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W.1 OPENING OF WASSC SESSION

Mr Magnus Vesterlind, Head of Waste and Environmental Safety Section (WES), Division of Radiation, Transport and Waste Safety, Department of Nuclear Safety and Security, opened the 31st WASSC meeting. He welcomed all participants and noted that WASSC31 was the first meeting of the new term of WASSC initiated in 2011, with many new members. Mr Vesterlind highlighted the importance of the work of WASSC on waste and environmental safety issues, and also the importance given to these topics by Member States, revealed by the interest showed in the number of nominees to the WASSC and participants attending the WASSC31 meeting. Mr Vesterlind went on to emphasize the key topics on the Agenda that will have an impact in the work of WASSC and WES.

Mr Vesterlind also thanked Mr Geoff Williams from Australia for accepting being Chair of WASSC for this term and turned over the meeting to him.

Mr Geoff Williams, Chair of WASSC for the sixth term (2011-2013) and WASSC representative from Australia, warmly welcomed all WASSC members to this meeting, especially the new members. He expressed his thanks to Mr Thiagan Pather, from South Africa, the previous Chair of WASSC, for the exemplary work done in the previous term, as most of the programme of Waste Safety Standards were accomplished and in this sense, WASSC is forwarded to him in an excellent state.

W.2 CHAIRMAN’S REMARKS

Mr Williams provided in his opening remarks a brief explanation on the functioning of all the Safety Standards Committees (SSCs): NUSSC, RASSC, WASSC and TRANSSC. He also explained that joint meetings of WASSC are currently held with one of the other committees. At this meeting there will be joint sessions with RASSC and in the future WASSC expects holding joint sessions with NUSSC, considering that the later committee has relevance to the revision of the Safety Standards in relation to the Fukushima accident.

Mr Williams also recalled the joint sessions held in the past with the WATEC (Waste Technology Committee) and he expressed his willingness to pursue this custom in the future, as both committees have a lot in common: the subject Waste Management, with the only difference of the perspectives: Safety and Technology.

Mr Williams also highlighted one specificity of WASSC: to provide very practical solutions on working methods and on improvements to Safety Standards. He went on to summarize the areas he personally thinks are important for the next term:

- In the post-Fukushima era, he thinks that the first approach of the IAEA’s Safety Standards are quite satisfactory, but it is important to review them in detail to identify if there are any gaps or need of adjustments;

- The use of the Safety Standards by Member States is very important. He stressed the important role of the WASSC members to encourage the use of the Safety Standards in all Member States, amongst the regulators, the operators, the final users of Safety Standards.
• The safety of the front end of the Nuclear Fuel Cycle revealed lately to be a very important issue, particularly he noted the difference in the regulatory frame for Uranium and Thorium mining from other NORM areas

• The inter-relation of Safety and Security is a developing area, and work is on-going to ensure harmony on the implementing measures

• The social and political issues related to waste management is also a developing topic in a highly technical area. The stakeholder consultation is needed to ensure that the technical issues are well presented and perceived by all stakeholders. Then, the early involvement of stakeholders in the process is of paramount importance to ensure the technical people can do their work

Mr Williams concluded his remarks recognizing the importance of having a wide range of expertise in the committee, from regulators to operators, and for all the areas of interest: waste management, decommissioning and remediation. He also reminded WASSC members on the importance to think on new solutions for projecting our work to the future.

W.3 INTRODUCTION OF WASSC MEMBERS

The WASSC members introduced themselves indicating their affiliation, current position and previous experience in relation to the regulation of waste management and their previous involvement in the activities of WASSC.

W.4 TERMS OF REFERENCE OF WASSC

Mr Williams presented the revised Terms of Reference (ToR) of the WASSC posted in the web page of the Safety Standards Committees (SSCs), explaining the functioning of the SSCs, its role as advisor to the Commission of Safety Standards (CSS) and to the IAEA. Mr Williams recommended committee members to visit the committee’s web page and look there for further details on the ToR. He also referred that the practical functioning of the committee will be explained by Ms Siraky later in the morning session (under Agenda item W.9.2).

W.5 ADOPTION OF THE AGENDA OF THE WASSC SESSION

The draft Agenda of the meeting, distributed to all participants, was adopted without changes. The latest change introduced was noted: the addition to the joint session with RASSC of an informative presentation on the Technical Meeting on development of an international agreement on trans-boundary movement of scrap metal containing radioactive material, as RW.8.3. In addition, a change in the order of the presentations was agreed: Agenda item W21, Specific feedback on the use of WS-G-2.7 will be held before the discussion on the DPP for its revision, DS454 (Agenda item W.10.1). The adopted Agenda is attached to this report as Annex I.

W.6 REPORT FROM 30th MEETING

Mr Williams noted the comments received from committee members on the draft report of the WASSC 30th meeting:

1) From Japan, on the malfunctioning of a link to the Web folder of General Information were the Status file of WSS are placed. The link has been corrected in the draft report by: http://www-ns.iaea.org/committees/wassc/default.asp?id=376&dt=0). Mr Williams thanked the Japanese delegates for providing such a detailed and useful comment.
WASSC SESSION

2) From Spain, a clarification on the report related to the revision of the BSS after MSs comments (Revision 5, as sent to CSS) was requested, specifically on the deletion of Paragraph III-8 and Table III-1. The Technical Officer offered satisfactory explanations to the commenter, and no change is made to the WASSC30th report.

The meeting approved the draft report of the WASSC 30th meeting without changes.

W.7 STATUS OF ACTIONS ARISING FROM WASSC30

Ms G. Siraky, Coordinator of WASSC (WES-NSRW), provided a detailed accomplishment status of the actions arising from the WASSC 30th meeting, attached to this report as Annex II. In summary, all actions arising from past meeting were accomplished satisfactorily.

W.8 ADMINISTRATIVE ARRANGEMENTS FOR THE MEETING

Ms G. Siraky, informed on the administrative arrangements for the WASSC and WASSC/RASSC sessions. She welcomed all WASSC members and particularly the newly appointed WASSC members and all delegates. Ms Siraky referred to the apologies received prior to the meeting from several national representatives: Mr Lee Gonzalez from Argentina (Ms Medici represented Argentina at the meeting), Mr Souza Ferreira from Brazil, Ms Edvrard from France (Mr Besnus represented France at the meeting), Mr Paulikas from Lithuania, Mr Rodna from Romania and Mr Kondrytriev from Ukraine, as they were unable to participate of the WASSC31 meeting. In addition, apologies were received from two observers, Mr Berger from ENISS and Mr James from ISO (Ms Amekraz represented ISO at the meeting).

Ms Siraky indicated that all material for approval was posted to the web page with two months in advance to the meeting, and that the current meeting will be free of papers to the extent possible. Additional details of the meeting were provided for its functioning: meeting rooms, support staff, availability of presentations, working hours, breaks and facilities available at the VIC.

W.9 WASSC WORK PLAN 2011-2013

W.9.1 WASSC three year report 2008-2010 cycle

Ms Siraky presented a summary of the WASSC three year report of the previous term (the fifth cycle from 2008 to 2010), highlighting the recommendations of the WASSC members of the previous cycle for the current term of WASSC. The presentation of Ms Siraky is available in the WASSC web site.

W.9.2 WASSC working methods

Ms Siraky made a detailed presentation of the working methods applied by WASSC, based on the committees Terms of Reference, the relevant documents for the development of Safety Standards, the current practice of WASSC, and the web based tools. In relation to the review process of the Safety Standards and specifically for documents subject to approval, Ms Siraky stressed the need that the comments provided by Committee members be uploaded to the SSC folders of each document under approval process at least three weeks in advance to the meeting (or the deadline assigned, when multiple committees have to review the document). This request is aligned with the Step-by-Step Manual of SPESS and is mainly to ensure the comments made by Committee members are properly dealt. Proceeding in this way, the Technical Officer can upload the Table with the resolution on comments one week before the meeting, enabling him/her to focus the presentation to the meeting on the unresolved issues, and in case needed, discuss with committee members the particular comment
W.9.3 Waste Safety Standards status and future steps

Ms Siraky made a presentation on the status of the Waste Safety Standards, providing the perspective of a brief historic overview of the standards development, the evolution of its structure, the requirements to be applied to Waste Management (published and under revision), and the safety Standards to be applied in each waste safety area. Ms Siraky also indicated the plan for the review/revision of waste safety standards for WASSC32 (December 2012) and WASSC33 (July 2012). Ms Siraky touched also upon the topics currently under development. In particular, the Waste Acceptance Criteria (requested by CSS members as a potential area needing guidance) currently is under development in one of the Projects of WES, PRISM, where one of the Working Groups is oriented to derive WAC based on the demonstration of the safety of a facility through its safety case. It was noted that the result of this work will be published, most probably as a TECDOC and that could have an impact in the associated safety guides. In this regard, DS356 will include a section on WAC after incorporating Member States comments. Within future activities, the work on the action plan for the review/revision of the waste safety standards after the Fukushima accident was highlighted.

W.10 DETAILED DISCUSSION ON DPP'S BEFORE APPROVAL AT JOINT SESSION

W.10.1 DS454: DPP for Revision of SG on Management of Waste from the Use of Radioactive Materials in Medicine, Industry, Research, Agriculture and Education (Revision of WS-G-2.7)

The Document Preparation Profile for the revision of the SG on Management of Waste from the Use of Radioactive Materials in Medicine, Industry, Research, Agriculture and Education (WS-G-2.7) (DS454) was introduced for discussion by Mr K. Moeller (WES-NSRW). It was noted that the feedback report prepared and uploaded to the SSCs web page was developed based on the views of the Secretariat, and could be complemented with the feedback from users and committee members. The need for the revision was based on the fact that there have been significant developments on the Safety Standards since the publication of WS-G-2.7 (2005), particularly the publication of the Safety Fundamentals document (SF-1), the new Safety Requirements on the predisposal of radioactive waste (GSR-Part5) and the finalization of the drafting of the revised BSS (DS379). Mr Moeller also summarized and discussed the comments received on the draft DPP. WASSC commented that during the development of the document it should be clearly stated that disposal is not included in the scope of the document. Further it was commented that, as the document addresses users of small amounts of radioactive material (small users), the language used should be clear and easy to understand to the extent possible. Especially it was emphasized that for small users potentially intimidating phrases like “safety case” should be used carefully.

WASSC endorsed the revision of the safety guide WS-G-2.7 and the DPP that would be presented at the joint session for approval.

W.11 DOCUMENTS FOR APPROVAL

W.11.1 DS433 – Safety Guide on Site Survey and Site Selection for Nuclear Installations (Revision of 50-SG-S9)

Mr O. Coman (ISSC-NSNI) presented the draft safety guide indicating that its purpose is to provide guidance for the site survey and selection for nuclear installations. The site survey implies the identification of potential regions, potential sites and candidate sites through a screening and comparison process. This process includes the elaboration of a list of preferred sites, with a ranking,
and finally the siting process is completed once the site on which the nuclear installation will be located is selected from the preferred sites.

The document received more than 500 comments, from which 89% were accepted. The table of resolution of comments was not available as comments were received until last moment before the meeting.

WASSC appreciated the work done with the document and the explanations received. In addition, WASSC requested the Secretariat:

- to provide the table with the resolution of comments, and
- to include explanation on “ranking of sites” (to change the emphasis, as it is not seems to be a due step to follow) and to take into consideration the importance of considering socio-economic issues along-side safety issues.

