that an EPR committee would lead to more consistent commenting within Member States: he considered it was the responsibility of each Member State to circulate drafts properly and obtain the necessary expert opinion; failures in this respect might arise even with the existence of EPReSC.

Mr L. Reiman supported the proposal with respect to the issue of integration of safety and security. However, he was concerned that Finland would have to reduce its other work in EPR international activities in order to provide the necessary support and resources for a new committee. He also recommended looking at the role and structure of the committees as a whole.

Mr Webster did not take a position on the proposal. He noted the importance of joint meetings of the committees, in particular on cross-cutting issues, in the review and approval of standards. For the future, he noted that the IT platform would lead to revisions of standards on a topical basis rather than book by book, an issue which would necessarily lead to changes in approaches in the Secretariat and in Member States. He questioned whether the addition of a committee on one particular cross-cutting issue would help or hinder this work.

Mr M. Foy recognized the importance of EPR and questioned whether the Safety Standards Committees could be asked for their views on whether current arrangements are fit for purpose, and whether a further committee is required. He advocated a more fundamental, strategic approach, looking at the role and structure of the committees as a whole, and was very aware of the resource and funding challenges that such a new committee would bring for many Member States.

Mr A. Vorwerk indicated Germany's support, in principle, for the establishment of EPReSC. For clarification, he asked whether on-site EPR issues and the interface between on-site and off-site issues would be addressed within one of the current committees (in NUSSC, for example, for nuclear installations), or whether discussion on all EPR issues would now be concentrated in the new committee. Ms Buglova replied that the current committees could indeed continue to discuss, as appropriate, on-site/off-site EPR, and interface issues, as the last layer of defence in depth, but that it was clear that the approach and outcome would be enhanced by the inclusion of EPR subject matter experts.

Mr Gurguí Ferrer clarified Spain's approach: although it does not send an EPR expert to the various committees, indeed Spain does circulate all relevant drafts to EPR experts to ensure that the appropriate expertise is used in the review of drafts.

Mr M. A. Habib noted that in the past there had sometimes been challenges in the development of EPR standards. Notwithstanding some of the practical difficulties that might arise, he supported the establishment of EPReSC.

Mr Feron, providing his personal opinion, noted that only arguments in favour of the establishment of EPReSC had been presented by the Secretariat. He indicated that in fact, there were also arguments against, including the fact that it is not only committees that expend resources in the development of standards; the Secretariat, including Technical Officers, and the Member States also have significant roles to play. Rather than establishing a new committee, he suggested that there may be other tools available to make the process more effective, such as ensuring that Member States themselves consult appropriately in their review of drafts, or provide appropriate drafting support at the start.

Mr Massera, providing his personal opinion, supported the proposal. He proposed, however, that RASSC be consulted. He also raised the issue of resources for Member States, which might now need to send experts to up to 12 committee meetings per year. He supported the view of the UK, namely a more fundamental, strategic approach, looking at the role and structure of the committees as a whole.

Mr Hinrichsen, providing his personal opinion, supported the proposal. He noted the particular importance of EPR among all cross-cutting issues, and remained concerned regarding the extent to which Member States consult appropriately on EPR matters. He also felt that it was up to each Member State to decide how to allocate its own resources appropriately. He considered that the membership of the existing committees could usefully be asked as to whether they felt they are capable of making decisions on EPR matters.

Mr Williams, providing his personal opinion, agreed that indeed EPR was the most important cross-cutting issue. However, the establishment of EPReSC would not relieve any workload from WASSC, which would still need to address the same drafts; he was not convinced that there would necessarily been sufficient work for EPReSC in the review of drafts to necessitate its holding two meetings each year. Yet, part of the value of EPReSC would lie in the ready access to expertise for Technical Officers working at the drafting stage. He noted that there would likely be few challenges with respect to harmonization with the work of the other standards, as such harmony already exists within the current system, and pleaded that the establishment of EPReSC not be allowed to lead to a withdrawal of the EPR standards from the rest of the system.

Mr Gurguí Ferrer requested that the discussion on the establishment of an Emergency Preparedness and Response Standards Committee be reported to DDG-NS to inform his decision [Annex III, Action 37.06].

Note: Since the CSS meeting, DDG decided to create the new Committee. A note verbale was sent to all Member States to request the nomination of their representatives. The first meeting of EPReSC is expected to be held, like the other SSCs, in October or November 2015.

6.3 Approaches on quantitative vs qualitative standards and supporting publications

Mr Delattre presented a policy paper, available on the CSS web site, on approaches to quantitative vs qualitative standards. He noted that there are at present several areas, such as radiation protection and transport, in which the standards provide quantitative criteria, but criteria that are not necessarily very prescriptive. In summary, the policy paper concluded that it was indeed appropriate that quantitative criteria be established in certain areas, but, for requirements that apply for a range of facilities or activities, qualitative and performance-based criteria could be more appropriate, in view of the aim of the standards to be technology neutral and to encourage continuous improvement. Moreover, it may be challenging to achieve a consensus on quantitative criteria, and on how to measure compliance with such criteria. Nevertheless, it would always be possible to introduce new quantitative criteria if the need arose.

Mr Williams, speaking for Australia, provided the following statement: Internationally, quantitative agreement is necessary in the area of trade (e.g. for food and commodity standards and for raw materials, in both normal and emergency situations) and for other items such as medical sources where trans-boundary movement needs to be facilitated. Australia, like many nations, depends on such unhindered trans-boundary trading.

Mr C. Phillips noted that, in determining whether a qualitative or quantitative approach was more suitable, one could usefully consider the applicability of a standard, namely whether it was general or specific, and also consider if it was amenable to adoption.

Mr Reiman reported that the principles applied in Finland followed a similar approach to that currently applied in the IAEA standards: mandatory requirements presented mainly qualitative safety objectives, while regulatory guides were more quantitative. In general, the objective was to avoid unnecessarily prescriptive requirements, to try to encourage continuous improvement and enable more flexibility.

Mr Lund noted that Member States in the EU were also obliged to follow other binding directives, and so it was important that the IAEA standards are written in a way that enables this.

The CSS supported the policy paper on quantitative/qualitative standards and requested that it be updated with further details provided during the meeting, inserted as an annex to the 37th CSS meeting report and incorporated in SPESS A [Annex III, Action 37.05, and Annex X].

6.4 Progress report on the development of an IT platform for the future review, revision and publication of the safety standards

Mr Delattre provided an extensive presentation on the current status of the IT platform. He reminded the CSS of the main objectives, and the three main strands of the project: development of a knowledge and content management system, a process management system, and a user-friendly publication system. He outlined the role of metadata, and elaborated on the development of an ontology for the standards, and the methodology he had used to do this, for both the Safety Requirements and the Safety Guides. He also reported that in February 2015 experts from the Gesellschaft für Anlagen- und Reaktorsicherheit had carried out an independent review of the system which confirmed the appropriateness of the approach adopted and provided a few recommendations for its further improvement.

Mr Delattre then demonstrated some of the key features of the IT platform. He introduced the DITA (Darwin Information Typing Architecture) language, with which the standards in the new platform would be structured and tagged, as well as the FontoXML editor in which users would input text. He also showed the new online user interface (known as OUI) and its browsing capabilities and design. Finally, he indicated some slight necessary differences in appearance between the current published standards and the new e-versions of standards. Both presentations by Mr Delattre are available on the CSS web site.

