NUCLEAR SAFETY STANDARDS COMMITTEE
(NUSSC)

Report of the 37th Meeting
1 – 4 July 2014

International Atomic Energy Agency
Vienna
SUMMARY OF CONCLUSIONS OF 37TH NUSSC MEETING ON DRAFT SAFETY STANDARDS REVIEWED

- The NUSSC Chairman reminded the participants of the new mandate of NUSSC which has begun on 1 July 2014. One-third of new members compose the new formation of NUSSC. Presentations were made on SPESS A and B, Guidance on safety/security interface and IT Platform for future review/revision of the Safety Standards, as well as on the report from the previous meeting of the 5 Chairs of the review committees.

- The IAEA stated making progress in drafting the comprehensive report post-Fukushima that will be available in December 2014 in order to be reviewed and discussed by the Board of Governors at the beginning of 2015. This report will be composed of 5 chapters describing the context, the causes and the consequences of the accident.

- With its comments implemented, NUSSC approved DS360 (Safety of Nuclear Fuel Reprocessing Facilities), DS381 (Safety of Nuclear Fuel Cycle Research and Development Facilities), and DS460 (Communication and Consultation with Interested Parties by the Regulatory Body) to be submitted to the Member States for comments.

- With its comments implemented, NUSSC approved DS431 (Design of Instrumentation and Control Systems for Nuclear Power Plants) to be submitted to the CSS. DS462 (Revision through Addenda of GSR Part 1, NS-R-3, SSR-2/1, SSR-2/2, GSR Part 4) and DS457 (Preparedness and Response for a Nuclear or Radiological Emergency) were updated according to the lessons learned from Fukushima Daiichi accident and these documents were also approved by NUSSC to be submitted to the CSS.

- With its comments implemented, NUSSC approved DPP DS484 (Site Evaluation for Nuclear Installations), DPP DS485 (Ageing Management for Nuclear Power Plants), DPP DS486 (Establishing the Safety Infrastructure for a Nuclear Power Programme), DPP DS487 (Design of Fuel Handling and Storage Systems for NPPs) and DPP DS488 (Design of the Reactor Core for Nuclear Power Plants) to be submitted to the CSS.

- As regards Security Series, NUSSC cleared the drafts NST002 Regulations, Agreements and Associated Administrative Measures for Nuclear Safety, and NST023 Physical protection of nuclear facilities, so that these documents can be submitted to the Member States for comments. DPP NST045 Computer Security for Nuclear Security was also cleared, for development purposes.

- Finally, DS427 (Assessment of Facilities and Activities for Protection of the Public and Protection of the Environment) was submitted to the NUSSC Members for comments and discussion.
1. GENERAL ISSUES

Opening of the Meeting (Agenda Item 1.1) – Mr. J. Lyons, DIR-NSNI, welcomed the NUSSC Members to the 37th Meeting of the Committee. He took this opportunity to remind the participants of the most important achievements in the last months and of some major upcoming activities.

He focused on the following main events since the last NUSSC meeting (16-18 October 2013):

- The 6th Review Meeting of Contracting Parties to the Convention on Nuclear Safety. Sixty-nine countries participated in that event. The conclusions of this meeting are available on the website of the IAEA. In particular, it was decided to hold a Diplomatic Conference in order to discuss the follow-up to be given to the Switzerland’s proposal to amend Article 18 of the Convention on Nuclear Safety. Part of the meeting was also dedicated to take stock of the actions carried out in different countries after the Fukushima Daiichi accident;

- International Expert Meetings (radioprotection, serious accidents, etc.) took place;

- A meeting on the Code of Conduct on Safety of Research Reactors;

- EPREV missions (South Africa, Tajikistan), IRRS missions (Czech Republic, Belgium, Pakistan, Jordan, follow-up in the United States and in Russia), OSART missions (India, Switzerland) recently carried out. Several missions are planned for the months to come;

- The IAEA is making progress in drafting the comprehensive report on Fukushima accident. It will be available at the end of 2014 and will be presented in 2015 to the Board of Governors for publishing.

Mr. Lyons also emphasized different points regarding this session of the NUSSC meeting:

- The update of the safety requirements post-Fukushima (DS462);
- Several DPPs enabling the update of the guide on Fukushima Daiichi accident.

Finally, Mr. Lyons indicated that Peter Hughes (Safety Assessment Section) and Miroslav Lipar (Operational Safety Section) will leave the IAEA soon.

Chairman’s Introduction (Agenda Item 1.2) – NUSSC Chairman, Mr. Fabien Féron, greeted the participants and also highlighted the key items to be discussed during this session of the NUSSC meeting.

He stated that a new mandate of the NUSSC had begun on 1 July 2014. Several new members were appointed and part of the meeting enabled them to familiarize themselves with the role of
NUSSC and its methods of work.

As regards the review of safety standards:

- Several projects of requirements (DS457, DS462), whose update aimed to incorporate the lessons learned from Fukushima accident, were at the final stage of preparation (preliminary review prior to the approval by the CSS). About DS462, a NUSSC working sub-group gathered at the beginning of the year and the participants were thanked for their involvement.

- A draft guide (DS431) was at the final stage of preparation (preliminary review prior to the approval by the CSS).

- Three draft guides (DS360, DS381 and DS460) were submitted to NUSSC with a view to consulting Member States.

- Five DPPs were submitted to the review of NUSSC, including those concerning the revision of safety requirements (DS484 DPP, revision of NS-R-3). A document (DS427) on the impact of nuclear activities on people and the environment was on the agenda for information and discussion, as it had already been the case during the previous NUSSC meeting. Information was also provided as to the review of SSG-2.

As regards the documents of Security Series, one DPP (NST045 DPP) was on the agenda of this session of the NUSSC meeting, and a few guides (NST002, NST023 – NST036 was removed from the agenda at the last minute) were submitted to NUSCC with a view to consulting the Member States.

**Agenda of the 37th NUSSC Meeting (Agenda Item 1.3)** – approved with a few minor adjustments.


**Actions of NUSSC Meetings (Agenda Item 1.5)** – The degree of progress of the actions decided during the 36th NUSSC Meeting was presented by Miroslav Svab, Scientific Secretary of NUSSC. The actions were accomplished or dealt with during this session of the NUSSC meeting.

**Dates of the next meeting (Agenda Item 1.6)** – The dates proposed for the next NUSSC meeting have been accepted: 38th NUSSC Meeting will take place from 24 to 28 November 2014.

**SPESS A and B / Introduction (Agenda Item 1.7)**: this presentation was conducted by D. Delattre.

**Safety Standards recently published or in short-term** – The Secretariat presented a global progress report on drawing up safety standards based on the 14 steps provided in SPESS (Strategies and Processes for the Establishment of Safety Standards). The IAEA put forward the documents which will be reviewed by the NUSSC soon, i.e. the documents being currently at steps 2, 6 or 10.
A few new safety standards were published by the IAEA since the previous NUSSC Meeting, including:

- **SSG-27** Criticality Safety in the Handling of Fissile Material (DS407);
- **SSG-28** Commissioning for Nuclear Power Plants (DS446);
- **SSG-30** Safety Classification of Structures, Systems and Components in NPPs (DS367);
- **NS-R-5** Safety of Nuclear Fuel Cycle Facilities (revision 1) (DS439).

To date, in terms of nuclear safety, the situation may be summarized as following:

The Secretariat also presented a progress report on the elaboration of safety standards projects in accordance with the 14 SPESS steps.

NUSSC confirmed the usefulness of this information.

**Terms of Reference of the review committees and NSGC (Agenda Item 1.8)** – The IAEA updated the mandates of all review committees (NUSSC, RASSC, TRANSSC, WASSC) and these mandates are applicable for the mandate which has started on 1 July 2014. This update was the opportunity to promote a greater convergence between the NSGC mandate and the mandate of the other committees. The Secretariat emphasized that the NUSSC mandate covers 4 years (and not 3, as previously) in order to synchronize the renewal of the review committees and NSGC.

A few questions regarding the connections between the IAEA Director General, the Deputy Director General, the CSS and the review committees were addressed.

Given the new formation of NUSSC, that greeted about 1/2 of new members, the Secretariat introduced SPESS A and B. During the NUSSC Meeting, the following issues were discussed:

- The possibilities to have at the earliest, at step 7, the feedback from the Member States before the beginning of their consultation;
- The importance and the difficulty to provide a national vision.
- The consistency of the positions expressed given the parallel development of several safety standards;
- The role of the IAEA Coordination Committee in the process of working out safety standards;
- The interfaces safety/security in the IAEA publications and the matters of terminology or lack of parallelism in the pyramid of publications;
- The definition of “consensus” and the difference compared to “unanimity” or “majority”;
- The long-term structure of safety standards and the conditions to stray from it.

The NUSSC Chairman stressed the significance of those procedures, while acknowledging that flexibility was sometimes necessary. The importance of electronic consultations and the respect of deadlines to submit the comments – and, for the IAEA, the need to indicate how it will carry on with the process – was also emphasized.

Report from the previous meeting of the 5 Chairs of the review committees (7 April 2014) (Agenda Item 1.9) – F. Féron presented the report. He explained that the day before the CSS meeting, a meeting of the Chairs of the consultative committees took place. In particular, the discussions focused on:

- The idea of providing the new members of the review committees with a quick training;
- The development of SPESS A and B and the content of SPESS C in terms of recommendations to the contributors for the interface safety/security;
- The progress made in developing a new computer tool for the preparation and the publication of safety standards;
- The implementation of the update of safety standards in the aftermath of Fukushima accident;
- The OIOS audit on the intermediate structure of safety and security committees.