In this regard WASSC noted the need to see if waste safety issues were appropriately taken into account in the document. WASSC recommended to redraft the document in order to include predisposal waste management facilities and to return it to WASSC for approval.

W.11.2 DS446 – Safety Guide on Commissioning of Nuclear Power Plants (Revision of NS-G-2.9)

Mr Y. Martynenko introduced the draft Safety Guide for approval to be sent to Member States for comments. The presentation mainly focused on the fact of being the second revision of a safety guide originally published in 1980 and revised for first time in 2003. The presentation referred also briefly to the comments received. The draft safety guide was approved without discussion.

**Action:** Secretariat to submit DS446 to Member States for comments

W.12 DISCUSSION ON WASTE ISSUES RELATED TO MINING AND PROCESSING OF RADIOACTIVE ORES

Mr J. Rowat (WES-NSRW) introduced the subject with a presentation on the issues to be discussed at the topical session on NORM, with the aim to inform WASSC members on the activities of the IAEA Secretariat on this field, the challenges for the “front end of the fuel cycle and for NORM” and to table some proposals related to the future of the following documents:

- DS421, Safety Guide on Protection of the public against Exposure to Natural Sources of Radiation,
- proposed revision of WS-G1.2, Safety Guide on Management of Radioactive Waste from the Mining and Milling of Ores,
- Proposed Safety Guide on the Reference List of Safety Guides agreed by SSCs in 2009, on Decommissioning of Facilities using NORM (item 61).

Mr Rowat also noted the aim of this discussion would be to consolidate a common view of WASSC on these issues.

Mr Rowat went on discussing the existing documents on Decommissioning and the documents under elaboration in this area. He noted that in the last cycle of WASSC, two Safety Guides were consolidated into one Safety Guide document that addresses decommissioning of nuclear power plants, research reactors and fuel cycle facilities (DS452). Mr Rowat also highlighted that, from the point of view of process for decommissioning, NORM facilities are not unique, and that the differences reside in details. Consequently, an additional Safety Guide does not seem necessary. After
discussions the WASSC members concluded that the decommissioning of NORM facilities could be also included in another document under elaboration.

WASSC members agreed on the proposal of the Secretariat to include the decommissioning of NORM facilities into the revision of the SG on Management of Radioactive Waste from the Mining and Milling of Ores and to request the removal of the item 61 from the Reference List of Safety Guides.

In relation to the NORM residue management, Mr Rowat indicated that there are many requirements, but few guides: the Waste Safety Requirements, the BSS and other requirements are applicable, but there is only one Safety Guide, WS-G-1.2. WASSC29 agreed the revision of WS-G-1.2 to cover the details needed for the residues management and that cannot be dealt in the generic SG on Protection of the public against Exposure to Natural Sources of Radiation (DS421). This action would imply:

- To prepare a feedback report and a draft DPP for consideration of WASSC32 for the revision of WS-G-1.2
- To remove all the residues management from DS421
- To restructure DS421 accordingly.

WASSC members supported these proposals.

W.13 PROGRAMME ON RADIOACTIVE WASTE MANAGEMENT

W.14 INTERNATIONAL HARMONIZATION PROJECTS

Mr Vesterlind presented the IAEA’s Programme for Radioactive Waste Management including the international harmonization projects being implemented by the programme. Mr Vesterlind briefly introduced the two sub-programmes and its implementing organizations, the main activities of the sub-programmes and the status, objectives and accomplishment of the international projects. The presentation of Mr Vesterlind is summarized below and his complete presentation is uploaded to the committee’s web page.

The two sub-programmes and their main activities for the RWM programme are:

SP1 – Global Regime for Waste, Spent Fuel and Decommissioning Management (implemented by WES-NS) – Its main activities are:

- Development of Safety Standards and Reports and coordination of WASSC
- Projects on safety related aspects of pre-disposal and disposal management of radioactive waste, decommissioning and remediation and environmental releases
- Implementation of Technical Cooperation projects
- Peer reviews as requested
- Involvement in the IAEA networks
- Coordination to the IAEA’s Secretariat to the Joint Convention

SP2 – Application of Safety Standards and Best Practices for Waste, Spent Fuel and Decommissioning Management (implemented by WTS-NE). Its activities are focused on the following:

- Pre-disposal management of radioactive waste
- Managing disposal of radioactive waste and spent fuel
- Managing disused sealed radioactive sources
- Decommissioning and environmental remediation of sites
- Information exchange and dissemination of knowledge
- Peer reviews as requested by Member States and implementation of Technical Cooperation projects

International harmonization projects under implementation in WES:

- **PRISM** (Practical Illustration and Use of the Safety Case Concept in the Management of Near-Surface Disposal) to be finished in 2012
- **SADRWMS** (Safety Assessment Driving Radioactive Waste Management Solutions) finished in 2011
- **CRAFT** (Complimentary Safety Reports, Development and Application to Waste Management Facilities) started this year as a follow up of SADRWMS
- **GEOSAF** - Demonstration of safety of geological disposal, finished this year
- Joint Working Group on Guidance for an Integrated Safety Case for Dual Purpose Casks for SNF, started this year
- **FaSa Project**, on Safety assessment for decommissioning, will finish in November 2011
- **R²D²P** - Research Reactor Decommissioning Demonstration Project, will finish in 2014
- **EMRAS II**: Environmental Modelling for Radiation Safety Intercomparison and Harmonization, will finish this year

**W.15 REPORT ON THE RESULTS OF THE TECHNICAL MEETING ON THE DUAL USE CASK**

Ms M. Kinker informed on the status of the Joint Working Group on Guidance for an Integrated Transport and Storage Safety Case for Dual Purpose Casks for Spent Nuclear Fuel (SNF), which was recommended by the WASSC/TRANSSC Working Group in 2009, and more recently at the International Conference on Management of Spent Fuel from Nuclear Power Reactors in June 2010. The main objective of the April 2011 TM was to establish the Joint Working Group to address the safety demonstration for dual use casks in terms of extended periods of storage and to meet transport requirements at end of storage period.

Ms Kinker reported that the Technical Meeting finalized the Joint Working Group Scope and Terms of Reference, and began work on the draft guidance document. The final outcomes of the Working Group are expected to include 1) an IAEA guidance document supporting DS284 containing recommendations and guidance for the structure and contents of an Integrated Safety Case for a dual purpose Storage and Transport Cask (to include consideration of the requirements for both the storage and transport of the casks), and 2) recommendations for changes to be made to existing IAEA requirements and guidance relevant to the licensing and use of storage and transport casks for SNF. Ms Kinker noted that the draft Guidance Document is expected to be consolidated in February 2012 and will be presented for discussion at the next plenary meeting in 16-20 April 2012.

The complete presentation of Ms Kinker is uploaded to the SSCs web page.
W.16 RESULTS OF THE CS ON INTERMEDIATE DEPTH DISPOSAL

Mr G. Bruno (WES-NSRW) gave a presentation on the topic of intermediate depth disposal, going through the problem definition, explaining the issue and identifying the outcomes of a consultancy organized in March 2011 to elaborate the way forward, and finally he proposed the position of the IAEA regarding the issue of intermediate level waste disposal and intermediate depth disposal.

In terms of disposal the recently published safety requirements on disposal of radioactive waste (SSR5) defines the different disposal options. Near surface disposal is defined as disposal in a facility constructed on the ground surface or up to a few tens of metres below ground level. Such a facility may be designated as a disposal facility for low level radioactive waste (LLW).

The safety requirements publication also indicates that concerning disposal of intermediate level waste, depending on its characteristics, (ILW) can be disposed of in facilities of different types. Disposal could be by emplacement in facilities constructed at least a few tens of metres below ground level and up to a few hundred metres below ground level. It could include purpose built facilities and facilities developed in or from existing mines. It could also include facilities developed by drift mining into mountainsides or hillsides, in which case the overlying cover could be more than 100 metres deep.

Finally geological disposal is defined as disposal in a facility constructed in a particular geological formation (e.g. in terms of its long term stability and its hydrogeological properties) at least a few hundred metres below ground level. Such a facility could be designed to receive high level radioactive waste. However with appropriate design, a geological disposal facility could receive all types of radioactive waste.

The document on classification of radioactive waste, GSG-1, relates the disposal at greater depth than that of near surface disposal facilities, in the order of tens of meters to a few hundred meters, with intermediate depth disposal.

When discussing the long term reference list of Safety Guides, it was raised the issue if a safety guide would be needed to address the intermediate depth disposal of radioactive waste, in analogy to the existing safety guides under development on near surface (DS356) and geological disposal (DS334).

In 2008, a Workshop on Intermediate Depth Disposal of Radioactive Waste: the Safety Basis and its Realization was held in Korea that rendered the following conclusions:

- The concept of intermediate depth disposal is not useful - The depth of a geological disposal should be determined by a combination of geological, engineering and safety considerations rather than by an arbitrary standard of what constitutes “intermediate depth” or “deep”
- The need for additional guidance for ILW disposal between a few tens to a few hundred meters below ground surface should be further examined.

To address these issues the consultancy held this year, in particular studied and analyzed the potential differences in terms of safety to expect between disposal of ILW at depths ranging from a few tens to a few hundred meters, geological disposal for HLW and near surface disposal.

The analyses of the consultants broach the following general issues:

- The objective of a disposal facility located at few tens to a few 100m for ILW is to isolate and contain the waste during an appropriate period of time (up to the magnitude of 10-4)
- The objectives and long-term safety principles applicable when developing geological disposal for HLW are applicable and must be met when developing disposal for ILW
- Given the time during which the waste must be contained and the central role of the geological conditions, the way of demonstrating that disposal for ILW meets the relevant safety requirements is to a large extent similar to that related to geological disposal for HLW, then the Safety Requirements are fully applicable.

- Fields of investigations for developing the safety case for ILW disposal should be comparable to those for the SC for HLW disposal (geology, hydrogeology, geomechanical and geochemical interactions, long term modelling, biosphere evolution...).

- However, safety provisions must be adapted to the inherent risk caused by the waste. The main difference would concern the expected performance over time of the engineering barriers and the package over time and the design provisions aimed at ensuring the facility safe operation.

The consultants concluded that there is no need to develop a specific safety guide for ILW as all the elements are covered by the actual requirements and guidance.

But some particular aspects have to be addressed when developing a SC for ILW disposal considering the depth, nature of the cover and variety of waste to be disposed of, such as:

- If artificial/reworked cover: Timeframe to be considered and characteristics of the waste to be disposed of.
- Consideration on the need for an institutional control to provide the contribution to safety envisaged in the safety case.
- The waste to be accepted in an ILW disposal facility with regards to the possible need for limitation of LL RN.
- The large variety of ILW types and associated strategy for emplacement.
- The analysis of likelihood and severity of external events related to either natural events or human intrusion.

Based on these conclusions, the Secretariat proposed to WASSC the following way forward:

- No need to develop a specific safety guide as the recently approved Safety guide on Geological Disposal facilities for Radioactive Waste (DS334 – SSG-14) is generic enough and addresses geological disposal at large i.e. “applies to solid waste that, owing to its radioactive content, is unsuitable for disposal in landfill facilities or near surface facilities.”
- Then, there is no need to amend DS334 to incorporate specifically intermediate depth disposal of radioactive waste.
- Highlight the importance of adopting a graded approach: the ability of the chosen disposal system to contain the waste and isolate it from humans and the environment should be commensurate with the hazard potential of the waste.
- To develop a position paper or safety report [final decision to be decided when the document is available] to cover the specificities of ILW as there is an existing basis.

