

**COMMITTEE OF EXPERTS ON THE TRANSPORT OF  
DANGEROUS GOODS AND ON THE GLOBALLY  
HARMONIZED SYSTEM OF CLASSIFICATION  
AND LABELLING OF CHEMICALS**

Sub-Committee of Experts on the  
Transport of Dangerous Goods

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Item 8 of the provisional agenda

**HARMONISATION WITH THE INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA)  
REGULATIONS FOR THE SAFE TRANSPORT OF RADIOACTIVE MATERIAL**

Note by the secretariat

Attached is the draft report of the 16<sup>th</sup> meeting of the IAEA Transport Safety Standards Committee (TRANSCC 16) held in Vienna from 3 to 7 March 2008.



**IAEA**

International Atomic Energy Agency

**TRANSSC 16**  
**TM-35548**

**IAEA Headquarters, Vienna**  
**3-7 March 2008**

**REPORT OF 16<sup>TH</sup> MEETING OF THE TRANSPORT  
SAFETY STANDARDS COMMITTEE**

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## EXECUTIVE SUMMARY

The Transport Safety Standards Committee (TRANSSC) is a standing body of senior experts in the field of transport of radioactive material; established by the Deputy Director General, Head of the Department of Nuclear Safety and Security. TRANSSC advises the Deputy Director General on the overall programme for the development, review and revision of standards relating to the safe transport of radioactive material. TRANSSC is also obliged to coordinate its activities with other Safety Standards Committees to ensure transport safety issues are addressed appropriately. TRANSSC works closely with the Secretariat, the other Safety Standards Committees and the Commission on Safety Standards to ensure that its activities fit consistently and coherently within the Agency's strategic work on safety standards.

The 16<sup>th</sup> Meeting of TRANSSC was held during 3-7 March 2008. This Meeting was the first in the new TRANSSC term, 2008-2010. A total of 77 people, representing 33 Member States and nine International Organizations were in attendance. It is worth noting that this meeting has the largest Member State and International Organizational representation compared to any previous TRANSSC meetings. Over 20% new Member States and/or new Member State representatives were in attendance.

Mr. T. Taniguchi, Deputy Director General for Nuclear Safety and Security opened the meeting by warmly welcoming the new and returning members of TRANSSC for the 2008-2010 Term. Recognizing that the IAEA transport regulations are used as the basis for the regulations worldwide, he thanked the Member States and international organizations for applying this IAEA Safety Standard. He drew attention to the fact that 2011 marks the 50<sup>th</sup> anniversary of the most internationally-accepted document produced by the IAEA and that is indeed the "Regulations for the Safe Transport of Radioactive Material" He briefly identified the areas which were to be addressed during the week. This included the IAEA's vision for the future with respect to the safety standards, the revision of the Basic Safety Standards, the review and revision policy for the Transport Regulations, the development of IAEA safety standards in other areas, the development of transport security documents, emergency preparedness and response, denial of shipments of radioactive material and the challenges for the future. Working closely with UN colleagues to ensure global safety for the transport of all dangerous goods was of utmost significance. Harmonization of the dangerous goods requirements with those of the Transport Regulations is an essential part of this coordination.

Mr. Brach, the TRANSSC Chair for the 2008-2010 Term, thanked Mr. Taniguchi for his opening remarks. He stated his intent to lead an open and receptive working environment for TRANSSC, and asked for all TRANSSC members to participate through collective active engagement, constructive input, deliberations, and "give and take" on issues to facilitate progress on TRANSSC activities. Mr. Brach reminded TRANSSC that the highest priority and clearly most important task of TRANSSC is the periodic review and revision of TS-R-1. In accordance with Mr Taniguchi's comment on harmonization with other UN organizations, he stressed that TRANSSC 16 has an extremely important task ahead, namely reviewing and approving DS345, the 2009 Edition of TS-R-1. This task involved the review and disposition of 700 Member State comments. This task was successfully completed and the document was approved to be sent to the other safety standards committees and to CSS.

Mr. D. Delattre provided background information, (in particular for new members of the Committee) on the history of the IAEA Safety related publications, the hierarchy and status of the Safety Standards, the preparation and review process and the current structure. He then highlighted the main challenges and emerging issues for the future, including the approach being reviewed with the Committees and the Commission on the long-term structure for the IAEA Safety Standards.

Mr Mrabit presented the revised draft document, GS-R-1, entitled “Governmental and Regulatory Framework for Nuclear, Radiation, Radioactive Waste and Transport Safety” requesting approval for submission for 120 day Member State comment. This document ensures a more integrated regulatory approach to nuclear, radiation, radioactive waste and transport safety and is applicable to all countries. Harmonization with the Fundamental Safety Principles (SF-1), other IAEA Safety Standards and consistency with Conventions and Codes of Conduct are other key elements that are taken into consideration.

Ms. R. Czarwinski briefed TRANSSC on the status of review and revision of the BSS. The background of the document, the outline of contents, future milestones, and the key features were discussed. RASSC, the cosponsors and experts have endorsed the approach that the IAEA is pursuing.

The status of transport safety standards and supporting documents was provided. The publication of TS-G-1.1, “Advisory Material for the 2005 Edition of the IAEA Transport Regulations” is expected in the second quarter of 2008. It was duly recognized that TRANSSC needs to initiate development of a revised TS-G-1.1 to incorporate the new/revised requirements of the proposed 2009 Edition of TS-R-1. In light of this a Draft DDP for this was presented for consideration. DS 326, “Draft Safety Guide on Management Systems for the Safe Transport of Radioactive Material” was approved by TRANSSC 15th and submitted to the Commission on Safety Standards. The draft safety guide was approved for publication. DS 327, “Compliance Assurance for the Safe Transport of Radioactive Material” (document to replace the former Safety Series No. 112) will be submitted to the next Commission on Safety Standards meeting (CSS). Draft “Safety Guide on Schedules related to TS-R-1”, companion document to 2005 edition of TS-R-1 was disseminated for 120 day Member State and International organizations for comment. In response to the TRANSSC 15 recommendation relating to the remaining regulatory issues from the call for issues and identified problems with respect to TS-R-1 2007 Review Cycle, the results of a January 2008 TM which addressed these issues was also discussed

DS409: Safety Guide: Radiation Safety in Gamma, Electron and X ray Irradiation Facilities, DS415: Governmental and Regulatory Framework for Nuclear, Radiation, Radioactive Waste and Transport Safety and DS413: Safety of Nuclear Power Plants: Operation and DS416: Licensing Process for Nuclear Installations were approved for Member State comment. DS348: Safety Assessment and Verification of Nuclear Facilities and Activities, DS419: DPP for Safety Guide: Radiation Safety in Well Logging, DS420: DPP for Radiation Safety for Nuclear Gauge, DS424: DPP for Establishing a National Nuclear Safety Infrastructure were approved for submission to the CSS.

The next meeting of TRANSSC, TRANSSC 17 convenes 7-10 October 2008.