CSS 35th Meeting Report (Agenda Item 1.10) – The Secretariat introduced a synthetic session record of the last CSS meeting (35th meeting in April 2014). Several points were addressed during the discussions:

- A summary of the implementation of safety standards’ long-term structure;
- The improvement in the update of safety standards post-Fukushima;
- The triennial reports of the review committees;
- The subjects to be discussed during the next Senior Regulators’ Meeting.

In particular, the CSS approved the following DPPs:

- DPP for Safety Requirements on Safety of Research Reactors, revision of NS-R-4 (DS476);
- DPP for Safety Requirements on Safety of Nuclear Fuel Cycle Facilities, revision of NS-R-5 (DS478);
- DPP for a Safety Guide on Operating Experience Feedback for Nuclear Installations, revision of NS-G-2.11 (DS479);
- DPP for a Safety Guide on the Design of the Reactor Coolant System and Associated Systems in NPPs, revision of NS-G-1.9 (DS481);
- DPP for a Safety Guide on Design of Reactor Containment Systems for NPPs, revision of
NS-G-1.10 (DS482);
- DPP for a Safety Guide on Severe Accident Management Programme for NPPs, revision of NS-G-2.15 (DS483).

The CSS also approved the following guides:

- Safety Guide on Design of Electric Power Systems for NPPs, revision of NS-G-1.8 (DS430);
- Safety Guide on Instrumentation and Control Systems and Software Important to Safety for Research Reactors (DS436);

The Secretariat introduced, in a fairly detailed manner, its approach and the progress made in the development of a new computer tool (IT platform) for the preparation and the publication of safety standards. The Secretariat stressed the expected functionalities and their relevance for the users of safety standards as well as for the preparation of safety standards. The Secretariat said it had the budget to conduct this project and it had established a team to see this project through. The development of technical requirements has greatly moved forward and the first purchases have been initiated.

**NUSSC Sixth Three Year Report and recommendations for the 7th NUSSC term (Agenda Item 1.11)** – At the end of the previous mandate, the Chairman of the NUSSC finalized the triennial report; he thanked the persons who suggested a few adjustments. This report was presented at the last CSS meeting. It was appreciated and the work achieved by NUSSC was complimented. This report is available on the NUSSC website. The recommendations related to the new mandate of NUSSC were introduced.

**Review of the SSG-2 (Agenda Item 1.12)** – The review of SSG-2 was presented to the audience by J. Yllera. This review aimed to determine whether developments were necessary to take into account the lessons learned from the Fukushima Daiichi accident. It brought out insufficiencies resulting from the publication of SSR-2/1, GSR Part 4 and the deletion of GS-G-1.2. Following the previous NUSSC Meeting, the IAEA initiated a “gap analysis” in order to formalize the aspects which deserve to be better developed in SSG-2. An intermediate point was presented in February 2014 to a NUSSC Working Group. At this stage, the IAEA considered two possibilities:

a) To prepare a DPP for the revision of SSG-2;
b) To prepare a DPP for the new guide “engineering safety assessment”, taking on points included in GS-G-1.2.

The IAEA has not chosen between one of those options yet.

During the NUSSC Meeting, the discussions focused on:

- How to reflect the role of mobile equipment and which analysis and rules should be applied;
- The possibility to explain better the concepts put forward after Fukushima Daiichi accident (cliff edge effects...) or already discussed (DEC, practical elimination...);
- The possibility to elaborate a DPP for the revision of SSG-2 at the next NUSSC Meeting;
- The scope of the installations covered by GSR Part 4 and the need to have recommendations more applicable to nuclear power plants;
- The ambitious nature of the project.

⇒ NUSSC supported the IAEA initiative to clarify the need of developments.

⇒ NUSSC invited the IAEA to prepare a DPP for the update of SSG-2, with a realistic scope for a mid-term publication and to suggest a way of moving forward for the same term on more ambitious and difficult topics (DEC, practical elimination...); if appropriate, thanks to a publication different than a safety standard.

2. REVIEW OF IAEA SAFETY STANDARDS

Status of Safety Standards (Agenda Item 2.1) – M. Svab informed the NUSSC Members of the status of safety standards before the documents were presented to the audience one by one.

a) Documents expected to be approved by NUSSC to be submitted to the CSS

DS457 Preparedness and Response for a Nuclear or Radiological Emergency (Revision of GS-R-2 (Agenda Item 2.2) – E. Buglova presented this document. The IAEA conducted the consultation of Member States in the second half-year 2013. It gave rise to 900 comments from 27 Member States and 9 international organizations. A new version of this document was prepared.

Prior to the NUSSC Meeting (as well as RASSC and NSGC meetings), more than 160 comments were issued (including a few from NSGC Members) on that new version, and almost 3/4 of the comments were considered as editorial by the IAEA. A short while before the NUSSC Meeting, an updated version (dated 14 June 2014) of DS457 was posted on the website of the IAEA.

WASSC, RASSC and NSGC approved the document. RASSC requested some modifications to DS457, in particular the deletion of Appendix III. The NSGC requested to delete the definitions related to security.

During the NUSSC Meeting, the discussions focused on:

- The definitions (contingency plan, security plan) that were removed from the document;
- The applicability of 6.23 (mobile equipment) for the installations included in category I which are not nuclear power plants;
- The fact that paragraph 4.5 includes the phase of “recovery” beyond the management of the emergency phase;
- Taking into account accidents not anticipated in the design of nuclear power plants (table 1, 4.20, 5.25, 6.25…) and the mention of “beyond design extension conditions”. The
general idea is to be prepared for unexpected events, which is the usual approach retained by the organizations managing crises;

- The comments of RASSC regarding the use of the word “safe”;
- The fact that it might exist a new version of DS457 after RASSC meeting.

⇒ The NUSSC approved the submission of DS457 to CSS, in its updated version, dated June 2014, with Appendix III deleted.

DS462 Revision through Addenda of GSR Part 1, NS-R-3, SSR-2/1, SSR-2/2, GSR Part 4 (Agenda Item 2.3) – D. Delattre reminded the audience of the fact that the document, equivalent to a DPP for DS462, was approved at the end of 2012 on the basis of a “gap analysis” carried out by the IAEA and examined by the review committees, in light of the requirements in force and the lessons learned from Fukushima Daiichi accident.

The consultation of Member States took place in the second half-year 2013 and gave rise to about 400 technical comments, in addition to editorial comments. The NUSSC sub-group met at the beginning of 2014 to discuss with the Secretariat about the actions to be taken regarding the comments received.

Prior to the meeting of the review committees, a new version of DS462 was posted on the website of the IAEA, including the developments following the proofreading by the Technical Editors. This meeting gave rise to more than 100 comments (coming from 26 Member States or international organizations), about half of which on SSR-2/1. Two weeks before the NUSSC Meeting, a new version of DS462, taking into account the above-mentioned comments, was posted on the website of the IAEA (i.e. the consolidated versions of GSR Part 1, GSR Part 4, NS-R-3, SSR-2/1 and SSR-2/2). The changes made were highlighted in yellow.

During the presentation of each review committee, the Secretariat chose to focus on the comments submitted by NUSSC, essentially built on the comments that were not accepted by the Secretariat.

TRANSSC, WASSC and RASSC approved the documents without modification. The objective of the Secretariat was to obtain the agreement of NUSSC to submit DS462 to the CSS for approval, during the 36th CSS meeting in November 2014, and then to submit it to the Board of Governors for authentication.

⇒ With the modifications described hereinafter, NUSSC approved the submission of DS462 to the CSS.

- DS462/GSR Part 1 (Agenda Item 2.3.1) – The document was presented by H. Mansoux, who emphasized the changes made in paragraphs 2.8 (independence of the regulatory body), 4.39a (periodical safety magazines) and 4.67 (involvement of stakeholders).

During the NUSSC Meeting, the discussions focused on:
- The point in defining “undue influences”, this word had already been used in GSR Part 1, paragraph 2.8 (d);
- The point in, or even the necessity of, mentioning a requirement on the possibility for the regulatory body to have a direct access to the highest level of government. For the Secretariat, it is a way, not a goal; therefore, it could rather be dealt with it in a guide;
- The use of the expression “reasonably practicable”, instead of “practicable”, in paragraph 4.39a, was suggested. It seems that this is not consistent with SSR-2/1. The terminology should remain consistent and SSR-2/1 will have to be amended;
- 2.8 (f) (international cooperation): the question whether such a paragraph really represents an attribute of independence or constitutes a requirement that would be better placed under Requirement 15 (sharing of operating experience and regulatory experience) was raised;
- The possibility, in paragraph 4.43, to specify the events with a very low probability of occurrence. If the requirement was only about nuclear power plants, such a precision would be most probably possible; however, the scope of GSR Part 1 is much broader.

⇒ NUSSC approved the modification made in GSR Part 1 with the following adjustment in paragraph 2.8 (e): “Furthermore, the regulatory body shall be able to give independent advice and provide reports to government departments and governmental bodies on matters relating to the safety of facilities and activities. This includes access to the highest level of government”.

- DS462/NS-R-3 (Agenda Item 2.3.2) – J. Haddad presented the document. The Secretariat indicated that there was no need for discussion on this item. No question was asked during the NUSSC Meeting.

⇒ NUSSC approved the modifications made in NS-R-3.

- DS462/SSR-2/1 (Agenda Item 2.3.3) – The document was presented to the NUSSC Members by B. Poulat, who stressed the changes implemented in paragraphs 2.13 (concept of defence in depth), 5.21 (hazards and margins/cliff edge effects), 5.21a/5.31a (DEC), 5.63 (interconnections between nuclear units), 6.19/6.19a (heat sink), 6.28a (pressure control in the containment building), 6.44d (continuity of DC power supply), 6.68/6.68a (fuel cooling capabilities).