WASSC members after discussing these issues, and agreed with the above way forward proposed by the Secretariat.
W.17 UPDATE ON JOINT CONVENTION

Ms G. Siraky presented the latest developments in the Joint Convention area, covering the period 2010-2011. The main topics and activities are identified in the following:

- The Member States recognized the importance of the Joint Convention to the global safety through specific quoting in the Safety Resolution of the 54th General Conference of the IAEA.
- The Technical Meeting on the Establishment of a Radioactive Waste Management Organization, first meeting between Member States Contracting Parties to the JC and non-Contracting Parties to share experience on the subject, was held in Paris, 7-9 June, 2010.
- The Contracting Parties’ meeting to discuss Proposed Recommendations to Promote Continuity and Enhance Communications was held on 10 June, 2010.
- The Joint Convention General Committee Meeting was held on 24 September 2010.
- The Organizational Meeting for the Joint Convention fourth Review Meeting was held in Vienna on 10-11 May 2011.
- The Workshop to transfer knowledge between Joint Convention outgoing and incoming officers, was held in Vienna on 12 May 2011.
- A Joint Convention Workshop was held in Tokyo, Japan, in association with the Asian Nuclear Safety Network, Nuclear and Industrial Safety Agency, and Nuclear Safety Commission, on 28-30 September 2010.
- The International Workshop on Sustainable Management of Disused Sealed Radioactive Sources, was held in Lisbon, Portugal, on 11-15 October 2010.
- The Joint convention Public brochure was revised and reissued (May 2011).
- The Restricted web page was updated according to Contracting Parties suggestions to increase its user-friendliness, in August 2010.
- Eleven Member States became Contracting Parties after the third Review Meeting: Gabon, Ghana, Kazakhstan, United Arab Emirates, Indonesia, Cyprus, Georgia, TFYR Macedonia, Republic of Moldova, Montenegro and Portugal.

The forthcoming activities were also highlighted:

- The submission of National Reports for the Joint Convention Review (deadline 14 October 2011).
- The Regional meeting on the Joint Convention, to be held Buenos Aires, October 18-19, 2011.
- The Fourth Review Meeting, to be held in Vienna, 14-23 May 2012.

W.18 WATEC REPORT (INCLUDING STATUS OF NE-WT SERIES)

Ms I. Mele (WTS head-NE) made a detailed presentation on the activities of WATEC, the International Waste Technical Committee — a working group of senior experts — whose main aims are:
• To provide advice, guidance and support to the IAEA’s RWM programme,
• To provide a forum for information and knowledge sharing,
• To act as a link between the IAEA’s activities and national RWM programmes.

Ms Mele also reported on the working methods of WATEC and on the outcomes of the meeting held in March 2011. Ms Mele furthermore reported on the Issues and Trends in WATEC Members States and on the Topical sessions held during WATEC on:

• Countries embarking on Nuclear Power,
• Long-term management of Intermediate Level Waste,
• Management of NORM waste.

Ms Mele informed on the IAEA’s Networks already operating (5):

• URF for geological disposal underground research facilities,
• IDN on decommissioning,
• DISPONET on near surface disposal,
• ENVIRONET on environmental remediation,
• LABONET on waste characterization.

There are a project to link all these networks in a “Network of Networks”, with a strong support of CONNECT. It is a joint undertaking of the IAEA and EC.

The complete presentations of Ms Mele on this topic and on a summary on the status of the NE publications are uploaded to the SSCs web page.

W.19 UPDATE ON NEWMDB

Mr J. Kinker (WTS-NE) presented the status of the IAEA’s Net Enabled Waste Management Database (NEWMDB), specifically on the information collected from MS, stored and shared. In particular, this database collects information on:

✓ Inventory of Waste in Storage and Disposal (including historical disposal no longer practiced),
✓ Treatment & Conditioning Capabilities,
✓ Major milestones in programme and facility development,
✓ Regulatory Authorities,
✓ Policies, Laws & Regulations,
✓ Disused Radioactive Sources (for some MS).

In addition, Mr Kinker also reported on the Data Presentation Tool (DPT) for National Reporting, (linked to NEWMB, RRDB, NFCIS, RIS and DIRATA). DPT is a website designed to assist Contracting Parties (CPs) to the JC to develop their inventory tables in compliance with the requirements of Article 32 of the JC. The DPT is intended as a voluntary tool to assist any CP with the development and reporting inventories, facilities, laws and regulations, and sites undergoing decommissioning. DPT has embedded a tool for comparison of inventories that could be useful while
analysing reports for the JC peer review. DPT (http://dpt.iaea.org/) can be accessed by users of the JCweb page with their own username and password. The complete presentation of Mr Kinker is uploaded to the SSCs web page.

W.20 FEEDBACK FROM WASSC MEMBERS ON THE USE OF SAFETY STANDARDS

Following the Fukushima accident, there is a strong emphasis on improving the use of IAEA safety standards throughout the world. This was an issue that came before the IAEA Ministerial Conference on Nuclear Safety held in June. The IAEA expectation is that the international community will consistently use the IAEA safety standards as a benchmark in nuclear safety.

Several WASSC members provided their feedback on the use of the Safety Standards in their countries in writing in advance to the meeting; within them were the delegates from Argentina, Finland, Poland, Spain and Ukraine. In addition, at the meeting WASSC members and observers gave their personal views on the use of the waste safety standards in their countries or organizations:

- In the European Commission, the management of radioactive waste will be subject to a legislation under the form of a directive to be adopted in July 2011, which is based on the IAEA international safety standards. In other words, through this directive the safety standards will become legally binding in radioactive waste management [and disposal] throughout Europe. In the EC legislation, the concept of the “safety case” is fully retained and strengthened (called the “safety demonstration”). There are also strict conditions based on safety considerations placed on waste to be exported for disposal outside of Europe.

- In UK industry the use of IAEA safety standards may not be as widespread as in some other states, probably because of a view that international best practice is already applied, particularly in the nuclear sector, and that compliance with EU Directives effectively achieves the same standards. For non-nuclear users, awareness of international standards generally is somewhat limited. For low level radioactive waste, use of the standards is not helped by the fact that the UK has not adopted the IAEA definition of LLW, due to the availability of the LLWR at Drigg. However, the Fukushima accident is now increasing awareness of the importance of international standards.

- France regards the IAEA safety standards as being important to achieve consistency, harmonisation and international consensus. For example, international consensus is considered extremely useful by France in getting support for national standards and practices such as near-surface disposal.

- Decommissioning standards have proved to be particularly useful for France. The standards on risk assessment and the general set of decommissioning standards are very useful for France in the area of dismantling old nuclear infrastructure.

- In the US, the IAEA safety standards are used as a “point of reference” for national standards, with the exception of the transport regulations (TS-R-1) which is taken directly in the US legislation. For instance, currently the LLW regulations are being reviewed with reference to relevant IAEA safety standards. The second use in the US is in ensuring compatibility of national and international standards by conducting a “gap analysis”. IAEA standards are used in reviewing US standards, and in the waste safety area it is found that US standards align well.

- Belgium, Germany and Sweden are embarking on new programs of stress-testing of waste management facilities, and this will add motivation for applying international IAEA safety standards.
- Switzerland is participating in an Integrated Regulatory Review Service (IRRS), which will also motivate greater use of the IAEA safety standards. IRRS is a peer review service of the IAEA conducted by a team of international experts with experience directly relevant to the areas of evaluation. The team concentrates on key areas of regulatory activity identified within IAEA safety standards to assess the effectiveness of the regulatory body. The review is not an inspection to determine compliance with national legislation, but is more an objective comparison of national nuclear regulation with the IAEA international guidelines.

- In Sweden, international safety standards are used for benchmarking. Sweden is developing a disposal facility for spent nuclear fuel, and regards it as important to show that they are following world best practice. Also like Switzerland, Sweden is undertaking an IAEA IRRS mission.

- Croatia has suggested the formation of a working group of “small waste countries” without NPPs to work together in solving “institutional waste issues”, such as long-term storage based on international standards. Possible member countries include Cuba, Thailand, Egypt and Australia.

- Canada is in the process of licensing a L&ILW disposal facility next year. The international safety standards are used in drafting and enhancing national regulations. The Canadian national framework for radioactive waste safety refers to international standards as a way of ensuring the national framework is in line with international best practice.

- In Australia, the situation is very similar to the US, with international standards used as a benchmark of international best practice and as reference for the drafting of national standards. The IAEA transport standard is likewise picked up in Australia’s regulations as RPS2. Australia is also currently participating in an IAEA IRRS of the national regulator, ARPANSA. This review will evaluate regulatory technical and policy issues against the IAEA safety standards.

W.21 SPECIFIC FEEDBACK ON THE USE OF WS-G-2.7

WASSC members provided the following feedback on the use of the Safety Guide on the Management of Waste from the Use of Radioactive Material in Medicine, Industry, Agriculture, Research and Education (WS-G-2.7):

- The Flow Diagrams on Appendices III to V seems very useful and should be kept

- There seems not to be a great enthusiasm by small users, as mainly they see this Safety Guide written by the nuclear industry for the nuclear industry. This safety guide should be written in a simpler and clearer form, to find acceptance on the use of this document by the intended users.

- To involve in the development of this document the intended users and target Member States

W.22 CONCLUSIONS OF THE SESSION

Mr Williams concluded the sessions by mentioning that the 31st meeting of WASSC has set the course to confront the challenges of safely managing the world’s radioactive waste into the future, by continuing the program to review and update the international waste safety standards, and to foster legitimacy in waste management and disposal practices by promoting widespread use of the
international safety standards.

W.23 CLOSURE OF WASSC MEETING

Messrs Williams and Vesterlind closed the WASSC Meeting thanking the Committee Members for their contributions and the highly professional discussions and wishing them safe trip back.
WASSC AND RASSC JOINT SESSION
IAEA HEADQUARTERS, M BUILDING, IAEA BOARD ROOM
28 - 29 June 2011

RW.1 OPENING OF MEETING

Mr Pil-Soo Hahn, Director of the Radiation, Waste and Transport Safety Division (NSRW), opened the joint session. Mr Hahn introduced himself as the new Director of NSRW, having taken up his position at the beginning of this year. He referred to the current discussion on how to ensure that the lessons learnt from the recent events in Japan can be comprehensively addressed in all new and revised safety standards. Mr Hahn also stressed the opportunity RASSC and WASSC have during this session to hold the initial discussions on this topic and expressed his confidence that the Committees will ensure that this review is carried out in a timely manner and to the highest quality.

Mr Hahn briefed the Committees on the status of the international legal instruments on nuclear Safety and on the safety of spent fuel and radioactive waste management. He also highlighted the essential role played by the Safety Standards Committees (SSCs) in guiding the work of the Agency and allowing the development of safety standards of the uppermost value.

Mr Hahn handed over the meeting to the new Chairmen: Messrs Gustavo Massera of Argentina (RASSC) and Geoff Williams of Australia (WASSC), referring to their extensive experience gained throughout their careers and also as long-standing members of RASSC and WASSC respectively.

RW.2 CHAIRMEN’S REMARKS

Both Chairmen welcomed the meeting participants and particularly the new members of RASSC and WASSC. They also thanked the Director of the Radiation, Waste and Transport Safety Division for the confidence shown by the Agency in nominating them to the important role of guiding the development of Safety Standards.