In the discussion that followed, Mr Delattre reported that further procurement and testing were currently underway, and that it was anticipated that the tool could be available by the end of 2015. Funding was already in place to cover the modules that involved inputting the current standards, development of a search function, and inputting feedback, while the funding was as yet unsecured for the subsequent module addressing the management of the review and approval process.

Mr Williams, looking to the future, anticipated that the IT platform could enhance how standards could be used and, as such, changes might need to be made in the approach to drafting standards. For example, he imagined that the IT platform could eventually be used to select among requirements and guidance for a particular scope, such as selection of requirements and guidance specific to research reactors from more general requirements and guidance applicable for all nuclear installations.

Mr Delattre finally thanked the contributors to the funding of the platform, 1/3 being funded by Japan, 1/3 by USA and 1/3 by the regular budget.

6.5 Preparation of the end of term report

Mr Delattre presented the proposed outline for the end of term report, which would follow the structure of the mid-term report issued in December 2013, namely:

- Background
- Main achievements during the term
    - Long term structure of the IAEA Safety Standards
    - Approval of draft standards and DPPs
    - The review of standards in the light of lessons from the Fukushima Daiichi accident
    - The safety-security integration
    - Future review, revision and publication process
    - Uses of safety standards in Member States
    - Status on priorities for the fifth term
- Recommendations for the sixth term

He indicated that, as was practice, the draft end of term report would be prepared and submitted in advance of the 38th CSS meeting for finalization [Annex III, Action 37.07].

7 Use of IAEA Safety Standards in Member States

Mr Reiman provided a presentation on the use of the standards in Finland; the presentation is available on the CSS web site. He listed the power plants in Finland, and explained the structure and evolution of Finnish legislation and guidance, including important recent changes, which ensure a high level of safety. He outlined how the safety-security interface is dealt with and which IAEA nuclear security guidance has been used in the preparation of guidance, and described the tools and software used to manage requirements.

In the discussion that followed, he went into detail on several points relating to the Finnish approach. It is the responsibility of the Ministry of Employment and the Economy to prepare proposals for the main licensing documentation, but STUK's safety evaluations are and indeed must be taken into account. There are challenges in finding members with the appropriate expertise and independence for the two advisory commissions on nuclear safety and on nuclear security, which provide approval of guidance. Two of the three operating organizations of Finland's power plants are private companies; the third, Fortum, is partly owned by the State, but it operates like a private company. The credibility of STUK in communications with stakeholders is considered high; social media, including Twitter, is used regularly at STUK and considered highly important, particular for emergency conditions. It has taken roughly 40 person years to prepare the 45 new safety guides; of this, the development of the first draft requires less than half the overall resources, with the rest of the resources being devoted to the subsequent review and approval. Regulatory guides are not mandatory, but in practice are mandatory for STUK staff, and only the director general of STUK can approve an exception to guidance, which in fact is very rarely the case.

Mr Delattre proposed that STUK and the Secretariat might usefully collaborate in the development of tools and software for requirements management, in particular on the sharing of the ontology and taxonomy.

Mr S.-W. Gwon from the Nuclear Safety and Security Commission (NSSC) and Mr J.-H. Cheong from the Korea Institute of Nuclear Safety (KINS) provided a presentation on the use of standards in the Republic of Korea; the presentation is available on the CSS web site. Following an outline by Mr Gwon on the Korean organizational structure and associated responsibilities, Mr Cheong presented the status of the review and comparison of Korean legislation with IAEA Safety Requirements. He indicated the inputs and process for the revision of regulations, which included the standards and IRRS mission findings. He also explained how IAEA standards are used, both directly and indirectly, and to inform regulatory guidance and documents, and in practical application. Efforts are being made to promote the use of IAEA standards. The final part of the presentation outlined the legal and regulatory basis, practices, and the way forward for the treatment of safety-security interfaces.

In the discussion that followed, Mr Weber, who had been part of the 2014 IRRS mission, praised Korea's application of the IAEA standards. In response to Mr I. Salati de Almeida's question as to the level of concern in Korea with respect to natural sources of radiation, Mr Cheong reported that the relevant Act, issued in 2011, set out provisions that were compatible with GSR Part 3 and with the recommendations of the ICRP, for radiation protection for air crew and for exposure due to naturally occurring radioactive material such as thorium or uranium, and which also covered some artificial radionuclides in trans-boundary movement of goods including scrap metal.

Mr Shimomura distributed a document setting out highlights of the activities of the OECD Nuclear Energy Agency in the areas of safety and regulation. The document is available on the CSS web site.

8. Miscellaneous. Report of the meeting, Date of the next meeting

In the margins of the meeting, Mr C. Serres provided an overview of the findings and recommendations of an international peer review on the practice of deep well injection for liquid radioactive waste in the Russian Federation.

Mr Delattre informed the Commission of the dates proposed for holding the next meeting, namely from 11 to 13 November 2015.

Mr Delattre also indicated that a draft list of actions resulting from the 37th CSS meeting would be provided for comment to the CSS members [Annex III, Action 37.08] and that the draft report of the 37th CSS meeting would be posted for comment to the CSS web site [Annex III, Action 37.09]. Mr Delattre informed the Commission that all presentations made at the 37th CSS meeting would be posted on the CSS web site [Annex III, Action 37.10].

ANNEX I

PARTICIPATION AT THE 37th CSS MEETING

The Commission

A.J. González, Argentina (sent apologies – unable to attend; represented by Mr Massera)

C.-M. Larsson, Australia

J.-P. Samain, Belgium

I.P. Salati de Almeida, Brazil

R. Jammal, Canada (sent apologies – unable to attend; represented by Mr Webster)

Jun Yu, China

D. Drábová, Czech Republic (sent apologies – unable to attend)

L. Reiman, Finland

J.-L. Lachaume, France

A. Vorwerk, Germany

S. S. Bajaj, India

M. Markovits, Israel

T. Fuketa, Japan (sent apologies – unable to attend; represented by Mr Hirano)

Y. H. Kim, Republic of Korea (sent apologies – unable to attend; represented by Mr Gwon)

M. Demčenko, Lithuania (sent apologies – unable to attend)

M. Mohd Ali, Malaysia

I. Soufi, Morocco (sent apologies – unable to attend)

M. A. Habib, Pakistan

A. Ferapontov, Russian Federation

C.O. Phillips, South Africa

A. Gurguí Ferrer (acting Chair), Spain

I. Lund, Sweden

W. Travers, United Arab Emirates

A. Hall, United Kingdom (sent apologies – unable to attend; represented by Mr Foy)

M. Weber, United States of America

Observers

R. Awad, AdSec

M. Garribba, EC (sent apologies – unable to attend; represented by Mr Alehno)

C. Cousins, ICRP (sent apologies – unable to attend)

R. Meserve, INSAG (sent apologies – unable to attend)

K. Shimomura, OECD NEA

Chairpersons of the Review Committees

G. Emi-Reynolds, NSGC (sent apologies – unable to attend)

F. Feron, NUSSC

G. Massera, RASSC

P. J. Hinrichsen, TRANSSC

G. Williams, WASSC

Representatives and associated experts

Mr Alehno, Mr Cheong, Ms Collet i Campo, Ms Forest, Mr Foy, Mr Gwon, Mr Hirano, Mr Kawamura, Mr Khamaza, Mr Konoplev, Mr Maldague, Mr Ogiso, Ms Spevakova, Mr Webster