During the NUSSC Meeting, the discussions addressed the following aspects:

- Paragraphs 1.3, 5.27, 6.17, 6.40, 6.70 and the deletion of “reasonably” in “reasonably practicable” following the debate on GSR Part 1;
- Paragraph 2.13 (4) and the objective of avoiding any off-site contamination in case of accident. The Secretariat emphasized that Section 2 does not set requirements, but only contextual elements (however, Requirement 7 enforces the application of the defence in depth concept). The Secretariat also stressed that the draft directly stemmed from the conclusions of the CNS (2nd Extraordinary Meeting). Nonetheless, the Secretariat acknowledged that the current draft was not fully satisfactory, technically speaking, and
it would be preferable to include “long term off-site contamination” (see Action 7 of the Summary Report of the 6th CNS Review Meeting), or even “significant off-site contamination”. The Secretariat reminded the participants of the fact that this wording will be discussed during the next CNS review meeting;

- The definition of the notion of practical elimination. This notion had already appeared in SSR-2/1 in force;
- The choice by the reactors designers/reactors vendors of a default level of hazards which enable to fulfil a broad range of sites; the choice of the site for the setting up of the reactor will be made upstream;
- The link between 5.21 and 5.73 regarding cliff edge effects. The Secretariat indicated that 5.73 was about safety assessment and 5.21 about equipment.
- The link between 5.21a and 5.21: the Secretariat explained that 5.21a aimed at a reduced number of equipment concerned with an increased margin compared to the risks linked to the site. The Secretariat gave the example of the European Utilities Requirements;
- The importance, or even the necessity, of the interdependent assistance of the nuclear units and of the systems shared between the reactors of one site, and the disadvantages of such possibilities in terms of operating and proving safety. The Japanese representative gave a presentation on that issue, stressing the differences between “sharing” of systems and “interconnection”, and the possible point in separating the treatment applied to the equipment used in case of structural design accidents or DEC;
- The importance, or even the need, to have an alternative heat sink and not only alternative means to use this heat sink;
- Keeping paragraph 6.28 which, indirectly, involves that any ventilation system within the containment building in case of accident must be equipped with filters and not used in short-term;
- The fact that paragraph 6.28 was possibly extended to the confinement function and not limited to the reactor building;
- The need to consider a fusion of the fuel in spent fuel storage, and specifically spent fuel pool (paragraph 6.68);
- The definition of “plant states” and the fact that the last column includes “core melt” and not “fuel melt”. The Secretariat reminded the participants of Requirement 80 which does not “permit” a fusion in spent fuel storage, as mentioned exceptionally in paragraph 6.68. The purpose is, hence, to get rid of this scenario practically;
- The point in defining “significant fuel degradation”. As long as the structural integrity of the fuel remains and that its geometry enables the cooling, one could consider that the degradations are not “significant”. The definition of a severe accident was left in the IAEA Safety Glossary.

⇒ NUSSC approved the modifications implemented in SSR-2/1 with the following adjustments:

- 2.13. (4) The purpose of the fourth level of defence is to mitigate the consequences of accidents that result from failure of the third level of defence in depth. This is achieved by preventing the progression of the accident and mitigating the consequences of a severe accident. The safety objective in the case of a severe accident is that only protective measures that are limited in terms of times and areas of application would be
necessary and that off-site contamination would be avoided or minimized. Sequences that lead to large or early radioactive releases are required to be “practically eliminated”.

- **5.15b.** For multiple unit plant sites, the design shall take due account of the potential for specific hazards to give rise to impacts on several or even all units on the site simultaneously;

- **5.21.** The design of the plant shall provide for an adequate margin to protect items important to safety against levels of external hazards to be considered for design taking into account the site hazard evaluation and to avoid cliff edge effects;

- **5.21a.** The design of the plant shall provide for an adequate margin to protect items ultimately necessary to prevent large or early radioactive releases in the event of natural hazards exceeding those to be considered for design taking into account the site hazard evaluation;

- **5.31a.** The design shall be such that, for design extension conditions, that have not been practically eliminated, protective measures that are limited in terms of times and areas of application shall be sufficient for the protection of the public, and sufficient time shall be available to take such measures;

- **5.63.** To further enhance safety, means allowing for interconnections between units of a multiple unit nuclear power plant shall be considered in the design;

- **6.19b.** The heat transfer function shall be fulfilled for levels of natural hazards more severe than those to be considered for design taking into account the site hazard evaluation;

- **6.28a.** Design provision shall be made to prevent the loss of containment structural integrity in all plant states. The use of these provisions shall not lead to early or large radioactive releases;

- **6.44d.** Continuity of power for the monitoring of the key plant parameters and for the completion of short term actions necessary for safety shall be maintained in the event of a loss of the AC (Alternating Current) power sources;

- **6.68a.** The design shall include the following: (a) Means for monitoring and controlling the water temperature for operational states and for accident conditions that are of relevance for the spent fuel pool […];

- **2.10.** Measures are required to be taken to control exposure for all operational states at levels that are as low as reasonably achievable and to minimize the likelihood of an accident that could lead to the loss of control over a source of radiation […];

- In the preface, “Strengthening severe accident mitigation measures so that, if an accident occurs, off site contamination is avoided”;
Use “reasonably practicable” throughout SSR-2/1 (and not only “practicable”).

NUSSC invited the IAEA to develop a definition of « significant fuel degradation » or to provide more detailed explanations in a guide, for instance in DS488 or in the guide to come on DEC. The suggestion formulated by the Polish representative (“There is no significant fuel degradation when fuel structural integrity and coolable geometry is maintained.”) could be used as a starting point.

- **DS462/SSR-2/2 (Agenda Item 2.3.4)** – The document was presented by V. Ranguelova. The Secretariat indicated that the few comments received prior to the NUSSC Meeting were discussed with the NUSSC representatives before the meeting. The discussions led the Secretariat to implement a few modifications that were presented to NUSSC (paragraphs 1.4, 4.31, 4.44, 5.6, 5.7, 5.8f, 5.9, 7.3, 7.8). Some of them aimed to make the document more consistent with the modifications implemented in SSR-2/1, GSR Part 1 or GSR Part 7, or to use a clearer terminology within the whole document SSR-2/2.

During the NUSSC Meeting, the following points were addressed:

- The idea of a specific requirement on the maintenance of mobile equipment. However, for the Secretariat, the general requirement (Requirement 31) is enough.
- The question of using the words BDBA, DEC, and “accident” or “accident conditions” given the developments resulting from SSR-2/1. Indeed, the current version of SSR-2/2 was published before SSR-2/1 and was not including, for instance, the concept of DEC. The SSR-2/2 draft was quickly reviewed in order to check whether the term “accident conditions” was used advisedly, but the Secretariat considered that any change would require careful consideration, especially because of the use of SSR-2/2.

NUSSC approved the modifications implemented in SSR-2/2, with the following adjustments:

- **Paragraph 1.4, the expression “operational states” should be used instead of “plant states”**;

- **Paragraphs 2.1 and 5.2, the expression “accident conditions” should be replaced with the word “accidents”.**

- **DS462/GSR Part 4 (Agenda Item 2.3.5)** – The document was presented by J. Yllera, who reminded the participants of the large scope of GSR Part 4, which is not restricted to nuclear power plants. A few comments were issued prior to the NUSSC Meeting.

During the NUSSC Meeting, the discussions focused on:

- Paragraph 4.31;
- The footnote 10 defining the cliff edge effect;
- The use of the terms “accident conditions” and “accidents”.

⇔ NUSSC approved the modifications implemented in GSR Part 4, with the following adjustments:

- 4.31. Where appropriate, the safety assessment shall demonstrate that the design is adequately conservative, so that margins are available to withstand external events more severe than those derived from the site evaluation;

- 3.3., 4.33., 4.36., 4.38., 4.64.(a) The word “accidents” should be replaced with “accident conditions”;

- 4.13. The safety assessment shall include a safety analysis, which consists of a set of different quantitative analyses for evaluating and assessing challenges to safety in various operational states, anticipated operational occurrences and accident conditions, by means of deterministic and also probabilistic methods.

DS431 Design of Instrumentation and Control Systems for Nuclear Power Plants (Agenda Item 2.4) – A. Duchac presented the document to the audience. DS431 represents the revision and the combination of two guides: NS-G-1.1 (software) and NS-G-1.3 (instrumentation and control). The DPP for this guide was approved in 2010. The consultation of Member States took place at the end of 2013. It gave rise to 400 comments, a little bit less than half of which were accepted. A new version of the guide was, hence, produced. The IAEA created a working group composed of the IAEA, the United States of America, the United Kingdom and France, in order to deal with the comments received.

Prior to the NUSSC Meeting, about 100 comments were issued and 2/3 of them were accepted. The IAEA tried to develop a guide as consistent as possible with the IEC norms. A short while before the NUSSC Meeting, a table of the comments that were addressed and an updated version of DS431, including the changes deriving from the proofreading by Technical Editors, was posted on the website of the IAEA. DS431 was presented for clearance to NSGC fifteen days before the NUSSC Meeting.

During the NUSSC Meeting, the following points were addressed:

- The upholding of Annex III (areas where practices of Member States differ: reliability determination for digital systems, assessment of common cause vulnerabilities in safety systems, diverse actuation systems): this annex derived from the remarks of the working group and seemed to be the only way to obtain a consensual document. For the Secretariat, this annex lists topics which deserve to be dealt with in Technical Reports.

- Taking into account the interface safety/security: the Secretariat indicated that NSGC suggested several adjustments, mainly to avoid formulations with the term “should”.