Mr Williams went on to provide the perspectives of both Chairmen for holding effective RASSC and WASSC joint meetings.

RW.3 ADOPTION OF AGENDA FOR THE JOINT SESSION

The draft Agenda for the joint sessions provided in advance of the meeting was adopted with the addition of a presentation under the Agenda item RW9.4, a Report from the World Nuclear Association. There were additional minor changes: the Agenda item RW.6.1 would be presented by Mr Yoangkang Zhao instead of Mr James Stewart, Agenda item RW7.5 would be presented on Wednesday morning instead of on Tuesday morning and a speaker was added to the item RW9.4, Mr Saint-Pierre, presenting the perspectives of the World Nuclear Association. The Adopted Agenda is attached to this report as Annex I.

RW.4 ADMINISTRATIVE ARRANGEMENTS FOR THE MEETING

There were no additional administrative announcements to the ones addressed at the initial sessions of RASSC and WASSC.
RW.5  GENERAL SAFETY STANDARDS ISSUES

RW.5.1  Feedback from the Commission on Safety Standards (CSS29)

Mr D. Delattre reported on the past meeting of the Commission on Safety Standards (CSS29).

He highlighted the following topics:

- Fukushima Daiichi Accident - Presentations and discussions, and agreement on a Disclaimer to be included in each safety standards published since now and until the revision of SSs has effect;
- Documents approved at the meeting: Safety Requirements: DS414, DS379\(^1\), and a DPP for the revision of the decommissioning SR (DS450). Safety Guides: DS351, DS355, DS405, and the following DPPs: DS452 (revision and consolidation of SGs on decommissioning of Nuclear Power Plants, Research Reactors and Nuclear Fuel Cycle Facilities), DS451 SG on Schedules and provisions of the Transport regulations and DS441, new SG for the construction of nuclear installations;
- Policy discussions;
- Joint AdSec CSS Task Force meeting results.

Discussions following the presentation focussed on the establishment of one additional Committee for the Nuclear Security Series and its interface with the existing SSCs. It was stressed that the SSCs will continue to report to the Commission on Safety Standards and to the Deputy Director General for Nuclear Safety and Security.

During the exchange of views on future of the safety standards the following were highlighted:

- To improve further the safety standards, feedback from their users were very important;
- The transparency of the process of development of safety standard were very high and very appreciated; and
- The role of the Member States to involve all stakeholders in the process of consultation previous to each Safety Standards Committee meeting and at the stage of Member States consultation.

RW.5.2  Report on Long term Structure

Mr D. Delattre informed the Safety Standards Committees that the programme for Safety Requirements (SR) foreseen in the Long Term Structure of Safety Standards agreed in 2008 is progressing well, with the last two General Safety Requirements starting their revision with the approval of the corresponding DPPs by the CSS. Completion of Specific Safety Requirements is also progressing as planned for their completion by 2015.

RW.5.3  Report on SPESS

Mr Delattre presented a thorough view on the content of the document on “Strategies and Processes for the Establishment of Safety Standards” (SPESS). The main topics covered were the vision,

\(^{1}\) It was agreed a period of 30 days of consultation of Member States on a revised Schedule III of DS379 that incorporates the new dose limit for the lens of the eye.
strategies to achieve this vision, the main processes and responsibilities involved in the establishment of safety standards. Mr Delattres’ complete presentation is available at the committees’ web folder.

**RW.6 DOCUMENTS FOR APPROVAL**


The Draft Safety Requirements on Regulations for the Safe Transport of Radioactive Material, 20XX Edition (DS437) was presented to RASSC and WASSC by Mr Y. Zhao (Transport Safety Unit, NSRW). In particular, Mr Zhao made an overview of the comments received from Member States (MS) after the 120-day period for comments, the meetings that had been held addressing MS comments and a summary of the comments received from SSC members on the current draft under revision. Mr Zhao also stressed that TRANSSC 22 (in June 2011) addressed all comments and approved draft 2.4 of DS437 to proceed to CSS for endorsement. The major changes to the current draft are related to:

- Transport of fissile material: three type of fissile material were defined – fissile material that needs full control, Criticality Safety Index (CSI) controlled fissile material that needs only transport control and fissile excepted material that needs least control;
- UF6 ≤ 100 g may be transported by excepted package (para. 422)
- Exemption of emergency transport of contaminated person
- Transport of NORM (wording in Para 107)
- Exemption values in Table 2 – A footnote is added to allow the competent authority to determine and approve alternative activity limits for an exempt consignment of instruments and articles. Alternative value is subject to multilateral approval (Para 403).
- Documentation of transport: The consignor shall retain a copy of each of the transport documents (Para. 555)

The committee members agreed that DS437 were in conditions to be forwarded to CSS for endorsement.

*Action: Secretariat to forward DS437 to the CSS for endorsement*

**RW.7 DPPs FOR APPROVAL**


Mr P.P. Haridasan presented the Document Preparation Profile (DPP) for the draft Safety Guide on Occupational Radiation Protection (DS453), for the revision and combination of the documents RS-G-1.1, RS-G-1.2, RS-G-1.3, RS-G-1.6, and GS-G-3.2. Mr Haridasan identified the main drivers for the revision and combination of the above identified Safety guides as:

- To incorporate the latest revision of the BSS and the ICRP recommendations -ICRP Publication 103 (2007),
- To bring together in one document the main Safety Guides which are relevant to occupational radiation protection,
• To provide updated guidance on occupational radiation protection in planned, emergency and existing exposure situations as defined in the revised BSS, as the existing documents were elaborated in the period 1996-1999,

• To provide new guidance on protection of pregnant workers, and

• To provide new guidance on protection of itinerant workers.

Mr Haridasan also noted the current issues on this area:

• The incorporation of the new limits according to the Radon ICRP statement,

• The incorporation of Workers at human imaging/security screening/other purposes, Pregnant workers and Itinerant workers,

• Exposure to cosmic rays,

• Exposure to the lens of the eye, due to the change in limits.

During the discussion on the DPP the following comments were raised by SSCs members and agreed by the Technical Officer:

• All workers to be protected:
  o the protection of minors (16 to 18 years)
  o definition of itinerant workers
  o include interventional radiology workers and pregnant workers

• Lessons learnt from FA to be considered while drafting

• To take from GS-G-3.2 (The Management System for Technical Services in Radiation Safety) the parts related to occupational exposure

• To structure the document taking in mind the user

• To include information on dose records relevant to the regulator, licensees and operators

• To map the current BSS to see which Safety Requirements should be included for guidance

• To decide where to include occupational exposure during emergencies

• To take into account the concept “total risk management”(that would imply not to restrict the guidance only to radiation risk)

RASSC and WASSC approved the DPP for DS453 with the above comments to be taken into account while developing the document.

**Action:** Secretariat to forward the DPP for DS453 to the CSS for endorsement.

**RW.7.2 DS454: DPP for Revision of SG on Management of Waste from the Use of Radioactive Materials in Medicine, Industry, Research, Agriculture and Education (Revision of WS-G-2.7)**

The Document Preparation Profile for the revision of the SG on Management of Waste from the Use of Radioactive Materials in Medicine, Industry, Research, Agriculture and Education (WS-G-2.7) (DS454) was presented by Mr K. Moeller (WES-NSRW). The comments received on the draft DPP have been also summarized and discussed. Mr Moeller full presentation is uploaded to the SSCs website. WASSC commented that during the development of the document it should be clearly stated
that disposal is not included in the scope of the document. Further it was commented that, as the
document addresses users of small amounts of radioactive material (small users), the language used
should be clear and easy to understand to the extent possible. Especially it was emphasized that for
small users potentially intimidating phrases like “safety case” should be used carefully.

WASSC and RASSC approved the DPP to be sent to the CSS.

**Action:** Secretariat to forward the DPP for DS454 to the CSS for endorsement.

**RW.7.3 DS455: DPP for a new Safety Guide on Establishing a National Radiation Safety
Infrastructure**

Mr H. Suman (RIT-NSRW) provided a detailed presentation on the Document Preparation Profile for
a new Safety Guide on the establishment of a national radiation safety infrastructure. Mr Suman
stressed the usefulness of an integrated approach for establishing national radiation safety
infrastructure, as was demonstrated by ten years of application of the “Model Project on upgrading
radiation safety infrastructure”, a Technical Cooperation programme applied in the period 1994-2004,
where more than 100 Member States participated. In this project, integrated roadmaps were designed
to establish or strengthen radiation safety infrastructure based on the Safety Standards. Nowadays,
numerous Member States have problems in setting their infrastructure for radiation safety. DS455 is
targeting those countries that do not wish to establish a nuclear programme but need to improve their
radiation safety (RS) infrastructure. In this sense, DS455 will be a general safety guide in the area
“Establishing a National Safety Infrastructure” and will contribute to improving the inherent
applicability of the safety standards. [Mr Suman’s presentation](#) is available on the SSCs website.

The discussion focused on the process to ensure the input into the development of the document from
those Member States at whom it is directed, many of whom do not participate actively in the work to
develop safety standards. The WHO representative expressed its willingness to contribute to the
development of the document through consultation with its 193 Member States (42 of them are not
IAEA MS). It was also suggested that experts from developing MS could be used in the development
of the document. The Secretariat was advised to give clear guidance in the document on the objectives
on RS and how to best achieve them, based on a risk management approach.

WASSC and RASSC approved the DPP to be sent to the CSS.

**Action:** Secretariat to forward the DPP for DS455 to the CSS for endorsement.

**RW.7.4 DS457: DPP for the Revision of Safety Requirements GS-R-2 “Preparedness and
Response for a Nuclear or Radiological Emergency”**

Ms E. Buglova (IEC-NSS) presented the Document Preparation Profile for the revision of the Safety
Requirements on preparedness and response for a nuclear or radiological emergency (GS-R-2). The
topics covered included:

- The framework for GS-R-2 in relation to the legal instruments in this area and the operational
  instruments. In addition, it was clarified the role of the IAEA, the Member States and the
  International organizations through the Joint Emergency Response Management Plan.

- The need for the revision: GS-R-2 were published in 2002 and its timely its revision, not only
to adjust it to the Long Term Structure of Safety Standards, but also to align it to the revision
of the BSS and other requirements, and to the new recommendations of the ICRP

- Lessons learned in the application of GS-R-2, provided as feedback by Member States while
  implementing the current safety requirements document
• Approach to the revision: to take into account in the development of the document up-to-date feedback from MS and from the recent accidents, including the Fukushima accident

• Proposed content and timeline of development

• Comments received from SSCs and its response

Ms Buglovas’ presentation is available in the SSCs website. Following the presentation SSC members provided the following comments:

• To take into account in the development of the SR the different type of facilities with different threat categories

• Suggested to involve industry experts in drafting the document

• To take into account that the Fukushima accident is ongoing and that further lessons can arise

• To consider adding requirements or guidance on the situation of extended emergency situation with remediation activities in parallel

The DPP was approved by WASSC and RASSC with comments received to be taken into account.

