OPENING OF THE MEETING

R1.1 Opening and Welcome

The meeting was officially opened by Mr. Miroslav Pinak, Section Head of Radiation Safety and Monitoring, who welcomed all participants to the meeting.

Mr. Pinak referred to a number of important issues that had been covered during the previous two days in the joint session with the Waste Safety Standards Committee (WASSC). He recalled the decision to proceed with the development of two separate guides on exemption and clearance. RASSC will be the lead Committee in relation to the document on exemption, which will also address trade in contaminated commodities. The existing Electronic Working Group on this issue will be opened for new membership and will be tasked with assisting the Secretariat to finalize the DPP and providing advice on the content of the new safety guide throughout its development phase.

It was also agreed to proceed with the development of guidance in relation to living in contaminated environments. This will be a joint RASSC and WASSC initiative and a small consultants meeting to develop the DPP will be organized as soon as possible.

The discussion on managing exposures in NORM raised many important points, and two of these will be discussed in greater depth today. The presentation on the graded approach will allow further discussion on the need for additional guidance on the practical application of this principle, focusing in particular on the responsibilities of the regulatory body. We will also hear this morning from John Harrison on the scientific basis of the work of ICRP on new dose conversion factors for occupational and public exposure to radon and we will have the opportunity to consider the practical implications.

Mr. Pinak expressed his thanks to all members and observers for their continued support of the work of the Agency in relation to radiation protection and safety issues and underlined the commitment of the secretariat to support the needs and interests of all Member States and international organizations participating in RASSC meetings.

R1.2 Chairman’s Comments

The Chairman, Mr. Gustavo Massera, thanked Mr. Pinak for his welcoming remarks and highlighted the many interesting and important topics to be addressed during the meeting. He welcomed the new RASSC members and observers Ms. Purvis (Canada), Ms. Carinou (Greece), Mr. Teratani (Japan), Mr. Chang (Korea), Mr. Collins (United States) and Mr. Coates (IRPA). Mr. Massera acknowledged replacement representatives for this meeting from Australia, China, New Zealand, Poland, ISSPA, ISO and NEA. Apologies were received from Bulgaria, Croatia, Egypt, Ireland, Korea, Lithuania, Luxembourg, Malaysia, Romania, Slovenia, Syria, IEC and PAHO.

R1.3 Adoption of the Agenda

The Chairman noted that other meetings were taking place this week and that this placed some limitations on the availability of technical officers and other staff of the Secretariat. As such, he indicated that the agenda items might need to be taken out of order.
This was agreed to by the Committee and, on that basis, the agenda was adopted.

**R1.4 Administrative Arrangements**

The Scientific Secretary, Mr. Tony Colgan, drew attention to the location of the emergency exits and reminded the meeting of the other administrative arrangements covered at the opening of the joint session with the Waste Safety Standards Committee (WASSC) two days earlier.

**R1.5 Chairman’s Report of RASSC 39**

The two draft Chairman’s reports (for the RASSC-only session and the joint RASSC/WASSC session) from the previous meeting had been posted on the website and a number of editorial comments were received. Updated reports were subsequently posted on 23 March 2016.

There were no further comments and Chairman’s Reports of the 38th meeting of RASSC were approved.

**R1.6 Actions Arising from RASSC 39**

Mr. Colgan reported on the implementation of action items arising from the RASSC 39 meeting. Specifically, two draft safety requirements documents, three draft safety guides and one DPP had been submitted to the CSS for endorsement. As indicated by Mr Delattre under item RW2.1, the three safety guides (DS427, DS432 and DS442) dealing with the environment, which had been approved by RASSC, could not proceed to the CSS because the technical editing had not been completed. However, following the discussion that took place in the joint RASSC/WASSC session (agenda item RW5) and the resulting agreed changes to the text, all three documents will be submitted to the next CSS meeting in November 2016.

Three safety guides were submitted to Member States for comment. One of these (DS471: *Radiation Safety of X ray Generators and Radiation Sources Used for Inspection Purposes*) is led by RASSC. The comment period ended on 9 June 2016 and approximately 170 comments have been received. These are currently being reviewed, together with the ILO.