- The follow-up to the comments issued by Argentina.
 NUSSC approved the submission of the document, with its Annex III, to the CSS.

b) **Documents expected to be approved by NUSSC to be submitted to the Member States**

**DS360 Safety of Nuclear Fuel Reprocessing Facilities** *(Agenda Item 2.5)* – V. Carr presented the document to the audience. The DPP was approved in 2004. It is a new guide following on NS-R-5. The draft of DS360 was started after stabilization of Appendix IV (Reprocessing) in NS-R-5, in 2012/2013.

Prior to the NUSSC Meeting, about 280 comments were issued and most of them were accepted by the Secretariat. RASSC, WASSC and NSGC gave their approval to consult the Members States.

During the NUSSC Meeting, the discussions focused on:

- The compatibility between the schedule for updating NS-R-5 and the drafting of the guide. The Secretariat considered that the revision of NS-R-5 will not cause a significant change in the requirements. Furthermore, waiting for the new version of NS-R-5 would lead to delay significantly and unnecessarily the publication of the guide for several years;

- In terms of safety analysis, the draft (paragraphs 4.132 and 4.133) indicates that the case study with or without account taken of the safety systems is an alternative. Moreover, the contribution of probabilistic studies was not mentioned. The Secretariat suggested avoiding those topics and referring to GSR Part 4 and its guides of application;

- The fact that the guide will only target “preparation for decommissioning” and not decommissioning itself. The Secretariat stressed that it was consistent with the recent decisions of the review committees on other guides;

- The reference to NS-R-3 regarding the site evaluation which will lead to a significant size cut in DS360 paragraph 3;

- The consistency with the current requirements in NS-R-5 regarding the number of containment barriers (paragraph 4.14). The Secretariat emphasized that NS-R-5 provides “at least 2” barriers, however the common practice is to have 3. The use of both terms “containment” and “confinement” also raised a few questions. The Secretariat explained that those terms were used in a manner consistent with the IAEA Safety Glossary.

 NUSSC gave its approval for DS360 to be submitted to the Member States for comments, after the update of the document in accordance with the information provided during the presentation to the NUSSC.

**DS381 Safety of Nuclear Fuel Cycle Research and Development Facilities** *(Agenda Item 2.6)* – The document was presented by R. Gater, who stated that DS381 DPP was approved in 2006.
DS381 represents a new guide. A first version was approved in 2008, but carrying on the writing of the guide was postponed until the stabilization of Appendix V in NS-R-5. Prior to the NUSSC Meeting, more than 100 comments were issued and a large majority was accepted. RASSC, WASSC and NSGC gave their approval for the consultation of Member States.

During the NUSSC Meeting, the following points were addressed:

- The compatibility between the schedule for updating NS-R-5 and the drafting of the guide. The Secretariat considered that the revision of NS-R-5 will not cause a significant change in the requirements. Furthermore, waiting for the new version of NS-R-5 would lead to a delay significantly and unnecessarily the publication of the guide for several years;

- The fact that the guide will only target “preparation for decommissioning” and not decommissioning itself. The Secretariat stressed that this was consistent with the recent decisions of the review committees on other guides;

- Most of the former text in Chapter 3 will be replaced with a reference to NS-R-3 and associated guides, except paragraph 3.7 retained as reviewed and supported by several committees’ members;

- A paragraph on the chemical risks linked to laboratory design will be added. The Secretariat indicated that this topic was in the margin of IAEA competence, but it was worth to emphasize the risks to be taken into account; the text on that issue will, hence, be short.

⇒ NUSSC gave its approval for this document to be submitted to the Member States for comments.

DS460 Communication and Consultation with Interested Parties by the Regulatory Body (Agenda Item 2.7) – J.-R. Jubin presented the document. The DPP for this guide was approved at the end of 2012. A technical meeting, gathering about 30 participants, was organized at the IAEA at the beginning of 2013.

During the previous meeting, NUSSC gave its approval for the consultation of Member States. Nevertheless, after this approval, RASSC and WASSC decided to modify the drafting of the guide. That is why this guide is once again on the NUSSC agenda. The modifications focused essentially on the regulatory requirements that should be put in place by regulatory bodies regarding communication and consultation with interested parties.

Prior to the NUSSC Meeting, about 60 comments (of which 2/3 were editorial) were issued on the guide and 3/4 of them were accepted by the Secretariat. The table showing what happened to the received comments was posted on the website of the IAEA, as well as a new version of the draft guide. The Secretariat stressed the main modifications deriving from the comments, as well as the rejected comments. RASSC, TRANSCC, WASSC and NSGC gave their approval for the consultation of Member States.

During the NUSSC Meeting, the discussions addressed the following aspects:
- The possibility to highlight communication and consultation as actions enabling to show and increase the independence of the regulatory body;
- The consultation of interested parties of neighboring countries in conditions equivalent to the consultations conducted nationally. On this point, it would be useful to make sure that the draft still fits into the national and international regulations in force.

⇒ With NUSSC comments implemented, DS460 can be submitted to the Member States for comments.

3. REVIEW OF DOCUMENT PREPARATION PROFILES (DPPs)

DPP DS484 Safety Requirements: Site Evaluation for Nuclear Installations (Revision of NS-R-3) (Agenda Item 3.1) – J. Haddad presented the DPP to the audience. The document should review and revise NS-R-3, beyond the developments resulting from DS462 for the lessons learned from Fukushima Daiichi accident. This revision will take into account, in particular, the technical meeting held on December 2012 on the application of NS-R-3. Prior to the NUSSC Meeting, about 30 comments were issued and most of them were accepted. TRANSSC, WASSC and RASSC approved this document.

⇒ NUSSC approved the DPP.

DPP DS485 Safety Guide: Ageing Management for Nuclear Power Plants (Revision of NS-G-2.12) (Agenda Item 3.2) – This DPP was presented by R. Krivanek. The guide was published in 2009. SSR-2/2 contains Requirement 16 (Programme for long term operation: Where applicable, the operating organization shall establish and implement a comprehensive programme for ensuring the long term safe operation of the plant beyond a time-frame established in the licence conditions, design limits, safety standards and/or regulations), as well as Requirement 14 on ageing management. Furthermore, since 2010, the IAEA conducts activities on ageing within the International Generic Ageing Lessons Learned (IGALL) which gave rise to the publication of a summary report in 2014.

Prior to the NUSSC Meeting, about 40 comments were issued and most of them were accepted. Two comments were presented by the Secretariat:

- The comment on the link between the long term operation (LTO) of nuclear power plants and ageing management. The Secretariat suggested that the title of the guide was modified in order to clarify the addressed topic (ageing management to extend the operation of nuclear power plants);

- The comment on the specificities of I&C mechanism and especially of computerized systems. The Secretariat considered that this topic was already addressed in DS431. An update of this DPP was posted on the website of the IAEA a short while before the NUSSC Meeting.
During the NUSSC Meeting, the discussions focused on:

- The integration of this DPP in the long term structure of safety standards. In particular, it was planned to merge NS-G-2.12 with the guides related to the modifications (NS-G-2.3), the maintenance and the in-service inspection in nuclear power plants (NS-G-2.6). The Secretariat currently privileged a later merging;
- The link with SSG-25 on periodic safety review;
- The possibility for the IAEA to develop recommendations for ageing management before the LTO of the nuclear power plants;
- The title of Section 7 which should be limited to the ageing aspects of the programme for LTO.

⇒ NUSSC approved the DPP, provided that a note on the non-merging of NS-G-2.12, NS-G-2.3 and NS-G-2.6 was included.

⇒ NUSSC emphasized that DS485 draft must not lead to the misunderstanding that ageing management occurs only with a view to LTO or that ageing management is the only aspect to be considered within the scope of LTO.

DPP DS486 Safety Guide: Establishing the Safety Infrastructure for a Nuclear Power Programme (Revision of SSG-16) (Agenda Item 3.3) – The document was presented to the NUSSC Members by D. Graves. SSG-16 was published in 2011 and is widely used in the embarking countries. The modifications recently implemented in the safety requirements (GSR Part 3) and those that are being prepared following the Fukushima Daiichi accident (DS462) or for other reasons (DS456) deserve to be taken into account in SSG-16, which is why this DPP was prepared.

Prior to the NUSSC Meeting, about 30 comments were issued. The table presenting the actions taken on these comments, as well as an updated DPP, was posted on the website of the IAEA a short while before the NUSSC Meeting. The Secretariat presented two rejected comments.

⇒ NUSSC approved the DPP.

⇒ NUSSC stressed the usefulness of the table prepared by the IAEA for the identification of the development of safety requirements related to DS462 which must be included in DS486. This table deserves to be completed with progressive developments of other safety requirements (DS456, DS457).

DPP DS487 Safety Guide: Design of Fuel Handling and Storage Systems for NPPs (Revision of NS-G-1.4) (Agenda Item 3.4) – K. Sim presented the document to the audience. The purpose of this DPP is to update NS-G-1.4 (2003) and to take into account the publication of SSR-2/1 (as well as the developments resulting from DS462). The update will also take advantage of the conclusions of the IEM held in 2012 on the irradiated fuel storage systems.
Prior to the NUSSC Meeting, about 30 comments were issued. The table showing the actions taken on those comments, as well as the updated DPP, was posted on the website of the IAEA a short while before the NUSSC Meeting.

The few comments rejected by the Secretariat were presented.

During the NUSSC Meeting, the following points were addressed:

- The possible consultation of TRANSSC on this DPP. It will depend on the decision of the CSS;
- The interface with the constraints linked to the accounting of nuclear material. The Secretariat reminded the participants of the fact that those constraints need to be included at the time of the design phase;
- In the draft table of contents, the content of Section 3 (General Design Basis) seems to be a little bit too detailed.