## **INTRODUCTION**

### **BACKGROUND**

The Transport Safety Standards Committee (TRANSSC) is a standing body of senior experts in the transport of radioactive material; established by the Deputy Director General, Head of the Department of Nuclear Safety and Security. TRANSSC advises the Deputy Director General on the overall programme for the development, review and revision of standards relating to the safety of transport of radioactive material. Its objective is to achieve consensus, quality, coherence and consistency in the development of international standards for transport safety.

TRANSSC has a broad role in advising the Agency on safety standards. While the development of standards themselves is the primary role of TRANSSC, TRANSSC also has an obligation to coordinate

its activities with other Safety Standards Committees to ensure transport safety issues are addressed appropriately. Transport is an essential element in the life cycle of the use of radioactive material, whether it is for medical, industrial or power generation purposes. TRANSSC works closely with the Secretariat, the other Safety Standards Committees and the Commission on Safety Standards to ensure that its activities fit consistently and coherently within the Agency's strategic work on safety standards.

The 16<sup>th</sup> Meeting of TRANSSC was held during 3-7 March 2008. This meeting was the first in the new TRANSSC 2008-2010 term of office. Each TRANSSC term being three years. A total of 77 people, representing 33 Member States and nine International Organizations attended this meeting.

## **STRUCTURE OF THIS REPORT AND AVAILABLE PAPERS**

The body of this report is structured generally along the structure of the agenda for the meeting. The report incorporates an executive summary, introduction and a summarized account of the meeting by agenda item and a section that summarizes the recommendations and conclusions of the meeting.

Additionally, each meeting agenda item identifies the papers that were discussed during that item. The List of Papers includes all of the papers referenced in this report.

## **TRANSSC 16 MEETING**

### **OPENING SESSION**

#### **Deputy Director General's Opening Remarks (IP18)**

Mr. T. Taniguchi, Deputy Director General for Nuclear Safety and Security opened the meeting by warmly welcoming the new and returning members of TRANSSC for the 2008-2010 Term. He briefly identified the issues which were to be addressed by the meeting. He recognized that the IAEA transport regulations are used as the basis for the regulations worldwide. He thanked the Member States and International Organizations for applying the IAEA Safety Standards.

Turning to the agenda, he spoke about several issues including the IAEA's vision for the future, the safety standards, the revision of the Basic Safety Standards, the review and revision policy for the Transport Regulations, the development of IAEA safety standards in other areas, the development of transport security documents, emergency preparedness and response, the denial of shipments of radioactive material and the challenges for the future.

He highlighted that globalization — the increased interconnectedness of people, activities and places — will be central to future economic growth. Since 1957 the role of the Agency has grown, evolving in response to Member State needs. In 2007 the Director General initiated a study called, "20/20: Vision for the Future." This report includes a look at the world in the 2020 timeframe in terms of developments that would affect the mission of the Agency.

The development of the Transport Regulations has followed the path of the IAEA. Next year we will celebrate a milestone of 50 years of transport safety work at the IAEA. In 2011 we will celebrate 50 years of the most internationally-accepted document produced by the IAEA, that being the Regulations for the Safe Transport of Radioactive Material. Moreover as the IAEA has changed, so have the needs of the transport community.

In a world where the important modes of transport are ever changing, we must work closely with our UN colleagues to ensure global safety for the transport of all dangerous goods. Because there is a risk of

complacency, the Committees, the Commission and the Secretariat, will need to provide strong leadership and active engagement in sustaining transport safety in an increasingly unsecured world.

Accordingly, coordination with the other UN Bodies and the harmonization of all transport safety requirements takes on added significance. Harmonization of the dangerous goods requirements with those of the Transport Regulations is an essential part of this coordination.

Finally, he advised that it is clear that there will now be a further evolution more focused on future needs. Transport safety will continue to have universal interest and global application.

### **Chair's Opening Remarks**

On behalf of TRANSSC, Mr. Brach, the TRANSSC Chair for the 2008-2010 Term, thanked Mr. Taniguchi for his opening remarks. Mr. Brach stated that he is honoured and humbled to have been asked to be Chairman of TRANSSC. Mr. Brach commented that he has had the distinct pleasure to know and work with many of the members of TRANSSC and has developed a very high regard for their transportation expertise and professionalism. Mr. Brach stated his intent to lead an open and receptive working environment for TRANSSC, and asked for all TRANSSC members to participate through collective active engagement, constructive input, deliberations, and "give and take" on issues to facilitate progress on TRANSSC activities.

Mr. Brach also recognized the exemplary performance of the previous TRANSSC Chair, Mr. Jarlath Duffy of Ireland. The members of TRANSSC had a round of applause and expression of "Thanks" to Mr. Duffy for his leadership and Chairmanship of TRANSSC for the last term.

In recognizing the new participants at TRANSSC 16, Mr. Brach noted that this meeting has the largest Member States and International Organizations representation of any previous TRANSSC meetings. Over 20% new Member States and/or new Member State representatives are participating in TRANSSC 16.

Mr. Brach identified many agenda topics which will require TRANSSC review and approval. He highlighted an extremely important task ahead for TRANSSC 16; namely, the need to review and resolve Member State comments on the proposed 2009 edition of TS-R-1. With over 700 comments to review and resolve, this is a very daunting task. Mr. Brach reminded TRANSSC that the highest priority and clearly most important task of TRANSSC is the periodic review and revision of the transportation standard, TS-R-1. The work ahead for TRANSSC is to complete the revision and approval of the final proposed changes to TS-R-1 2009 Edition.

Before closing his remarks, Mr. Brach also recognized the contribution of Mr. M. Wangler who will be departing the IAEA in mid-March after serving the IAEA the past five years as Head of the Transport Safety Unit. Mr Brach thanked Mr. Wangler for his contributions to the IAEA, to TRANSSC and to the safety of the international radioactive material transportation program.

### **TRANSSC ADMINISTRATION ITEMS**

#### **Agenda (WP01)**

The provisional agenda, WP01, for the meeting was taken up for discussion and adoption. The agenda was adopted. Several minor revisions were made to the provisional agenda during the meeting. The final agenda is attached.



**Terms of Reference and Working Methods (WP02)**

The Chair drew the attention of the Members to the Terms of Reference of TRANSSC as determined by the DDG and given in WP02. These Terms provide the operating procedures for the meeting. The Terms of Reference were adopted.

**Administrative arrangements for the meeting**

Ms Varley, IAEA, familiarized the participants about the various facilities available in the Vienna International Centre for the convenience of the participants and outlined the administrative arrangements for the meeting.

In response to a question about the timeliness of the availability of meeting papers the Chair noted the interest of all TRANSSC participants to have meeting papers well in advance of the meeting to support preparation. The Chair identified that all Working Papers, that is papers requiring TRANSSC decision, were provided 3 – 4 weeks in advance of the meeting. The Chair agreed that some of the Information Papers, that is papers for general information and/or discussion, were provided late. The Chair asked all to be mindful of the need to provide papers as early as possible to support meeting preparation.