The two safety guides *Radiation Protection and Safety in Well Logging* (DS419) and *Radiation Protection for Nuclear Gauges* (DS420) have been amended in line with the comments received from Australia and the United States. Once the technical editing is completed, these will be submitted to RASSC for final approval.

The RASSC Electronic Working Group completed its work on assessing the implications for the safety standards of the UNSCEAR Report *Attributing Health Effects to Ionizing Radiation and Inferring Risks* and its report was approved by RASSC at the end of January 2016. The report was subsequently submitted to the CSS and considered at its meeting in April 2016.

In relation to other items, the proposal on review of the safety guide “Application of the Principles of Exclusion, Exemption and Clearance” (RS-G-1.7) was finalized and discussed earlier in the week under agenda item RW6.1. A presentation on how the graded approach is addressed in the safety standards will be made under item R2.3 and the view of the cosponsoring International Organizations on review of the International Basic Safety Standards (GSR Part 3) will be discussed under item R10.1.

Mr. Colgan noted that the TECDOC “Criteria for Radionuclide Activity Concentrations for Food and Drinking Water”, which is cosponsored by FAO and WHO, has been published. Copies were provided to all participants.
R2  INTERNATIONAL BASIC SAFETY STANDARDS (GSR PART 3)

R2.1  Review of the International Basic Safety Standards in the light of the Fukushima Daiichi Accident

Mr. Pinak informed the Committee of the development process for the International Basic Safety Standards (BSS), through which all cosponsors were involved in the revision of the document from the outset. The final draft text of the BSS had been approved by RASSC in December 2010 and was scheduled to be submitted to the Commission on Safety Standards at its meeting in May 2011 for endorsement. The accident at the TEPCO Fukushima Daiichi NPP in March 2011 raised the question if there was a need to review it against the lessons learned from this accident in the area of radiation safety and their impact on the revised BSS. The unanimous view of the eight cosponsoring International Organizations at the time was that there was no justification or need to revise and delay publication of the document. The interim edition of the BSS was subsequently approved by the IAEA Board of Governors in September 2011 and, after the formal processes at the co-sponsoring organizations were completed, the final edition was published in November 2014.

Further to this, at the meeting on the Inter-Agency Committee on Radiation Safety (IACRS) held in Luxembourg in November 2015, the need to review the BSS in the light of lessons learnt from the TEPCO Fukushima Daiichi NPP accident was discussed by the representatives of the BSS cosponsoring organizations. The representatives also noted that the International BSS is closely aligned with the European BSS Directive and that the EC is co-sponsoring organization. Both documents consist of requirements that can be used for the establishment of radiation safety systems. The latter document is legally binding on all EU Member States with the deadline of early 2018 for transposition into national legislation. The representatives also expressed their view that there is no essential issue that would justify immediate need for review and revision. Instead, they agreed that lessons learned from the accident at TEPCO Fukushima Daiichi NPP could be addressed in the relevant guidance documents of the Agency in due course.

Taking all factors into account, the cosponsoring international organizations agreed that ongoing effort on providing for application of BSS in its Member States and on the transposition of the EC BSS Directive should not be delayed by undertaking a review of the BSS at this stage. The experience gained through the providing for application and transposition, respectively, will be collected and used in potential review and revision in future.

In respect to the relevant requirements in the BSS, China noted that the different protection levels that apply to the public and to workers in different exposure situations can be confusing and asked the Secretariat to address this issue in future guidance.

R2.2  Use of Radiation Safety Information Management System (RASIMS) to evaluate implementation of the International Basic Safety Standards in Member States

Mr. John Wheatley provided an overview of the online web-based Radiation Safety Information Management System (RASIMS) that is used to collect and analyse on the use of IAEA standards by more than 130 Member States that participate in the Agency’s Technical Cooperation Programme. While the data is confidential to each Member State, it is accessible by IAEA NSRW Technical Officers.

Within the RASIMS system, implementation of the IAEA safety standards is evaluated under seven Thematic Safety Areas. These are: regulatory infrastructure (TSA 1), occupational protection (TSA 2), medical protection (TSA 3), public/environmental protection and waste safety (TSA 4), education & training (TSA 6) and transport safety (TSA 7). TSA 5 is maintained by the IEC in its ‘EPRIMS’ system. Each Thematic Safety Area is sub-divided into several elements, which are directly linked to requirements in the safety standards. The extent to which the Member State in question complies
with the IAEA safety standards is graded using a performance indicator between 0 and 3. The performance indicator is assigned by the Agency’s Technical Officer, based both on the information provided as well as his/her own knowledge of the national situation. In this way a net evaluation score can thus be assigned for each Member State for each Thematic Safety Area.

