46th Meeting of the Commission on Safety Standards

17–19 December 2019, IAEA Headquarters, Vienna

Report of the Meeting

Overview of main results of the meeting

A. The following draft safety standards were endorsed:

- DS469: Safety Guide on Preparedness and Response for a Nuclear or Radiological Emergency Involving the Transport of Radioactive Material.
- DS494: Safety Guide on Protection against Internal Hazards in the Design of Nuclear Power Plants.
- DS496: Safety Guide on Advisory Material for the IAEA Regulations for the Safe Transport of Radioactive Material, 2018 Edition.
- DS506: Safety Guide on Schedules of Provisions of the IAEA Regulations for the Safe Transport of Radioactive Material, 2018 Edition.

B. The following draft DPPs were approved:

- DPP DS513: Safety Guide on Leadership, Management and Culture for Safety (revision of GS-G-3.1).
- DPP DS519: Safety Guide on Protection of Workers against Exposure due to Radon.
- DPP DS520: Safety Guide on External Human Induced Hazards in Site Evaluation for Nuclear Installations (revision of NS-G-3.1).
- DPP DS522: Safety Guide on Evaluation of Seismic Safety for Existing Nuclear Installations (revision of NS-G-2.13).
- DPP DS523: Safety Guide on Development and Application of Level 1 Probabilistic Safety Assessment for Nuclear Power Plants (revision of SSG-3).
- DPP DS524: Safety Guide on Radiation Protection Aspects of Design for Nuclear Power Plants (revision of NS-G-1.13).

C. Policy discussion:

- The CSS supports the actions being undertaken by the Secretariat to increase the resources available in MTCD for the publication of the safety standards, and will continue to review the implementation of these measures with the aim of reducing the timescale between CSS approval and final publication.
- The CSS supports the future strategic aims of undertaking the revision of safety standards in batches and by amendment, where appropriate. SPESS will be updated to reflect these changes.
- The CSS supports the draft 'Publication Plan' on safety–security interfaces, including a joint safety–security guide and the tentative list of publications for the 'Technical Report Series 1000'. The Secretariat will provide the CSS with updates on the implementation of this plan.
- A second draft end of term report for the 6th term of the CSS will be prepared and posted for CSS comments by mid-February 2020, and finalized thereafter. The CSS Chair will meet with the DG to discuss the report.

1. Opening session

1.1 Opening of the meeting: DDG J.-C. Lentijo

Mr Juan-Carlos Lentijo, Deputy Director General and Head of the Department of Nuclear Safety and Security, opened the 46th meeting of the Commission on Safety Standards: he welcomed all members and thanked them for their efforts. He also informed the Commission that the new DG, Rafael Mariano Grossi would also be addressing the meeting (see below).

Mr Lentijo noted that the meeting was the last of 6th term of the CSS, and one important task was the preparation of the end of term report with recommendations for the DG and for the next CSS term. He warmly thanked the CSS Chair, Ms D. Drábová on behalf of the Secretariat as well as the CSS members for handling the last eight CSS meetings in a very effective manner.

Mr Lentijo noted that the agenda also included important policy discussions on the following subjects:

- The delays in publishing the drafts endorsed by the CSS;
- Fundraising for the translation of the IAEA Safety Glossary into Arabic, Chinese and Russian;
- A draft 'Publications Plan' for addressing safety–security interfaces;
- IAEA activities related to SMRs and TNPPs.

Finally, Mr Lentijo informed the Commission about the following important events:

- International Conference on Operational Safety of Nuclear Power Plants, Beijing, China, 11–15 May 2020.
- International Conference on Radiation Safety: Improving Radiation Protection in Practice, Vienna, Austria, 9–13 November 2020.
- International Conference on the Safe Transport of Radioactive Material: A Vision for Transport Safety, Vienna, Austria, 2021 (dates to be confirmed).

Mr A. González noted that an important statement on radon had been posted on the IAEA website, and hoped that this could be included in the agenda for this meeting. He supported the statement and suggested that if there were issues in relation to the work done by UNSCEAR on this topic, that these should be communicated directly to UNSCEAR. Mr Lentijo replied that the IAEA statement represented a prudent approach, taking into account both ICRP and UNSCEAR. RASSC will consider the issue further and will provide comments to the relevant organization, as necessary.

Mr González indicated that he had concerns about the programme for the International Conference on Radiation Safety. Mr Lentijo noted that the programme had been developed using a 'bottom up' approach using suggestions from regional events, and stated that other suggestions could be provided for the programme committee to consider.

Opening of the Meeting: DG R. M. Grossi

Mr R. M. Grossi, Director General of IAEA addressed the Commission and welcomed all its members. He emphasised the importance of the work performed by the Commission as a fundamental element in demonstrating the communication between the Secretariat and experts from Member States in establishing international safety standards.

Mr Grossi emphasised the importance of nuclear energy as part of the low carbon economy. This, together with the benefits of other nuclear applications, was of global importance.

Mr Grossi noted that the CSS is a place for debate and discussions in the process of international consensus building. He recognized the current focus of the work in revising the Safety Guides to support the complete set of Safety Requirements, which had already been revised to reflect lessons from the Fukushima Daiichi Accident.

Mr Grossi emphasized that he would request regular updates from the CSS, and seek the advice of the Commission on emerging trends. He stated that his aim was to add value in the reports provided by the Secretariat to Member States, and this included a focus on safety standards.

Ms D. Drábová, Chair of the CSS, thanked Mr Grossi for his recognition of the work of the Commission and indicated the readiness of the CSS to support the DG in his activities. She brought to the attention of DG the delays in publishing the safety standards (see agenda items 1.3 and 6.7), and also the need to ensure timely translations into the official languages. Mr Grossi noted the comments and agreed that these delays need to be addressed.

1.2 Introductions; Adoption of the agenda; Adoption of the 45th CSS meeting report

Ms Drábová welcomed all participants, and noted the following new CSS members:

- Brazil: Mr Renato Di Prinzio
- Japan: Mr Tomoho Yamada
- Republic of Korea: Mr Bohyon Jang
- United States of America: Mr Steven West

A complete list of participants is provided in Annex I.

The agenda for the meeting was approved, and is reproduced in Annex II.

Ms Drábová informed the Commission that the draft report of the 45th CSS meeting had been made available. Comments had been received from the Chair of NUSSC, and these had been incorporated in a revised version posted for final approval. No further comments had been received from the CSS members. The report of the 45th CSS meeting was approved and would be posted on the CSS web site **[Annex III, Action 46.01]**.

1.3 Administrative arrangements for the meeting; Status of the overall structure; Status of the endorsed standards; Response to actions from the previous CSS meetings

Mr D. Delattre informed the Commission of the administrative arrangements for the meeting.

Mr Delattre presented the status of the roadmap for the long term structure of the safety standards, including those recently endorsed by the CSS. He informed the Commission that one Safety Requirements publication (SSR-1) and five Specific Safety Guides (SSG-49, SSG-51, SSG-2 (Rev. 1), SSG-53, and SSG-52) had been published since the last CSS meeting. He also noted that three safety standards endorsed by the Commission were in the final stages of the publication process, and that eight other approved Safety Guides were awaiting editing.

Mr Delattre presented information on timescales for publication, which showed that, although the previous improvements had been maintained, a plateau had been reached and the timescales could be expected to deteriorate in future. The total number of published safety standards was 126, consistent with the long term structure.

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

Mr Delattre described the progress with the actions from the 44th and 45th CSS meetings: see Annex IV.

Mr Delattre noted that there was a backlog due to the queue of draft publications awaiting editing in the IAEA publications department, and that more editing staff were needed to resolve this issue. He stated that if the backlog could be addressed it should be possible to publish safety standards within 10 months of their approval by the Committees.

Mr González stated that the delay in publishing was a key issue, and that this had been noted at the General Conference and by the Board of Governors. He noted that there were further delays in the translation of safety standards, and suggested that, in some cases, multilingual publications might be considered.

Mr G. Nageswara Rao indicated that he had some late comments on DS471. Mr Delattre indicated that the final layout of this publication was still being checked and that these comments could be discussed with the Standards Specialists.