⇒ NUSSC approved the DPP, provided that the structure of Section 3 was changed.

DPP DS488 Safety Guide: Design of the Reactor Core for Nuclear Power Plants (Revision of NS-G-1.12) (Agenda Item 3.5) – This DPP was also presented by K. Sim. The purpose of this DPP is the update of NS-G-1.12 (2005) in order to take into account the publication of SSR-2/1 (as well as the developments resulting from DS462). The update will also take advantage of the conclusions of the IEM held in 2012 on reactor safety.

Prior to the NUSSC Meeting, about 15 comments were issued. The table presenting the actions taken on those comments, as well as the updated DPP, was posted on the website of the IAEA a short while before the NUSSC Meeting.

The few comments rejected by the Secretariat were presented. During the NUSSC Meeting, the discussions focused on:

- The scope of the guide and its consistency with SSR-2/1 and its paragraph 1.6 (fast reactors, land-based reactors);
- Taking into account, or even removing, accidents with core melt.

⇒ With the modifications implemented on the scope of the guide, which must be consistent with the scope of SRR-2/1, NUSSC approved the DPP. Thus, the following change will be included: “This publication is primarily intended for application to thermal-water cooled-nuclear reactors that are land based”.

4. NSGC Documents for clearance

NST002 Implementing Guide: Regulations, Agreements and Associated Administrative Measures for Nuclear Security (Agenda Item 4.1) – R. Evans presented the document to
the audience. The Secretariat stressed that NSGC examined this document and gave its consent for the draft to be submitted to the Member States for comments, as well as TRANSSC, WASSC and RASSC. A question remains on the level of the document (“implementing guide” or “technical guide”) and the Secretariat considered that the consultation of Member States will be the opportunity to obtain a clearer vision on that topic.

⇒ NUSSC gave its approval for NST002 to be submitted to the Member States for comments.

NST023 Implementing Guide: Physical protection of nuclear facilities (Agenda Item 4.2) – This document was presented to the NUSSC Members by M. Khaliq. The Secretariat reminded the participants of the fact that the drafting of this document had started in summer 2012 and entailed 6 meetings of consultants and one technical meeting, with about 50 participants.

Prior to the NUSSC Meeting, about 60 comments were issued. A short while before the NUSSC Meeting, the IAEA posted the table presenting the actions following those comments, as well as an updated version of NST023. The Secretariat emphasized that most of the comments were accepted. NSGC, WASSC and RASSC gave their approval for the document to be submitted to the Member States for comments.

During the NUSSC Meeting, the following points were addressed:

- The use of the term “defence in depth” in the document, and not “defence in depth for physical protection” (paragraphs 3.6.4 and 4.5.1). The difficulty comes from the fact that there are, within IAEA publications, several definitions of defence in depth;

- The reference to “quality assurance” and not “integrated management system” (paragraphs 3.7.2 and 4.1). The Secretariat emphasized that NSS13, on which NST023 is based, provides for quality assurance but not for integrated management system.

⇒ NUSSC gave its approval for NST023 to be submitted to the Member States for comments, provided that, at the time of the first use of the term “defence in depth”, a footnote referred to the definition given in the Nuclear Safety Publication and not in the IAEA Safety Glossary.

DPP NST045 Implementing guide: Computer Security for Nuclear Security (Agenda Item 4.3) – M. Rowland presented the document. Prior to the NUSSC Meeting, about 20 comments were issued, mainly by the NUSSC Members. The Secretariat talked about the rejected comments. During the NUSSC Meeting, the discussions focused on the strategy of the IAEA to produce 3 documents on cyber security (NSS17 Computer Security at Nuclear Facilities, NST047 Computer Security Methods for Nuclear Facilities, NST036 Implementing Guide Security of I&C Systems at Nuclear Facilities). The IEC stressed that it met people from the IAEA dealing with the concerned topics and that cooperation similar to the one existing for safety aspects will be started.
NUSSC approved the DPP.

NUSSC invited the IAEA, at the time of the organization of consultants meetings, to make sure that the selected consultants have security and safety skills from the very beginning of the drafting of this document.

It should be noted that NST036 Implementing Guide: Security of Instrumentation and Control Systems at Nuclear Facilities was removed from the NUSSC agenda, as NSGC considered that the document was not ready to be submitted to the Member States for comments.

5. DOCUMENTS FOR DISCUSSION

DS427 Safety Guide: Assessment of Facilities and Activities for Protection of the Public and Protection of the Environment (Agenda Item 5.1) - This document was presented to the audience by D. Telleria, technical officer for this document. The DPP for this guide was approved in 2009. Delay in drafting was mostly justified because BSS were published in 2011 and last relevant publications of the International Commission on Radiological Protection (ICRP) were published in 2014. WASSC is the leading committee. A first version of the draft was circulated at the end of 2013 to the review committees. Given the number of comments received and the inputs from RASSC and WASSC, the Secretariat decided to continue the drafting before a new consultation of the review committees.

During the previous NUSSC Meeting, NUSSC expressed doubts on the inclusion of recommendations as to protecting the environment and addressing potential exposure. It was suggested that RASSC/WASSC re-examined the scope of the guide. RASSC/WASSC’s current view is that these topics, even though difficult, should be kept at this stage.

A new draft version of the guide was circulated in April 2014 in preparation for the review committees meetings. More than 250 comments were issued (37% editorial, 54% doable by the Secretariat and 6% critical). The technical officer did not suggest any specific treatment for those comments in advance to the meeting (i.e. no comment resolution table was uploaded on the SSC websites) as the document was not for approval but only for discussion. Recognizing that some of the comments were “critical”, the technical officer expected guidance from the review committees on the way forward.

The technical officer, as well as RASSC and WASSC, deemed reasonable to include recommendations on the assessment of the impact on fauna and flora, especially because the ICRP developed an approach that the Secretariat considered technically sound, practical and consistent with the approach to assess impact on humans. As regards potential exposure, topic addressed in GSR Part 3 (2011), they believe it is necessary to consider the interfaces between emergency preparedness or response and safety assessment (this was discussed and agreed with IEC previous to the meeting). RASSC and WASSC acknowledged that the definition of the source term is a topic of nuclear safety, to be addressed by safety analysts and considered by NUSSC. However, the scenarios of exposure and the use of criteria for potential exposures is a radioprotection issue.

The Secretariat acknowledged that the scope of the guide was broad and was dealing with a topic, at least partially, already addressed in national, or even international, binding regulations. The technical
officer favored, hence, a “panoramic” and “flexible” guide, and this was endorsed by WASSC and RASSC. The technical officer also considered the suggestion by WASSC to modify the guide title (A general framework for radiological environment impact assessment and protection of the public). Furthermore, the technical officer reminded the participants of the elaboration of DS432 (Radiation Protection of the Public and Protection of the Environment) and DS442 (Regulatory Control of Radioactive Releases to the Environment from Facilities and Activities), which is being done in a consistent manner with DS427.

During the NUSSC Meeting, the discussions focused on:

- The fact that WASSC, and not RASSC, was the leading committee. The technical officer emphasized that WASSC is normally covering dischargeable wastes and that RASSC has the lead of DS432, from which DS427 will be elaborated;
- Concerns on addressing potential exposure;
- How ALARA principle is put forward in the draft;
- The possible “panoramic” style, recognizing various approaches between Member States;
- The difficulty of addressing in the same guide potential exposure associated with a wide scope of facilities and activities;
- Taking into account long-term impacts of waste disposal facilities in the guide. The Secretariat indicated that those installations were out of scope and this is clearly indicated in the scope of the guide.

⇒ NUSSC noted that the technical officer did not suggest, prior to the meeting, dealing with the comments issued for the DS427 project.

⇒ NUSSC confirmed the reservations it had previously expressed.

⇒ NUSSC was not in favor of a “panoramic” guide opening to many options (see the results achieved on DS431 which started with a panoramic style). A panoramic document would better fit as a Tecdoc, not as a safety standard.

It should be noted that regarding DS456 Safety Requirement: Leadership and Management for Safety, a few NUSSC Members were wondering why this document was not on the agenda. The Secretariat explained that the Coordination Committee of the IAEA considered that this document could not be presented at this meeting. It will be presented at the next NUSSC Meeting at the end of 2014.

6. MISCELLANEAOUS

Feedback from the Sixth Review Meeting of Contracting Parties to the CNS (Agenda Item 6.1) – For lack of time, the presentation did not take place. It was postponed to the next NUSSC Meeting.

Nonetheless, the initiative of the IAEA to draw up a report post-Fukushima was presented to the NUSSC Members by G. Caruso. The Secretariat reminded the participants of the 12 main actions composing the Action Plan post-Fukushima. Among them, Action no. 11 addresses communication.
The writing of the report on Fukushima will derive from it. The Secretariat summarized the organization put in place to draw up and authenticate this report. The report will be composed of a synthesis (about 50 pages possibly) and a technical/scientific section (with more than 1000 pages possibly). More than 850 documents were referenced to date for the writing of this draft report.

In terms of structure, the report will be composed of:

- Chapter 1: description and context of the accident (what happened?);
- Chapter 2: safety assessment (why did the accident happen?);
- Chapter 3: emergency preparedness and response;
- Chapter 4: radiological consequences;
- Chapter 5: post-accident recovery.

The draft report should be available in December 2014 in order to be reviewed and discussed by the Board of Governors at the beginning of 2015.

**Guidance on safety/security interface (Agenda Item 6.2)** – D. Delattre made a presentation about this issue, which is available on the website of the IAEA, in order to explain how safety/security interfaces should be addressed.