Mr. Wheatley provided examples of the current status of implementation of TSAs 1-4 in various regions but without mentioning any specific Member States. Based on the performance indicators, Member States are graded as either red (little or no implementation), yellow (partial implementation but with action plan in place) or green (good implementation). This rating system allows the identification of needs for each Member State and for each region and allows funding prioritization to be identified. Currently the development of a radiation safety infrastructure is one of the priorities within the Agency’s Technical Cooperation programme, with an emphasis on progressing Member States from red to yellow and from yellow to green.

Currently an updated version of RASIMS is being developed with five instead of three levels of performance indicator. The new system will continue to be used identify trends and needs based on the evaluation of Member State implementation of the Safety Standards in all Thematic Safety Areas, recognizing that those dealing with occupational exposure, public exposure and exposure of patients are likely to be of most interest to RASSC.

Czech Republic, Hungary, Iran, South Africa and the UAE raised questions related to the commonalities between RASIMS, the self-assessment tool SARIS, the EPRIMS database of the Incident and Emergency Centre and the Nuclear Security database. Mr Wheatley explained that RASIMS, EPRIMS and the security database all have different purposes, different target audiences, and they collect different information. He also noted that although the purposes of SARIS and RASIMS are different, the Secretariat is looking into the feasibility of how any common data could be shared. Specifically in relation to the new version of RASIMS that is being developed, he noted that much of the current information, such as uploaded documents, would be made available in the new version.

R2.3 Existing Guidance on the Use of a Graded Approach

Ms. Helen Rycraft summarized the existing guidance on the use of a graded approach. In GSR Part 3, the graded approach is defined as “a process or method in which the stringency of the control measures and conditions to be applied is commensurate, to the extent practicable, with the likelihood and possible consequences of, and the level of risk associated with, a loss of control”. While the graded approach can be applied to areas such as regulatory requirements, education and training requirements and operating procedures, it is inappropriate for many basic safety functions such as core cooling, decay heat removal and legislative acceptance criteria, among others.

The graded approach is addressed to some extent in the safety requirements GSR Part 1 (regulatory infrastructure), GSR Part 3 (radiation safety), GSR Part 4 (management systems), GSR Part 5 (radioactive waste management), GSR Part 6 (decommissioning) and GSR Part 7 (emergency preparedness and response). The safety guide SSG-12\(^1\) deals specifically with the application of the graded approach to research reactors and TECDOC-1740\(^2\) discusses the more general issue of using a graded approach within an overall management system. This latter document contains 13 case studies covering a wide variety of topics, including radiation protection and waste management considerations. NUSSC is currently considering whether or not there is a need for a high level safety guide on applying the graded approach.

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\(^1\) Use of a Graded Approach in the Application of the Safety Requirements for Research Reactors (2012)

\(^2\) Use of a Graded Approach in the Application of the Management System Requirements for Facilities and Activities (2014)
WNA pointed out that much of the existing guidance material seems to be addressed specifically at nuclear facilities and there is a need to have material that deals specifically with the graded approach within regulatory practices; the WNA experience is that many national regulatory bodies are unaware that the use of a graded approach is an option that is not just available to them but is highly desirable as a means of making maximum use of their resources. IRPA pointed out that the ALARA principle is an example of the use of a graded approach. However, the interpretation of what is ‘reasonable’ is not straightforward and is of vital interest to practitioners. IRPA is arranging for further reflection on this aspect, and a first workshop on this topic will be held in France early in the new year. Australia noted that in situations where requirements include numbers, applying a graded approach may not be practicable while ENISS commented that it is much easier to apply a graded approach to regulation and to radiation protection than it is to facility operations.

Ms. Rycraft acknowledged that further discussion is necessary within the Secretariat to identify the specific needs and to develop a proposal to develop the appropriate guidance. Ms Rycraft agreed to seek input from RASSC on such future proposals.