IAEA Staff Members

P.-S. Hahn, Director, Division of Radiation, Transport and Waste Safety (NSRW)

G. Rzentowski, Director, Division of Nuclear Installation Safety (NSNI)

K. Mrabit, Director, Division of Nuclear Security (NSNS)

E. Buglova, Head, Incident and Emergency Centre (IEC)

P. Woodhouse, Head, Safety and Security Coordination Section (SSCS)

G. Caruso, Special Coordinator, Nuclear Safety Action Team (NSAT)

A. Al Khatibeh, T. Andrews, J. Hilliard, M. Khaliq, Daming Liu, A. Nicic, A. Orrell, M. Pinak, S. Samaddar, A. Shokr, C. Spitzer, P. Tarren

F. Beltran, A. Duchac, A. Garrett, M. Kinker, Y. Kumano, J. Ma, H. Rycraft, D. Sears, P. Villalibre

Coordinators of review Committees and of the Commission on Safety Standards

M. Svab, Regulatory Activities Section (NSNI), NUSSC

G. Siraky, Waste and Environmental Safety Section (NSRW), WASSC

S. Whittingham, Regulatory Infrastructure and Transport Safety Section (NSRW), TRANSSC

T. Colgan, Radiation Safety and Monitoring Services Section (NSRW), RASSC

I. Barraclough, Safety and Security Coordination Section (SSCS), NSGC

D. Delattre, Scientific Secretary of the CSS, Safety and Security Coordination Section

ANNEX II

AGENDA

Thirty-seventh Meeting of the
COMMISSION ON SAFETY STANDARDS
20-22 April 2015

1. Opening Session

1.1 Opening of the Meeting (14:00)

1.2 Introductions, Adoption of the Agenda, Approval of the 36th CSS meeting report; *A. Gurguí Ferrer*

1.3 Administrative arrangements for the meeting, Status on the main topics for the 5th CSS term, Status of the endorsed Standards and Response actions from the 36th Meeting and remaining actions from previous meetings; *D. Delattre*

2. Reports from the Safety Standards Committees and end of term report from the Nuclear Security Guidance Committee

2.1 Nuclear Safety Standards Committee, *F. Feron, Chairman/M. Svab, Scientific Secretary*

2.2 Waste Safety Standards Committee, *G. Williams, Chairman/G. Siraky, Scientific Secretary*

2.3 Radiation Safety Standards Committee, *G. Massera, Chairman/T.Colgan, Scientific Secretary*

2.4 Transport Safety Standards Committee, *P. Hinrichsen, Chairman/S. Whittingham, Scientific Secretary*

2.5 Information on the fifth meeting of the Nuclear Security Guidance Committee, *G. Emi Reynolds, Chairman/I. Barraclough, Scientific Secretary*

2.6 Summary of the meeting of the Chairs held on 20 April 2015 before the CSS meeting, *D. Delattre*

3. Review/revision of IAEA Safety Standards in light of the TEPCO's Fukushima Daiichi NPPs accident

3.1 Follow-up to the Vienna Declaration on Nuclear Safety; *D. Delattre*

3.2 Progress report on DS462 (revision of GSR Part 1, NS-R-3, SSR-2/1, SSR-2/2 and GSR Part 4) and on the concomitant revision of GS-R-2 on Emergency Preparedness and Response and of GS-R-3 on Leadership and Management System for Safety; *D. Delattre, E. Buglova and P.Tarren*

3.3 Progress report on the revision of the other Specific Safety Requirements (NS-R-4 and NS-R-5); *A. Shokr*

3.4 Progress report on the review of safety guides; *D. Delattre*

3.5 Future activities

4. Approval of draft publications and DPPs

4.01 Draft Safety Guide DS447 on Predisposal Management of Radioactive Waste from Nuclear Fuel Cycle Facilities; *M. Kinker*

4.02 Draft Safety Guide DS448 on Predisposal Management of Radioactive Waste from Nuclear Power Plants and Research Reactors; *M. Kinker*

4.03 Draft Safety Guide DS453 on Occupational Radiation Protection; *J. Ma*

4.04 Draft DPP DS489 on Storage of Spent Nuclear Fuel; *Y. Kumano*

4.05 Draft DPP DS490 on Seismic Design and Qualification for NPPs; *F. Beltran*

4.06 Draft DPP DS491 on Deterministic Safety Analysis for Nuclear power Plants; *P. Villalibre*

4.07 Draft DPP DS492 on Human Factors Engineering in NPPs; *A. Duchac*

5. DPPs and draft Nuclear Security Series publications for information

5.1 DPP NST051 on Security during the Lifetime of a Nuclear Facility; *A. Garrett*

6. Policy discussion

6.1 Presentation on the main results of recent OIOS reviews and their implications for the IAEA Safety Standards; *P. Woodhouse*

6.2 Establishment of an Emergency Preparedness and Response Standards Committee (EPReSC); *E. Buglova*

6.3 Approaches on quantitative vs qualitative standards and supporting publications; *D. Delattre*

6.4 Progress report on the development of an IT platform for the future review, revision and publication of the safety standards; *D. Delattre*

6.5 Preparation of the end of term report; *D. Delattre*

7. Use of IAEA Safety Standards in Member States

8. Miscellaneous. Report of the meeting, Date of the next meeting (week from 9 to 13 November 2015)

ANNEX III

ACTIONS ARISING FROM THE 37th MEETING OF THE COMMISSION

37.01 The final report of the 36th CSS meeting to be uploaded on the CSS web page. **[Action: Secretariat, CSS Scientific Secretary]. Done**

37.02 The Secretariat to keep the CSS informed on the progress in reviewing the Safety Guides, particularly with respect to the Vienna Declaration on Nuclear Safety. The CSS Chair to report to the IAEA Director General on the confirmation that the Safety Requirements reflect appropriately the principles in the Vienna Declaration and on the approach, with involvement of NUSSC for the review of specific Safety Guides. **[Action: Secretariat, CSS Chair, NUSSC]**

37.03 RASSC to consider implications of lessons learned from the Fukushima Daiichi accident and of the GSR Part 7 new Safety Requirements on GSR Part 3. **[Action: RASSC]**

37.04 The Secretariat to ensure that the implementation of actions in response to the OIOS recommendation to enhance the efficiency of the approval and publication processes reflects the need to ensure the quality of the standards as a primary consideration. **[Action: Secretariat and DDG-NS]**

37.05 The policy paper on quantitative/qualitative standards to be updated with further details provided during the meeting, inserted as an annex to the CSS 37 meeting report and incorporated in SPESS A. **[Action: Secretariat, CSS Scientific Secretary]**

37.06 The discussion on the establishment of an Emergency Preparedness and Response Standards Committee to be reported to DDG-NS to inform his decision. **[Action: Secretariat, CSS Scientific Secretary].**

37.07 A draft end of term report to be prepared and submitted in advance to the 38th CSS meeting for finalization. **[Action: Secretariat, CSS Scientific Secretary].**

37.08 A list of actions resulting from the 37th CSS meeting to be provided to the CSS members for comment. **[Action: Secretariat, CSS Scientific Secretary].** ***This list***

37.09 The draft report of the 37th CSS meeting to be posted for comment by the CSS members. **[Action: Secretariat, CSS Scientific Secretary].**