2. Reports from the Safety Standards Committees and the Nuclear Security Guidance Committee

2.1 Emergency Preparedness and Response Standards Committee (EPReSC)

Ms A. Heinrich, EPReSC Chair, reported on the 8th and 9th meeting of EPReSC. During these two meetings, EPReSC had approved three draft standards for submission to CSS, ten draft standards (of which eight are covered by DS509) for submission to Member States for comment, and four DPPs. EPReSC had also cleared two drafts of the Nuclear Security Series. EPReSC 8 had a joint session with RASSC to discuss interface issues.

EPReSC had discussed the midterm plans for updating the road map for the development and revision of safety standards and guidance publications in emergency preparedness and response. EPReSC had decided to proceed with the revision of GSG-2 and use this revision as a means of identifying gaps and needs for additional guidance, which would be further considered by EPReSC. The interfaces between EPR and security had been identified as a priority topic.

In addition, EPReSC had received information on a variety of topics, including: research on EPR; IAEA activities in relation to SMRs and TNPPs; the status of the Safety Report on Attributability and Inference of Risk from Radiation Exposure; activities to support the implementation of GSR Part 7; the current status of EPRIMS; national EPR arrangement in USA and Canada; as well as reports from ENISS, FAO, OECD/NEA, WHO and WNTI.

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

Mr R. Jammal noted that the delay in publishing is causing problems in the application of the safety standards by Member States, and also in the review of the national arrangements during the conduct of EPREV missions. Mr Jammal also commented that the team of experts in another review mission in Canada was different than the one in the original mission, which raised questions about the continuity of knowledge management. Ms Heinrich agreed with the concerns about delays in publishing. Mr R. de La Vega noted that the EPREV missions had assisted in identifying gaps in guidance and that the IAEA had organized workshops in Canada in support of the actions taken to address the findings of the EPREV mission.

Mr González asked about the criteria used for choosing the level of publication (Safety Guide or EPR Series). Ms Heinrich replied that EPR publications allow for more flexibility in content development and for regular updates. Mr de La Vega noted that the EPR series provide detailed technical operational guidance that could not be included in a Safety Guide as the EPR publications are not consensus documents. Mr de la Vega pointed out that the level of publication does not undermine its usefulness to the Member States, and that the Member States provide very positive feedback on the EPR series.

Mr I. Lund asked why the revision of GSG-2 will affect the road map. Ms Heinrich replied that the revision will assist in identifying priorities and gaps in existing guidance.

Mr González expressed concerns that there might be an inconsistency if EPReSC discusses the EPR Series documents at their meetings, while the other committees follow a different approach. Mr Delattre replied that according to the terms of reference for the committees, TECDOCs and Safety

reports do not require approval, but can be presented for information to the relevant committee and that comments can be taken into consideration for the development of the publication.

2.2 Nuclear Safety Standards Committee (NUSSC)

Mr P. Webster, NUSSC Chair, reported on the 47th and 48th NUSSC meetings. During these two meetings, NUSSC had approved four draft standards for submission to the CSS, twelve draft standards (of which eight are covered by DS509) for submission to Member States for comment, and five DPPs. NUSSC had also cleared one draft of the Nuclear Security Series for publication. NUSSC had discussed the delays in the development of the draft DS508 and decided to create a working group to achieve consensus on the draft.

Based on the feedback provided by Member States, NUSSC had discussed the experience of Member States on the process of revision of DS497, a batch of seven closely related Safety Guides. NUSSC concluded that this approach should help in achieving consistency among the drafts. However, more time is needed for Member States and the Review Committees to provide comments on multiple drafts. Therefore, NUSSC had proposed updating the SPESS B process accordingly.

In addition, NUSSC had received presentations on the regulatory arrangements and current developments in Egypt, the Netherlands and India, as well as a presentation by ENISS.

Mr Webster's presentation is available on the CSS web site.

Mr Jammal asked whether NUSSC had checked for potential conflicts with regard to the IAEA guidance on SMRs. Mr Webster replied that NUSSC is not yet specifically addressing SMRs and will wait for Member States to provide their input before considering the establishment of safety standards.

Mr J. Dies Llovera noted the need of Member States for more time to review Safety Guides that are presented in batches. Mr Delattre replied that SPESS B will be revised to allow more time for Member States comments and the reviews by the SSCs.

Mr Dies Llovera expressed concerns on the lack of guidance regarding the licensing of reactors for an operational period of 80 years and on accident tolerant fuel. Mr Webster suggested that this could be brought to NUSSC to consider.

Mr González noted the need to distinguish between floating and non-floating SMRs and also pointed out the differences between small reactors and small modular reactors. Mr Webster clarified that the term 'SMR' has been selected to cover both small and modular reactors and added that NUSSC is not yet engaged in developing guidance for SMRs but is closely following the evolutions in the field.

2.3 Radiation Safety Standards Committee (RASSC)

Ms R. Bly, RASSC Chair, reported on the 46th and 47th RASSC meetings. During these two meetings, RASSC had approved two draft standards for submission to the CSS, eleven draft standards (of which eight are covered by DS509) for submission to Member States for comment, and four DPPs. RASSC-46 included a joint session with EPReSC. Ms Bly noted that OECD/NEA had informed RASSC that, as a matter of policy, OECD/NEA will consider co-sponsor Safety Requirement publications but not Safety Guides.

In addition, RASSC had received updateds at both meetings on the progress of two draft Safety Guides (DS499 and DS500). RASSC also discussed the outcome of a TM on dose conversion factors for radon. Two topical sessions had been held, one during RASSC-46 on communicating radiation risks, and one during RASSC-47 on non-medical human imaging. RASSC had received two presentations on the experience in using NSS-OUI by Australia and Singapore.

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

Ms A.-C. Rigail asked about differences in the dose conversion factors for radon for dwellings and for workplaces. Ms Bly replied that the conclusion from the TM was to use the same dose conversion factor for both, while using reference levels established in terms of activity concentration for practical application in homes and above-ground workplaces. Mr Lund agreed that for dwellings it would be preferable to focus on radon gas concentrations and calculate doses only for the purpose of dose comparisons. Mr Dies Llovera supported this, and stated that Member States need to identify the most appropriate competent authority responsible for protection against radon and should be very cautious when establishing national reference levels.

Mr M. Pinak commented that one of the main outcomes from the TM on radon had been that there was no recommendation to change the requirements in GSR Part 3. He noted that discussions are ongoing and that a further statement in relation to the application of dose conversion factors will be issued.

Mr González supported the IAEA position and remarked on the need to ensure consistency with the underpinning scientific information produced by UNSCEAR. He also noted the importance of the involvement of ILO when considering occupational exposure in relation to radon.

Mr Nageswara Rao commented on the importance of the communication of radiation risks for ensuring public acceptance of nuclear applications. Ms Bly referred to the summaries of the topical sessions held during RASSC meetings for further information.

2.4 Transport Safety Standards Committee (TRANSSC)

Mr P. Hinrichsen, TRANSSC Chair, reported on the 38th and 39th TRANSSC meetings. During these two meetings, TRANSSC had approved three draft standards for submission to the CSS, ten draft standards (of which eight are covered by DS509) for submission to Member States for comment, and two DPPs. DS515 had not been approved for submission to Member States for comments. TRANSSC-39 included a joint session with WASSC. During TRANSSC-39 a side meeting had been organized to discuss denial of shipment.

TRANSSC had also received: updates on the topics being addressed by the Technical Expert Groups; feedback on the Joint European Competent Authorities (EACA) meeting with the Mediterranean Network (MedNet); and presentations on sharing of operational experience and use of the IAEA Safety Standards by Egypt, Switzerland, France and the Republic of Korea.

Mr Hinrichsen's presentation is available on the CSS web site.

Mr González remarked on the universal aspect of transport regulations and suggested that TRANSSC should make efforts to ensure the co-sponsorship of safety standards by the organizations cooperating in the drafting. Mr Lund added that it is important to discuss in more detail the scope of co-sponsorship of the IAEA's publications. Mr Hinrichsen agreed that co-sponsorship in Safety Guide development should be encouraged and Mr S. Whittingham added that this can be raised for discussion during the next TRANSSC meeting.

Mr González noted the importance of a harmonized approach to exemption and clearance. Mr Hinrichsen informed the CSS that TRANSSC and RASSC plan to have a joint session at the end of 2020, where they could discuss this issue.