R3 DOSE CONVERSION FACTORS FOR RADON

R3.1 Dose Conversion Factors for Radon for Workers and the Public

Dr. John Harrison, Chairman of Committee 2 of the International Commission on Radiological Protection (ICRP), summarized the recent work of the ICRP to develop dose conversion factors for radon to be applied to both occupational and public exposure.

Most of the dose from inhaled radon-222 comes from its short-lived alpha particle emitting progeny Po-218 and Po-214 which deposit in the airways of the lungs. While in principle radon and its progeny can be in equilibrium, in practice they seldom are. This is reflected by the use of the Working Level Month (WLM) as a measure of exposure to alpha energy from the radon progeny. The relationship between WLM and measurements of radon gas concentration in Bq.m$^{-3}$ is given by the equation: $1 \text{ Bq.m}^{-3} = F \times 1.57 \times 10^{-6} \text{ WLM}$. The Equilibrium Factor ($F$) is typically 0.4 for homes and 0.2 for working environments such as mines, although the latter value is highly dependent on ventilation conditions.

The approach which has been adopted and is currently used by ICRP to provide dose conversion factors is to compare the lung cancer risks from radon with those from other radiation exposures. In ICRP 65 (published in 1993), the lung cancer risk in miners was calculated as $2.83 \times 10^{-4}$ per WLM. When this is compared with the total detriment from cancer and hereditary effects, the corresponding dose conversion convention is 5 mSv per WLM for workers and 4 mSv per WLM for the public. On this basis, an average radon concentration of 600 Bq.m$^{-3}$ in homes gives rise to an annual dose of about 10 mSv; taking account of lower occupancy rate in workplaces, the corresponding annual dose is about 3 mSv.

ICRP Publication 103 (published in 2007) provided slightly lower values for total detriment, due primarily to a reduction in the risk of hereditary effects. At around the same time, the results of pooled residential studies of radon exposure were published. These analyses showed an increased risk of lung cancer with increasing cumulative exposure to radon decay products. In the combined European studies, the risk was shown to be significant for cumulative exposures as low as 200 Bq.m$^{-3}$ and the absolute risk for life-long smokers was estimated to be about 25 times greater than for life-long non-smokers. New miner data also emerged showing that the lifetime risk per WLM is higher at lower exposure rates, with good agreement between the miner and residential studies.

[1] The Working Level (WL) is defined as any combination of short lived decay products in 1 litre of air which will ultimately emit $1.3 \times 105$ MeV of alpha energy. The Working Level Month (WLM) is an exposure to 1 WL for one month (170 h).
Based on a review of this new information, ICRP Publication 115 (published in 2010) proposed a revised nominal risk coefficient of 5 x 10^{-4} per WLM to replace the Publication 65 value of 2.83 x 10^{-4} per WLM. Using the Publication 115 nominal risk coefficient and Publication 103 detriment values, the dose conversion factors become 12 mSv per WLM for workers and 9 mSv per WLM for the public. Using these values, an average radon concentration of 300 Bq.m^{-3} in homes would give rise to an annual dose of about 10 mSv, while in workplaces an average radon concentration of 1 000 Bq.m^{-3} would result in a similar dose. ICRP also published a Statement on Radon with Publication 115, adopting the revised risk coefficient and lowering the recommended upper reference level for homes from 600 Bq.m^{-3} to 300 Bq.m^{-3}; the corresponding value recommended for general workplaces was 1000 Bq.m^{-3}, referred to as an entry level for consideration as occupational exposure. These are the values used in the International Basic Safety Standards (GSR Part 3) for radon exposure of the public and workers and in existing exposure situations i.e. for non-regulated workplaces. However, the ICRP Statement on Radon also signalled ICRP’s intention to calculate dose coefficients for radon isotopes using dosimetric models as done for all other radionuclides.

Dr. Harrison also provided a summary of the dosimetric approach to calculating dose coefficients for radon, focussing on inhaled radon-222 and its progeny. The absorbed dose to the lung is calculated using biokinetic and dosimetric models, after which the radiation weighting factor (20 for alpha particles) and tissue weighting factor (0.12 for the lung) are applied. The much smaller doses to other tissues from absorbed radon and progeny are also calculated. While the results are highly dependent on model assumptions, the dosimetric approach provides results that are consistent with the epidemiological data, particularly for exposures in mines for which the same value of 12 mSv per WLM is obtained by both epidemiological and dosimetric approaches. The dosimetric approach results in somewhat higher values for exposures in homes.