**TRANSSC 15 Report (WP03)**

The report of TRANSSC 15 was presented by Ms. Varley, IAEA.. An error on the title of agenda item 3.10.9, (page 22 of 36), was identified. It was suggested that "denial" be replaced by "denials". This change was accepted and report was approved by TRANSSC subject to correction. .

**Status of actions resulting from TRANSSC 15 (WP03, IP17, IP21)**

Then Ms. Varley presented the status of the actions from TRANSSC 15. The status of actions is described in the following table.

SUBJECT	RECOMMENDATION	STATUS
DS-346, TS-G-1.1: Advisory Material for the 2005 Edition of the IAEA Transport Regulations	For the next meeting the Secretariat to provide any comments from other committees to TRANSSC for deliberation before incorporation into a draft.	Completed No comments to provide to TRANSSC.
	Secretariat to pursue publication of TS-G-1.1, Revised, at the earliest possible date.	Completed Secretariat expects publication in Q2 of 2008.
Review of Issues and Identified Problems from the 2011 review of the	With respect to UF6, update the reference to ISO 7195 to ISO 7195-2005 for the 2009 edition,	Completed See WP06

SUBJECT	RECOMMENDATION	STATUS
Regulations	Convene a consultancy to develop the final requirements for fissile exceptions,	Completed See WP07
	Convene a technical committee meeting within the next six calendar months to address UF6 issues identified,	
	Convene a technical committee meeting within the next six calendar months to address testing issues,	
	Convene a technical committee meeting within the next six calendar months to address subsidiary risks and excepted packages issues,	
	Compile a 2009 Edition of TS-G-1.1.	In Progress Provisional DPP drafted. See IP21
Issues resulting from coordination with UN on TS-R-1	The Secretariat to include recommendations from the UN coordination meeting in the 2009 Edition of TS-R-1.	Completed See WP04 and IP07
CRP on Accident-Severity	Secretariat to convene consultancy early in 2008 to draft the final report.	Completed See IP12
Report on Consultants meeting to review the current status of the transport safety databases and recommendations on future development	The Secretariat to update the NCAL list prior to the next TRANSSEC meeting.	In Progress See IP17

A question about Secretariat's action on an edition of TS-G-1.1 that would be used with the 2009 Edition of TS-R-1 was raised. The Secretariat advised that IP21 was the provisional DPP for such a document.

The usefulness of a process flow chart to assist in understanding the review and revision process was broached. The Chair recommended that development of a flow chart could be delayed to TRANSSEC 17. The Chair will take the lead to engage a collaborative Member State effort to review the process and to complete this activity in time for discussion at the next TRANSSEC meeting.

One participant strongly urged that the development of schedules should be delayed until the 2009 Edition of the Transport Regulations was published. Any earlier edition would not be useful because the structure of the 2009 Edition will be different from the 2005 Edition. Another participant opined that Schedules related to the 2005 Edition should proceed and that Schedules for a 2009 Edition could be

developed in due course. The Chair agreed with the need for a revised guide on schedules to reflect the 2009 Edition, but also noted the current and near term need to complete the 2005 Edition guide for use by many Member States whose regulations are based on the 2005 Edition.

## **SAFETY STANDARDS COORDINATION**

### **Management System for IAEA Safety Standards (IP01)**

Mr. D. Delattre made an overall presentation on the IAEA Safety Standards. It was intended to provide background information, in particular for new members of the Committee. He summarized the history of the IAEA Safety related publications, the hierarchy and status of the Safety Standards, the preparation and review process, the current structure and current progress in particular on the set of Safety Requirements. He then highlighted the main challenges and emerging issues for the future, including the approach being reviewed with the Committees and the Commission on the long-term structure for the IAEA Safety Standards.

He further highlighted the vision for the Safety Standards and the main strategies being in place to achieve this vision, encouraging the Committees to further enhance their involvement and commitment toward the success of the Safety Standards programme. In this regard, Mr Delattre referred to a first draft of a "Management System for the planning, preparation, review/revision, approval and establishment of the IAEA Safety Standards". This is intended to be further developed so as to articulate in a comprehensive manner the vision, the strategies to achieve the vision and the relevant processes, including the activities of the Committees.

The comments made were very supportive of this initiative and several members indicated interest to provide input to this Management System. Mr. Delattre thanked the members for their support and confirmed that the Secretariat would welcome views from the Committees on their role in the whole process. He mentioned areas such as the collection and analysis of feedback on the application of the Safety Standards where the experience from TRANSSEC can be beneficial to other Committees. Mr. Delattre also confirmed that it will be a useful tool to further study how to streamline the whole preparation, review and approval process and welcomed proposals in this direction from the Committee members.

Questions on streamlining of the process, particularly in view of the process used by other UN Organizations, risk analysis and participation of industry were raised. Mr. Delattre replied that he welcomed ideas for a more efficient process.

### **Report of 22nd Meeting of the Commission on Safety Standards (CSS) (IP02)**

Mr. Delattre summarized the 22nd CSS meeting, focusing primarily on the following aspects of the meeting: policy and strategy issues, challenges and emerging issues for the future of the IAEA Safety Standards, long-term structure and draft roadmap from the CSS task force. These items, addressed during the 22nd CSS meeting are detailed in the following agenda items on the CSS 4 year report and the CSS task force draft roadmap. He also provided a report on the documents and DPPs approved at the last CSS meeting.

TRANSSEC had no comments on the summary provided by Mr. Delattre.

#### **4 Year Report of CSS (IP03)**

Mr. Delattre summarized the content of the 4 year CSS report focusing on challenges for the future of the Safety Standards. In particular, and in addition to the long-term structure discussed in the following agenda item, Mr. Delattre mentioned the following main challenges and emerging issues:

- Assistance to countries considering the launch of a nuclear programme: to provide guidance on the necessary safety infrastructure;
- Issues related to a new generation of nuclear reactor designs, the quality of construction and commissioning of new plants the manufacturing of components and new applications of radiation sources;
- Extension of the operating lifetimes of NPPs beyond their planned design life, while preserving the safety margins and the issues relating to the ageing management of structures, systems and components;
- Seismic safety issues and the need to consider the potential consequences of earthquakes in new designs and ageing management of operating NPPs' structures, systems and components were recognized as additional issues to be addressed in the future;
- Question on how best to deal with the interface between safety and security. The Commission concluded that there was a need to identify and implement practical steps to further address the issues;
- Need for developing guidance on public exposures to natural sources of ionizing radiations (for example, radon, NORM residues); and
- Crucial need to further improve promotion of the application of the Safety Standards in medical applications and to enhance these standards as appropriate.

TRANSSC accepted Mr. Delattre's report without comment.

#### **Long-term structure for Safety Standards: Report of Draft Roadmap from the CSS task force (IP04)**

Mr. Delattre summarized the history of the development of the long-term structure for the Safety Standards referring to the CSS Statement issued in June 2006, the CSS Subgroup report issued during the first quarter of 2007 and the CSS task force meetings in September and November 2007.