37.10 The presentations made at the 37th CSS meeting to be uploaded on the CSS web page. **[Action: Secretariat, CSS Scientific Secretary]. Done**

ANNEX IV

STATUS OF MAIN TOPICS OF THE 4TH CSS TERM

#	Main topics	Reference set of SG	Status/action
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 after MS consultation DS420 after MS consultation DS434 for a safety guide on radioisotope production facilities being drafted. DPP approved by the CSS DS470 on Radiation Sources in Research and Education and DS471 on X-ray Generators and Sources Used for Inspection Purposes. DPPs approved by the CSS DS458 Radiation Safety and Regulatory Control for Consumer Products approved for 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 Final Joint AdSec CSS Session in November 2011 NSGC established, first meeting in June 2012 Interface Group first meeting in September 2012 Revision of SPESS C issued New NSGC term starting this year
7	Assistance and additional safety guidance to countries dealing with expanded uranium exploration and mining	Item 83	DS 421: in publication DPP for DS459 approved by the CSS
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 Step 8: MS consultation

ANNEX V

STATUS OF MAIN PRIORITIES FOR THE 5TH CSS TERM

1. Finalization of the General Safety Requirements (including review following the Fukushima Daiichi accident): **Close to finalization. DS456 submitted to SSCs for final approval.**

2. Initiation of the revision of the remaining Specific Safety Requirements (including review of other Specific Safety Requirements following the Fukushima Daiichi accident): **revision of NS-R-3, NS-R-4 and NS-R-5 (DPP approved by the CSS). DS484 at step 5, DS476 at step 8, DS478 at step 7.**

3. Enhancing the feedback process: **Used for the above activities. Database being designed with MTIT. Presentation on the update at this meeting (item 6.2). SPESS E being drafted.**

4. Exposure to radon: **DS421 approved by the CSS, being published.**

5. Medical exposure: **DS399 STEP 8 MS consultation.**

6. Application of the justification principle: **DS401 published as GSG-5.**

7. Harmonization of exemption, clearance criteria and other radionuclide specific criteria: **DS458 being published and other topics still to be initiated.**

8. NORM related issues: **DS459 being drafted.**

9. Occupational radiation protection, including its application to rescuers: **DS453 (at this CSS meeting) and DS457 (approved by the Board of Governors).**

10. Knowledge management: **DS456 on the revision of GS-R-3 (STEP 11), and amendment of GSR-Part 4 (approved by the Board of Governors).**

11. Regulatory oversight of human and organizational factors: **revision of GSR Part 1 (DS462 approved by the Board of Governors).**

12. The safety/security interface: **Process and Committees in place. Harmonization of the TORs of the RCs. Guidance for drafters being developed (revision of SPESS C) issued.**

13. Usefulness of standards for countries embarking on nuclear power programmes: **Difficulty to identify a precise indicator. Presentation from UAE at the 33rd CSS meeting**

14. The need for more detail in standards on PSA and severe accident management: **DPP for the revision of NS-G-2.15 approved by NUSSC and approved by the CSS meeting.**

ANNEX VI

CURRENT SAFETY STANDARDS

[status on 24 April 2015]

A. Safety Fundamentals

SF-1	Fundamental Safety Principles (2006) **Co-sponsorship:** Euratom, FAO, ILO, IMO, OECD/NEA, PAHO, UNEP, WHO [ACEFRS][2]

B. General Safety Standards (applicable to all facilities and activities)

GSR Part 1	Governmental, Legal and Regulatory Framework for Safety (2010) [ACEFRS]
GS-R-3	The Management System for Facilities and Activities (2006) [ACEFRS]
GSR Part 3	Radiation Protection and Safety of Radiation Sources –International Basic Safety Standards (2014) [E]
GSR Part 4	Safety Assessment for Facilities and Activities (2009) [ACEFRS]
GSR Part 5	Predisposal Management of Radioactive Waste (2009) [ACEFRS]
GSR Part 6	Decommissioning of Facilities (2014) [E]
GS-R-2	Preparedness and Response for a Nuclear or Radiological Emergency (2002) **Co-sponsorship:** FAO, OCHA, OECD/NEA, ILO, PAHO, WHO [ACEFRS]
GSG-1	Classification of Radioactive Waste (2009) [ER]
GSG-2	Criteria for Use in Preparedness and Response for a Nuclear or Radiological Emergency (2011) [AEFRS]
GSG-3	The Safety Case and Safety Assessment for the Predisposal Management of Radioactive Waste (2013) [E]
GSG-4	Use of External Experts by the Regulatory Body (2013) [E]
GSG-5	Justification of Practices, Including Non-medical Human Imaging (2014) [E]
GS-G-2.1	Arrangements for Preparedness for a Nuclear or Radiological Emergency (2007) **Co-sponsorship:** FAO, OCHA, ILO, PAHO, WHO [ES]
GS-G-3.1	Application of the Management System for Facilities and Activities (2006) [ER]
GS-G-3.2	The Management System for Technical Services in Radiation Safety (2008) [EF]
GS-G-3.3	The Management System for the Processing, Handling and Storage of Radioactive Waste (2008) [E]
RS-G-1.1	Occupational Radiation Protection (1999) **Co-sponsorship:** ILO [ACEFRS]
RS-G-1.2	Assessment of Occupational Exposure Due to Intakes of Radionuclides (1999) **Co-sponsorship:** ILO [ACEFRS]
RS-G-1.3	Assessment of Occupational Exposure Due to External Sources of Radiation (1999) **Co-sponsorship:** ILO [ACEFRS]
RS-G-1.4	Building Competence in Radiation Protection and the Safe Use of Radiation Sources (2001) **Co-sponsorship:** ILO, PAHO, WHO [ACEFRS]
RS-G-1.7	Application of the Concepts of Exclusion, Exemption and Clearance (2004) [CERS]
RS-G-1.8	Environmental and Source Monitoring for Purposes of Radiation Protection (2005) [E]
RS-G-1.9	Categorization of Radioactive Sources (2005) [ACEFRS]
WS-G-2.3	Regulatory Control of Radioactive Discharges to the Environment (2000) (under revision) [ACEFRS]

[2] A=available in Arabic; C=available in Chinese; E=available in English; F=available in French; R=available in Russian; S=available in Spanish

WS-G-2.5	Predisposal Management of Low and Intermediate Level Radioactive Waste (2003) (under revision) [ERS]
WS-G-2.6	Predisposal Management of High Level Radioactive Waste (2003) (under revision) [ERS]
WS-G-3.1	Remediation Process for Areas Affected by Past Activities and Accidents (2007) [ES]
WS-G-5.1	Release of Sites from Regulatory Control on Termination of Practices (2006) [ERS]
WS-G-5.2	Safety Assessment for the decommissioning of Facilities Using Radioactive Material (2008) [E]
WS-G-6.1	Storage of Radioactive Waste (2006) [ERS]