**Action:** Secretariat to forward the DPP for DS457 to the CSS for endorsement.

**RW.7.5 DS456: DPP for the Revision of Safety Requirements of GSR-3 “Leadership and Management for Safety”**

Mr P. Gest (Operational Safety Section – NSNI) introduced the document, indicating that the revision is in line with the roadmap for the Long Term Structure of the Safety Standards. Feedback has been received from regulators and utilities as well as through IAEA Safety Review Services and taken fully into account in developing the DPP. The revised publication will clarify line management responsibilities and include stronger requirements on both the integrated management system and safety culture. The provisional publication date is the end of 2013. A total of 18 comments were received from the Committees, of which 14 were purely editorial. The presentation of Mr Gest is available in the SSCs web page.

RASSC/WASSC indicated that the scope of the document needs to apply to all activities and not just nuclear facilities and that the graded approach needs to be treated in the context of safety culture, to ensure the safety requirements are implemented according to the risk of the facilities. While some security-related issues are already addressed, the meeting underlined the inter-relationship between safety and security and the Committees stressed the importance that both areas be managed within an integrated management system to ensure harmonization of measures. The meeting asked for stronger requirements in this area and asked for assurances that those working in security would be involved in the development and review of the document. The need for better communication between government, regulators and industry was underlined and the process of stakeholder involvement needs to be well defined. RASSC/WASSC also stressed the importance of ensuring that the final document is consistent with those requirements in the BSS dealing with management systems and with relevant safety guides. In addition, the committees requested that the lessons learnt from the Fukushima accident be incorporated in the document. In relation to the applicability of the safety guide on management systems by the vendors and other suppliers, the technical officer indicated that the requirements to the licensees will be emphasized to ensure that vendors and other suppliers comply with requirements under the licensee’s responsibility.

Subject to approval by the other Safety Standards Committees and the points raised being adequately addressed, RASSC and WASSC approved the DPP for submission to the CSS for endorsement.
Action: Secretariat to forward the DPP to the CSS for endorsement

RW.8 GENERAL SESSION

RW.8.1 Feedback from RASSC on regulatory control of consumer products and proposed action

Mr T. Colgan reported on the dedicated session of RASSC on Monday afternoon on this topic. Mr Colgan indicated that the regulatory control of consumer products was one issue of concern expressed by past RASSC committee members and incorporated into the Three year Report of RASSC for the period 2008-2010, and also it was discussed at past CSS meeting.

Mr Colgan summarized the facts and the views of RASSC as follows:

- Many items are already in worldwide circulation, including sold via the internet
- The individual doses are generally low
- The existing “guidance documents” are out-dated (~ 20–30 years old)
- There were previous unsuccessful attempts to prepare an IAEA Safety Guide
- The approach to deal with this issue by national regulatory bodies is not harmonized
- Work on authorization and the preparation of safety assessments involves considerable allocation of resources by regulatory bodies and industry
- Gemstones involve consideration of other issues, and seems convenient to be dealt with separately from other consumer products

Mr Colgan noted that RASSC recognized that there are many aspects, apart from radiation protection, that need to be considered. Taking all factors into account, RASSC asked that a DPP be prepared for consideration by RASSC, WASSC and TRANSSC at their next meetings. RASSC further recommended that a decision be made at that time as to whether the preparation of a Safety Report or a Safety Guide would be more appropriate.

WASSC agreed with the views of RASSC and had no further comment.

RW.8.2 Code of Conduct: Import-export guidance

Mr H. Mansoux (RIT-NSRW) presented the results of a recent technical meeting on the “Revision of the Guidance on the Import and Export of Radioactive Sources”, held in Vienna on 30 May to 1 June 2011. Mr Mansoux briefed the committees on the history of the Guidance document that supports the Code of Conduct of the Safety and Security of Radioactive Sources, and that have been endorsed by the Board of Governors and the General Conference in 2004. The review/revision of the Guidance document is foreseen in the original text of the guidance, 5 years after its publication.

The draft revised Guidance was circulated in advance to the meeting to all MS and advanced comments were received from 17 Member States. The meeting was attended by 155 experts from 82 MS. The meeting agreed on the suggested changes that neither imply any change to the technical content of the guidance nor imply a “major” change that would necessitate a new political commitment. The draft revised document was approved by the meeting and will be sent to the Board of Governors and the General Conference for their respective approval and endorsement.

Mr Mansoux also reported on the nature of the changes to the Guidance document as:
• Update out-dated references to IAEA projects and documents;
• Improve the clarity and distinction of the actions to be taken by the exporting and importing States;
• Provide additional clarification and guidance on the implementation of the Guidance, based on the feedback from experience;
• Improve the Questionnaire in annex to reflect changes in IAEA project structures, facilitate the timely review of export authorizations and further harmonize the application of the Guidance; and
• A paragraph on Transit and Trans-shipment has been reworded to better reflect the Provision of the Code and to refer to the Transport regulations.

The committee members noted the changes to such guidance document without further questions.

**RW.8.3 Technical Meeting on development of an international agreement on trans-boundary movement of scrap metal containing radioactive material**

Mr E. Reber (RIT-NSRW) reported on the background information for the “Open-ended Meeting to Develop a Non-Binding Instrument on the Trans-boundary Movement of Scrap Metal that may Contain Radioactive Material”, to be held in Vienna, from 6 to 8 July 2011. In this regard, Mr Reber noted the importance of the Tarragona International Conference on “Control and Management of Radioactive Material Inadvertently Incorporated into Scrap Metal” held in Tarragona, Spain (February 2009), in particular due to its findings, that recommended the development of an international binding agreement. The General Conference in 2009 made also reference to these findings. The General Conference Resolution GC(54)/RES/7, September 2010, tasked the Secretariat to begin preparatory work on the development of a non-binding instrument, including the convening of an open-ended group of technical and legal experts to undertake exploratory discussions in line with the findings of the related Consultancy Meeting held in July 2010.

Discussions with committee members went on the further steps after the technical meeting, on the adoption of the agreement and on the eventual implications at the light of the Fukushima accident.

**RW.9  TOPICAL SESSION: FIRST DISCUSSION ON FUTURE ACTIONS OF SAFETY STANDARD COMMITTEES AFTER THE FUKUSHIMA ACCIDENT (FA) CONCERNING THE DEVELOPMENT/REVIEW OF SAFETY STANDARDS (TC)**

**RW.9.1 Feedback from the Ministerial Conference**

Mr M. Lipar (SH-OSS) reported on the outcomes of the IAEA Ministerial Conference on Nuclear Safety held at the IAEA Headquarters in Vienna 20-24 June 2011. The Conference was attended by over a thousand participants from 124 Member States, and 9 International Organizations and accredited journalists. The Ministerial Declaration contained 25 points, including reference to the importance of ensuring that the highest and most robust levels of nuclear safety are in place, based on IAEA safety standards, which should be continuously reviewed, strengthened and implemented as broadly and effectively as possible. This was also a recurring theme in the reports of the chairs of the working groups, which noted that the safety standards are not always applied and, even when they are, may not always fully implemented. The IAEA Director General was asked to prepare an action plan for consideration by the Board of Governors and the General Conference.
RW.9.2 Overview of NSRW and IEC Response Activities

Mr P. Hahn (DIR-NSRW) provided information on the establishment of the Fukushima Accident Coordination Team (FACT), consisting of a Fukushima Nuclear Safety Team (FNST) and a Fukushima Radiological Consequences Team (FACT). The principal role of the FRCT is to assess exposure of the population (with particular emphasis on areas of high population density and high deposition), to identify knowledge gaps, to consider further protective measures and to identify issues for further investigation. Evaluation of the impact on the marine environment is being carried out jointly with IAEA Marine Environment Laboratory in Monaco. Mr Hahn noted that several international organizations are already undertaking a radiological assessment of the Fukushima accident and underlined the importance of a coordinated approach to minimize duplication of efforts.

Ms E. Buglova (IEC) summarized the work of the Incident and Emergency Centre (IEC) within the International Emergency Preparedness and Response Framework in responding to the Fukushima accident. The IEC acts as the global focal point for international preparedness and response for nuclear and radiological safety or security related incidents and responded immediately once the earthquake in Japan was reported on 11th March 2011. To date, the ENAC website has experienced over 10,000 visits and 1.8 million hits. More than 1300 documents have been posted, of which approximately 1000 are from Japan and 110 are status reports issued by the Agency. Independent radiological monitoring data was provided by 37 Member States. In addition, several offers of assistance were received and these were forwarded to Japan. The IEC operated in “full response” mode for 54 consecutive days and over 200 IAEA staff has worked shifts in the Centre. In addition, 13 meetings of the Inter-Agency Committee on Radiological and Nuclear Emergencies took place by video link. Ms Buglova also noted that the role of the IEC would need to be extended to include assessment of data and the communication of that assessment.

RW.9.3 Member States’ Perspectives

Mr R. Kawamura (Japan) reported on some of the waste management issues and Mr M. Nagata (Japan) reported on some of the radiation protection issues that need to be considered following the Fukushima accident. The current best estimate of the atmospheric release of radioactivity is $1.5-1.6 \times 10^{17}$ Bq (I-131) and $1.2-1.5 \times 10^{16}$ Bq (Cs-137), corresponding to approximately 10% of the release from the Chernobyl accident. The total amount of activity discharged to the marine environment is of the order of $5 \times 10^{15}$ Bq.

A unique characteristic of the Fukushima accident is the contamination of debris left behind following the earthquake and tsunami. The total amount of debris is of the order of 23 million tonnes, of which 350 000 tonnes are located inside the evacuation area. This material is presently being separated by type and recycling and reuse will take place only under regulated conditions based on a 10 µSv/yr individual dose criterion. The disposal option for radioactive debris sets that a disposal option will be considered only if the long-term safety assessment indicates that individual doses will be below 10 µSv/yr for likely scenarios and 300 µSv/yr for less likely scenarios. The main challenges are identification of suitable disposal sites, the identification of suitable recycling and management options, including treatment such as incineration and melting, the safety assessments of waste management and disposal, and the associated costs.

Areas where the annual individual doses could exceed 20 mSv have been defined by the Japanese authorities as Deliberate Evacuation Areas and residents have been advised to leave the area within one month. Because the damaged reactors are not yet in a fully stable condition, Evacuation Prepared Areas have also been defined where residents are advised to be prepared for evacuation or sheltering in the event of further releases.
There is an extensive on-going programme of environmental and food monitoring in place in the closest prefectures to the Fukushima Dai-ichi plant. Radioactivity is no longer detected in seawater sampling locations but radionuclides have been observed to accumulate in marine sediments to concentrations of a few tens of becquerels per kilogram.

The key lessons learnt so far from the Fukushima accident include

- The management of large volumes of contaminated debris;
- The adequate identification and forecasting of the effect of released radioactive material;
- The clear definition of widespread evacuation areas and radiological protection guidance in nuclear emergency;
- The reinforcement of safety regulatory bodies;
- The establishment and reinforcement of legal structures criteria and guidelines;
- The management of the clean-up and remediation activities (existing exposure situation) when the accident is still on-going;
- The criteria for transferring from an emergency exposure situation to an existing exposure situation;
- The communication with neighbouring states and with international organizations, particularly in the event of releases to the marine environment; and
- The management of the exposure of occupationally exposed workers involved in emergency activities.

Mr A. Leupin (Switzerland) noted the minimal impact of the Fukushima accident in Switzerland where I-131 air concentrations up to 200 µBq/m³ were reported. Projects for the construction of three new NPPs have been suspended and the government has ordered a full re-evaluation of emergency measures for dealing with extreme events. In relation to the mandate of RASSC and WASSC, the implications are considered to be limited but the following need to be considered:

- Adoption of IAEA safety standards in national legislation;
- Up-to-date databases of nuclear facilities need to be available on the IAEA website; and
- Dose limits, reference levels, operational intervention levels (OILs) etc., need to be better understood.