He then presented in detail the 11 items of the draft roadmap as well as its three annexes on user-friendliness, on format for the Safety Requirements and on strategy to work on safety guides.

TRANSSC had no comments on the summary provided by Mr. Delattre.

#### **BASIC SAFETY STANDARDS**

##### **Report from IAEA Secretariat on Review of the Basic Safety Standards (BSS)**

Ms. R. Czarwinski briefed TRANSSC on the status of review and revision of the BSS. She reviewed the background of the document, the outline of contents, and the key features.

Key features of the revision are as follows:

- The layout of material (sections) differs from the approved DPP. The layout now follows the 'exposure situation' scheme of the new ICRP Recommendations.

- A new section (Section 2) has been introduced to replace the former preamble and to provide the necessary background and explanation for a full understanding of the Requirements sections.
- The section on existing exposure situations has been expanded to include material from WS-R-3 (Safety Requirements for remediation), which could then be discontinued.
- Some 'generic' material has been moved from later sections to Section 3, to avoid unnecessary repetition.

RASSC, the cosponsors and experts have endorsed the approach that the IAEA is pursuing.

Finally, Ms. Czarwinski advised about the future milestones that include further drafting by the Secretariat and consultants, a progress report to and comments from the Safety Standards Committee, and final drafting together with tracking and justification of changes from SS115.

One participant noted that there needs to be a justification for the changes that are being made and that TRANSSC should carefully follow the discussions on exemption values because they may affect the Transport Regulations. TRANSSC had no other comments.

## **APPLICATION OF THE SAFETY STANDARDS BY MEMBER STATES**

### **Participants' introduction and brief statement on application of the transport safety standards in their countries**

The representatives from the Member States all gave a brief introduction for themselves and outlined transport activities in each of their countries. Most present stated that they are now implementing the 2005 Edition while those countries that are not using this latest version are working towards achieving this status in the very near future.

Participants from the International Intergovernmental and Nongovernmental Organizations introduced themselves and briefed TRANSSC on their work in transport.

### **Presentation: Spent Fuel Transport in China**

Mr. Xiaoqing Li gave a brief introduction of radioactive material transport in China, including its history and present status of radioactive material transport in China. Radioactive material transport was started in China in the 1950s with the development of nuclear industry, mainly nuclear fuel cycle products until the 1980s. With the development of nuclear power industry and civil application of nuclear technology, more and more radioactive material are being transported, including isotopes and their production, nuclear fuel and spent fuel. The first transport of fresh nuclear fuel was carried out by rail in 1994, while the first transport of MTR spent fuel occurred in 1995 of NPP spent fuel in 2003 by road. To date, over 400 NPP spent fuel assemblies and hundreds of MTR spent fuel assemblies have been transported and stored in an away-from-reactor storage facility.

IAEA Safety Series No.6 was formally adopted as national state standard, GB 11806-89, with the requirements being the same as in the IAEA document except for the format. Since then, the safety aspects of radioactive material transport have been improved significantly. The standards were updated in 2004 as GB11806-2004, which is consistent with IAEA TS-R-1. A code on spent fuel transport by road in China was briefly introduced. The regulatory bodies' related to radioactive material transport in China was introduced, and the necessary certificates of approval for spent fuel transport in China as well. A

regulation on safety control of radioactive material transport has been initiated to clarify the obligations of related organizations, and coordinate the operation and control of the activities.

Most of radioactive material is transported by road and part by rail and air. To meet the requirements of nuclear power development, the development a strategy of spent fuel transport was initiated based on a feasibility study. The experience of the first transport of NPP spent fuel by road was introduced; it was from the South of China to Northwest China with 4000 km in distance, and took 21 days for a single trip.

## **TRANSPORT SAFETY STANDARDS AND SUPPORTING DOCUMENTS**

### **TS-G-1.1, Advisory Material for the 2005 Edition of the IAEA Transport Regulations**

The status of DS 346 “The Advisory Material for the IAEA Regulations for the Safe Transport of Radioactive Material” (TS-G-1.1) was provided by Mr. Bruno. The document was approved by the Commission on Safety Standards in June 2007 and was forwarded to publication. A complete editorial review was performed and a number of corrections were requested. The Secretariat addressed all questions from the publishers and is waiting for the proof reading. The publication of this guide is expected for the second quarter of 2008.

It was again emphasized that TRANSSC should initiate development of a revised TS-G-1.1 to incorporate for the new/revised requirements of the proposed 2009 Edition of TS-R-1.

### **TS-G-1.X: Draft Safety Guide on Management Systems for the Safe Transport of Radioactive Material**

The status of DS 326 “The Management System for the Safe Transport of Radioactive material” (TS-G-1.X) was presented by Mr. Bruno. This draft was approved by TRANSSC 15 and submitted to the Commission on Safety Standards. The CSS requested few changes on the document: to remove the glossary – as this is a global request for all future draft publications; to amalgamate as “governmental bodies” terms like regulators, competent authorities, environmental protection agencies and national and local governments as used throughout the text. The draft safety guide was approved for publication.

Mr. Bruno answered questions about the availability of the document, that the term “governmental body,” and about the document number. He noted that the availability of the publication is imminent but could not precisely determine the publication date; that the addition of the term “governmental body” was made at the request of the Commission on Safety Standards; and that the final number will be defined by the Publication Section. The question of the use of the term “governmental body” will be referred to the Departments Safety and Security Coordination Section for decision. The term Governmental bodies is maintained.

### **TS-G-1.Y: Compliance Assurance for the Safe Transport of Radioactive Material**

Mr. Bruno reported on the status of DS 327 “Compliance Assurance for the Safe Transport of Radioactive Material” (TS-G-1.Y). This document is intended to replace the former Safety Series No. 112, providing detailed advice for competent authorities wishing to establish programmes to verify compliance with the regulations governing the safe transport of radioactive material. Draft DS 327 was approved by TRANSSC 15 and then reviewed by the editors. The reviewed document will be submitted to the next meeting of the Commission on Safety Standards.

TRANSSC had no comment on the presentation.

### **Draft Safety Guide on Schedules related to TS-R-1 (TS-G-1.Z)**

Mr. Zhao introduced the status of DS 387, Safety Guide TS-G-1.Z, “Schedules of Provisions of the IAEA Regulations for the Safe Transport of Radioactive Material, TS-R-1 (2005 Edition).” This Safety Guide has been prepared as a companion document to 2005 edition of TS-R-1. No new requirement is introduced by this document. TRANSSC 15 approved the Schedules to submit to Member States for 120-day comments in 2007. The document was disseminated to Member States and International Organizations on 11 Nov. 2007 for comments.

To the day of the meeting, around 20 comments have been received. The deadline for submission of comments is 14 March, 2008. Next month, the Agency will convene a Technical Meeting to consolidate the comments to the schedules. And the new version will be submitted to TRANSSC 17 in October 2008 for approval. Because of the small number of comments the Secretariat will to decide after the closing date if a meeting will be necessary.