Mr González referred to the GC resolution on denial of shipment and asked the members of the commission whether a code of conduct could provide a solution to this issue. Mr Hinrichsen agreed that this could be a way forward, and Mr Whittingham proposed to discuss this further in the next TRANSSC meeting in an effort to establish the extent of the problem and investigate potential solutions.

Mr González remarked on the importance of taking into consideration the latest discussions on criticality during the drafting of DS516.

2.5 Waste Safety Standards Committee (WASSC)

Ms M. Golshan, WASSC Chair, reported on the 47th and 48th WASSC meetings. During these two meetings, WASSC had approved six draft standards for submission to the CSS, nine draft standards (of which eight are covered by DS509) for submission to Member States for comment, and four DPPs. WASSC-48 included a joint session with TRANSSC.

WASSC had investigated the potential need for revision of the Safety Fundamentals SF-1, and had concluded that this was not currently necessary. WASSC had discussed strategic issues and priorities for the current term, which include assessing the existing IAEA publications on the transition phase, and a topical session on in-situ decommissioning. WASSC had started exploring whether there is a need to initiate a revision of GSR Part 5 and will continue discussions on this during the next meeting.

WASSC had received updates on the development of draft safety guides, reports on ARTEMIS and reports from technical meetings and conferences.

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

Ms Rigail commented that French representatives in WASSC would present alternatives to in-situ disposal. Ms Golshan replied that WASSC is looking at all possible options that could address increasing decommissioning demands and arising challenges. Mr Jammal remarked that it was important to stay up to date with the best methodologies available for decommissioning.

Mr J. Rowat commented that the phrase 'in situ disposal' was not clearly defined and could include a range of practices, some of which might not be considered acceptable. Ms Golshan replied that it was important that WASSC engaged in this debate, and in doing this WASSC should encourage a range of inputs from Member States on the topic.

2.6 Information on the meetings of the Nuclear Security Guidance Committee (NSGC)

Ms S. Case Lackner, the NSGC Acting coordinator, reported on the 15th and 16th NSGC meetings at which three draft Nuclear Security Series publication had been endorsed for submission to DDG-NS for approval and publication. On one draft publication (NST060), some modifications had been proposed, and a process of tacit approval would be conducted before submission to Member States for comment. Three DPPs had also been approved. All submitted interface documents led by the other review committees were approved.

NSGC had held discussions on a variety of topics, including on the revision of Nuclear Security Fundamentals and Recommendations. The discussion will continue in 2020, and the final decision on the need for a revision is expected at the meeting in December 2020.

NSGC had expressed a desire to explore the possibility of a joint safety standard and Nuclear Security Series publication (Safety Guide/Implementation Guide) on safety–security interfaces. Ms Case Lackner noted that a dedicated discussion on this topic within the Secretariat is planned (see also agenda item 6.3).

Ms. Case Lackner also reported that a feedback questionnaire on the use of nuclear security guidance will be sent out to Member States.

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

Mr A. Hart welcomed the idea of developing a joint publication on safety–security interfaces. Mr H Wanner agreed with this, and added that the early engagement of nuclear security specialists with safety specialists was important.

2.7 Information on the Meeting of the Chairs on 16 December 2019

Mr Delattre reported that the meeting of the Chairs of the Review Committees and of the Commission had addressed the following topics:

- The need for more editing resources in MTCD;

- The templates for presenting DPPs and draft publications;
- Layout and updating of the Review Committee webpages;
- Communicating details of upcoming committee meetings;
- The copyright notice for safety standards and Nuclear Security Series publications;
- The format for Member State comment resolution tables;
- Revision of SPESS B to consider more time for Member States comments and review by the committees when Safety Guides are revised in batches;
- Feasibility of automatic messages to committee members when a document is posted for comments.

3. Approval of draft publications and DPPs

NOTE: The drafts submitted to the Commission at this meeting will be subsequently posted as a final edited version on the CSS web site. CSS members will be notified and given a period of two weeks to provide comments. At the end of this period, if there are no objections, the draft will be considered to be endorsed (i.e. by 'silent approval') **[Annex III, Action 46.02]**.

3.01 Draft Safety Guide DS469 on Preparedness and Response for a Nuclear or Radiological Emergency Involving the Transport of Radioactive Material (revision of TS-G-1.2)

Mr M. Breitinger presented the draft Safety Guide, including the scope of the publication and the structure. He mentioned that Mr S. Whittingham from NSRW is co-technical officer for this draft. He complimented the technical editorial review which had been very valuable, and described the subsequent comments from TRANSSC and their resolution. He emphasized that the draft aimed to provide balanced recommendations for both the transport and emergency response communities. Mr Breitinger indicated that CSS comments had been received from France, India, Japan the Republic of Korea. All the comments had been resolved. Clarifications on rejected comments were provided.

Mr Breitinger's presentation is available on the CSS web site.

Ms Heinrich confirmed that EPReSC supported the draft publication, and was pleased with meeting the timescales for the development of the draft, and the active participation of Member States.

Ms Rigail noted that in France the experience was that a longer time period is needed for decontamination of areas affected by emergencies involving the transport of radioactive material. Mr Breitinger responded that much discussion had taken place about the scenarios presented in the draft, and it was agreed that it was important to include timescales, even though these might be optimistic in some circumstances.

Mr. Gonzalez supported the draft. He noted that the South Pacific Forum had taken an interest in the transport of radioactive material, and suggested that the Secretariat might work with the Forum to promote the application of this safety standard. Mr Jammal supported this, and enquired whether there was any conflict with the requirements of SSR-6 (Rev. 1). Mr Breitinger and Mr Hinrichsen confirmed that the Safety Guide had been very carefully drafted to avoid any such conflicts.

The Commission endorsed the draft for publication, subject to subsequent silent approval of the final edited version.

3.02. Draft Safety Guide DS494 on Protection against Internal Hazards in the Design of Nuclear Power Plants (revision and combination of NS-G-1.7 and NS-G-1.11)

Mr A. Amri presented the draft Safety Guide, including the background, objectives, structure and status of the draft. Mr Amri indicated that six CSS comments had been received: two from France, two from India, one from Japan, and one from the Republic of Korea. All the comments had been addressed and resolutions provided. There were no unresolved comments.

Mr Amri's presentation is available on the CSS web site.

Mr Webster confirmed that NUSSC supported the draft publication, and congratulated Mr Amri on taking into account a variety of views from Member States.

Mr González indicated that this was a very important Safety Guide. He also suggested that care was needed in the use of the word 'frequency': this was appropriate where supporting data is available, otherwise the word 'probability' should be used. Mr G. Rzentkowski agreed, but noted that the word 'frequency' is the word that is normally used in relation to safety assessments.

The Commission endorsed the draft for publication, subject to subsequent silent approval of the final edited version.

3.03. Draft Safety Guide DS496 on Advisory Material for the IAEA Regulations for the Safe Transport of Radioactive Material, 2018 Edition (revision of SSG-26)

Mr Whittingham presented the draft Safety Guide, including the objective of the publication as well as its scope and structure. He emphasized the need to ensure that Safety Guides that support the application of SSR-6 (Rev. 1) are updated in a timely manner. Mr Whittingham indicated that no CSS comments had been received.

Mr Whittingham's presentation is available on the CSS web site.

Mr Hinrichsen noted that TRANSSC had held detailed discussions on the draft and supported its submission to the CSS.

Mr González noted that DS496 was an important safety standard that contained a lot of practical guidance, and hoped that it would a priority for translation. Mr Whittingham agreed with this, and informed the Commission that there were plans to provide a Spanish version of the e-learning that had been developed for the application of SSR-6 (Rev. 1).

The Commission endorsed the draft for publication, subject to subsequent silent approval of the final edited version.

3.04. Draft Safety Guide DS506 on Schedules of Provisions of the IAEA Regulations for the Safe Transport of Radioactive Material, 2018 Edition (revision of SSG-33)

Mr Whittingham presented the draft Safety Guide, including the objective of the publication as well as its scope and structure. He emphasized that this was also a revision of a Safety Guide to directly support the application of SSR-6 (Rev. 1). Mr Whittingham indicated that two CSS comments had been received from India, and that these had been resolved.

Mr Whittingham's presentation is available on the CSS web site.

Mr Hinrichsen confirmed that TRANSSC supported the draft publication.

Mr González supported the draft publication, but noted that the historical conversion to Becquerels had resulted in values in the Transport Regulations that implied a greater accuracy than originally intended by the 'order of magnitude' values in Curies.