C. Specific Safety Standards (applicable to specified facilities and activities)

C.1. Nuclear Power Plants

SSR-2/1	Safety of Nuclear Power Plants: Design (2012) [ACEFRS]
SSR-2/2	Safety of Nuclear Power Plants: Commissioning and Operation (2011) [ACEFRS]
NS-R-3	Site Evaluation for Nuclear Installations (2003) [ACEFRS]
GS-G-1.1	Organization and Staffing of the Regulatory Body for Nuclear Facilities (2002) [CEFRS]
GS-G-1.2	Review and Assessment of Nuclear Facilities by the Regulatory Body (2002) [CEFR]
GS-G-1.3	Regulatory Inspection of Nuclear Facilities and Enforcement by the Regulatory Body (2002) [CEFRS]
GS-G-1.4	Documentation for Use in Regulating Nuclear Facilities (2002) [CEFRS]
GS-G-3.5	The Management System for Nuclear Installations (2009) [E]
GS-G-4.1	Format and Content of the Safety Analysis report for Nuclear Power Plants (2004) [EC]
NS-G-1.1	Software for Computer Based Systems Important to Safety in Nuclear Power Plants (2000) (under revision)[CEF]
NS-G-1.3	Instrumentation and Control Systems Important to Safety in Nuclear Power Plants (2002) (under revision) [ECFR]
NS-G-1.4	Design of Fuel Handling and Storage Systems for Nuclear Power Plants (2003) [ERS]
NS-G-1.5	External Events Excluding Earthquakes in the Design of Nuclear Power Plants (2003) [ER]
NS-G-1.6	Seismic Design and Qualification for Nuclear Power Plants (2003) [ER]
NS-G-1.7	Protection against Internal Fires and Explosions in the Design of Nuclear Power Plants (2004) [ER]
NS-G-1.8	Design of Emergency Power Systems for Nuclear Power Plants (2004) (under revision) [ER]
NS-G-1.9	Design of the Reactor Coolant System and Associated Systems in Nuclear Power Plants (2004) [ERS]
NS-G-1.10	Design of Reactor Containment Systems for Nuclear Power Plants (2004) [ER]
NS-G-1.11	Protection against Internal Hazards other than Fires and Explosions in the Design of Nuclear Power Plants (2004) [E]
NS-G-1.12	Design of the Reactor Core for Nuclear Power Plants (2005) [ECR]
NS-G-1.13	Radiation Protection Aspects of Design for Nuclear Power Plants (2005) [ER]
NS-G-2.1	Fire Safety in the Operation of Nuclear Power Plants (2000) [ECFR]
NS-G-2.2	Operational limits and Conditions and Operating Procedures for Nuclear Power Plants (2000) [CEFRS]
NS-G-2.3	Modifications to Nuclear Power Plants (2001) [CEFRS]

NS-G-2.4	The Operating Organization for Nuclear Power Plants (2001) [CEFR]
NS-G-2.5	Core Management and Fuel Handling for Nuclear Power Plants (2002) [ER]
NS-G-2.6	Maintenance, Surveillance and In-Service Inspection in Nuclear Power Plants (2002) [ER]
NS-G-2.7	Radiation Protection and Radioactive Waste Management in the Operation of Nuclear Power Plants (2002) [ERS]
NS-G-2.8	Recruitment, Qualification and Training of Personnel for Nuclear Power Plants (2002) [ER]
NS-G-2.11	A System for the Feedback of Experience from Events in Nuclear Installations (2006) [ERS]
NS-G-2.12	Ageing Management for Nuclear Power Plants (2009) [ER]
NS-G-2.13	Evaluation of Seismic Safety for Existing Nuclear Installations (2009) [ER]
NS-G-2.14	Conduct of Operations at Nuclear Power Plants (2008) [ERS]
NS-G-2.15	Severe Accident Management Programmes for Nuclear Power Plants (2009) [ER]
NS-G-3.1	External Human Induced Events in Site Evaluation for Nuclear Power Plants (2002) [ECFR]
NS-G-3.2	Dispersion of Radioactive Material in Air and Water and Consideration of Population Distribution in Site Evaluation for Nuclear Power Plants (2002) (under revision) [ER]
NS-G-3.6	Geotechnical Aspects of Site Evaluation and Foundations for Nuclear Power Plants (2005) [ECR]
SSG-2	Deterministic Safety Analysis for Nuclear Power Plants (2009) [E]
SSG-3	Development and Application of Level 1 Probabilistic Safety Assessment for Nuclear Power Plants (2010) [ER]
SSG-4	Development and Application of Level 2 Probabilistic Safety Assessment for Nuclear Power Plants (2010) [ER]
SSG-9	Seismic Hazards in Site Evaluation for Nuclear Installations (2010) [E]
SSG-12	Licensing Process for Nuclear Installations (2010) [ES]
SSG-13	Chemistry Programme for Water Cooled Nuclear Power Plants (2011) [ER]
SSG-16	Establishing the Safety Infrastructure for a Nuclear Power Programme (2012) [ER]
SSG-18	Meteorological and Hydrological Hazards in Site Evaluation for Nuclear Installations (2011) [E]
SSG-21	Volcanic Hazards in Site Evaluation for Nuclear Installations (2012) [ES]
SSG-25	Periodic Safety Review for Nuclear Power Plants (2013) [E]
SSG-28	Commissioning for Nuclear Power Plants (2014) [E]
SSG-30	Safety Classification of Structures, Systems and Components in Nuclear Power Plants (2014) [E]
WS-G-2.1	Decommissioning of Nuclear Power Plants and Research Reactors (1999) (under revision) [AECFR]
79	Design of Radioactive Waste Management Systems at Nuclear Power Plants (1986) (under revision) [E]

C.2. Research Reactors

NS-R-3	Site Evaluation for Nuclear Installations (2003) [ACEFRS]
NS-R-4	Safety of Research Reactors (2005) [ACEFRS]
GS-G-1.1	Organization and Staffing of the Regulatory Body for Nuclear Facilities (2002) [CEFRS]
GS-G-1.2	Review and Assessment of Nuclear Facilities by the Regulatory Body (2002) [CEFR]
GS-G-1.3	Regulatory Inspection of Nuclear Facilities and Enforcement by the Regulatory Body (2002) [CEFRS]
GS-G-1.4	Documentation for Use in Regulating Nuclear Facilities (2002) [CEFRS]

GS-G-3.5	The Management System for Nuclear Installations (2009) [ER]
NS-G-2.11	A System for the Feedback of Experience from Events in Nuclear Installations (2006) [ER]
NS-G-2.13	Evaluation of Seismic Safety for Existing Nuclear Installations (2009) [E]
NS-G-4.1	Commissioning of Research Reactors (2006) [E]
NS-G-4.2	Maintenance, Periodic Testing and Inspection of Research Reactors (2006) [E]
NS-G-4.3	Core Management and Fuel Handling for Research Reactors (2008) [E]
NS-G-4.4	Operational Limits and Conditions and Operating Procedures for Research Reactors (2008) [E]
NS-G-4.5	The Operating Organization and the Recruitment, Training and Qualification of Personnel for Research Reactors (2008) [E]
NS-G-4.6	Radiation Protection and Radioactive Waste Management in the Design and Operation of Research Reactors (2008) [E]
SSG-9	Seismic Hazards in Site Evaluation for Nuclear Installations (2010) [E]
SSG-10	Ageing Management for Research Reactors (2010) [E]
SSG-12	Licensing Process for Nuclear Installations (2010) [ES]
SSG-18	Meteorological and Hydrological Hazards in Site Evaluation for Nuclear Installations (2011) [E]
SSG-20	Safety Assessment for Research Reactors and Preparation of the Safety Analysis Report (2012) [E]
SSG-21	Volcanic Hazards in Site Evaluation for Nuclear Installations (2012) [E]
SSG-22	Use of a Graded Approach in the Application of the Safety Requirements for Research Reactors (2012) [E]
SSG-24	Safety in the Utilization and Modification of Research Reactors (2012) [E]
WS-G-2.1	Decommissioning of Nuclear Power Plants and Research Reactors (1999) (under revision) [AECFR]