One participant reiterated the need for a Schedules document that reflected the decisions on the 2009 Edition of TS-R-1 rather than a document attached to the 2005 Edition. The Chair noted that users will need both Schedules for both the 2005 and 2009 Editions of the Transport Regulations.

### **Review of TS-R-1, 2005 Edition: Harmonization with the UN (WP04, WP05, WP06, WP06a, WP06b, WP06c, WP06d, WP06e, WP18, IP21)**

A presentation on the development of the 2009 edition of the Transport Regulations was provided by Mr. Bruno. He recalled the previous steps on the development of the current draft and introduced the comments received from Member States and International Organizations. Mr. Bruno also described how these comments were sorted to create the several working papers that Secretariat made available for the meeting. Contributions and proposals from Member States on ways to better address and resolve comments were presented.

Plenary decided to form 5 working groups. Working Paper No. 6 and related documents were used as the basis for review, discussion and resolution. Group 1 addressed Sections 1-3; Group 2, Section 4; Group 3, Section 5; Group 4, Sections 6, 7, 8, tables and references; and finally Group 5, all editorial comments. WP18, the Terms of Reference, was accepted and used for all the groups.

### **Report of Working Group 1 (WP20)**

Working Group 1 was assigned to resolve 107 comments proposed for Sections 1-3 of the transport regulations. WP04 for the Regulations and WP06a-Rev.1 for the Member State comments were used. Some editorial comments were passed to WG 5. LSA, radioactive material and SCO requirements were returned to Section 2. The working group noted issues such as freight container (retained the 2005 Edition definition), overpack and tank to be retained for future consideration. Regulatory text for “Package-Packaging” was provided for the Advisory Material. Several proposed changes to the Advisory Material were recommended.

### **Report of Working Group 2 (WP21)**

This group addressed comments relating to Section 4 of the regulations. A total of 260 comments were considered of which 74 were editorial, 2 were withdrawn and 16 were rejected with appropriate justification. Most comments were discussed with the proposing member state’s representative in the working group.

The main issues were reservations on the separation of the criticality exceptions wording in Section VI into Sections IV and VI in Para 417. The working group agreed to use the proposed harmonization text with an amendment to give a link between Section IV and VI.

Section IV was restructured to provide a better logical flow and maintain optimum harmonization with the Orange Book.

A new paragraph was added that dealt with air transport for B (U) and B (M) packages which had been omitted from the Draft TS-R-1. The wording was consistent with the Orange Book. An additional requirement concerning excepted packages transported by post was included as it was omitted from the Draft TS-R-1.

Working group 4 was requested to add the paragraph about fissile exceptions limits per consignment as in UN Orange Book 6.4.11.2.

### **Report of Working Group 3 (WP22)**

This group looked at 143 comments received on Section 5 concerning requirements and controls for transport. Discussion and resolution of a number of editorial comments from WP6a was addressed. The Secretariat was to confirm consistency with the recommendations made by WG5. Comments referred from Working Group 4 were also addressed by WG3. Changes to the Table of Contents or the Appendix were not addressed.

### **Report of Working Group 4 (WP23)**

Mandate was to review and resolve 183 Member States comments on Sections 6, 7, 8, Tables and References received on the draft 2009 Edition of TS-R-1, together with general comments submitted to the secretariat.

Paragraph 672 of TS-R-1 (2005 Edition) was moved to Para 413 in the 2009 draft edition of TS-R-1. WG4 created a new paragraph 672 in response to a request from TRANSSC reflecting the requirements of 6.4.11.2 of the UN Orange Book. This necessitated renumbering paragraphs 672 – 682 of the Draft 2009 Edition of TS-R-1 and changing references throughout the text to those paragraphs. Where a Member State comment relevant to paragraphs 672 – 682 inclusive was identified as having been accepted the introduction of new paragraph 672 may have affected the paragraph number originally quoted in the Member State comment list. All references within Sections 6 – 8 were updated. Other working groups were to update references to amended paragraphs in the 672 – 682 range as appropriate to their area of responsibility.

The use of terminology such as ‘any external surface’ or ‘the external surface’; ‘more than 20% increase’ or ‘increase of more than 20%’ was also made consistent throughout the document.

### **Report of Working Group 5 (WP24)**

All editorial comments as set out in WP 6a were considered. 233 editorial comments were originally identified. A further 35 editorial comments from the Working Groups 1 –4 that had been identified as being editorial comments were also addressed.

A large majority of editorial comments were:

- To put defined terms in italics;
- To change table references;



- To change paragraph references; and
- Proper use of scientific notation.

Editorial changes from Mexico identified in WP 6d were considered against the restructured comments provided by Japan in WP 6e. Almost all comments were either accepted or accepted as modified as appropriate.

### **Discussion of all the Working Groups Recommendations**

At plenary each working group presented the results of their deliberations. After discussion the results of all the working groups were compiled into a draft 2009 edition of the IAEA Transport Regulations. This draft was approved and TRANSSC recommended it being forwarded to the other safety committees and to the CSS

### **Regulatory Issues from the 2007 TS-R-1 Review Cycle (WP07)**

Mr. Zhao delivered a presentation on the Technical Meeting which was convened to resolve the remaining regulatory issues from TRANSSC15 for the 2011 review cycle in response to the TRANSSC 15 recommendation. According to the Terms of Reference of the meeting, the Technical Meeting developed texts related to 19 remaining issues for both the Regulations (TS-R-1) and Advisory Material (TS-G-1.1) for the next edition. As still 17 issues were not resolved during the meeting, recommendations for further work were also made. Mr. Zhao drew the attention of the plenary to these recommendations.

The meeting also discussed the principle to deal with divergence opinions between TRANSSC and technical meeting. The plenary concluded that when decision of technical meeting is in conflict with that of TRANSSC, the TRANSSC decision will prevail. Accordingly, two issues suggested by the Technical Meeting(TM-35916) for TRANSSC reconsideration should be left it is decided by TRANSSC 15 by holding over the original proposal (CA 07/04, USA 07/18, and UK07/07) to next review cycle.

The reduction of meetings was suggested by US by merging some meetings because of the limited resource and the heavy load of the member states. Mr. Boyle, from USA, suggested the scheduled meeting in IP14 to review databases related to the safe transport of radioactive material(TM-35546) could be replaced by a technical meeting to resolve the remaining regulatory issues.

After discussion, the plenary recommended 3 consultant meetings, 2 technical meeting and 3 correspondence groups (see the attached Table of Recommendations of TRANSSC 16 for the Remaining Regulatory Issues)

With the Chair encouraging the Member States to take the lead to resolve the remaining regulatory issues, the UK volunteered to lead the consultants meeting on fissile exception issue, USA volunteered to lead the correspondence group on Shipments of large components, Germany will lead the correspondence group on Small quantities of UF<sub>6</sub>, France will lead the correspondence group on Transitional arrangements, and Japan volunteered to provide accommodations for the technical meeting on surface contamination in Japan.