Mr C. Temple (UK) referred to the recently published interim report of the nuclear regulator on the lessons learnt in the UK and indicated that the final report should be available in September 2011. Some of the key points identified are:

- Open, transparent and trusted communication with the public;
- Arrangements for the dissemination of timely and authoritative information;
- Preparing for low-probability, high-consequence events;
- Avoidance of “cliff-edge” effects;
- Reducing dependency on off-site infrastructure;
- Safety cases for dealing with multiple concurrent events;
• Spent fuel strategies to meet the principles of passive safety and good engineering practice;
• Long term supplies of coolant;
• Diverse means of providing adequate independent electrical supplies;
• Integrated emergency and recovery strategies (e.g. how to manage sheltering over an extended period);
• Rationale for establishing emergency planning zones;
• Harmonized approach to decisions on protective measures in evaluating countermeasures (avoiding differences at national and regional boundaries);
• Criteria for emergency countermeasures being relaxed and/or lifted; and
• Realistic worst case scenarios to assess source terms.

**RW.9.4 Perspectives of International Organizations**

Mr D. Byron (FAO) reported on the current status of foodstuff monitoring in Japan. Of over 6000 samples collected and analysed from 23 prefectures, only 397 (7%) were found to exceed national limits. Where necessary, immediate restrictions were placed on the sale and distribution of foodstuffs and this has minimized the potential impact on the population. Mr Byron noted that the Codex Alimentarius values for radioactivity in foodstuffs are advisory in nature and have no legal status. The FAO continues to have staff assigned to working in the IEC and contributes to the regular updates and status reports issued by the Agency. Mr Byron identified the following future priorities

• Lessons learned may be helpful for the proposed review and revision of IAEA safety standard provisions related to food and agriculture

• Coordination of international standardization activities for the review and revision of international standards, including the potential revision of the Codex guideline levels for radionuclides in foods (i.e. based on new ICRP recommendations) would be needed; and

• Training and support to Member States on the interpretation and application of these standards.

Mr S. Niu (ILO) reported that, in the aftermath of the Fukushima accident, the ILO provided definitive information on its website, specifically in relation to the protection of workers. The ILO will work closely with other international organizations to ensure that the lessons learnt are incorporated in the new safety guide “Occupational Radiation Protection” (DS453). Mr Niu also noted the large percentage of emergency workers at Fukushima who were contract workers, which raised issues about their training and the management of their exposure. In terms of future work, Mr Niu mentioned the following:

• Developing a holistic approach to occupational radiation protection; and

• Management of contract workers involved in responding to emergency exposure situations.

Ms M. Perez (WHO) noted that the response of the WHO was primarily focused on non-radiological health risks. The International Health Regulations were recently amended to include radiation emergencies and this is the first time they have been called into play. The principal demands on the WHO were in the following areas: travel advice, border controls, screening of departing and arriving passengers, drinking water standards, iodine prophylaxis and general interpretation of data, units etc. In terms of future priorities, the following have been identified.
• Strengthening the response capabilities of Member States;
• More practical guidance available in a timely manner;
• Better communication with the public; and
• Improved co-ordination between international organizations.

Mr A. Janssens (EC) outlined the work undertaken by the European Commission in the aftermath of the accident. Concern about the safety of imported food and other goods resulted in the imposition of binding requirements on the checking of imported foodstuffs and feedstuffs and non-binding guidelines on the checking of imported goods. Mr Janssens noted that the different action levels applied in Japan and in the European Union caused confusion for both journalists and the public. Some confusion was also caused by the lack of pre-established rules for cargo and cargo ships and the EC established a standard of 0.2 µSv/hr above background at one metre. Future priorities include:

• Harmonize action levels for food, including a review of the Codex Alimentarius values;
• Develop criteria for surface contamination of ships and cargo; and
• Review the IAEA Transport Regulations and provide guidance and a monitoring methodology for contamination.

Mr E. Lazo (NEA) summarized the discussions that took place at the most recent meeting of the NEA’s Committee on Radiation Protection and Public Health (CRPPH). An extensive discussion took place which led to the establishment of a Fukushima Steering Group with the mandate of identifying future priorities and developing a work plan to address them. Mr Lazo also noted that the Japanese authorities had referred a number of specific questions to the NEA for its advice. In terms of future priorities, the following issues were raised during the CRPPH discussions

• Develop criteria for trade in contaminated commodities;
• Better co-ordination of national decisions on issues such as travel;
• Enhance the exchange of information and knowledge relevant to national emergency management decisions;
• Improve international co-operation in the use of diffusion models for dose forecasting and assessment;
• Consider criteria for health surveillance during the recovery phase;
• Address the inappropriate use of collective dose; and
• Improve co-ordination between international organizations.

Mr S. Saint-Pierre (WNA) welcomed the discussion of initial lessons learnt from the Fukushima accident and committed the industry to a greater involvement in IAEA activities if requested to do so. He noted that radiation protection measures will vary between individual countries and are influenced by industry choices on operational issues. He underlined the two key issues of occupational exposure and emergency response and noted that the bulk of the safety standards address “normal” operations. He felt that the review of emergency response documents should be a priority and questioned if the concept of “voluntary responders” was a useful one.
RW.9.5  Focussed discussion

Mr G. Massera, Chairman of RASSC reminded the Committees that the focus of the session was on the process for a systematic evaluation of safety standards and the likely areas for revision. While the initial focus is likely to be on those safety standards that address nuclear safety, RASSC and WASSC have a responsibility to consider issues related to radiation protection, emergency preparedness and response and waste management. The outcome of discussions at all four Safety Standards Committees will be sent to the Commission on Safety Standards (CSS) for consideration at its next meeting on 1-3 November 2011. The CSS will then prepare a report for the Director General on next steps.

During the subsequent discussion several speakers considered that it was still too early to evaluate the impact on safety standards or to identify specific publications in need of revision. It was noted that there seems no urgency to revise the waste safety standards as they have less immediate implication than the Nuclear Safety Standards. In some respects the most important lessons are related to the timely provision of accurate information from the accident State to the international community, including the public – this is not an issue directly related to the safety standards but clearly needs to be addressed at the international level.

Several comments were also made on the nature of the accident, with atmospheric releases taking place over several weeks. Consequently, the radiation protection issues associated with long-duration releases need to be reviewed. The experience of Fukushima has shown that high deposition can take place outside the evacuation zones and this requires the methodology for defining emergency zones to be reconsidered. In addition, better tools are required for early mapping of ground deposition for decisions on countermeasures.

The need to manage very large quantities of disaster waste, most of them slightly contaminated debris, distributed over a widespread area, mainly from destroyed houses and buildings, is also a unique characteristic of the Fukushima accident. While exemption and clearance values have been developed, a more harmonized approach needs to be considered both to improve clarity and ease implementation. The action levels for contamination of foodstuffs also need to be reviewed. The political sensitivities associated with the concept of an acceptable level of contamination also need to be addressed.

Several countries noted that the ‘stress test’ being conducted for Nuclear Power Plants would also be conducted on their major nuclear fuel cycle facilities, Industrial and Waste Management Facilities. For this purpose, a common methodology for harmonizing the systematic methodologies for performing such stress test in waste management facilities would be highly convenient.

In terms of the responsibilities of RASSC and WASSC, standards relating to emergency preparedness and response are likely to require review before those related to waste management. Notwithstanding this, requirement documents for remediation seem needing revision earlier than other waste safety standards. In addition, the IAEA Communications Strategy needs to be reviewed to ensure that it is suitable for responding to major accidents and now just to incidents.

Japan proposed to discuss the issue of provision of information at the next meeting in December 2011.

RW.10  TOPICAL SESSION: NORM

RW.10.1 Overview of the activities on NORM in relation to occupational radiation protection

Mr P.P. Haridasan presented an overview of the activities on NORM in relation to occupational radiation protection conducted in the Radiation Safety and Monitoring Section (RSM) of NSRW. The topics covered by the presentation were:
• Guidance material as Safety Guides, Tecdocs, Training Material, Proceedings of Symposia published and under development;

• Typical industries with NORM issues;

• Conclusions of the last NORM Symposia (NORM VI).

Mr Haridasan also touched upon other issues, such as the work of two ICRP tasks groups, one on NORM and another on radiation protection against radon exposure and also referred to the implications of the new BSS on the exposure to NORM. Mr Haridassan full presentation is available in the meeting folders.

Committee members discussed afterwards the following issues:

• Information availability on the occupational doses for NORM industries where the dose is above 1 mSv/y,

• Responsibilities in radiation protection regulation and oversight at national and provincial/state level,

• Difficulties in categorizing residues of industries as there are several clearance levels according to the amount of wastes generated by different types of industries: mining or production of consumer products.

The committee members endorsed all the planned activities of RSM-NSRW on NORM.

RW.10.2 Activities and issues related to uranium production and NORM – Waste Management perspective

Mr J. Rowat (WES-NSRW) presented the activities and issues related to uranium production and NORM in the waste management perspective. Mr Rowat’s presentation focused mainly in the following topics:

• The scope of the work in this area is defined by the Statute of the Agency, Article III, Para A.2 and A.6, General Conference resolutions (2008, 2009 and 2010), Action Plans, Safety Standards programme, Peer Reviews and, IAEA’s Technical Cooperation programme,


• Identification of the Safety Requirement (SR) and Safety Guide (SG) documents to be applied to the decommissioning activities: SR for the decommissioning of facilities using radioactive material (WS-R-5, under revision DS450), SG on Decommissioning of Nuclear Power Plants and Research Reactors (WS-G-2.1), SG on Decommissioning of Nuclear Fuel Cycle facilities (WS-G-2.4), both under revision and consolidation in one document, DS452; SG on the Release of Sites from Regulatory Control on Termination of Practices (WS-G-5.1), SG on Safety Assessment for the decommissioning of facilities using radioactive material (WS-G-5.2).
• Application of the SSs to waste related activities: International Peer Reviews, IAEA’s Technical Cooperation Projects, Central Asia Initiative, International Forum on Regulatory Supervision of Legacy Sites, newcomers and model regulations for uranium production, training material for uranium exploration and development, phosphogypsum WG, Workshops, and reports under development.

• Model regulations for the Uranium Mining and Milling is an on-going initiative that outlines an approach to establish minimum regulatory requirements to protect workers, public and the environment, now and in the future, from possible hazards and harmful effects that can be associated with uranium mining and milling operations. It is based on GSR-Part1, the BSS and the IAEA’s Handbook on Nuclear Law, Implementation Legislation (2010).

• Test Case for the decommissioning of a mining and milling processing facility within the International Project on Use of Safety Assessment Results in the Planning and Implementation of Decommissioning (FaSa), 2008 – 2011, to be included in the Safety Report that will be the final product of this international project.

• Safety reports and Tecdocs under development in the area of remediation activities, compliance with remediation criteria for sites, monitoring for compliance with exemption and clearance, safety assessment of uranium mill tailings.

Mr Rowat made the following proposals to the SSCs members:

• A separate guide for the decommissioning of NORM facilities is not needed, considering that it has been decided that the decommissioning of nuclear power plants, research reactors and spent fuel cycle facilities will be compiled into one single document. Decommissioning of NORM facilities can be dealt in any of the documents under revision (either related to decommissioning of fuel cycle facilities or WS-G-1.2).