The Commission endorsed the draft for publication, subject to subsequent silent approval of the final edited version.

3.05. Draft DPP DS513 on Leadership, Management and Culture for Safety (revision of GS-G-3.1)

Mr K. Maekelae presented the background to the proposed draft General Safety Guide, the objective and scope and scheduling of the draft publication and its relationship with other safety standards. Mr Maekelae indicated that CSS comments had been received from India, Israel and Japan, and an additional comment had been received from NUSSC. All comments had been addressed and resolved.

Mr Maekelae's presentation is available on the CSS web site.

Mr Webster confirmed that NUSSC supported the draft publication.

Mr Lund commented that the information presented regarding the relationship between DS513 and other safety standards was very useful. Ms Rigail informed the Commission that France had also posted two late comment; one on the relationship with relevant ISO standards on management systems, and one on the meaning of "new and emerging practices". Mr Maekelae confirmed that these comments could be taken into account in the drafting of DS513. Ms Rigail also noted that the concept of 'leadership' may have very different implications according to the cultural background. For example, it does not accurately translate into French. She suggested the Secretariat to ensure an appropriate cultural diversity in the drafting and reviewing groups for this document.

Mr Dies Llovera noted that regulatory bodies are expected to have technical expertise, but that this expertise might not extend to the subjects of leadership and management. Consequently, regulatory bodies should be encouraged to develop expertise in these and associated areas.

The Commission approved the DPP.

3.06. Draft DPP DS519 on Protection of Workers against Exposure due to Radon

Ms O. German presented the background to the proposed draft Safety Guide, including the outcomes of a CS that had determined that further guidance on this subject was needed. Ms German presented the justification for the new Safety Guide and the proposed objective, scope and structure. CSS comments had been received from France, and it had been agreed that these would be addressed in the drafting of the Safety Guide.

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

Ms Bly confirmed that RASSC supported the draft publication.

Mr González noted that this was a very important Safety Guide, and suggested that an important focus was the definition of occupational exposure in relation to radon. He also stated that the Safety Guide needed a robust scientific basis, and that he was pleased to see that occupational exposure to thoron was also to be addressed. Mr González also noted the importance of including ILO in the development of the Safety Guide.

Mr Dies Llovera stated that the Safety Guide would be very useful because of the large number of exposed persons. He noted the difficulty in applying regulatory controls, which might be beyond the resources of the regulatory body for nuclear safety. Mr Dies Llovera also noted that a large number of radon measurements were necessary, and that the accreditation of measurement laboratories was an important aspect.

Ms German noted the comments from Argentina and Spain. Ms Drábová agreed that the regulatory infrastructure for protection against radon will vary from State to State, and suggested that the Czech Republic was a good example of how this had been approached by the regulatory body for safety. Ms Drábová agreed that the accreditation of laboratories was important.

Mr Lund welcomed the Safety Guide, and stated that there was a need for guidance on measurement techniques. He noted that GSR Part 3 already provided the basis for the protection of workers against radon, including a broad definition of occupational exposure.

The Commission approved the DPP.

3.07. Draft DPP DS520 on Hazards Associated with External Human Induced Events in Site Evaluation for Nuclear Installations (revision of NS-G-3.1)

Mr A. Altinyollar presented the background, objective and scope of the proposed draft Safety Guide and the schedule for the draft publication. Mr Altinyollar indicated that CSS comments had been received from France, Israel and the Republic of Korea. All comments had been addressed and

resolved.

Mr Altinyollar's presentation is available on the CSS web site.

Mr Webster confirmed that NUSSC supported the draft publication.

Ms Rigail noted that Section 10 was a new proposal, and asked whether the intention was to provide different recommendations for different types of nuclear installation. Mr Altinyollar replied that Section 10 was intended to provide guidance on the application of the graded approach to such installations.

Mr S West asked whether the draft would address nuclear security events. Mr Altinyollar replied that this was out of scope, although relevant Nuclear Security Series publications would be referenced. He also noted that the recommendations provided would address may of the same types of events, albeit in relation to accidental causes.

Mr González suggested that the comments from France (on addressing different types of nuclear installation) and the United States of America (on addressing safety–security interfaces) should be considered by NUSSC, to confirm the scope of the proposed publication. Mr Webster noted that a joint session between NUSSC and NSGC was planned, and that this could be discussed then.

Mr Lund enquired whether combinations of different types of event were to be addressed. Mr O. Coman replied that such combinations were addressed in relevant Safety Requirements publications, and would be addressed to some extent in the drafting of DS520, while noting that practical experience of certain combinations of events was limited.

The Commission approved the DPP.

3.08. Draft DPP DS522 on Evaluation of Seismic Safety for Existing Nuclear Installations (revision of NS-G-2.13)

Mr Coman presented the background, objective and scope of the proposed draft Safety Guide and the schedule for the draft publication. Mr Coman indicated that CSS comments had been received from France and the Republic of Korea. All comments had been accepted.

Mr Webster confirmed that NUSSC supported the draft publication, noting that it would consider multiple unit installations, and take into account a significant amount of feedback from IAEA peer review services.

The Commission approved the DPP.

3.09. Draft DPP DS523 on Development and Application of Level 1 Probabilistic Safety Assessment for Nuclear Power Plants (revision of SSG-3)

Mr S. Poghosyan presented the background, objective and scope of the proposed draft Safety Guide and the schedule for the draft publication. He also focused on the additional issues that would be considered in the revised scope. Mr Poghosyan indicated that CSS comments had been received from India and that these had been addressed and resolved.

Mr Webster confirmed that NUSSC supported the draft publication, noting that it was a very focused revision but with an increased scope. This included software reliability, which was a difficult issue, but one which needed to be addressed.

Mr Jammal agreed that this was a significant challenge, and also stated that it was important to communicate that PSA is a tool – and is not used to demonstrate where a facility is safe or unsafe. Ms Drábová agreed with this comment.

Mr González suggested that the draft was an opportunity to distinguish between probabilities established on the basis of frequency data, and subjective probabilities based on judgement.

Mr Poghosyan agreed to consider this in the drafting of DS523, but noted the need to also ensure consistency of terminology with other safety standards.

Mr Dies Llovera supported the decision to expand the scope to the spent fuel pool, and suggested that interim storage facilities should also be included in the scope. Mr Poghosyan replied that this had already been discussed by NUSSC; the spent fuel pool was included because this was directly related to the reactor operation, whereas it could be argued that interim storage was more suitable for consideration in level 2 PSA. He also noted that, in terms of a Safety Guide, there was limited experience of PSA for interim storage facilities, but that it might be possible to consider this in an informational publication.

The Commission approved the DPP.

3.10. Draft DPP DS524 on Radiation Protection Aspects of Design for Nuclear Power Plants (revision of NS-G-1.13)

Ms C. Toth presented the background, objective, scope and structure of the proposed draft Safety Guide and the schedule for the draft publication. Ms Toth indicated that one CSS comment had been received from the Republic of Korea, and that this had been addressed and resolved.

Mr González expressed his thanks to Ms Toth, who is leaving the Agency early in 2020 – and these thanks were repeated by Ms Drábová and Mr Lund. Mr González stressed the need to ensure that DS524 was consistent with GSR Parts 3 and 7, and with GSG-7, GSG-8, GSG-9 and GSG-10. He also suggested that co-sponsorship should be sought from at least ILO. Ms Toth agreed that these issues were very important and would be taken into account in the drafting.

Mr Hart commented that the drafting would require close cooperation between NUSSC and RASSC and asked how the lead committee had been decided. Ms Toth replied that this had been considered in detail and NUSSC had been chosen because of the emphasis on the design of NPPs. Mr Webster and Ms Bly confirmed that NUSSC and RASSC would work together in the development of the draft.

The Commission approved the DPP.

4. DPPs and Draft Nuclear Security Series publications for information

4.1 Draft Implementing Guide NST058: National Nuclear Security Threat Assessment, Design Basis Threats and Representative Threat Statements

Mr K. Horvath presented the draft Implementing Guide for information, and outlined the development process as well as the outcomes in terms of the extended scope and contents of the draft publication. Mr Horvath summarized the comments received from Member States, and how these had been resolved. He also summarized the reasons why some comments had not been accepted.