C.3. Fuel Cycle Facilities

NS-R-3	Site Evaluation for Nuclear Installations (2003) [ACEFRS]
NS-R-5 Rev.1	Safety of Nuclear Fuel Cycle Facilities (2014) [CE]
GS-G-1.1	Organization and Staffing of the Regulatory Body for Nuclear Facilities (2002) [CEFRS]
GS-G-1.2	Review and Assessment of Nuclear Facilities by the Regulatory Body (2002) [CEFR]
GS-G-1.3	Regulatory Inspection of Nuclear Facilities and Enforcement by the Regulatory Body (2002) [CEFRS]
GS-G-1.4	Documentation for Use in Regulating Nuclear Facilities (2002) [CEFRS]
GS-G-3.5	The Management System for Nuclear Installations (2009) [E]
NS-G-2.11	A System for the Feedback of Experience from Events in Nuclear Installations (2006) [ER]
NS-G-2.13	Evaluation of Seismic Safety for Existing Nuclear Installations (2009) [E]
SSG-5	Safety of Conversion Facilities and Uranium Enrichment Facilities (2010) [E]
SSG-6	Safety of Uranium Fuel Fabrication Facilities (2010) [E]
SSG-7	Safety of Uranium and Plutonium Mixed Oxide Fuel Fabrication Facilities (2010) [E]
SSG-9	Seismic Hazards in Site Evaluation for Nuclear Installations (2010) [E}
SSG-12	Licensing Process for Nuclear Installations (2010) [ES]
SSG-15	Storage of Spent Nuclear Fuel (2012) [E]
SSG-18	Meteorological and Hydrological Hazards in Site Evaluation for Nuclear Installations (2011) [E]
SSG-21	Volcanic Hazards in Site Evaluation for Nuclear Installations (2012) [E]
SSG-27	Criticality Safety in the Handling of Fissile Material (2014) [E]

WS-G-2.4 Decommissioning of Nuclear Fuel Cycle Facilities (2001) (under revision) [ECFRS]

C.4. Radioactive Waste Disposal Facilities

SSR-5 Disposal of Radioactive Waste (2011) [ACEFRS]

GS-G-1.1 Organization and Staffing of the Regulatory Body for Nuclear Facilities (2002) [CEFRS]
GS-G-1.2 Review and Assessment of Nuclear Facilities by the Regulatory Body (2002) [CEFR]
GS-G-1.3 Regulatory Inspection of Nuclear Facilities and Enforcement by the Regulatory Body (2002) [CEFRS]
GS-G-1.4 Documentation for Use in Regulating Nuclear Facilities (2002) [CEFRS]
GS-G-3.4 The Management System for the Disposal of Radioactive Waste (2008) [E]
SSG-1 Borehole Disposal Facilities for Radioactive Waste (2009) [E]
SSG-14 Geological Disposal Facilities for Radioactive Waste (2011) [E]
SSG-23 The Safety Case and Safety Assessment for the Disposal of Radioactive Waste (2012) [E]
SSG-29 Near Surface Disposal Facilities for Radioactive Waste (2014) [E]
SSG-31 Monitoring and Surveillance of Radioactive Waste Disposal Facilities (2014) [E]

C.5. Mining and Milling

RS-G-1.6 Occupational Radiation Protection in the Mining and Processing of Raw Materials (2004) [ES]
WS-G-1.2 Management of Radioactive Waste from the Mining and Milling of Ores (2002) (under revision) [ERS]

C.6. Applications of Radiation Sources

GSR Part 3 Radiation Protection and Safety of Radiation Sources – International Basic Safety Standards (2014) [E]

GS-G-1.5 Regulatory Control of Radiation Sources (2004) **Co-sponsorship:** FAO, ILO, PAHO, WHO [EFS]
RS-G-1.4 Building Competence in Radiation Protection and the Safe Use of Radiation Sources (2001) **Co-sponsorship:** ILO, PAHO, WHO [ACEFRS]
RS-G-1.5 Radiological Protection for Medical Exposure to Ionizing Radiation (2002) **Co-sponsorship:** PAHO, WHO (under revision) [CEFRS]
RS-G-1.9 Categorization of Radioactive Sources (2005) [ACEFRS]
RS-G-1.10 Safety of Radiation Generators and Sealed Radioactive Sources (2006) **Co-sponsorship**: ILO, PAHO, WHO [EFS]
SSG-8 Radiation Safety of Gamma, Electron and X Ray Irradiation Facilities (2010) [E]
SSG-11 Radiation Safety in Industrial Radiography (2011) [AEFS]
SSG-17 Control of Orphan Sources and Other Radioactive Material in the Metal Recycling and Production Industries (2012) [AEFR]
SSG-19 National Strategy for Regaining Control over Orphan Sources and Improving Control over Vulnerable Sources (2011) [AES]
WS-G-2.2 Decommissioning of Medical, Industrial and Research Facilities (1999) (under revision) [ACEFRS]
WS-G-2.7 Management of Waste from the Use of Radioactive Materials in Medicine, Industry, Agriculture, Research and Education (2005) [CERS]

C.7. Transport of Radioactive Material

SSR-6	Regulations for the Safe Transport of Radioactive Material 2012 Edition (2012) [ACEFRS]
SSG-26	Advisory Material for the IAEA Regulations for the Safe Transport of Radioactive Material (2012 edition) (2014) [E]
TS-G-1.2	Planning and Preparing for Emergency Response to Transport Accidents Involving Radioactive Material (2002) [ERS]
TS-G-1.3	Radiation Protection Programmes for the Transport of Radioactive Material (2007) [ES]
TS-G-1.4	The Management System for the Safe Transport of Radioactive Material (2008) [E]
TS-G-1.5	Compliance Assurance for the Safe Transport of Radioactive Material (2009) [E]
SSG-33	Schedules of Provisions of the IAEA Regulations for the Safe Transport of Radioactive Material (2012 Edition) (2015) [E]

ANNEX VII

PROJECTS AND DRAFT STANDARDS UNDER DEVELOPMENT

[status on 24 April 2015]

PROJECTS:

DS493: Package Design Safety Reports for the Transport of Radioactive Material, amendment and addendum to TS-G-1.5 [Step 2]

DS449: Format and Content of the Safety Analysis Report for Nuclear Power Plants (revision of GS-G-4.1) [Step 2]

DRAFT STANDARDS UNDER DEVELOPMENT:

DS492: Human Factors Engineering in Nuclear Power Plants [Step 5]

DS491: Deterministic Safety Analysis for Nuclear Power Plants (revision of SSG-2) [Step 5]

DS490: Seismic Design and Qualification for Nuclear Power Plants (revision of NS-G-1.6) [Step 5]

DS489: Storage of Spent Nuclear Fuel, revision of SSG-15 [Step 5]

DS488: Design of the Reactor Core for Nuclear Power Plants, revision of NS-G-1.12 [Step 5]

DS487: Design of Fuel Handling and Storage Systems for Nuclear Power Plants, revision of NS-G-1.4 [Step 5]