Based on all available evidence, ICRP will recommend the use of a dose conversion convention of 12 mSv per WLM for most situations of exposure. On this basis, an average radon concentration of 300 Bq.m^{-3} gives rise to an annual dose of 15.8 mSv at home (occupancy of 7 000 h) and 4.8 mSv at work (2 000 h). The ICRP expects to publish its new dose conversion factors for both inhalation and ingestion of radon isotopes in early 2017.

The available epidemiological information can also be used to assess risks from inhaled radon-222 progeny for smokers and non-smokers and also calculate dose coefficients separately. For lifelong non-smokers, calculated values are typically in the range 1 - 3 mSv per WLM, while for smokers the corresponding values are up to 20 - 30 mSv per WLM. However, there are large uncertainties associated with all such estimates.

**R3.2 Practical Implications of the ICRP Proposal**

Several comments were made in relation to the uncertainties in the risk estimates, and how certain one can be that the final value is indeed the best estimate. In that regard, RASSC welcomed the fact that the ICRP models are not as conservative as in the past and that sensitivity analysis has been undertaken, but there was general agreement that the high degree of concordance between the epidemiological and dosimetric approaches must be fortuitous.

China raised the 25 times higher risk for smokers than for non-smokers, noting that the increased risk is due to smoking and not due to radon. As a result, the dose per WLM is highly dependent on smoking habits and as smoking decreases, so will the risk per WLM. Dr. Harrison noted that the relationship between radon and smoking needs further investigation and some recent data suggests that the relationship is sub-multiplicative.

On the same issue, the UK noted that one possible approach would be to use dose conversion factors for non-smokers rather than for a mixed population. WNA pointed out that, while this might
be appropriate for exposure in homes, employers have a responsibility to provide a safe working environment for all workers, and not discriminate against smokers. WNA also urged the ICRP to make a clear statement on its policy of providing risk estimates for mixed populations rather than for specific sub-groups of the population. The ILO noted that the employers’ legal obligation to smokers is a key issue that requires further consideration.

India welcomed the fact that the new ICRP dose conversion factors would also address exposure due to thoron, which for some countries is of greater concern than exposure due to radon. On the question of the risks from radon in drinking water, Dr. Harrison noted that the upcoming ICRP publication will include calculations of doses to all tissues that contribute to effective dose coefficients. Czech Republic noted that the EU Basic Safety Standards Directive has adopted a reference level of 300 Bq.m$^{-3}$ for both homes and workplaces.

RASSC concluded that the new dose conversion factors for radon may have far-reaching implications for exposure in regulated workplaces i.e. in situations where exposure is controlled by dose limits. In the case of exposure in homes and other workplaces, the new dose conversion factors will increase the percentage of collective dose due to radon.

The Chairman thanked Dr. Harrison for his very clear and informative presentation. He noted that radon has always been of particular interest to RASSC and asked the Secretariat to consider the need to return to this topic when the new ICRP dose conversion factors are eventually published.

R4 RADIATION PROTECTION CONVENTION OF THE ILO

R4.1 Supervision of the Radiation Protection Convention (No. 115) – the ILO Supervisory System and the New General Observation on Convention No. 115

Ms. Erica Martin, a lawyer in the ILO Standards Department, provided an overview of the ILO Conventions dealing with occupational safety and health. There are over 20 such Conventions which are binding on those ILO member States that have ratified them. ILO Conventions are based on a tripartite approach involving workers, employers and governments.

A “Committee of Experts on the Application of Conventions and Recommendations” (CEACR), consisting of 20 eminent jurists, meets annually to review the application of ILO Conventions. The CEACR prepares specific comments addressed to individual parties and more general comments (General Observations) addressed to all parties.

The ILO also operates a Conference Committee on the Application of Standards during the annual International Labour Conference. In a published document, the CEACR reports a number of selected comments to the Conference Committee, which selects certain comments to discuss.

The ILO standard of most direct relevance to the work of the IAEA is ILO Convention No. 115 entitled the Radiation Protection Convention. As the name implies, Convention No. 115 focuses on the protection of workers from ionizing radiation and requires compliance with dose limits. It requires that appropriate steps be taken “in the light of knowledge available at the time”. Convention No. 115 has been ratified by 50 ILO Member States.