**IT Platform for future review/revision of Safety Standards (Agenda Item 6.3)** – This matter was also presented by D. Delattre to inform the NUSSC Members of the developments that could be required in the future to enable the continuance of safety standards revision.

**Feedback on Regulatory Arrangements and Current Developments in NUSSC Member States (Canada, China) (Agenda Item 6.4)** – For lack of time, the presentations of the representatives from Canada and China did not take place. They were postponed to the next NUSSC Meeting.

7. **CLOSURE OF THE MEETING**

The Agenda, particularly full, could not be entirely followed and some of the presentations were postponed to the next NUSSC Meeting. Nevertheless, the review of the draft documents, especially DS462, and DPPs was entirely achieved.

**Actions following 37th NUSSC Meeting (Agenda Item 7.1)** – The list of actions following the 37th NUSSC Meeting will be posted on the website of the IAEA.

**Conclusions (Agenda Item 7.2)** – The Chairman, F. Féron, thanked all NUSSC Members for their participation in the meeting.

Mr. Lyons, Director of NSNI, closed the meeting and thanked the Chairman and the Committee for a productive work.
APPENDIX I

The discussions held on the drafts of Safety Standards at the previous NUSSC Meetings

4.2 DS457 Safety Requirements Preparedness and Response for a Nuclear or Radiological Emergency (Report of the 34th NUSSC Meeting)

Ms Nestoroska Madjunarova made the presentation on the status of development of DS457. Since 2011 there is an on-going review of GS-R-2 in light to accident at TEPCO’s Fukushima Daiichi NPP. The usefulness and appropriateness of GS-R-2 was acknowledged together with a high acceptance of GS-R-2 content and structure. No missing requirements were identified but some requirements should be edited to put specific emphasis on certain parts.

It was mentioned that several consultancy meetings took place in 2012 - on Medical Accidental Overexposures, Protection of Emergency Workers, Nuclear Security Elements in review of GS-R-2, Mitigating Non-Radiological Consequences, and Transition from Emergency Exposure Situation to Existing Exposure Situation

A new safety guide will be proposed based on the review process and will address the following topics:

- Public communication in an emergency
- Transition from emergency to existing exposure situation
- Health hazard in perspective, OILs, Concept of Operations
- Emergency facilities and locations
- Emergency planning zones and distances

Following the question on how the results of the gap analysis conducted by the IAEA in connection with the first lessons of the Fukushima accident are used when drafting DS457 it was explained that the CSS progress report summarizing the results of the first review of the IAEA Safety Standards was used together with additional authoritative reports.

DS457 Safety Requirements on Preparedness and Response for a Nuclear or Radiological Emergency (Agenda item 2.7) (Report of the 35th NUSSC Meeting)

DS457 DPP was discussed during the 31st NUSSC Meeting under Agenda Item 3.3. Information on the DS457 development was provided during the 34th NUSSC Meeting under Agenda Item 4.2 (see Appendix I).

E. Buglova explained how the document has been revised while taking into account the lessons from Fukushima. A questionnaire had been distributed to gather the Member States feedback and the lessons identified from emergencies and exercises since 2002 were analyzed. The Agency also organized meetings to discuss specific aspects of emergency preparedness and response area as well as two meetings with members of the Inter-agency Committee for Radiological and Nuclear Emergencies (IACRNE). So far, 13 international organizations, IACRNE members, expressed their interest to co-sponsor the publication.

E. Buglova led NUSSC through the main comments that were either rejected or accepted with modification elaborating in details on the reasons for doing so.
To the criticism that some requirements are too detailed for that level of standards, E. Buglova answered that these details, although not so many, drew from past experiences and are considered as important.

- The structure of the document was also considered to be complicated by some reviewers, but it is similar to GS-R-2 in line with approved DPP.

- The reference to “dangerous sources” was criticized as unclear but definition/concept exists and is commonly used. NUSSC agrees that this question is more relevant for discussion at RASSC meeting.

- Many written and oral comments questioned the necessity to have a list of definitions in the document. It appeared confusing that some of these definitions were fully consistent with the 2007 Safety Glossary while others were adapted mainly for consistency with the latest basic safety standards (GSR Part 3) (ex.: “regulatory control”) or were completely new. NUSSC requested that the origin of the definitions (i.e. GSR Part 3, Safety Glossary or new) is added in the draft for clarification, so that “new” definitions can readily be identified and discussed if needed. The IAEA mentioned that on the long term, the glossary will be an on-line electronic document which will be updated regularly when definitions are changed by recent Safety Requirements.

- The introduction of emergency planning distances has been pointed out but this topic was agreed to be more relevant for discussion at RASSC meeting.

- The use of modeling/projection tools as main tool during the emergency to determine where protective actions and other response actions are warranted has been questioned. The Secretariat highlights that paragraph 6.24 stresses the limited capacity of such tools and the need not to rely on them exclusively. Priority has to be given on observation of plant status and conditions on the site in line with the proposed draft.

- NUSSC requested that the design extension conditions be also added in para. 5.41 of the draft.

- NUSSC expressed support that in order not to delay the prompt implementation of actions in response to an emergency, the operating organization should not require approval from the regulatory body or other authority for taking specific mitigatory actions on the site during the emergency. However, this should be resolved at preparedness stage.

▲ With the requested modifications taken into account, NUSSC gave its approval for this document to be submitted to Member States for comments.

4.3 DS462 Document Outline (DPP) Revision through addenda of GSR Part 1, NS-R-3, SSR-2.1, SSR-2.2 and GSR Part 4 (Report of the 34th NUSSC Meeting)

Mr Delattre informed on the status of development of DS462. The Addendum to GSR Part 1 is ready. It includes the lessons from the first gap analysis as well as lessons from additional reports and the CNS 2nd EM.

As of the Addendum to NS-R-3 it so far only includes the lessons from the first gap analysis. There is a need to review additional reports, including the CNS 2nd Extraordinary Meeting as well as the 3rd International Expert Meeting on Earthquakes and Tsunamis. The TM in December 2012 may lead to a complete revision of NS-R-3, including on the new format for safety requirements.

The Addendum to SSR-2.1, 2.2 and GSR Part 4 are almost ready. They include the lessons from the first gap analysis and the 1st International Expert Meeting on the Safety of Nuclear Power Reactors and Spent Fuel Storage. They still need to be reviewed against the CNS 2nd EM.
It was underlined that progress are made in parallel to DS456 (revision of GS-R-3) and DS457 (revision of GS-R-2). The first drafts are expected in January 2013 for DS462, DS456 and DS457.

The method regarding the adoption of DS462 was questioned: as DS462 is addressing 5 requirements documents it was asked whether the 5 should be adopted at the same time or whether it will be possible to separate them. It was emphasised that the objective is to process in parallel.

It was also asked whether a subgroup of NUSSC to monitor in detail the development of the Addenda to the requirements would be needed at this stage or whether it will be too early. It was indicated that the subgroup might at the moment be duplicative of the TM and that there was so far no need for additional involvement. But it was mentioned that it might be useful to have it after the 1st review by Member States. The Chair requested to be notified of the dates of the TM so that the NUSSC members can attend or discuss with their national representative in order to have feedback.

DS462 Revision through Addenda of GSR Part 1, NS-R-3, SSR-2/1, SSR-2/2 and GSR Part 4 (Agenda item 2.4) (Report of the 35th NUSSC Meeting)

DS462 DPP was discussed during the 33rd NUSSC/33rd WASSC Meeting under Agenda Item 3.2 (see Appendix I).

D. Delattre made a presentation on the overall methodology that has been implemented for the revision of the Safety Requirement in the light of the lessons learned from the Fukushima Daiichi accident.

The second draft of DS462 – which encompasses revision through addenda of GSR Part1, NS-R-3, SSR-2/1, SSR-2/2 and GSR Part 4 –, has been discussed during a dedicated Working Group in March 2013. The Interface Group agreed that the NSGC was kept informed but did not have to formally clear the document.

D. Delattre stressed that it is essential that a consensus on the review of the document is achieved during this session of the NUSSC or it would significantly delay the revision of the Requirements. He mentioned that the objective is that NUSSC reviews the final draft addenda in June 2014 in order for the CSS to be able to approve them in November 2014. The goal is not to already have a final draft but to finish the review with a document of a good enough quality so that it can be submitted to the Member States. As stated in SPESS B, the challenge at that stage is to “address outstanding issues”.

In total for this review, over 300 comments have been received and about two third of them were approved or approved with modification.

NUSSC Member from the USA took the floor to congratulate the Secretariat for the progress achieved so far and for successfully addressing difficult issues such as the ones related to design (SSR-2/1).

2.4 DS431 Safety Guide on Digital Instrumentation and Control Systems (Report of the 34th NUSSC Meeting)

Information on the status of the development of DS431 was provided during the 32nd and 33rd NUSSC Meeting (see Appendix I).