DS486: Establishing the Safety Infrastructure for a Nuclear Power Programme (Rev. 1), revision of SSG-16 [Step 5]

DS485: Ageing Management and Programme for Long Term Operation for Nuclear Power Plants, revision of NS-G-2.12 [Step 7]

DS484: Site Evaluation for Nuclear Installations, revision of NS-R-3 [Step 5]

DS483: Severe Accident Management Programme for Nuclear Power Plants, revision of NS-G-2.15 [Step 7]

DS482: Design of Reactor Containment Systems for Nuclear Power Plants, revision of NS-G-1.10 [Step 5]

DS481: Design of the Reactor Coolant System and Associated Systems in Nuclear Power Plants, revision of NS-G-1.9 [Step 5]

DS479: Operating Experience Feedback for Nuclear Installations, revision of NS-G-2.11 [Step 5]

DS478: Safety of Nuclear Fuel Cycle Facilities, revision of NS-R-5 [Step 7]

DS477: The Management System for the Predisposal and Disposal of Radioactive Waste, revision and combination of GS-G-3.3 and GS-G-3.4 [Step 5]

DS476: Safety of Research Reactors, revision of NS-R-4 [Step 8]

DS475: Arrangements for Public Communications in Preparedness and Response for a Nuclear or Radiological Emergency [Step 5]

DS474: Arrangements for the termination of a nuclear or radiological emergency [Step 5]

DS473: Regulatory Body Functions and Processes, revision and combination of GS-G-1.2, GS-G-1.3, GS-G-1.4, part of GS-G-1.5, part of SSG-12 and part of WS-G-5.1 [Step 7]

DS472: Organization, Management and Staffing of a Regulatory Body, revision and combination of GS-G-1.1, part of GS-G-1.5, GSG-4 and DS113 and DS460 [Step 7]

DS471: Radiation Safety of X-ray Generators and Radiation Sources Used for Inspection Purposes and for Non-Medical Imaging [Step 5]

DS470: Radiation Safety of Radiation Sources Used in Research and Education [Step 5]

DS469: Planning and Preparing for Response to Transport Events Involving Radioactive Material, revision of TS-G-1.2 [Step 5]

DS468: Remediation Process for Areas with Residual Radioactive Material (revision of WS-G-3.1) [Step 5]

DS462 - Revision through addenda of GSR-Part 1, NS-R-3, SSR-2/1, SSR-2/2 and GSR Part 4: coordination (DS462), GSR Part 1 (DS463), NS-R-3 (DS464), SSR-2/1 (DS465) and GSR Part 4 (DS466), SSR-2/2 (DS467) [Step 14]

DS460: Communication and Consultation with Interested Parties [Step 11]

DS459: Management of Radioactive Residues from Mining, Mineral Processing, and other NORM related Activities (revision and expansion of WS-G-1.2) [Step 5]

DS458: Radiation Safety for Consumer Products [Step 14]

DS457: GSR Part 7: Preparedness and Response for a Nuclear or Radiological Emergency (revision of GS-R-2) [Step 14]

DS456: GSR Part 2: Leadership and Management for Safety (revision of GS-R-3) [Step 11]

DS455: Establishing a National Radiation Safety Infrastructure [Step 10]

DS454: Predisposal Management of Waste from the Use of Radioactive Materials in Medicine, Industry, Research, Agriculture and Education (revision of WS-G-2.7) [Step 9]

DS453: Occupational Radiation Protection (revision of RS-G-1.1, RS-G-1.2, RS-G-1.3, RS-G-1.6, GS-G-3.2) [Step 12]

DS452: Decommissioning of Nuclear Facilities, except Facilities using NORM and Medical, Industrial, Research and Disposal Facilities (revision of WS-G-2.1 and WS-G-2.4) [Step 8]

DS448: Predisposal Management of Radioactive Waste from Reactors (revision of WS-G-2.5) [Step 12]

DS447: Predisposal Management of Radioactive Waste from Fuel Cycle Facilities (revision of WS-G-2.6) [Step 12]

DS442: Regulatory control of radioactive releases to the environment from facilities and activities (revision of WS-G-2.3) [Step 8]

DS441: Construction for Nuclear Installations [Step 14]

DS440: Design of Auxiliary and Supporting Systems in Nuclear Power Plants [Step 5]

DS436: Instrumentation and Control Systems and Software Important to Safety for Research Reactors [Step 14]

DS434: Radiation Safety of Radioisotope Production Facilities [Step 5]

DS433: Site Survey and Site Selection for Nuclear Installations (revision of 50-SG-S9) [Step 14]

DS432: Radiation Protection of the Public and the Environment [Step 8]

DS431: Design of I & C Systems for NPPs (revision of NS-G-1.1 and NS-G-1.3) [Step 14]

DS430: Design of Electric Power Systems for NPPs (revision of NS-G-1.8) [Step 14]

DS427: Radiological Environmental Impact Analysis for Facilities and Activities, revision of NS-G-3.2 [Step 8]

DS421: Protection of the Public against Exposure Indoor due to Radon and Other Natural Sources of Radiation [Step 14]

DS420: Radiation Safety for Nuclear Gauges [Step 10]

DS419: Radiation Safety for Well Logging Sources [Step 10]

DS403: Decommissioning of Medical, Industrial and Research Facilities (revision of WS-G-2.2) [Step 7]

DS399: Radiation Safety in Medical Uses of Ionizing Radiation (revision of RS-G-1.5) [Step 8]

DS381: Safety of Fuel Cycle R&D Facilities [Step 11]

DS365: Risk-Informed Decision Making [being developed as a TECDOC]

DS360: Safety of Reprocessing Facilities [Step 11]

ANNEX VIII

DRAFTS OF THE NUCLEAR SECURITY SERIES UNDER DEVELOPMENT (INTERFACE DOCUMENTS ONLY; TENTATIVE TITLES ONLY) [status on 24 April 2015]

NST051: Security During the Lifetime of a Nuclear Facility [Step 5]

NST049: Detection of and Initial Response to Radioactive Material at Undesignated Points of Entry and Exit [Step 5]

NST048: Security of Radioactive Material in Use and Storage and of Associated Facilities [Step 5]

NST045: Computer Security for Nuclear Security [Step 5]

NST044: Security in the Transport of Radioactive Material [Step 5]

NST041: Preventive and Protective Measures against Insider Threats [Step 9]

NST023: Security in Nuclear Facilities and of Nuclear Material in Use and Storage [Step 11]

NST020: Sustaining a Nuclear Security Regime [Step 8]

NST017: Security of Nuclear Material in Transport [Step 14]

NST016: Detection of and Initial Response to Radioactive Material at Designated Points of Entry and Exit [Step 5]

NST014: Nuclear Forensics in Support of Investigations [Step 14]

NST011: Preventive Measures for Nuclear and Other Radioactive Material out of Regulatory Control [Step 5]

NST009: Capacity Building for Nuclear Security [Step 5]

NST006: Framework for International Cooperation and Assistance on Nuclear Security [Step 5]

NST005: Regaining Control over Nuclear and Other Radioactive Material out of Regulatory Control [Step 5]

NST004: Developing a National Framework for Managing Nuclear Security Events [Step 5]

NST002: Regulations and Associated Administrative Measures for Nuclear Security [Step 9]

ANNEX IX

STATUS OF REMAINING ACTIONS FROM THE 34TH AND 35TH MEETINGS OF THE COMMISSION AND STATUS OF ACTIONS FROM THE 36TH MEETING

34.09 The Secretariat to continue, in a step by step manner, the development of the proposed IT platform for the content management system, process management and publication of electronic safety standards **[Action: Secretariat, SSCS].** Progress report at this meeting, item 6.4

35.04 The Secretariat to investigate how to expedite the publications process of draft standards endorsed by the CSS, the delay in the publication of SSG-26 being an example of a situation where the Member States don't have access to the safety guide on how to implement the Safety Requirements SSR-6 published in October 2012 despite a clear request from the CSS that these documents should made available together. **[Action: Secretariat, NS Department with MT Department].** SSG-26 published on July 8, 2014. IT technique for the revision of the Standards. Draft endorsed by the CSS available in the "complete collection of Safety Standards". Discussion with MTIT and MTCD

35.05 The Secretariat to finalize and make available an electronic version of the Safety Glossary and to continue to work towards harmonization, where feasible, of the use of terms in the safety standards and the nuclear security series. **[Action: Secretariat, SSPU and NSNS].** 2015 Edition being finalized.