The 2015 General Observation on Convention No. 115 is based on ICRP Publication 103 and the 2104 edition of the International Basic safety Standards. The General Observation was developed in cooperation and with the support of IAEA. The General Observation consists of two parts: the first summarizes the recommendations of the ICRP and the requirements of the IAEA on the issues relevant to Convention No. 115; this is followed by the CEACR’s conclusions of the actions that need to be taken in the light of the recommendations and requirements. A copy of the General
Observation will be sent to all Member States who have ratified the Convention with a request to provide information on the steps they are taking with respect to the guidance given.

Israel noted that only 50 countries have to date ratified Convention No 115, considering this to be relatively low. Ms. Martin indicated that there are generally lower rates of ratification for occupational safety and health Conventions than for certain other categories of Conventions, notably the fundamental Conventions. Ms. Martin added that, even though the Convention takes the form of guidance for those countries that had not ratified it, it does have persuasive power at the national level.

R5 DPPs FOR APPROVAL

R5.1 Preparedness and Response for an Emergency during the Transport of Radioactive Material (DS469)

Mr. Mark Breitinger introduced the DPP for the draft safety guide Preparedness and Response for an Emergency during the Transport of Radioactive Material. The DPP was previously approved in 2012 but has subsequently been modified and therefore needs to be approved once again.

The revised safety guide will replace the current safety guide Planning and Preparing for Emergency Response to Transport Accidents Involving Radioactive Material (TS-G-1.2) which has been in use since 2002. In the interim, both the transport regulations and the EPR requirements have been revised. As well as reflecting these changes, the revised safety guide will also interface with relevant documents in the Nuclear Security Series and will address the resolution from the 2014 General Conference that “requests the Secretariat... to emphasize the specific challenges and requirements for efficient international cooperation in response to nuclear and radiological incidents and emergencies relating to the transport of radioactive material”.

The scope of the document is from the forwarding of the package to delivery at the consignee, including storage in transit. It excludes events without any safety significance and movement of radioactive material within the site boundaries of authorized facilities. The target audience for the safety guide is emergency planners and response organizations, including regulatory bodies, national competent authorities, civil defence, civil protection and emergency management agencies, consignors, carriers, consignees, and others who are responsible for developing and implementing emergency preparedness and response arrangements.

Mr. Breitinger reviewed the nine comments received on the draft DPP prior to the meeting – two of these were submitted through RASSC. All comments were primarily editorial in nature. In response to a question from ILO, Mr. Breitinger confirmed that the guidance on radiation protection issues will be fully consistent with the relevant sections in GSR Part 3. RASSC noted that the draft DPP had already been approved by TRANSSC and was cleared by NSGC. RASSC approved submission of the DPP to the CSS for endorsement.

Action: The Secretariat to submit the DPP for the draft safety guide Preparedness and Response for an Emergency during the Transport of Radioactive Material (DS469) to the CSS for endorsement.

R6 NUCLEAR SECURITY DOCUMENTS FOR CLEARANCE


Mr. Thierry Pelletier introduced the document on behalf of the Technical Officer Mr. Carlos Nogueira. Mr. Pelletier summarized the scope and development process for the document, which
involved eight Consultancy Meetings between January 2013 and December 2015 and one Technical Meeting in August 2014. The target audience is national policy and decision-makers, national and local competent authorities, facility operators and support organizations, as well as other entities and experts involved in the development of such a framework.

The document will provide information and advice to States on the development, implementation, maintenance and sustainment of a national framework for managing the response to a nuclear security event. It describes a scheme for grouping types of nuclear security events based on representative scenarios and provides States with guidance on response actions and considerations which can be adapted to meet their specific circumstances, experience and priorities. While it may assist States in developing an appropriate national response plan and procedures according to their capabilities and needs, the details of such a plan are beyond its scope.

The document was posted for Member States’ review in August 2015 and 65 comments were received and addressed. The updated document was provided to the Committees in April 2016 - 17 comments were received from NSGC and 100 comments were received from EPReSC. The majority of comments were accepted.