## **THE DEVELOPMENT OF OTHER IAEA SAFETY DOCUMENTS**

### **DS409: Safety Guide: Radiation Safety in Gamma, Electron and X ray Irradiation Facilities [Rev SS 107] (WP08)**

Mr. Reber presented the draft safety guide, DS409 and noted that hundreds of gamma, electron, and x ray irradiation facilities are in operation in many Member States. These facilities produce very high dose rates, so that a person accidentally present in the radiation room could receive a lethal dose within minutes or seconds. In spite of this potential for harm, the safety record of this industry has been very good. However, significant, and sometimes lethal, injuries to personnel have resulted from the misuse of these irradiators.

This Safety Guide will provide detailed, practical recommendations on the safe design and operation of gamma, electron, and x ray irradiation facilities. It is expected that designers and operators of these facilities will implement these recommendations. In addition, the Safety Guide will also prove useful to regulators of these facilities.

The transport of radioactive sources is addressed in the document with appropriate references to the Regulations for the Safe Transport of Radioactive Material (TS-R-1).

An editorial comment on the use of the term transportation rather than transport was noted. TRANSSC welcomed the safety guide.

*TRANSSC approved DS409 for submission to Member States.*

### **DS415: Governmental and Regulatory Framework for Nuclear, Radiation, Radioactive Waste and Transport Safety [Rev GS-R-1] (WP09)**

Mr. Mrabit presented the revised draft document which contains approximately 30 requirements in 'shall' statements compared to the current GS-R-1 version that contained an excess of 170 such 'shall' statements. The requirements follow the Safety Fundamentals (SF1) format in that it provides explanatory notes on the requirements in terms of intent and purpose on 'what' rather than 'how' which is dealt with in the Guides.

Mr. J. Cook, USA, noted that the current version of the draft revised GS-R-1 was a substantial improvement of the previous version and that all USA comments had been resolved. Mr. Duffy observed that there was a reduced set of requirements and asked if Member States following the new requirements will be reviewed against a separate set of standards during an Integrated Regulatory Review Service mission. Mr. Mrabit assured him that the "reduced set" had resulted primarily from eliminating duplicate requirements and that nothing had been lost.

*TRANSSC approved DS415 for submission to Member States.*

### **DS413: Safety of Nuclear Power Plants: Operation [Rev NS-R-2] (WP10)**

Mr. D. Dubois advised that the safety of a nuclear power plant (NPP) is ensured by means of proper site evaluation, design, construction and commissioning followed by proper management and operation of the plant until the later phase of transition to decommissioning. The organization and management of plant operations shall ensure that a high level of plant safety performance is achieved through effective implementation and control of operations activities.

Over the past years, new emphasis has emerged in areas such as management system, long term operation, plant ageing, periodic safety reviews, probabilistic safety assessment and risk informed

decision making processes. It is therefore necessary to reflect the IAEA's safety requirements in these areas and to correct and/or improve the document based on feedback from its application by the Agency.

The purpose of this revision is to restructure Safety Standards Series, NS-R-2 in light of new operational experience and new trends in the industry, to correctly reposition those requirements.

*TRANSSC approved DS413 for submission to Member States.*

#### **DS416: Licensing process for nuclear installations [Safety Guide for GS-R-1] (WP11)**

Mr. S. Calpena briefed TRANSSC on DS416. In the forthcoming new Safety Standard Structure framework, regarding regulatory activities for "nuclear installations" (as defined in the IAEA Safety Glossary), several guides will be reorganised, revised and redrafted to deal with "Organisation & Staffing of" and "Functions of" the Regulatory Body. Concerning the "Functions" the guide will consider: the Licensing Process; Review & Assessment; Inspection; Enforcement; Issuance of Regulations and Guides and maybe Public Communication, Transparency and Openness.

DS416 is addressing the future guide's part in dealing with the Licensing Process for nuclear installations. DS416 will contribute to the reduction of duplications among GS-G-1.1, GS-G-1.2; GS-G-1.3; GS-G-1.4; and GS-R-1's Appendix and will offer comprehensive and user-friendly guidance to draft or re-draft licensing regulations for countries embarking in nuclear power as well as advanced nuclear countries undergoing a nuclear Renaissance. "Transport" is hardly ever mentioned in this draft, but TRANSSC was initially involved in the process as it was not known at the DPP development stage whether "Transport" would be dealt with or impacted when drafting DS416 during the initial stages. The approval of TRANSSC and the other Committees will allow NSNI to consult Member States and get feedback on the consolidation of the proposed guide.

*TRANSSC 16 approved DS416 for submission to Member State.*

#### **DS348: Safety Assessment and Verification of Nuclear Facilities and Activities [Requirements] (WP12)**

Mr. El-Shanaway presented DS348 for TRANSSC consideration. The objective of this Safety Requirements is to establish the generally applicable requirements to be fulfilled in the safety assessment of facilities and activities, with special attention to defence in depth, quantitative analyses and the application of a graded approach to the range of facilities and activities that are addressed.

*TRANSSC 16 approved DS348 for submission to the CSS.*

#### **IAEA and Committee on Peaceful Uses of Outer Space (COPUOS) (IP22)**

Mr. Delattre introduced the latest draft of the document. He noted the progress that was made since TRANSSC reviewed the previous draft. TRANSSC was requested to provide comments on the draft that was posted on the website.

TRANSSC inquired if the COPUOS document should be incorporating the safety glossary. Mr. Delattre responded that the COPUOS document uses terminology, which is not in the glossary. Where appropriate, however, definitions from the glossary will be used.

The Chair noted to TRANSSC that the document is located on the website and that TRANSSC Members have the opportunity to provide comments online as may be appropriate.

#### **DS419: DPP for Safety Guide: Radiation Safety in Well Logging [New] (WP13)**

Mr. Wangler briefed the meeting on the DPP for a safety guide on radiation safety in the well-logging industry. The objective of the guide is to provide guidance on the safe use of radiation sources used for well logging, and to provide guidance on meeting the requirements of the Basic Safety Standards (BSS). The target audience consists of regulators and operating organizations that use well logging sources (mining and oil industry).

The Safety Guide will cover responsibilities of the operating organization, manufacturer, supplier, the radiation safety plan and the safety measures for specific sources. Guidance for the implementation of a radiation safety plan will include recommendations on occupational protection, local working rules, monitoring equipment and procedures, repairs and maintenance, emergency procedures, security, storage and transport of sources and decommissioning. Sealed gamma sources, neutron sources and radiation generators will be specifically addressed in the guide.

Following the presentation TRANSSC asked that a correction of the reference to the current 2005 Edition of TS-R-1 should be made.

*TRANSSC 16 approved the DPP for DS419 for submission to the CSS subject to the changes noted.*

#### **DS420: DPP for Radiation Safety for Nuclear Gauges [New] (WP14)**

Mr. Wangler briefed the meeting on the DPP for a safety guide on radiation safety during the use of nuclear gauges. The objective of the guide is to promote safety in the use of radiation gauges, and provide guidance on meeting the requirements of the Basic Safety Standards (BSS). The target audience consists of regulators and operating organizations that use nuclear gauges.