Mr Horvath's presentation is available on the CSS web site.

5. Progress report

5.1. Progress report on the preparation of a Safety Report to address the conclusions of the 2012 UNSCEAR Report (see action 43.03 from the 43rd CSS meeting)

Ms Asfaw reminded the Commission of the background to this Safety Report, and reported that a CM had been held in March 2019 to prepare the DPP for a Safety Report to provide practical guidance, including case studies, on how to apply the concepts of:

- Retrospective attribution of radiation health effects;
- Prospective inference of health risks from radiation exposures;

- Prediction of notional health effects for comparative purposes (e.g. the use of collective dose).

Ms Asfaw reported that the DPP had been subsequently approved by the Coordination Committee, as part of the usual publication process. Volunteers from the Review Committees and the CSS started drafting the text in September 2019. The inputs will be assembled by the Secretariat to create a first draft. It is likely that a Consultancy Meeting will need to be convened in 2020 to refine the draft. The target publication date is end of 2020, depending on progress in the drafting and review. Progress reports will be provided to CSS and the Review Committees.

Ms Drábová commented that the progress made was consistent with the original expectations. Ms Asfaw agreed, but also noted that there was likely to be a significant amount of work to produce a consistent first draft.

Mr González reported that Argentina is very happy with the work done so far, which has exceeded expectations. He noted that upcoming events at NEA in January 2020 and in Switzerland in March 2020 could also provide useful input. Ms G. Hirth supported these comments and thanked the Secretariat for the work done so far.

6. Policy discussions

6.1. Status of the long-term structure of safety standards and future approach for the review and revision of the set of Safety Requirements.

Mr Delattre presented the progress made towards the long term structure of the safety standards, paying particular attention to publications either under development or planned to be revised in the near future. He concluded that good progress had been made in finalizing the long term structure, with only a small number of older Safety Guides still needing to be addressed.

Mr Delattre noted that reviews of the Safety Requirements publications were now being considered. He suggested that the reviews of related Safety Requirements publications should be undertaken as a single 'package' and that any subsequent revisions should be made by amendment. The commission expressed support for this approach, noting that some changes to SPESS to increase the timescales for review would also be needed **[Annex III, Action 46.03]**.

Mr González noted that a '4th level' of the safety standards ('safety practice') had been discontinued some time ago, but suggested that this might be reinstated, for example for the EPR Series publications.

Mr M. Markovits suggested that this approach should be one of the priorities for the next CSS term. Mr Lund suggested that the experience from the simultaneous review and revision of safety standards should be considered in the next term of the CSS to ensure that this is the best approach in practice.

6.2. Briefing on SMRs and Transportable Nuclear Power Plants and discussion

Mr Caruso introduced two presentations on IAEA activities in relation to Small Modular Reactors (SMRs) and Transportable Nuclear Power Plants (TNPPs).

Mr P. Villalibre presented the ongoing activities of the NS department on the approach to developing a safety and licensing framework for SMRs, and highlighted challenges related to the varied and innovative designs and the lack of operating experience. He focussed on the applicability of the IAEA Safety Requirements, using a graded approach, to SMRs intended for near term deployment. Requirements and corresponding recommendations and guidance in the areas of safety assessment and design safety of nuclear power plants are of particular relevance, and for TNPPs the application of SSR-6 (Rev. 1) and GSR Part 7 are also important considerations. Mr Villalibre also described the work of SMR Regulators' Forum.

Mr Villalibre's presentation is available on the CSS web site.

Mr H. Khartabil presented the ongoing activities of the NE department, including the Technical Working Group on SMRs and the INPRO preliminary study on legal and institutional issues for TNPPs. He noted that the NE department focusses on information exchange, education and training, Coordinated Research Projects, as well as publication of technical and scientific practice on SMRs and TNPPs.

Mr Khartabil's presentation is available on the CSS web site.

Mr. Markovits noted that the abbreviation SMRs could lead to misunderstandings as the original term referred to 'Small and Medium Reactors' and now it was understood to mean 'Small Modular Reactors'. Mr Khartabil stated that, while both "modular" and "medium" are used, 'Small Modular Reactors' is more approporiate for the main topics of his presentation (for example, the IAEA Booklet on slide 4 of the presentation uses the term Small Modular Reactors and this term is more appropriate for TNPPs).

Ms K. Alm-Lytz raised the issue of applicability of existing national requirements to new reactor designs. If a national decision is in place to embark on a new technology, the regulatory body has to enable this. Being part of the SMR Regulators' Forum, Finland emphasized the difficulty of harmonizing international regulations without referring to a particular technology. Mr Rzentkowski suggested that SMRs represented an opportunity to harmonize national requirements, but emphasized that the IAEA focus was on a technology neutral approach.

Mr Dies Llovera commented that regulatory bodies needed to proactively follow developments in SMRs.

Mr Jammal underlined that the activities of NS and NE departments are in line with the message of DG Grossi on nuclear power being part of the solution for addressing climate change. He added that in Canada the main challenge for embarking on SMRs is the public perception of applying a graded approach to safety.

Mr González noted that SMRs and TNPPs have different safety challenges, and should be considered separately. He also suggested that there is a limit to how far a technology neutral approach can be applied in the case of SMRs. He stated that IAEA should proceed with caution when developing standards on technologies where little operational experience exists in Member States.

Ms Rigail commented that the work undertaken so far had indicated that there is no current need for changes to the safety standards. It was also important that regulatory bodies avoided giving the impression that they favoured a specific technology.

Ms Heinrich indicated that SMRs and TNPPs would be discussed at the joint session between EPReSC and TRANSSC.

Mr R. Sharafutdinov commented that the Russian Federation had a lot of experience in regulating nuclear ice breakers, and this was used in developing regulations for the first floating nuclear power plant. However, the regulatory body is taking a case-by-case approach to other reactor designs.

Mr Caruso confirmed that the intention of the Secretariat was to continue with the activities presented, and that no immediate changes to the safety standards are planned.

6.3. Draft Publications Plan on Safety–Security Interfaces

Mr Delattre presented the draft Publications Plan on Safety–Security Interfaces, which had been prepared at the request of both the CSS and NSGC. The Publication Plan summarizes the existing and planned publications that relate to safety–security interfaces – these publications are outside the safety standards series and Nuclear Security Series publications, and focus on the newly established Technical Report Series 1000 collection. In addition to these publications, Mr Delattre reported that NSGC had proposed the development of a joint consensus-level guide on safety–security interfaces, which could be published as both a safety standard and an NSS publication.

Mr Gonzalez noted that the CSS had spent a lot of time discussing this issue, and there still remained some misunderstandings concerning the interfaces between safety and security.

Ms Alm-Lytz, Mr K Weidenbrück and Mr Lund all expressed support for the draft Publication Plan, and suggested that the involvement of the Review Committees in the process should be considered in more detail.

Mr West said that it was important to define what is meant by 'safety–security interface', to ensure a common understanding. Mr Delattre confirmed that INSAG and AdSec were working on a definition.

Mr Hart suggested that the CSS should be recommending a general approach to this subject, which the Review Committees could then follow. He recommended that the Commission identify ways of bringing safety regulators and security regulators together to share good practice and to consider the decision making process when the needs of safety and security are not fully aligned.

Mr Wanner agreed with the Publication Plan, and suggested it should also take note of the WENRA report from April 2019 in which safety–security interfaces are identified. He emphasized the need for the safety community and the security community to engage from the start and move forward together.

Mr Dies Llovera queried the proposed Curriculum for a Masters' Degree in Nuclear Safety and Security, and suggested that this was too narrow to be sustainable in the long term.

Mr West supported the comments from the UK, and suggested that the meetings of the next CSS term could include presentations from CSS members to share their experience in relation to addressing safety–security interfaces. Ms Drábová agreed with this proposal **[Annex III, Action 46.04]**.

Ms Hirth also supported the Publication Plan, and suggested that the CSS should consider the outcome of the Hague conference in November 2019, at which experience in relation to this topic was shared. Ms Henrich supported the planned activities and enquired about the progress of the joint INSAG and AdSec publication. Ms Case-Lackner confirmed that they were working on a draft.

Ms Drábová summarized that the CSS supported the draft Publication Plan on Safety–Security Interfaces, including the development of a consensus-level guide **[Annex III, Action 46.05]**.