• The revision of WS-G-1.2 will need the development of a new DPP and an associated feedback report.

• Changes to DS421 should be made accordingly.

The committee members agreed with the Chair to discuss the recommendations from the RASSC and WASSC after the presentations on the status of the development of DS421 and the recommendations for the revision of WS-G-1.2.

RW.11 DOCUMENTS UNDER DEVELOPMENT

RW.11.1 DS421: Draft Safety Guide on Protection of the Public against Exposure to Natural Sources of Radiation including NORM

Mr T. Boal from NSRW presented the Draft Safety Guide on Protection of the Public against Exposure to Natural Sources of Radiation including NORM (DS421). The presentation mainly focused on the following topics:

• The history of the development of DS421, referring to its first point, in 2004, when a DPP for the Safety Guide (DS352) on the “Safe Management of Wastes containing Naturally Occurring Radioactive Materials (NORM)” was approved. Later, in 2005, this DPP was revised to include also uranium mining and milling within its scope. In the same year, a DPP for a Safety Guide (DS400) on “Protection of the Public against Exposure to Ionizing Radiation from Natural Sources” was approved. The first revisions of both documents were performed in 2006, and because of comments related to the control of material containing...
natural radionuclides below 1 Bq/g (DS400 in relation to building materials; DS352 in relation to the clearance of residues and the reuse of residues containing NORM), it was proposed to combine DS352 and DS400. Finally the DPP for the combination of both documents was approved in 2007 as the DPP for DS421.

- The current structure of the consolidated document DS421 contains common parts of both initial drafts (DS352 and DS400), and specific sections, dealing with guidance for the safety requirements of different types of exposure situations: planned and existing exposure situations (Ref: BSS revision, DS379).

- Difficulties while drafting DS421, mainly to provide the proper level of detail on the management of residues from mining and milling resulted in a recommendation from WASSC 30 and in the WASSC Three Year Report to revise WS-G-1.2, as initially suggested in 2006.

- One hundred and seven comments on the current version of DS421 was received from three Member States (Germany, Japan and Spain). Another Member State referred difficulties in finding the place to upload the comments as the document was for initial review and not for approval.

Mr Boal also provided a summary of the main comments received on the current draft of DS421:

- To divide DS421 divided into two documents: one dealing with the management of the NORM residues and another one devoted to the control of exposure due to natural sources of radiation (radon indoors) and to radionuclides in commodities,

- To ensure consistency with Glossary and to define terms not defined yet, like NORM facilities

- To clearly define the scope of the document in relation to NORM

- To reconsider if exposure to cosmic rays should be included into the scope of the document as seems not amenable to control as referring to public exposure.

**RW.11.2 Revision of WS-G-1.2**

Mr J. Rowat presented his views for the revision of WS-G-1.2, Safety Guide on the Management of Mining and Milling of Natural Radioactive Ores. He stressed the importance for revising this document published in 2002 as there were several other Safety Requirements revised since that date that could have an impact on the application of this Safety Guide, very important for the IAEA’s advisory and review missions and for several Member States. In addition, there are quite few support documents at a mature stage of development.

Because of this and the above reasons expressed during the topical session and in the status report of DS421, the merger of DS352 and DS400 now seems to have been ill-conceived.

Mr Rowat proposed to prepare a feedback report on the need for revision of WS-G-1.2, a draft DPP and to extract relevant material on residues management from DS421.

**RW.11.3 Discussion and Feedback of RASSC/WASSC members**

The discussion on the Topical session on NORM and the related documents was initiated by Mr Williams, Chair of the session, summarizing the proposals:

- DS421 is considered a mature draft dealing with the public exposure from NORM (mainly due to radon indoors) and to the residues of NORM,
• WS-G-1.2 should be revised, and in this process, the text dealing with NORM residues management in DS421 should be removed. For this purpose, a feedback report and a DPP for the revision of WS-G-1.2 will be prepared for next WASSC meeting.

The importance of both documents was highlighted. In particular, the BSS has strong new requirements on radon exposure, and the development of appropriate guidance needs to be prioritized. A RASSC member noted the risk of a gap in the scope of DS421 if the presence of NORM in building materials (taking into account that they are commodities) is excluded from the revised document. In replying to this concern, it was noted that the reference level for indoor does not distinguish between the different sources of radon and that the original scope of DS400 also included gamma exposure and thoron. In addition, it was agreed that other components of public exposure could be excluded from the document, such as exposure in spas that needs to be addressed under medical exposure and the exposure of the public to cosmic rays of the public that is deemed not to be amenable to control. Furthermore, it is important to note that DS421 will be revised to exclude the management of residues and this revision is not aimed to exclude the exposure due to the unlikely presence of residues in the environment accessible to the public.

For the revision of WS-G-1.2, the importance of the different approaches applied to the radiation protection in practices dealing with uranium and thorium mining and processing and to the NORM industries was highlighted. The objective of uranium and thorium mining is to produce radionuclides, and then, planned exposure situations should be applied. In the case of NORM industries, radioactive characteristic is collateral, and it seems appropriate to apply the criteria for existing exposure situations.

In summary, the following way forward was agreed:

• The development of DS421 should continue removing the topic of the management of NORM residues. It might be considered convenient to return to the objectives of DS400.

• WS-G-1.2 is to be revised at the light of the new requirements and developments in mining technologies and to include the management of NORM residues. The provisional working title could be: Management of NORM residues from mining and processes of ores. This document would also cover the management of wastes and residues from uranium and thorium mining.

• Planned document on Decommissioning of NORM facilities should be removed from the reference list of Safety Guides (item 61.) and the topic should be included into a dedicated chapter in a document under development.

In relation to this last topic, the RASSC member for Brazil requested the inclusion of appropriate text on the decommissioning of NORM facilities into the revised WS-G-1.2.

RW.12 ICRP PRESENTATION ON A DRAFT DOCUMENT ON RADIOLOGICAL PROTECTION IN GEOLOGICAL DISPOSAL OF LONG LIVED SOLID RADIOACTIVE WASTE

Mr W. Weiss from ICRP (Task Group Chairman and Member of ICRP Committee 4) presented the current views of ICRP on the application of the ICRP Recommendations outlined in its Publication 103 to waste disposal. Mr Weiss indicated that the main aim of the draft document is to provide guidance in plain language on the basic radiation protection concepts as applied to waste disposal. The guidance currently being developed covers both the protection of workers and the public and the environment and discusses key issues such as the transition criteria for different exposure situations according to the evolution of the disposal system, the applicability of dose calculations for the far
future for decision aiding and the application of the principle of optimization. When published, the new document will update ICRP Publications 46, 77 and 81.

The ICRP considers that waste management and disposal operations are an integral part of the practice generating the waste. The waste management and disposal options should therefore be included in the assessment of the justification of the practice generating the waste. In Publication 77, the ICRP considers both an operational phase and a post-operational phase. The operational phase commences with the decision to start disposal operations and runs until a decision is made on final closure of the disposal facility; during this phase, direct oversight is possible. The subsequent post-operational phase has a period of indirect oversight, followed by a period of no oversight. Because of differences in national policies and approaches, it is not possible to assign specific timeframes to each of these three phases.

The principle of optimization applies to all phases, as the optimisation of protection has to deal with the main aim of disposal systems: to protect humans and the environment, now and in the future. Its main input is primarily during the initial stages of site selection and design, through an iterative, systematic and transparent evaluation of options.

The Safety Case of a disposal system should encompass the safety assessment of the different exposure situations derived from conceivable scenarios, both for normal evolution (including design basis events) and for disruptive events (non-design basis). The draft document will provide guidance on the radiation protection criteria to be used in decision aiding on acceptability of the resulting exposure situations. During all phases, any design basis events are always regarded as planned exposure situations to which dose limits and dose constraints apply. All events outside the design basis, either in the operational or post-operational phases, are to be regarded as emergency exposure situations. With time, these will evolve into existing exposure situations. Inadvertent human intrusion may occur in the far distant future during the period of no oversight and this should be treated as either an emergency or existing exposure situation, depending on the circumstances.

RASSC/WASSC agreed that the principle of optimization needs to be applied properly at the initial stages and this is the key to having an effective and acceptable waste management programme. There was some discussion around the principle of justification and whether or not the final waste management solution had to be in place at the time the practice generating the waste was justified, as well as how proposed changes to waste management options should be addressed. Several comments were made to the effect that the concept of indirect oversight was found not useful, as currently is covered by the concept of institutional control. In addition, it was suggested that the initial safety case must have been flawed if emergency exposure situations arise after final closure of the disposal facility, taking into account that the main aim of the design of the disposal system is to avoid the occurrence of emergency exposure situations.

Mr Weiss thanked the Committees for their active engagement in the discussion and undertook to take all comments into account in finalizing the text. He also encouraged the Committee members to submit comments on the draft document, which will be posted on the ICRP web site shortly.

**RW.13 OTHER BUSINESS**

There was no other business to discuss.

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RW.14 DATES OF FUTURE MEETINGS

The dates of future meetings were identified in the Agenda of the meeting (Annex I)

The joint sessions closed. Both Chairs thanked participants for their active participation and provided information on the following sessions of RASSC and WASSC.
### AGENDA

**WASSC meeting, Room M 03, M Building, first floor**

**Monday, 27 June 2011, 10:00**

| W1. | Opening of WASSC session | M. Vesterlind (SH-WES) |
| W2. | Chairman remarks | G. Williams |
| W3. | Introduction of WASSC members | All members |
| W4. | Terms of Reference of WASSC | G. Williams |
| W5. | Adoption of the Agenda of the WASSC Session | For approval G. Williams |
| W6. | Report from 30th meeting | For approval G. Williams |
| W7. | Status of actions arising from WASSC30 | For information G. Sirakly |
| W8. | Administrative arrangements for the meeting | For information G. Sirakly |

| W9. | WASSC work plan 2011-2013 |
| W9.1 | WASSC three year report 2008-2010 cycle | For information G. Sirakly |
| W9.2 | WASSC working methods | For information G. Sirakly |
| W9.3 | Waste Safety Standards status and future steps | For information G. Sirakly |

| W10. | Detailed discussion on DPP’s before approval at joint session |
| W10.1 | DS454 DPP for Revision of SG on Management of Waste from the Use of Radioactive Materials in Medicine, Industry, Research, Agriculture and Education (Revision of WS-G-2.7) | For discussion K. Moeller |

<p>| W11. | Documents for approval |
| W11.1 | DS433 Safety Guide on Site Survey and Site Selection for Nuclear Installations (Revision of 50-SG-S9) | For approval for submission to Member States O. Coman |</p>
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<td></td>
</tr>
<tr>
<td>RW8.3</td>
<td>Technical Meeting on development of an international agreement on trans boundary movement of scrap metal containing radioactive material</td>
<td>For information</td>
<td>E. Reber</td>
<td></td>
</tr>
</tbody>
</table>

**RW9**  
Topical Session: First discussion on future actions of SSC’s after the Fukushima Accident concerning the development/review of Safety Standards (starting 14:00)

*The purpose of the session is to have an initial discussion on the possible implications of the recent accident for the work of RASSC and WASSC in relation to the development/review of safety standards and to provide feedback to the next meeting of the Commission on Safety Standards (CSS)*