The Safety Guide will cover responsibilities of the operating organization, manufacturer, supplier, the radiation safety plan and the safety measures for specific sources. Guidance for the implementation of a radiation safety plan will include recommendations on occupational protection, local working rules, monitoring equipment and procedures, repairs and maintenance, emergency procedures, security, storage and transport of sources and decommissioning. Safety of transmission gauges and safety of backscatter gauges will be specifically addressed in the guide.

TRANSSC asked that the document clarify that it will cover portable gauges. TRANSSC also asked that a correction of the reference to the current 2005 Edition of TS-R-1 should be made. Reference should be made to the 2005 Edition.

*TRANSSC 16 approved the DPP for DS420 for submission to the CSS subject to the changes noted.*

#### **DS424: DPP for Establishing a National Nuclear Safety Infrastructure [New] (WP15)**

Mr. Delattre presented the DPP for establishing a national nuclear safety infrastructure. He advised that many member States considering launching or expanding a nuclear power programme. These Member States have a desire for clearer and more practical guidance on how to establish and develop, a sound nuclear safety infrastructure that will assist them in applying the current IAEA Safety Standards in the most effective, efficient and sustainable manner.

This guide will focus on the early phases when the country is still considering a decision to launch a nuclear power programme and preparing for the construction of the nuclear power plant after the policy decision has been taken. This safety guide is also intended to contribute to the early building of a strong leadership for safety and safety culture and for use as a tool for the national self-assessment by member states developing their national nuclear safety infrastructure. Mr. Delattre informed TRANSSC that the

agency will publish a copy of the draft guidance document for interim use while the document continues through the IAEA standards development process.

The safety guide content would be structured according to the three main following aspects, national safety policy and strategy, institutional elements, organizational and technical elements.

*TRANSSC approved the DPP for 424 for submission to CSS.*

### **Safety Requirement on Prevention of Accidents**

Mr. Delattre informed the Committee that through the discussion on the future structure for the set of thematic Safety Requirements, it was envisaged to prepare a new Safety Requirements on Prevention of accident. This originated from the fact that when developing the unified Safety Fundamentals, a number of technical principles from the previous SS110 on the Safety of Nuclear Installations were not retained as principles in SF-1, but considered to be at the level of safety requirements.

After a thorough review performed by NSNI of the set of Safety Requirements, it appeared that these technical requirements were adequately covered by the facility specific requirements. It was also considered that the revision of the BSS will include the same technical safety requirements for their application to facilities and activities other than nuclear facilities and activities. The coverage of these requirements by the revised BSS and the facility specific requirements would thus adequately fill what was considered as being a gap and Mr. Delattre reported that the Secretariat view is therefore that there was no further need for a DPP for such a new Safety Requirement on Prevention of Accident.

*TRANSSC had no comments on the presentation, no actions was requested of TRANSSC*

## **THE DEVELOPMENT OF IAEA SECURITY DOCUMENTS**

### **Status of preparation of guidance on security during transport of radioactive material**

Ms. Eriksson informed TRANSSC about the work going on in the area of transport security. The Security Series Guideline "Security of Radioactive Material during Transport" has been out for a 120 days comment. The comments received have been incorporated to the extent possible and the document is now at the Department Steering committee for approval before going to publishing.

### **Other transport security actions (IP06)**

Ms. Eriksson also briefed TRANSSC on the development of a recommendations document related to nuclear material, radioactive material and detection and response. She advised that a Consultants' Meeting had been convened in January 2008 to develop transport security input for subsequent meetings of the Reference Group and Drafting Group on security recommendations. The document detailing the results of the Consultants' Meeting is found in IP06, which will be available about two weeks after the TRANSSC meeting.

Ms Eriksson also informed TRANSSC that training material for transport security has been developed and that two pilot training courses took place in China and Peru. The experiences from those training courses were considered and the training material was being updated. Regional training courses are planned for this year in Africa, South America and in Europe. The training program includes a module on transport safety training.

A module for assessing the transport security regulatory framework in Member State's has been developed. The assessment module was tested for the first time during an INSServ (Integrated Nuclear

Security Service) mission to Ecuador in January of this year. Modifications to the module are being drafted.

One participant asked about the inclusion of radiation protection in security training. Ms. Eriksson advised that transport safety is included; however, radiation protection is not specifically a part but can be made available at the request of a Member State. The training course in Peru included a module on radiation protection.

## **TRANSPORT SAFETY STANDARDS PROCESSES**

### **Harmonization with UN Recommendations on the Transport of Dangerous Goods – Model Regulations (IP07, IP19)**

Results of coordination with the United Nations Sub-Committee of Experts on Transport of Dangerous Goods were reported by Mr. Bruno. He provided information on the 32<sup>nd</sup> Session of the Sub-Committee and drew the attention of TRANSSC for the Information Paper 19 “Guiding Principles for the Development of the UN Model Regulations”. Mr. Bruno informed TRANSSC that any comments on this document can be forwarded directly to the UN Secretariat. The deadline for comments is March 25<sup>th</sup> 2008.

Mr Kervella informed TRANSSC that the UN Sub-Committee of Experts on the Transport of Dangerous Goods at its 32<sup>nd</sup> session in December 2007 had considered the recommendations made by the IAEA Consultant Services Meeting (CS-72) on Harmonization between the UN and the IAEA regulations (Vienna, 26-27 September 2007), and had agreed to amend a few paragraphs of the UN Model Regulations accordingly, notably paras 1.5.1.5.1, 1.5.1.5.2, 2.0.3.2, Chapter 3.2 Special Provision 290, 3.5.1.1 and 5.3.2.1.1 (e). Some of these texts were placed between square brackets in case the IAEA would find contradictions with the forthcoming 2009 version of the IAEA Regulations. In the absence of comments, they will be adopted by the Committee in December 2008 for inclusion in the 16<sup>th</sup> revised edition of the UN Recommendations on the Transport of Dangerous Goods, Model Regulations (see report ST/SG/AC.10/C3/64, paras, 61-71, annex I) (Website: [www.unece.org/trans/danger/danger.htm](http://www.unece.org/trans/danger/danger.htm))

### **Report from UNECE (IP08)**

Mr Kervella informed TRANSSC that the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN) had entered into force on 29 February 2008 and counted 8 Contracting Parties so far. Amendments to ADR, RID and ADN had been adopted for entry into force on 1 January 2009 with a six month transition period. They include the class 7 provisions of the 15<sup>th</sup> revised edition of the UN Model Regulations, i.e. the harmonization changes agreed for the 2009 IAEA Regulations. The list of amendments for ADR is available on the UNECE website as report ECE/TRANS/WP.15/195, and for ADN as report ECE/TRANS/WP.15/AC.2/26. Other amendments will be discussed in May 2008 and June 2008 for ADR and ADN respectively, also for entry into force on 1 January 2009.