The DS431 DPP was approved by CSS in 2009. The IAEA noted that this document does not incorporate lessons from the Fukushima accident even if the accident has shown the need to strengthen the topics related to the post-accident monitoring. 363 comments received - 246 technical and 117 editorials on the draft. The most notable comments and discussions are as follows:
- With respect to the cyber security, the IAEA said that publication of the Nuclear Security on this subject is in preparation. In addition, the DS431 will be considered by the NSGC;
- Classification of SSCs and the link with the DS367;
- The level of detail of the recommendations (it is uneven across chapters of DS431) and the presence of numerous explanatory paragraphs;
- The distribution of information in the IAEA guide compared to those available in other standards (ISO, IEC ...);
- The practice of one or a few specific countries is identified as such in the guide recommendations;

In the discussion it was highlighted that:

- Recommendations explaining the practices of one or a few Member States should not appear in the guide unless they are an accepted practice supported by a majority of MS. Such information could be included in an annex to the guide or TECDOC;
- The presence of figures, especially in terms of reliability, which leads to "freeze" the document is not desirable. It might be more appropriate to clarify how the numbers are determined;
- Regarding the level of details, some members of NUSSC believe it is possible to limit it, for example with the creation of an annex that would allow not losing any useful information while excluding recommendations. Others believe that those details are useful for new entrants. The contrast with the DS436 was also pointed out;
- With regard to the security aspects, NSGC will verify the correctness of what is proposed;
- The impact of the first lessons of the Fukushima accident should be taken into account, particularly with regard to the control systems in case of a severe accident.

The IAEA informed about its intention to organize a meeting of experts to improve the consensus on the draft guide.

NUSSC asked to answer about the level of details with one of the questions being - shall the discussion of different MS approaches been kept or deleted from the text of the document.

It was underlined that the guide in good shape, but that there is a lack of consensus. It was thus recommend holding a consultancy meeting to resolve these issues.

► NUSSC concluded that the DS431 is not yet mature enough to be submitted to Member States. NUSSC supports the proposal of the IAEA to convene a consultancy meeting to look at the level of details and to increase consensus on the document. The draft should better reflect the Fukushima lessons learned.

**DS431 Safety Guide on Digital Instrumentation and Control System (Agenda item 2.8) (Report of the 35th NUSSC Meeting)**

Information was provided on the DS431 development during the 32nd NUSSC Meeting under Agenda Item 3.1 and during the 33rd NUSSC Meeting under Agenda Item N 2.4. The draft DS431 was reviewed by the 34th NUSSC under the Agenda Item 2.4 (see Appendix I).

A. Duchac presented the document and mentioned the comments provided by NUSSC Members contributed to significantly improve the quality of the document and allowed easy implementation. Some Members of NUSSC also commented that the draft was very good.

One question was raised on the applicability of the document to small modular reactors (SMRs). Software reliability and common caused failures are also pointed out by the Chairman as previously non consensual issues. The Agency explained that these two items are now presented as examples in annexes. This approach is supported NUSSC Member from the USA.
The draft is approved to be going to the Member States for comments.

DS460 Communication and Consultation with Interested Parties (Agenda item 2.4) (Report of the 36th NUSSC Meeting)

J.-R. Jubin made a presentation on the development and current status of the document. About 80% of the comments received from the review committees were accepted. During the meeting the remarks focused on several points:
– the scope of the guide should be limited to the activities of the regulatory body and the title should be clarified accordingly. Communication by the authorized party, especially if on promotion of its activities, should not be covered by DS460.
– the link with the draft Safety Guides DS472 and DS473,
– the fact that a Safety Guide include guidance on the development of laws and regulations or to assign new “functions” to the regulatory body,
– some Members of NUSSC warned that their national practice was not as advanced as what is advised in the Safety Guide.

NUSSC acknowledges that the content of the DS460 is in line with the scope defined in the DPP and should not be expanded to cover recommendations to authorized parties on their communication and consultations. NUSSC recommends that the title be clarified in this respect (“Communication and Consultation of the Regulatory Body with Interested Parties”).

With NUSSC comment implemented, DS460 can be submitted to the Member States for comments.

DS427 Radiological Environmental Impact Assessment for Facilities and Activities (Agenda item 2.2) (Report of the 36th NUSSC Meeting)

D. Telleria presented the history and contextual information regarding the development of DS427. The DPP was approved by the CSS in 2009. Because of the number and content of the comments received prior to SSC meetings, the opinion of the Secretariat is that DS427 is not ready to be submitted to the Member States.

Oral comments during the meeting of NUSSC addressed the following aspects:
– the organizational and regulatory interface between environment assessment mechanisms and siting authorization,
– the difficulty for the IAEA to gather inputs from the authorities competent in the field of environment protection (instead of nuclear regulatory bodies), as they do not usually contribute to IAEA activities,
– the need for public consultations,
– the link with non-radiological impacts,
– the scope of facilities covered in the document,
– the question of crossborder impacts and the need to establish a maximum distance, above which the calculation would not have to be performed.
– the need to take into account, in the Safety Guide, the existence of international or regional arrangement, sometimes binding, in this field (e.g. Euratom, OSPAR convention, ESPOO).

– need (or not) to cover releases in case of accidents,

– need (or not) to cover the protection of non-human species.

► NUSSC acknowledges Secretariat’s view point that the draft, as it is today, cannot be sent to MS for comment.

► NUSSC considers that a revision of the DPP, which would not prevent continued development of the draft, could help in clarifying expectations and the scope of the document, thus addressing some of the comments/questions raised during SSC review. A decision on this should be taken by WASSC, the lead Committee.
Tuesday, 1 July 2014, at 09.00 a.m. – Friday, 4 July 2014, 12.00 p.m.

1. GENERAL ISSUES

1.1 Opening of the Meeting

1.2 Chairman’s Introduction

1.3 Adoption of the Agenda of 37th NUSSC Meeting

1.4 Approval of the Report of the 36th NUSSC Meeting

1.5 Actions of NUSSC Meetings

1.6 Dates of the next meetings: 38th NUSSC Meeting: 24 – 28 November 2014

1.7 SPESS A and B – Introduction

1.8 NUSSC Terms of Reference and Working Methods Issues

1.9 Report from the previous meeting of the Chairs

1.10 CSS 35th Meeting Report

1.11 NUSSC Sixth Three Year Report and recommendations for the 7th NUSSC term

1.12 Review of the SSG-2

2. REVIEW OF IAEA SAFETY STANDARDS

2.1 Status of Safety Standards
2.2 DS457 Draft Safety Requirements: Preparedness and Response for a Nuclear or Radiological Emergency (Revision of GS-R-2) For approval for submission to CSS Ms E. Buglova

2.3 DS462 Draft Safety Requirements: Revision through Addenda of GSR Part 1, NS-R-3, SSR-2/1, SSR-2/2, GSR Part 4 For approval for submission to CSS Mr D. Delattre

2.3.1 Addendum to GSR Part 1 Mr H. Mansouix

2.3.2 Addendum to NS-R-3 Mr J. Haddad

2.3.3 Addendum to SSR-2/1 Mr B. Poulat

2.3.4 Addendum to SSR-2/2 Ms V. Ranguelova

2.3.5 Addendum to GSR Part 4 Mr J. Yllera

2.4 DS431 Draft Safety Guide on Design of Instrumentation and Control Systems for Nuclear Power Plants For approval for submission to CSS Mr A. Duchac

2.5 DS360 Draft Safety Guide on Safety of Nuclear Fuel Reprocessing Facilities For approval for submission to MS Mr V. Carr

2.6 DS381 Draft Safety Guide on Nuclear Fuel Cycle Research and Development Facilities For approval for submission to MS Mr R. Gater

2.7 DS460 Draft Safety Guide on Communication and Consultation with Interested Parties by the Regulatory Body For approval for submission to MS Mr J.-R. Jubin

3. REVIEW OF DOCUMENT PREPARATION PROFILES (DPPs) – Safety Standards

3.1 DS484 DPP Draft Safety Requirements: Site Evaluation for Nuclear Installations (Revision of NS-R-3) For approval for submission to CSS Mr J. Haddad

3.2 DS485 DPP Draft Safety Guide: Ageing Management for Nuclear Power Plants (Revision of NS-G-2.12) For approval for submission to CSS Mr R. Krivanek

3.3 DS486 DPP Draft Safety Guide: Establishing the Safety Infrastructure for a Nuclear Power Programme (Revision of SSG-16) For approval for submission to CSS Mr D. Graves

3.4 DS487 DPP Draft Safety Guide: Design of Fuel Handling and Storage Systems for NPPs (Revision of For approval for submission to Mr K. Sim
3.5 DS488 DPP Draft Safety Guide: Design of the Reactor Core for Nuclear Power Plants (Revision of NS-G-1.12)

For approval for submission to CSS Mr K. Sim

4. NSGC DOCUMENTS FOR CLEARANCE

4.1 NST002 Draft Implementing Guide: Regulations, Agreements and Associated Administrative Measures for Nuclear Security

For clearance to submit to MS Mr R. Evans

4.2 NST023 Draft Implementing Guide: Physical protection of nuclear facilities

For clearance to submit to MS Mr M. Khaliq

4.3 NST045 Draft Implementing Guide: Computer Security for Nuclear Security

For clearance for development Mr M. Rowland

5. DOCUMENTS FOR DISCUSSION

5.1 DS427 Draft Safety Guide: Assessment of Facilities and Activities for Protection of the Public and Protection of the Environment

For comments and discussion Mr D. Telleria

6. MISCELLANEOUS

6.1 Feedback from the Sixth Review Meeting of Contracting Parties to the CNS

For information Mr M. Svab

6.2 Guidance on safety/security interface

For information Mr D. Delattre

6.3 IT Platform for future review/revision of the Safety Standards

For information Mr D. Delattre

6.4 Feedback on Regulatory Arrangements and Current Developments in NUSSC Member States (Canada, China)

For information NUSSC Members

7. CLOSURE OF THE MEETING

7.1 Actions following 37th NUSSC Meeting

For discussion and providing input Mr M. Svab NUSSC Members

7.2 Conclusions

Mr J. Lyons
DIR-NSNI
Mr F. Feron NUSSC Chairman
<table>
<thead>
<tr>
<th>Meeting Type</th>
<th>Date</th>
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<tbody>
<tr>
<td>36th CSS Meeting</td>
<td>3 - 5 November 2014</td>
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<tr>
<td>6th NSGC Meeting</td>
<td>10 - 14 November 2014</td>
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<td>28th TRANSSC Meeting</td>
<td>10 - 14 November 2014</td>
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<td>37th RASSC Meeting</td>
<td>24 - 28 November 2014</td>
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<td>38th WASSC Meeting</td>
<td>24 - 28 November 2014</td>
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<tr>
<td>37th CSS Meeting</td>
<td>20 – 22 April 2015</td>
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APPENDIX III