6.4. Application of the concept of graded approach. Results from the Senior Safety and Security Regulators' meeting held during the 63rd General Conference. Current Secretariat's initiatives under development

Mr M. Santini presented the IAEA activities in relation to the application of the graded approach in core regulatory functions. This presentation covered the background to the graded approach, the IAEA perspective, current IAEA guidance on the application of a graded approach by regulatory bodies, and IAEA initiatives on the application of graded approach in the regulation of nuclear safety. These initiatives include the development of two TECDOCs: one on the application of a graded approach in regulating nuclear installations; and one on the application of a grade approach in regulating the safety of radiation sources.

6.5. Translation of the IAEA Safety Glossary

Mr Delattre confirmed that an estimate had been obtained for the cost of translating the 2018 Edition of the Safety Glossary into each of the official languages. Funding had already been secured for the translations into French and Spanish, and he called upon the support of the CSS in obtaining funding for the translations into Arabic, Chinese and Russian **[Annex III, Action 46.06]**.

Mr González suggested that the Safety Glossary could be submitted to the Board of Governors, as a means of arranging for its translation.

Mr Markovits expressed his support for the Glossary and indicated that its translation was as importance as the translation of the Safety Requirements publications. He also suggested that Member States could arrange for their own translations.

6.6 Preparation of the end of term report

Mr Delattre reminded the Commission that a draft end of term report (excluding the recommendations for the 7th term of the CSS) had been posted two months prior to the meeting, and followed the previously agreed structure. Ms Drábová noted that the aim was to produce approximately six recommendations and to produce a final version of the report by the end of January 2020. This led to an extensive discussion on the draft report, the main points of which are summarized below.

Mr González stated that he would like to see a reaffirmation that the work of UNSCEAR provides the basis for the safety standards. He also proposed that the CSS should be involved in providing a practical solution to the delays in publishing, and suggested that standards approved by the CSS could be submitted to the Board of Governors for information, as means of speeding up the translation process. Mr González also recommended that the report should include a description of the Safety Report discussed in agenda item 5.1, and make reference to a '4th level' of publications (containing 'safety practice') outside of the safety standards.

Mr Markovits complimented the draft report, and suggested that Section 2 could include the number of draft standards endorsed at each meeting and make it clear that the Commission had effectively and efficiently discharged its duties in this respect.

Mr West also complimented the draft report, and suggested that the recently adopted 'silent approval' process should be described in the report. Mr Jammal agreed with this, and also supported the need to prioritise the translation of published standards. He also suggested that recommendations for the next CSS terms should include timelines for actions.

Mr Webster proposed that Section 2(h) of the draft report should include a statement on what is achievable in terms of publication timescales, and suggested that 8 months (between CSS approval and final publication) was a reasonable target.

Ms Golshan noted that the Review Committees also needed to consider their future strategy, and suggested that the CSS should encourage joint sessions of the committees.

Mr Wanner also complimented the draft report, and supported the suggestion to submit all safety standards to the Board of Governors. However, Mr Delattre explained that this would create a new queue in the publishing process, in which all standards had an equal (i.e. lower) priority. Ms Rigail agreed with this assessment, and stated that the CSS should not be overly prescriptive in terms of how the issues with editing resources might be solved by the Secretariat.

Ms Rigail also noted that the draft end of term report could better explain the work of the Review Committees. Mr Delattre requested that each of the Chairs of the Review Committees provide a one-page summary of their activities and strategic objectives by 15 January 2020, for inclusion in the CSS end of term report **[see Annex III, Action 46.07].**

Mr Nageswara Rao suggested that the future focus should be on developing e-learning to support the use of the safety standards.

Mr González complimented the EPR Series publications and suggested that these were also based on international consensus. Mr Delattre and Mr de la Vega both confirmed that the content of the EPR Series are not based on international consensus, although there was a general agreement about the value of the EPR Series.

Mr Sharafutdinov suggested that when establishing new standards, care should be taken when new concepts, such as 'cliff-edge effects' and 'practical elimination' are introduced. Mr Webster noted that a NUSSC Working Group has been formed to consider the definition of 'practical elimination'.

Mr González suggested that the subject of radon should also be addressed in manner that is consistent with the statement on the IAEA website. Mr Delattre agreed that this could be included in Section 2 of the draft report.

Mr Delattre presented suggestions for the format of recommendations for the next CSS term – these are reproduced in Annex V. He explained that these had been formulated from the perspective of the users of the safety standards, and were intended to provide a framework rather than a 'shopping list' of interests.

Mr González commented that it was also important to increase the emphasis on how to apply the standards, for example through education and training programmes.

Mr Hart suggested that the recommendations needed to be more strategic in terms of what the CSS should do in future. He also suggested that it was not enough to just identify gaps in the standards – it was more important to consider whether there was a need to fill these gaps. He suggested that DPPs could include an assessment of the potential outcome from producing the proposed new standard. Mr West agreed that there was a need to be more strategic and to focus on outcomes. Mr Lund also agreed that it was important to focus on where new safety standards are really needed.

Mr Delattre responded that the DPP could be improved to include a consideration of the potential impact of the proposed draft standard. Ms Golshan and Ms Rigail supported this suggestion.

Mr Jammal agreed that a more strategic approach was required, and suggested that this should identify what actions are required, and by when. He also suggested that the Review Committees could advise the CSS on strategic priorities. Mr Lund agreed that strategic input from the Committees was important for the CSS.

Mr Dies Llovera agreed with the comments from the United Kingdom, and suggested that some of the recommendations listed in Annex V could be combined.

Mr Nageswara Rao suggested that the next CSS term should also include actions in relation to the attribution of radiation health effects, and the inference of health risks from radiation exposures.

Mr Markovits supported the need for an outcome-based strategic approach, and asked how the graded approach fitted into the proposed recommendations. Mr Delattre replied that this was an important factor in ensuring the applicability of the standards.

Mr González supported the need for a more strategic approach, and also suggested that the CSS could engage in more detailed reviews of the draft texts.

Ms Rigail supported the overall approach presented in Annex V, and suggested that specific topics and examples could be included under individual recommendations.

Mr Hart commented that the strategic aims of the CSS should include recommendations on combining publications to manage the overall number of published safety standards. Mr Delattre agreed that this was a strategic issue, but also noted that it was important to also consider the target audience.

Ms Drábová indicated that the intention was to post the second draft of the end of term report early in 2020, and to request comments from CSS members in order that the report could be finalized by mid-February 2020 **[Annex III, Action 46.07]**. Ms Drábová confirmed that she would brief the DG on the report. She also suggested that recommendations from the CSS in relation to the submission of standards to the Board of Governors should be left with the DG for further consideration.

6.7 Presentation of, and discussion on, the publishing process

Ms Gulley, Head of the IAEA Publishing Section, gave a presentation that described the IAEA publishing process, as well as the activities undertaken to issue, promote and distribute IAEA publications, as well as to assist customers and external vendors. She noted that the Publishing

Section has the capacity to issue 100-150 publications per year. A close cooperation with Technical Officers throughout the entire manuscript development process is needed to minimize possible delays at the end of the process.

Ms. Gulley stated that safety standards and NSS series are edited to ensure the highest quality of the publications. She presented details of current and projected staffing in the Publishing Section, and described the rationale behind prioritization of the work.

Ms Gulley presentation is available on the CSS web site.

Ms Drábová thanked Ms. Gulley for a very comprehensive presentation and highlighted the importance of all the activities carried out by the Publishing Section. She noted that the existing delays in publishing after the final approval by CSS deprives Member States from using the safety standards. Ms. Drábová emphasized the need for a common effort to address the publishing queue **[Annex III, Action 46.08]**.

Mr Delattre noted that the Safety Standards Development Section works closely with the Publishing Section, Standards Specialists meet regularly with editors, and work on the compatibility of IT systems is ongoing. However, the long queue of manuscripts could only be solved by assigning additional human resources.

Mr Caruso clarified that translation is conducted by other parts of the Secretariat.

Mr Webster highlighted the additional challenge of the IAEA rotation policy whereby trained editors are lost from the Publishing Section.

Mr Nageswara Rao commented that it would be useful if draft standards approved by the CSS were made available for Member States prior to publication. Mr Delattre responded that the draft standards are available for the members on the CSS web page.