<table>
<thead>
<tr>
<th>RW9.1</th>
<th>Feedback from the Ministerial Conference</th>
<th>M. Lipar, NSNI</th>
</tr>
</thead>
</table>
| RW9.2 | Overview of NSRW and IEC Response Activities | P. S. Hahn, Dir-NSRW  
E. Buglova, IEC |
| RW9.3 | Member States’ Perspectives | Mr Nagata, Japan  
Mr Kawamura, Japan  
Mr Leupin, Switzerland  
Mr Temple, UK |
| RW9.4 | Perspectives of International Organizations | Mr Byron, FAO  
Mr Niu, ILO  
Ms Perez, WHO  
Mr Janssens, EC  
Mr Lazo, NEA  
Mr Saint-Pierre, WNA |
<table>
<thead>
<tr>
<th>RW9.5</th>
<th>Focussed discussion on the following topics:</th>
<th>G. Massera/SSC members</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) likely areas for revision, and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2) process for systematic evaluation of Safety Standards</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**RW10**  Topical Session: NORM

**RW10.1** Overview of the activities on NORM in relation to occupational radiation protection
- Safety reports
- TECDOCs
- NORM symposia
- Other issues

**RW10.2** Activities and issues related to uranium production and NORM – Waste Management perspective
- Safety Requirements and Guides for mining and milling
- Peer Reviews
- Model Regulations for the Uranium production
- Central Asia initiative and the International Forum for Regulatory Supervision of Legacy Sites (RSLIS)
- FaSa Project and decommissioning of NORM industries
- Proposed safety guide on decommissioning of NORM facilities
- Safety reports under development,
- Training material for uranium exploration, development and production
- Phosphogypsum Working Group

**RW11**  Documents under Development

**RW11.1** DS421  Draft Safety Guide on Protection of the Public against Exposure to Natural Sources of Radiation including NORM  
*For initial review*  
T. Boal/ S. Guy

**RW11.2** Revision of WS-G-1.2  
*For discussion*  
J. Rowat

**RW11.3** Discussion and Feedback of RASSC/WASSC members  
G. Williams/ SSC members

**RW12.** ICRP presentation on a draft document on Radiological Protection in Geological Disposal of Long Lived Solid Radioactive Waste  
*For information*  
W. Weiss

**RW13.** Other Business

**RW14.** Conclusions of the session  
G. Williams/ G. Massera

Annex I - 39/46
RW15. Dates of future meetings

30\textsuperscript{th} CSS meeting \hspace{1cm} 1 – 3 November 2011
32\textsuperscript{nd} NUSSC \hspace{1cm} 17 – 21 October 2011
23\textsuperscript{rd} TRANSSC \hspace{1cm} 24 – 28 October 2011
Joint 31\textsuperscript{st} RASSC – 32\textsuperscript{nd} WASSC meeting \hspace{1cm} 12-16 December 2011
32\textsuperscript{nd} RASSC \hspace{1cm} 11 – 15 June 2012
Joint 33\textsuperscript{rd} WASSC – 33\textsuperscript{rd} NUSSC meeting \hspace{1cm} 2-6 July 2012 (TBC)
**WASSC meeting, Room M 03, M Building, first floor**

**Thursday, 30 June 2011 (Morning, 09:00)**

<table>
<thead>
<tr>
<th>W13.</th>
<th>Programme on RWM</th>
<th>For information</th>
<th>M. Vesterlind</th>
</tr>
</thead>
<tbody>
<tr>
<td>W15.</td>
<td>Report on the results of the TM on the Dual use cask</td>
<td>For information</td>
<td>M. Kinker</td>
</tr>
<tr>
<td>W16.</td>
<td>Results of the CS on Intermediate Depth Disposal</td>
<td>For information</td>
<td>G. Bruno</td>
</tr>
<tr>
<td>W17.</td>
<td>Update on Joint Convention</td>
<td>For information</td>
<td>G. Siraky</td>
</tr>
<tr>
<td>W18.</td>
<td>WATEC report (including status of NE-WT series)</td>
<td>For information</td>
<td>I. Mele</td>
</tr>
<tr>
<td>W19.</td>
<td>Update on NEWMDB</td>
<td>For information</td>
<td>J. Kinker</td>
</tr>
<tr>
<td>W20.</td>
<td>Feedback from WASSC members on the use of SSs</td>
<td></td>
<td>WASSC members</td>
</tr>
<tr>
<td>W21.</td>
<td>Specific feedback on the use of WS-G-2.7</td>
<td></td>
<td>WASSC members</td>
</tr>
<tr>
<td>W22.</td>
<td>Conclusions of the session</td>
<td></td>
<td>G. Williams</td>
</tr>
<tr>
<td>W23.</td>
<td>Closure of WASSC meeting</td>
<td></td>
<td>M. Vesterlind</td>
</tr>
</tbody>
</table>
### ANNEX II – STATUS ACTIONS FOLLOWING 30th WASSC/29th RASSC MEETING

#### JOINT WASSC/RASSC SESSIONS

<table>
<thead>
<tr>
<th>ITEM AG</th>
<th>ACTION</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>RW8.1</td>
<td>To submit DS414 to the CSS for endorsement</td>
<td>Done – Endorsed by CSS29</td>
</tr>
<tr>
<td>RW8.2</td>
<td>To submit DS357 to MS for comment</td>
<td>Done – MS comments due by 30 August 2011</td>
</tr>
<tr>
<td>RW8.3</td>
<td>To submit DS429 to MS for comment</td>
<td>Done – MS comments being incorporated to DS</td>
</tr>
<tr>
<td>RW9.1</td>
<td>To submit the DPP for DS450 to the CSS for endorsement</td>
<td>Done – Endorsed by CSS29</td>
</tr>
<tr>
<td>RW10.</td>
<td>To post a summary of the discussion and agreements reached on draft 4.0 of the revised BSS on the websites of the four Safety Standards Committees by 17 December 2010</td>
<td>Done</td>
</tr>
<tr>
<td>RW10.</td>
<td>To post an updated draft 4.0, with all agreed changes in track-changed mode, on the websites of the four Safety Standards Committees by 17 December 2010</td>
<td>Done</td>
</tr>
<tr>
<td>RW10.</td>
<td>To submit DS379 with all agreed changes to CSS for endorsement</td>
<td>Done – Endorsed by CSS29</td>
</tr>
</tbody>
</table>

#### WASSC SESSIONS

<table>
<thead>
<tr>
<th>ITEM AG</th>
<th>ACTION</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>W8.1</td>
<td>To submit DS407 to Member States for comment</td>
<td>Done – MS comments being incorporated to DS</td>
</tr>
<tr>
<td>W9.1</td>
<td>To submit the DPP for DS441 to the CSS for endorsement</td>
<td>Done – Endorsed by CSS29</td>
</tr>
<tr>
<td>W9.2</td>
<td>To submit the DPP for DS452 to the CSS for endorsement</td>
<td>Done – Endorsed by CSS29</td>
</tr>
<tr>
<td>W13.</td>
<td>To distribute by mail the Three Year Report of WASSC Fifth Term (2008-2010) for comment</td>
<td>Done</td>
</tr>
</tbody>
</table>
**ANNEX III**

**ACTIONS FOLLOWING 31st WASSC/30th RASSC MEETING**

**JOINT WASSC/RASSC SESSIONS**

<table>
<thead>
<tr>
<th>ITEM AG</th>
<th>ACTION</th>
<th>WHO</th>
<th>WHEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>RW6.1</td>
<td>DS437 to be sent to CSS for endorsement</td>
<td>Secretariat</td>
<td>ASAP</td>
</tr>
<tr>
<td>RW7.1</td>
<td>DPP for DS453 to be sent to CSS for approval</td>
<td>Secretariat</td>
<td>ASAP</td>
</tr>
<tr>
<td>RW7.2</td>
<td>DPP for DS454 to be sent to CSS for approval</td>
<td>Secretariat</td>
<td>ASAP</td>
</tr>
<tr>
<td>RW7.2</td>
<td>Feedback on the use, usefulness and topics to be amended/improved in WS-G-2.7</td>
<td>WASSC members</td>
<td>30 August 2011</td>
</tr>
<tr>
<td>RW7.3</td>
<td>DPP for DS455 to be sent to CSS for approval taking into account comments to incorporate</td>
<td>Secretariat</td>
<td>ASAP</td>
</tr>
<tr>
<td>RW7.4</td>
<td>DPP for DS457 to be sent to CSS for approval taking into account comments to incorporate</td>
<td>Secretariat</td>
<td>ASAP</td>
</tr>
<tr>
<td>RW7.5</td>
<td>DPP for DS456 to be sent to CSS for approval taking into account comments to incorporate</td>
<td>Secretariat</td>
<td>ASAP</td>
</tr>
<tr>
<td>RW9</td>
<td>Feedback on action plan to address lessons learnt after FA and possible implications to SS</td>
<td>WASSC members</td>
<td>15 September 2011</td>
</tr>
<tr>
<td>RW9</td>
<td>WG of WASSC Nomination of members/experts</td>
<td>WASSC members</td>
<td>8 August 2011</td>
</tr>
<tr>
<td>RW9</td>
<td>WG meeting to begin process of determining action plan to review SS and advise on practical opportunities for use of SS with regard to Fukushima</td>
<td>Secretariat/ WASSC members/nominated experts</td>
<td>27-28 October 2011</td>
</tr>
<tr>
<td>RW10.2</td>
<td>To remove the item 61. From the Reference List of Safety Guides (2009) related to the Decommissioning of NORM facilities and consider adding a related chapter to a relevant document under development</td>
<td>Secretariat</td>
<td>ASAP</td>
</tr>
<tr>
<td>RW11.1</td>
<td>DS421 to be redrafted to remove parts related to residues</td>
<td>Secretariat</td>
<td>ASAP</td>
</tr>
<tr>
<td>RW11.2</td>
<td>To prepare feedback report and DPP for revision of WS-G-1.2 for approval at WASSC32</td>
<td>Secretariat</td>
<td>WASSC32</td>
</tr>
<tr>
<td>ITEM AG</td>
<td>ACTION</td>
<td>WHO</td>
<td>WHEN</td>
</tr>
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</tr>
<tr>
<td>W9.2</td>
<td>To upload the Document History Log (DHL) for each document for approval</td>
<td>Secretariat</td>
<td>Uploading document for comment</td>
</tr>
<tr>
<td>W9.2</td>
<td>Committee members upload their comments on documents for approval 3 weeks in advance to the meeting</td>
<td>WASSC members</td>
<td>3 weeks in advance to each meeting</td>
</tr>
<tr>
<td>W9.2</td>
<td>TO provide the committee members the resolution of comments on documents for approval</td>
<td>Secretariat</td>
<td>1 week in advance to each meeting</td>
</tr>
<tr>
<td>W11.1</td>
<td>DS433 to provide resolution of comments, and to be redrafted to include explanation on “ranking of sites” (to change the emphasis) and importance of considering socio-economic issues along-side safety issues</td>
<td>Secretariat</td>
<td>Next WASSC</td>
</tr>
<tr>
<td>W11.1</td>
<td>Nuclear Installations definition: to be corrected in the Glossary to include Waste Management Facilities, to avoid further confusion in drafting</td>
<td>Secretariat</td>
<td>ASAP</td>
</tr>
<tr>
<td>W11.2</td>
<td>DS446 to be sent to MS for comments</td>
<td>Secretariat</td>
<td>ASAP</td>
</tr>
</tbody>
</table>