There were no comments from RASSC and the document was cleared for publication

Action: The Secretariat to submit the draft implementing guide National Framework for Managing Response to Nuclear Security Events (NST004) for publication.

R6.2 Draft Implementing Guide: Preventive Measures for Material Out of Regulatory Control (NST011)

Mr. Thierry Pelletier introduced the document, the DPP for which was approved in 2011. Subsequently five Consultants’ Meeting and one Technical Meeting were organized to develop the text. However, at the 5th meeting of the NSGC in June 2014, it was agreed to make a number of important changes to the document. As a result, the section on physical protection measures and the glossary have been deleted, and more detail has been added in relation to material outside regulatory control (MORC). The terminology has also been standardized throughout the document.

Mr. Pelletier reviewed the scope and content of the document, providing an explanation of the key issues and the philosophy underpinning them. The structure of the document is now also somewhat different to what was originally envisaged but is fully in line with the changes requested by NSGC. Following posting for review by the Committees, 13 comments were received from NSGC and some additional comments were received form EPReSC. All comments have been accepted and incorporated into a revised draft.

There were no comments from RASSC and the document was cleared for submission to Member States for comment.

Action: The Secretariat to submit the draft implementing guide Preventive Measures for Material Out of Regulatory Control (NST011) to Member States for comment.

R7 REPORTS FROM INTERNATIONAL ORGANIZATIONS

Written submissions were received from five International Organizations in advance of the meeting and were made available on the RASSC website. Mr Massera noted that an additional report had been posted, for information, by the Heads of European Radiological Protection Competent Authorities (HERCA).

No oral presentations were made and there were no specific questions on the available reports.
R8  CLOSING OF THE MEETING

R8.1  Any other Business

Israel noted that no comments had been received from RASSC on either of the documents in the Nuclear Security Series, either before the meeting or following the presentations. Mr. Pinak responded that the review processes that are in place require that all safety standards and documents in the Nuclear Security Series which address radiation protection issues need to be reviewed by RASSC.

R8.2  Dates of Future Meetings

The Secretariat confirmed that the next meeting of RASSC will be held on 21-23 November 2016. The dates for the following meetings have yet to be confirmed.

R8.3  Conclusions of the Meeting

The Chairman thanked all members and observers for their active participation in the meeting. He thanked the Secretariat for their work in organizing the meeting and noted that the joint Topical session on NORM was particularly informative and useful.

R8.4  Closing

The meeting was closed by the Chairman, Mr. Massera.
Annex 1

List of Actions

**Action:** The Secretariat to submit the DPP for the draft safety guide Preparedness and Response for an Emergency during the Transport of Radioactive Material (DS469) to the CSS for endorsement (agenda item 5.1).

**Action:** The Secretariat to submit the draft implementing guide National Framework for Managing Response to Nuclear Security Events (NST004) for publication (agenda item 6.1).

**Action:** The Secretariat to submit the draft implementing guide Preventive Measures for Material Out of Regulatory Control (NST011) to Member States for comment (agenda item 6.2).
Annex II

AGENDA

40\textsuperscript{th} Meeting of the Radiation Safety Standards Committee (RASSC)

23 June 2016

Vienna International Centre

Boardroom A, Building M

\textbf{Thursday 23 June 2016 at 09:00}

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**R3.2** Practical Implications of the ICRP Proposal  
*For discussion*

**R4.** Radiation Protection Convention of the ILO

**R4.1** Supervision of the Radiation Protection Convention (No. 115) – the ILO Supervisory System and the New General Observation on Convention No. 115  
*For information*  
*E. Martin*

**R5.** DPPs for Approval

**R5.1** DS469 Preparedness and Response for an Emergency during the Transport of Nuclear Material or Radioactive Material  
(also to EPRSC, TRANSSC and NSGC)  
*For approval for submission to CSS*  
*M. Breitinger*

**R6.** Nuclear Security Documents for Clearance

(also to EPRSC, TRANSSC and NSGC)  
*For publication*  
*C. Nogueira*

**R6.2** NST011 Draft Implementing Guide: Preventive Measures for Material Out of Regulatory Control  
(also to NSGC)  
*For submission to Member States*  
*T. Pelletier*

**R7.** Reports from International Organizations

*Reports from International Organizations will be posted on the RASSC website in advance of the meeting. These will be open for discussion, but no formal presentations are envisaged*