Mr Gonzalez emphasized that the main issue is providing adequate resources for publishing documents, which is one of the core activities of the IAEA. He also noted that Safety Standards published in other official languages also require proper editing.

7. Use of IAEA safety standards in Member States

7.1 Israel

Mr Markovits gave a presentation (available on the CSS web site) on the nuclear safety infrastructure and regulatory framework in Israel. He summarized the major participants in nuclear safety in Israel, then described the Israel Atomic Energy Commission (IAEC), the Nuclear Licensing and Safety Office (NLSO), and the nuclear installations in Israel. His presentation also explained the use of safety standards and other IAEA publications, as well as listing future challenges.

In the discussion that followed, Mr Markovits gave more information on the recruitment and training of professional staff, and the use of other documents, such as regulations from other States.

7.2 Republic of Korea

Mr H. W. Park gave a presentation (available on the CSS web site) on the use of IAEA safety standards in Korea. He summarized the organization and role of the Nuclear Safety and Security Commission and the Regulatory Framework for Nuclear Safety in Korea. He also provided an overview of Korea's nuclear power plants and described the use of IAEA safety standards in relation to these facilities. Mr Y. Yoon presented the programme established by the Korean Institute for Nuclear Safety for harmonization with international standards. He described the background to this programme, the harmonization process, the progress made and the next steps.

In the discussion that followed, Mr Park and Mr Yoon gave more information on the revised accident management requirements in Korea, the number of staff engaged in the harmonization of standards, and actions taken in Korea following the Fukushima accident.

8. Information on the activities of the OECD Nuclear Energy Agency

Mr N. Muroya and Ms V Rouyer presented a summary (available on the CSS web site) of recent NEA activities in relation to the following areas:

- Overall situation at the NEA;
- Nuclear regulation;
- Multinational design evaluation programme (MDEP);
- Nuclear safety research;
- Nuclear science (FIDES);
- Human aspects of nuclear safety;
- Radioactive waste management;
- Nuclear decommissioning and legacy management;
- Radiological protection and public health;
- Legal aspects of nuclear safety.

In the discussion that followed, more information was provided in relation to work on accident tolerant fuel. It was also agreed that the activities of IAEA and OECD/NEA were complementary and that opportunities for further coordination of activities should be explored.

9. Miscellaneous. Report of the meeting, date of the next meetings; Status for the renewal of the CSS for its 7th term

Mr Delattre indicated that a draft list of actions resulting from the 46th CSS meeting would be provided for comment to the CSS members **[Annex III, Action 46.09]** and that the draft report of the 46th CSS meeting would be posted on the CSS web site for comment **[Annex III, Action 46.10]**. Mr Delattre informed the Commission that all presentations made at the 46th CSS meeting would be posted on the CSS web site **[Annex III, Action 46.11]**.

Mr Delattre informed the Commission that the dates for the next meetings are **14–16 April 2020** and **the week of 16-20 November 2020**. These would be the first meetings of the 7th term of the CSS.

Mr Delattre confirmed that the Secretariat would issue Note Verbals for new CSS members early in 2020.

ANNEX I

PARTICIPATION AT THE 46th CSS MEETING

The Commission

A. J. González, Argentina

G. Hirth, Australia

R. Di Prinzio, Brazil (sent apologies – unable to attend)

R. Jammal, Canada

J. Yu, China

D. Drábová (Chair), Czech Republic

M. R. M. Ezz El-Din, Egypt

P. Tiippana, Finland (sent apologies – unable to attend; represented by K. Alm-Lytz)

A.-C. Rigail, France

T. Elsner, Germany (sent apologies – unable to attend; represented by K. Weidenbrück)

G. Nageswara Rao, India

M. Markovits, Israel

T. Yamada, Japan

B. Jang, Republic of Korea

H. Mohd Ali, Malaysia (sent apologies – unable to attend)

M. Z. A. Baig, Pakistan

A. Ferapontov, Russian Federation

M. Žiaková, Slovakia

O. Phillips, South Africa

J. Dies Llovera, Spain

I. Lund, Sweden

H. Wanner, Switzerland

A. Hart, United Kingdom

S. West, United States of America

Observers

L. Vinhas, AdSec (sent apologies – unable to attend)

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

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

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

N. Muroya, OECD-NEA

Chairpersons of the Review Committees

EPReSC: A. Heinrich

NSGC: S. Bayer (sent apologies – unable to attend)

NUSSC: P. Webster

RASSC: R. Bly

TRANSSC: P. Hinrichsen

WASSC: M. Golshan

Representatives and associated experts

M. Aparicio, K. Goto, F. Gov, T. Granier, R. Lewis, T. Nakajima, H. W. Park, V. Rouyer, R. Sharafutdinov, Y. S. Yoon, J. Zegri Reiriz.

IAEA Staff Members

R. M. Grossi, Director General of IAEA

J.-C. Lentijo, Deputy Director General, Department of Nuclear Safety and Security

G. Caruso, Director, Office of Safety and Security Coordination (NSOC)

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

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

H. Mansoux, M. Pinak, J. Rowat, D. Senior, C. Spitzer.

A. Altinyollar, A. Amri, K. Asfaw, M. Breitinger, O. Coman, O. German, S. Geupel, K. Horvath, T. Karseka-Yanev, H. Khartabil, K. Maekelae, M. Nikolaki, S. Poghosyan, P. Sales Barbosa, P. Shaw, C. Toth, P. Villalibre, M. Yuzawa.

Coordinators of Review Committees and of the Commission on Safety Standards

R. de la Vega, Incident and Emergency Centre (IEC), EPReSC

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

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

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

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

S. Case-Lackner, Safety Standards and Security Guidance Development Section (NSOC), NSGC

D. Delattre, Scientific Secretary of the CSS (NSOC), Safety Standards and Security Guidance Development Section

ANNEX II

AGENDA OF THE 46th MEETING OF THE COMMISSION ON SAFETY STANDARDS: 17–19 December 2019

1. Opening Session

1.1. Opening of the Meeting by DDG J.-C. Lentijo and DG R. M. Grossi.

1.2. Introductions of new members; Adoption of the Agenda; Adoption of the 45th CSS meeting report.

1.3. Administrative arrangements for the meeting; Status of the overall structure; Status of the endorsed Standards, and response to actions from the 44th and 45th Meetings and remaining actions from the previous meetings.

2. Reports from the Safety Standards Committees and the Nuclear Security Guidance Committee

2.1. Emergency Preparedness and Response Standards Committee; A. Heinrich, Chairperson/R. de La Vega, Scientific Secretary.

2.2. Nuclear Safety Standards Committee; P. Webster, Chairperson/M. Svab, Scientific Secretary.

2.3. Radiation Safety Standards Committee; R. Bly, Chairperson/T. Colgan, Scientific Secretary.

2.4. Transport Safety Standards Committee; P. Hinrichsen, Chairperson/S. Whittingham, Scientific Secretary.

2.5. Waste Safety Standards Committee; M. Golshan, Chairperson/G Bruno, Scientific Secretary.

2.6. Information on the meeting of the Nuclear Security Guidance Committee; S. Case-Lackner, Scientific Secretary.

2.7. Summary of the meeting of the Chairs held on 16 December 2019.

3. Approval of draft publications and DPPs

3.01. Draft Safety Guide DS469 on Preparedness and Response for a Nuclear or Radiological Emergency Involving the Transport of Radioactive Material, M. Breitinger.

3.02. Draft Safety Guide DS494 on Protection against Internal Hazards in the Design of Nuclear Power Plants, A. Amri.

3.03. Draft Safety Guide DS496 on Advisory Material for the IAEA Regulations for the Safe Transport of Radioactive Material, S. Whittingham.

3.04. Draft Safety Guide DS506 Schedules of Provisions of the IAEA Regulations for the Safe Transport of Radioactive Material, 2018 Edition, S. Whittingham.

3.05. Draft DPP DS513 for a Safety Guide on Leadership, Management and Culture for Safety (revision of GS-G-3.1), K. Maekelae.

3.06. Draft DPP DS519 for a Safety Guide on Protection of Workers against Exposure due to Radon, O. German.

3.07 Draft DPP DS520 for a Safety Guide on External Human Induced Hazards in Site Evaluation for Nuclear Installations (revision of NS-G-3.1), A. Altinyollar.

3.08. Draft DPP DS522 for a Safety Guide on Evaluation of Seismic Safety for Existing Nuclear Installations (revision of NS-G-2.13), O. Coman.