35.09 RASSC to prepare a policy/position paper on the UN General Assembly deliberation on the attribution of radiation effects and inference of risk and possible implications for the safety standards. **[Action: Secretariat, NSRW, and RASSC].** Discussion at the Nov. 2014 Meeting of RASSC

36.01 The final report of the 35th CSS meeting to be uploaded on the CSS web page. **[Action: Secretariat, CSS Scientific Secretary]. Done**

36.02 The translation of SSG-26 (Advisory Material for the IAEA Regulations for the Safe Transport of Radioactive Material, 2012 Edition) into all official languages to be initiated as soon as possible, subject to availability of funding **[Action: Secretariat, NSRW, MTCD]. On-going**

36.03 The CSS members to prepare the 37th meeting by providing feedback on a holistic review of the collection of Safety Guides, aimed at developing an approach to ensuring their consistency, completeness and proper interdependence, to be considered as an item on the agenda of the 37th CSS meeting. The long term structure is available through the status of safety standards. The current set of standards is available in the "complete collection of safety standards". The feedback to be summarized by the Secretariat for discussion at the 37th meeting. **[Action: CSS members, CSS Scientific Secretary]. Limited input. Postponed to the next CSS term. Input from the IT platform**

36.04 The views of CSS members on the initial presentation of the OIOS review to be summarized and used to inform discussions with the Director General **[Action: Secretariat, CSS Scientific Secretary and DDG-NS]. Done**

36.05 A pilot test of the IT platform for the feedback management, review/revision and publication process to be performed, including the management of definitions. **[Action: Secretariat, CSS Scientific Secretary]. Software testing on-going, Taxonomy being finalized. Presentation under Item 6.4**

36.06 The CSS supports the preparation of a new SPESS E document on the objectives and processes for the feedback management, review/revision and publication of safety standards that uses as a supporting tool the new IT platform. The draft SPESS E to be discussed in 2015 with the Safety Standards Committees and then the CSS. **[Action: Secretariat, CSS Scientific Secretary]. SPESS E will be further developed so as to also describe the actual features of the IT platform**

36.07 A list of actions resulting from the 36th CSS meeting to be provided to the CSS members for comment. **[Action: Secretariat, CSS Scientific Secretary].** ***This list***

36.08 The draft report of the 36th CSS meeting to be posted for comment by the CSS members. **[Action: Secretariat, CSS Scientific Secretary]. Draft posted in Dec 2014. Comments received from Argentina. Revised draft posted in March 2015 for final approval at this meeting**

36.09 The presentations made at the 36th CSS meeting to be uploaded on the CSS web page. **[Action: Secretariat, CSS Scientific Secretary]. Done**

ANNEX X

DRAFT POLICY PAPER ON QUANTITATIVE/QUALITATIVE SAFETY STANDARDS

Background

At the Commission on Safety Standards the issue of establishing quantitative versus qualitative safety standards has been addressed regularly. But no clear conclusion or policy had actually been established on this issue.

The collection of safety standards includes standards of both categories and it would be appropriate to clarify the policy aspects that were de facto considered without being clearly established.

At a review in 2014 by the Office of Internal Oversight Services of the standards for the operation of nuclear power plants and research reactors, this issue was further discussed with involvement of several representatives of Member States, including representatives who are also members of the CSS. The result of these exchanges was summarized in the OIOS report, thus providing an opportunity to use this summary as a key input for a policy paper on quantitative/qualitative safety standards.

Policy aspects

Appropriateness of a quantitative approach for some safety standards

Many safety standards establish criteria in term of radiation protection for which harmonized worldwide use is endeavoured, particularly where these criteria apply directly to people, i.e. workers, patient and members of the public.

This is typically the case for radiation protection criteria established by GSR Part 3 for dose limits for occupational exposures and public exposures in planned exposure situations. In some instances, the standards provide an upper limit for establishing national criteria, like for the annual average activity concentration due to radon indoors.

In area like emergency response, generic criteria are established in the safety standards on the basis of generic optimization and considering a range of conditions. National criteria are then expected to be developed on that basis. For some other criteria like the reference level for developing a protection strategy in an emergency situation, the safety standards provide a range, for example on the residual dose.

Another general aspect is for criteria applying to sources that are widely used by many users in medicine, industry, agriculture, research and education and that are also transported from countries to countries. This is another reason for which it is desirable to establish precise criteria to be used in a harmonized manner. This includes standards like for the categorization of sources (RS-G-1.9) setting out the concept of the D value and standards on the safe transport of radioactive material: overall, internationally, quantitative agreement is necessary in the area of trade (e.g. for food and commodity standards and for raw materials, in both normal and emergency situations) and for other items such as medical sources involving transboundary movement.

In the area of radiation protection, therefore, a quantitative approach is preferred though not in a prescriptive manner (range or upper limit for the national criteria or generic criteria). However, the application of these quantitative criteria is not sufficient, since optimization of protection and safety needs to be applied for ensuring that the magnitude and likelihood of exposures and the number of individuals exposed are as low as reasonably achievable, with economic, societal and environmental factors taken into account. Similarly, the standards are applied with a graded approach; both optimization of protection and safety and application of a graded approach require expert judgment.

Appropriateness of a qualitative approach for other safety standards

In other areas, and particularly for what relates to the safety of facilities, the standards are designed to be qualitative and performance based rather than quantitative. This involves several considerations, including the following:

- The objective of establishing technology neutral standards that can be widely used by member states for a wide variety of designs.
- The fact that reliance on quantitative standards could undermine the important use of engineering judgement and would not be in line with the safety philosophy of continuous improvement.
- It might be more difficult to obtain consensus from Member States on quantitative standards reflecting a high level of safety.
- Establishing quantitative criteria also implies establishing a consensus on how to assess/measure compliance with these criteria which, for facilities and activities would be very difficult in a technology neutral approach.
- The standards establish responsibilities and processes and stipulate decisions to be made, i.e. obligation of means rather than obligation of minimum results.

Nevertheless, for certain criteria and where there is a consensus to establish criteria to achieve a high level of safety, it could be envisaged to include a range for these criteria that would represent the variety of designs and provide an incentive to select the most ambitious part of the range in national regulations. Otherwise Safety Reports and TECDOCs may be developed to provide more details or examples of such criteria used in national frameworks.