**R7.1** Food and Agriculture Organization of the United Nations (FAO)  
*C. Blackburn*

**R7.2** International Labour Organization (ILO)  
*S. Niu*

**R7.3** Pan American Health Organization (PAHO)  
*P. Jimenez*

**R7.4** United Nations Environment Program (UNEP)  
*M. Crick*

**R7.5** United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR)  
*M. Crick*

**R7.6** World Health Organization (WHO)  
*M. Perez*

**R7.7** European Commission (EC)  
*S. Mundigl*
R7.8 Nuclear Energy Agency / Organization for Economic Co-operation and Development (NEA/OECD)  
E. Lazo

R7.9 European Nuclear Installation Safety Standards Initiative (ENISS)  
B. Lorenz

R7.10 International Commission on Radiological Protection (ICRP)  
C. Clement

R7.11 International Radiation Protection Association (IRPA)  
R. Coates

R7.12 International Source Suppliers and Producers Association (ISSPA)  
W. Fasten

R7.13 International Standards Organization (ISO)  
A. Rannou

R7.14 World Nuclear Association (WNA)  
B. Shah

R7.15 International Electrotechnical Commission (IEC)  
P. Chiaro

R8. Closing of the Meeting

R8.1 Any other business  
G. Massera

R8.2 Dates of Future Meetings  
T. Colgan

R8.3 Conclusions of the Meeting  
G. Massera

R8.4 Closing  
M. Pinak
Annex III
List of Participants

Radiation Safety Standards Committee (RASSC)

Argentina
Mr Gustavo Massera CHAIRMAN
Australia
Mr Alex Kalaiziovski (Alternate)
Belgium
Mr Lodewijk Van Bladel
Brazil
Ms Maria Helena Da Hora Marechal
Canada
Ms Caroline Purvis
Czech Republic
Ms Karla Petrova
Denmark
Ms Mette Ohlenschlaeger
Finland
Ms Ritva Bly
France
Mr Jean-Luc Godet
Germany
Mr Manfred Helming
Hungary
Mr Arpad Vincze
India
Mr Rayroth Kunhanveetil Gopalakrishnan
Indonesia
Mr Yus Rusdian
Iran
Mr Mohammad Reza Kardan
Israel
Mr Jean Koch
Japan
Mr Toshiyasu Teratani
Kenya
Mr Joseph Maina
Netherlands
Ms Miriam Tijsmans
New Zealand
Mr Brent Le Vert (Alternate)
Norway
Mr Gunnar Saxeblol
Poland
Mr Maciej Tomasz Skarzewski (Alternate)
Russian Federation
Mr Sergey Mikheenko
Slovakia
Mr Vladimir Jurina
South Africa
Mr John Pule
Spain
Ms Carmen Álvarez García
Sweden
Ms Ann-Christin Haegg
Switzerland
Mr Andreas Leupin
Ukraine
Ms Tetiana Pavlenko
United Arab Emirates
Ms Aayda Al Shehhi
United Kingdom
Ms Susan McCready-Shea
United States of America
Mr Daniel Collins

Advisors
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Mr Liye Liu
Mr Zhou Qifu
France
Mr Philippe Berard
Mr Jean-Francois Lecomte
Germany
Ms Annemarie Schmitt-Hannig
Mr Henrich Meyering
Japan
Mr Hidenori Yonehara
Mr Isao Kawaguchi
Mr Hirokazu Tachikawa
Russian Federation
Mr Anton Kuryndin
United Kingdom
Ms Liz Thomas
United Nations Organizations

FAO
Mr Carl Blackburn

ILO
Mr Shengli Niu
Mr Michael Gaunt
Mr Tasos Zodiates

UNSCEAR
Mr Malcolm Crick
Mr Ferid Shannoun

WHO
Ms Maria del Rosario Perez

International Organizations

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Mr Stefan Mundigl

NEA/OECD
Ms Mari Gillogly

ISO
Mr Yann Billarand

Other Organizations

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Mr Bernd Lorenz

ICRP
Mr Christopher Clement

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Mr Miroslav Voytchev

IRPA
Mr Roger Coates

ISSPA
Mr John Miller

WNA
Ms Binika Shah
Mr Frank Harris