3.09. Draft DPP DS523 for a Safety Guide on Development and Application of Level 1 Probabilistic

Safety Assessment for Nuclear Power Plants (revision of SSG-3), S. Poghosyan.

3.10. Draft DPP DS524 for a Safety Guide on Radiation Protection Aspects of Design for Nuclear Power Plants (revision of NS-G-1.13), C. Toth.

4. DPPs and draft Nuclear Security Series publications for information

4.01 Draft Implementing Guide NST058 National Nuclear Security Threat Assessment, Design Basis Threats and Representative Threat Statements, K. Horvath.

5. Progress report

Progress report by K. Asfaw on the preparation of a Safety Report to address the action 43.03 from the 43rd CSS meeting and specifically to provide practical guidance, including case studies, on how to apply the concepts of:

- Retrospective attribution of radiation health effects;
- Prospective inference of health risks from radiation exposures;
- Prediction of notional health effects for comparative purposes (e.g. the use of collective dose).

6. Policy discussion

6.1. Status of the long-term structure of safety standards and future approach for the review and revision of the set of Safety Requirements.

6.2. Briefing on SMRs and Transportable Nuclear Power Plants and discussion.

6.3 Draft Safety–Security Interface Publications Plan

6.4. Application of the concept of graded approach. Results from the Senior Safety and Security Regulators' meeting held during the 63rd General Conference. Current Secretariat's initiatives under development.

6.5. Translation of the IAEA Safety Glossary.

6.6. Discussion of the draft end of term report and process for its finalization and approval.

6.7 Presentation of, and discussion on the publishing process.

7. Use of IAEA safety standards in Member States

7.1 Israel

7.2 Republic of Korea

8. Information on activities of the OECD Nuclear Energy Agency

9. Miscellaneous. Report of the meeting. Dates of the next meetings

47th meeting: Week from 14 to 17 April 2020

48th meeting: Week from 16 to 20 November 2020.

Status for the renewal of the CSS for its 7th term.

ANNEX III

ACTIONS ARISING FROM THE 46th MEETING OF THE COMMISSION

46.01. The final report of the 45th CSS meeting to be uploaded on the CSS web page. **[Action: Secretariat, CSS Scientific Secretary]. Done**

46.02. The MTCD edited versions of the draft safety guides DS469, DS494, DS496 and DS506 to be posted on the CSS web page, as soon as they are available. CSS members to be alerted by email for a two week silent approval procedure with the objective of confirming the CSS endorsement of these drafts. **[Action: Secretariat, CSS]**.

46.03. The CSS supports the future strategic aims of undertaking the revision of safety standards in batches and by amendment, where appropriate. SPESS will be updated to reflect these changes. **[Action: Secretariat, Review Committees, CSS]**.

46.04. The meetings of the next CSS term will include presentations from CSS members to share their experience in relation to addressing safety–security interfaces. **[Action: CSS members, CSS Scientific Secretary]**.

46.05. The CSS supports the draft 'Publication Plan' on safety–security interfaces, including a joint safety–security guide and the tentative list of publications for the 'Technical Report Series 1000'. The Secretariat will provide the CSS with updates on the implementation of this plan. **[Action: Secretariat]**.

46.06. The Secretariat is still seeking additional funding for the translation of the 2018 Edition of the Safety Glossary in Arabic, Chinese and Russian. **[Action: Secretariat, CSS]**.

46.07. A second draft end of term report will be prepared, taking into account the discussions at the 46th meeting of the CSS. The Chairs of the Review Committees will provide a one-page summary of activities and strategic interests. The draft report will be posted for CSS comments by mid-February 2020, and finalized thereafter. The CSS Chair will meet with the DG to discuss the report. **[Action: CSS Scientific Secretary, Secretariat, Review Committee Chairs, CSS, CSS Chair].**

46.08. The CSS supports the actions being undertaken by the Secretariat to increase the resources available in MTCD for the publication of the safety standards, and will continue to review the implementation of these measures with the aim of reducing the timescale between CSS approval and final publication. **[Action: Secretariat, CSS]**.

46.09. A draft list of actions resulting from the 46th CSS meeting to be provided to the CSS members for comments. **[Action: Secretariat, CSS Scientific Secretary]. Done (this list).**

46.10. The draft report of the 46th CSS meeting to be posted for comments. **[Action: Secretariat, CSS Scientific Secretary].**

46.11. The presentations made at the 46th CSS meeting to be uploaded on the CSS web page. **[Action: Secretariat, CSS Scientific Secretary]. Done.**

ANNEX IV

STATUS OF ACTIONS FROM THE 44th AND 45th MEETINGS OF THE COMMISSION ON SAFETY STANDARDS

44th MEETING

44.03 The MTCD edited versions of the draft safety guides DS403, DS471, DS481, DS482, DS486, DS488, DS491 and DS492 to be posted on the CSS web page when available. The CSS members to be alerted by email for a two week silent approval procedure, with the objective of confirming the CSS endorsement of these drafts. **[Action: Secretariat, CSS]. Done, except for DS486.**

44.07 The Safety Glossary is an essential supporting publication for the Safety Requirements publications and other safety standards. Funds should be sought for the translation of the 2018 Edition of the Safety Glossary into all official languages. **[Action: Secretariat]. Funding for translation into French and Spanish has been obtained. Translation into Arabic Chinese and Russian is under Agenda item 6.5 and Action 46.06.**

45th MEETING

45.01 The final report of the 44th CSS meeting to be uploaded on the CSS web page. **[Action: Secretariat, CSS Scientific Secretary]**. **Done.**

45.02 The Secretariat is to produce a summary "road map" that includes the currently planned initiatives to issue publications on managing the safety–security interface, for presentation at the 46th CSS meeting. **[Action: Secretariat, CSS Scientific Secretary]. Done – see agenda item 6.3 and Action 46.05.**

45.03 The MTCD edited versions of the draft safety guides DS419, DS420, DS434, DS440, DS449, DS459, DS475, DS487 and DS489 to be posted on the CSS web page, as soon as they are available. CSS members to be alerted by email for a two week silent approval procedure with the objective of confirming the CSS endorsement of these drafts. **[Action: Secretariat, CSS]. Not completed - none of these have been edited yet.**

45.04 The results of the CM held in March 2019 and the draft DPP for the Safety Report to be presented for information to the Review Committees at their meeting during the Summer 2019 and progress reports to be made at future meetings of the Review Committees and the CSS. **[Action: Secretariat]**. **Done - presented at the Summer and Autumn 2020 meetings of the Committees, and agenda item 5.**

45.08 A draft list of actions resulting from the 45th CSS meeting to be provided to the CSS members for comments. **[Action: Secretariat, CSS Scientific Secretary]. Done (this list).**

45.09 The draft report of the 45th CSS meeting to be posted for comments. **[Action: Secretariat, CSS Scientific Secretary]. Done – see agenda item 1.2.**

45.10 The presentations made at the 45th CSS meeting to be uploaded on the CSS web page. **[Action: Secretariat, CSS Scientific Secretary]. Done.**

ANNEX V

SUGGESTED FORMAT OF RECOMMENDATIONS FOR END OF TERM REPORT

Strategic approach, from the users' perspectives

1) **The users should find the standards: → They should be available, i.e. published. Recommendation 1 is to request to address the publishing delays and translation issues**
2) **The users can read the standards, not only individual publications, but also the related publication, horizontally or top-down → Recommendation 2 is to promote the use of NSS-OUI**
3) **The users should be able to understand and apply the standards → stability, consistency and user-friendliness → Recommendation 3 is to continue to promote the revisions by amendment and by batches (and adjust the process as necessary) and find guidance on the application of the graded approach concept.**
4) **There are interfaces between safety and security and therefore the users should find guidance and supporting documents on how to address these interfaces → Recommendation 4 is to develop guidance and supporting documents on how to address the safety security interfaces**
5) **Like for item one, the users should find the standards they need → Recommendation 5 is to identify users' needs, collect feedback in a systematic manner -through NSS-OUI- and perform gap analyses**
6) **Support understanding of the content of the standards and avoid misunderstanding → Recommendation 6 is to develop supporting documents, at Safety Reports, Technical reports or TECDOC, like documents on risk communication, understanding of the concept of practical elimination**