List of Actions Following 37th NUSSC Meeting

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<thead>
<tr>
<th>No.</th>
<th>Action</th>
<th>Who</th>
<th>When</th>
<th>Status</th>
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<tbody>
<tr>
<td>37.1</td>
<td>NUSSC invited the IAEA to prepare a DPP for the update of SSG-2, with a realistic scope for a mid-term publication and to suggest a way of moving forward for the same term on more ambitious and difficult topics (DEC, practical elimination...); if appropriate, thanks to a publication different than a safety standard.</td>
<td>Secretariat</td>
<td>Next NUSSC meeting</td>
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<tr>
<td>37.2</td>
<td>DS457 Preparedness and Response for a Nuclear or Radiological Emergency, with NUSSC comments implemented (Appendix III deleted), is approved for submission to the CSS.</td>
<td>TO</td>
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<tr>
<td>37.3</td>
<td>DS462 Revision through Addenda of GSR Part 1, NS-R-3, SSR-2/1, SSR-2/2, GSR Part 4, with NUSSC comments implemented, is approved for submission to the CSS.</td>
<td>TO</td>
<td>ASAP</td>
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<td>37.4</td>
<td>DS431 Design of Instrumentation and Control Systems for Nuclear Power Plants, with NUSSC comments implemented, is approved for submission to the CSS.</td>
<td>TO</td>
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<td>37.5</td>
<td>DS360 Safety of Nuclear Fuel Reprocessing Facilities, with NUSSC comments implemented, can be submitted to the Member States for comments.</td>
<td>TO</td>
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<td>37.6</td>
<td>DS381 Safety of Nuclear Fuel Cycle Research and Development Facilities, with NUSSC comments implemented, can be submitted to the Member States for comments.</td>
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<td>37.7</td>
<td>DS460 Communication and Consultation with Interested Parties by the Regulatory Body, with NUSSC comments implemented, can be submitted to the Member States for comments.</td>
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<td>37.8</td>
<td>DPP DS484 Safety Requirements: Site Evaluation for Nuclear Installations, with NUSSC comments implemented, is approved for submission to the CSS.</td>
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<td>DPP DS485 Safety Guide: Ageing Management for Nuclear Power Plants, with NUSSC comments implemented, is approved for submission to the CSS.</td>
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<td>DPP DS486 Safety Guide: Establishing the Safety Infrastructure for a Nuclear Power Programme, with</td>
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<td>37.11</td>
<td>DPP DS487 Safety Guide: Design of Fuel Handling and Storage Systems for NPPs, with NUSSC comments implemented, is approved for submission to the CSS.</td>
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<td>37.12</td>
<td>DPP DS488 Safety Guide: Design of the Reactor Core for Nuclear Power Plants, with NUSSC comments implemented, is approved for submission to the CSS.</td>
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<td>37.13</td>
<td>NST002 Implementing Guide: Regulations, Agreements and Associated Administrative Measures for Nuclear Security, with NUSSC comments implemented, is cleared for submission to the Member States.</td>
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<td>37.14</td>
<td>NST023 Implementing Guide: Physical protection of nuclear facilities, with NUSSC comments implemented, is cleared for submission to the Member States.</td>
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<td>37.15</td>
<td>DPP NST045 Implementing Guide: Computer Security for Nuclear Security, with NUSSC comments implemented, is cleared.</td>
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<td></td>
<td>NUSSC invited the IAEA to make sure, at the time of the organization of consultants meetings, that the selected consultants have security and safety skills from the beginning of the drafting of this document.</td>
<td>Secretariat</td>
<td>When appropriate</td>
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<td>37.16</td>
<td>DS427 Safety Guide: Assessment of Facilities and Activities for Protection of the Public and Protection of the Environment:</td>
<td>Secretariat</td>
<td>Next NUSSC meeting</td>
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<td>As during the previous NUSSC meeting (16 – 18 October 2013), NUSSC noted that, according to the IAEA, DS427 was not ready to be submitted to the Member States for comments.</td>
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<td>NUSSC confirmed the reservations it had expressed during the previous NUSSC meeting (16 – 18 October 2013), according to which a revision of the DPP, which would not prevent a continued development of the draft, could help in clarifying expectations and the scope of the document, thus addressing some of the comments/questions raised during SSC review.</td>
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<td>NUSSC was not in favor of a “panoramic” guide opening to many options and the efforts achieved on DS431 should be taken into account.</td>
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<td>Algeria</td>
<td>Mr Merrouche Djemai, <a href="mailto:merrouche_dj@yahoo.com">merrouche_dj@yahoo.com</a></td>
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<td>2014-07-01 - 2014-07-04</td>
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<td>Argentina</td>
<td>Mr Waldman Ricardo Marcelo, <a href="mailto:rwaldman@arn.gob.ar">rwaldman@arn.gob.ar</a></td>
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<td>2014-07-01 - 2014-07-04</td>
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<td>Austria</td>
<td>Mr Müllner Nikolaus, <a href="mailto:Nikolaus.muellner@boku.ac.at">Nikolaus.muellner@boku.ac.at</a></td>
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<td>Belgium</td>
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<tr>
<td>Brazil</td>
<td>Mr Gromann De Araujo</td>
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<tr>
<td>Canada</td>
<td>Mr Dermarkar</td>
<td>President and Chief Executive Officer</td>
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<td>Fred</td>
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<tr>
<td>Canada</td>
<td>Mr Rzentkowski</td>
<td>Director General Directorate of Power Reactor Regulation Canadian Nuclear Safety Commission</td>
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<td></td>
<td>Greg</td>
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<tr>
<td>China</td>
<td>Mr Zhao</td>
<td>Deputy Director General, Department I of Nuclear Safety Regulation Ministry of Environmental Protection</td>
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<td><a href="mailto:zhao.yongkang@mep.gov.cn">zhao.yongkang@mep.gov.cn</a>, <a href="mailto:zhao.yongkang@sepa.gov.cn">zhao.yongkang@sepa.gov.cn</a></td>
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<tr>
<td>Czech Republic</td>
<td>Mr Stuller</td>
<td>Director Department for licensing of new NPP</td>
<td>Senovazne namesti 9 11000 PRAGUE Tel: +420 221 624 736 Fax: +420 221 624 821 Email: <a href="mailto:jan.stuller@sujb.cz">jan.stuller@sujb.cz</a></td>
<td><a href="mailto:jan.stuller@sujb.cz">jan.stuller@sujb.cz</a></td>
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<tr>
<td>Egypt</td>
<td>Mr Aziz Moustafa</td>
<td><a href="mailto:moustafaaai@yahoo.com">moustafaaai@yahoo.com</a>, <a href="mailto:aeaegypt@facu.eun.eg">aeaegypt@facu.eun.eg</a></td>
<td>National Center for Nuclear Safety &amp; Radiation Control (NCNSRC), Atomic Energy Authority</td>
<td>2014-07-01, 2014-07-04</td>
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<tr>
<td>France</td>
<td>Mr Feron Fabien</td>
<td><a href="mailto:fabien.feron@asn.fr">fabien.feron@asn.fr</a></td>
<td>Deputy Director Nuclear Power Plants Department New Reactors and Regulations Office Autorité de Sûreté Nucléaire (ASN)</td>
<td>2014-07-01, 2014-07-04</td>
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<tr>
<td>France</td>
<td>Mr Wattelle Emmanuel</td>
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<td>IRSN (Institut de Radioprotection et de Sûreté Nucléaire)/PSN-SRDS</td>
<td>2014-07-01, 2014-07-04</td>
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<tr>
<td>Germany</td>
<td>Mr Rueffer</td>
<td>Federal Office for Radiation Protection</td>
<td>Willy-Brandtl-Str 5 38226 SALZGITTER GERMANY</td>
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<tr>
<td></td>
<td>Mareike</td>
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<tr>
<td>Germany</td>
<td>Mr Weidenbrück</td>
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<td>Tel: +49 228-99-305-2883 Email: <a href="mailto:kai.weidenbrueck@bmu.bund.de">kai.weidenbrueck@bmu.bund.de</a></td>
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<td>Kai-Jochen</td>
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<tr>
<td>Hungary</td>
<td>Mr Petofi</td>
<td>Hungarian Atomic Energy Authority (HAEA)</td>
<td>Fenyes Adolf u. 4 P.O. Box 676 BUDAPEST</td>
<td>2014-07-01</td>
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<td>Gábor</td>
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<td>2014-07-04</td>
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<tr>
<td>India</td>
<td>Mr Mohan</td>
<td>Reactor Projects Division (RPD)</td>
<td>Engg. Hall No. 7 Bhabha Atomic Research Centre</td>
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<td></td>
<td>Joe</td>
<td>Trombay MUMBAI 400 085 INDIA</td>
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<tr>
<td>Israel</td>
<td>Mr Harari</td>
<td>Senior Project Manager Nuclear Research Center Negev (NRCN)</td>
<td>84190 BEER-SHEVA ISRAEL</td>
<td>2014-07-01</td>
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<td></td>
<td>Ronen</td>
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<td>Japan</td>
<td>Mr Nakajima</td>
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