### **Report from International Civil Aviation Organization (IP09, IP)**

#### **Dangerous Goods Panel**

The twenty first meeting of the ICAO Dangerous Goods Panel took place in Montreal from 5 to 16 November 2007, at which time proposed amendments to the Technical Instructions to align them with the fifteenth revised edition of the UN Model Regulations were reviewed and approved for incorporation in the 2009-2010 edition of the Instructions. The Air Navigation Commission reviewed the DGP/21 report on 7 February 2008 and has recommended that the ICAO Council approve the amendments. This is anticipated to occur by mid-March 2008.

### **Facilitation Panel**

Following the third meeting of the International Steering Committee on Denial of Shipments of Radioactive Material, a proposal to amend Annex 9 to the Chicago Convention to facilitate the transport of radioactive material will be made at the fifth meeting of the Facilitation Panel, to be held in Montreal from 31 March to 4 April 2008. The working paper is attached for information in IP09.

### **Safety and Security Audits**

A comprehensive audit programme of ICAO member States to review their responsibilities with regard to all safety and security standards contained in the 18 Annexes to the Chicago Convention is ongoing. As of 31 December 2007, 80 States have been audited under the Comprehensive Safety Oversight Audit system and 181 States have been audited under the Universal Security Audit system.

### **CRP on Naturally-Occurring Radioactive Material (IP11)**

Ms Varley reported with respect to 2nd Research Coordination Meeting (RCM) on the appropriate level of regulatory control for the safe transport of naturally occurring radioactive material (NORM) was convened at the IAEA from 25-28 February 2008.

The purpose of the meeting was to identify progress on the mid-term achievements with special emphasis on the strengths and weaknesses of each of the projects. Brazil, Canada, France, Germany, Iran, Israel, Romania, United Kingdom and the USA provided the current status. Information on the work completed and further work to complete their research areas was discussed. Recommendations on modifications to existing programmes were made when necessary. The third RCM is envisaged for November 2009. The participants are encouraged to inform by May 2009 if they would like to host the next RCM in November 2009.

TS-R-1 Change Proposals from TRANSSEC 15 were discussed. These proposals were::

1. Australia/07/01: IAEA terminology to define uranium and uranium ore
2. Germany/07/01: Transport of LSA radioactive material as an excepted package if the relevant limits and requirements are met.
3. USA/07/01 (Revised): Harmonization of provisions for natural low-level radioactive material.

The recommendation was that the three proposals had sufficient merit to be retained for further consideration as part of the ongoing review process.

### **Report of CRP on Accident severity during air transport of radioactive material (IP12)**

Mr. Wangler briefed TRANSSEC on the status of the CRP on Accident Severity. He reminded TRANSSEC that three Research Coordination Meetings had been held over seven years with a wrap-up meeting in August 2006. As a result of this meeting a report of the CRP was drafted. It was found that some additional information was required and a need for some contact with participating organisations for a final review to ensure the accuracy. Consequently, the Secretariat convened a consultancy from 21 January – 1 February 2008 to draft the final report. This report is found in IP12.

Mr. A. Nandakumar, the consultant, concluded that the scientific information included in the report would help researchers in this field. The CRP does not make any recommendations on test conditions. The CRP, however, provides a better understanding of the technical basis of the regulatory conditions. The CRP results can be fed back into the review process for the Agency Regulations for the safe transport of

radioactive material, with particular reference to the transport of large quantities of radioactive material by air.

This document is currently being cleared within the Department for publication.

One participant noted that the reports suggested that more than 10 000 000 lives would be lost in air accidents before a Type C package was breached in an air crash and that more than 1 000 000 lives would be lost before a Type B package was breached. Thus it could be inferred that the requirements for a Type B package are also sufficient for air transport.

### **Relevant actions for reducing the incidence of denial of shipments (IP13)**

Mr. Wangler brief TRANSSC on activities undertaken by the IAEA Steering Committee on the Denial of Shipments of Radioactive Materials. He noted three areas, organization of the Steering Committee management team, review and revision of the Action Plan and additional denial issues.

The Steering Committee reviewed the management team structure and decided to maintain a Chair and two Deputy Chairs. The appointed individuals will have a rotation first as Second Deputy Chair, then as First Deputy Chair and finally as the Chair. Each position will have a 1 year term ensuring continuity of the Steering Committee Management Team. Thus the management team must commit to a term of 3 years. Mr. Green, WNTI, stepped as one of the Deputy Chairs. This position will now be held by a Member State, Mr. Jeremy Rolstone, UK. Additionally, the Steering Committee decided that members of the management team would participate in Regional Workshops

For its part, the IAEA has initiated actions to implement the following items in the Action Plan

- National Focal Point for Denials of Shipment of Radioactive Material;
- Information on Transport Competent Authorities and Legislation Related to Transport of Radioactive Material;
- Prospective IAEA Workshops on Denial of Shipments; and
- A Denial of Shipments Database

The Steering Committee was also briefed by a WNTI representative on the problems with shipping radioactive materials from a shipper's perspective. The IMO refined its earlier proposal for development of computer-based training (e-learning) for the preparation, handling and transport of Class 7 shipments ICAO provided information on its AIP Contact Details. Finally, the Committee was advised about the UN ECOSOC Resolution on Denial of Shipments.

The Steering Committee intends to provide report to the IAEA's General Conference and Board of Governors

Several TRANSSC Members asked for clarification about the roles and responsibilities for a National Focal Point, in contrast to the roles and responsibilities of the National Competent Authority for Transportation.. Mr. Jeremy Rolstone, Second Deputy Chair for the IAEA's Steering Committee on the Denial of Shipments of Radioactive Material, provided a clarification.

### **Translation of TS-G-1.1 into Spanish**

Mr. Bruno informed the plenary that the Safety Standards Series No. TS-G-1.1 in Spanish was reviewed by the Translation Section and by Mr. Zamora from Spain. The document is ready to be forwarded to publication.



### **Issue of accepting proposals for change to TS-R-1 and TS-G-1.1 in Spanish (or other official language)**

Mr. Bruno provided the plenary information the development of a process by which comments and proposals on Transport Regulations and related guidance can be submitted in all United Nations official languages. He described the redevelopment of procedures and forms for Spanish.

Mr. Bruno thanked plenary for the continuous support given by TRANSSC and informed that, as time permits, the Secretariat will continue working on this issue.

### **Training Course on Safe Transport of Radioactive Material – Argentina 2008**

A presentation on the upcoming IAEA training course on transport safety was delivered by Mr. Lopez Vietri. This training course will be held in Buenos Aires, Argentina, from 23 June to 4 July 2008, and is mainly intended for the national competent authorities in the Latin America and The Caribbean Region. It will be conducted in cooperation with the IAEA Department of Technical Cooperation, the IAEA Department of Nuclear Safety and Security and the Government of Argentina. The course will be in Spanish and will follow the train-the-trainer concept. The training is based on the 2005 Edition of the IAEA Regulations TS-R-1 as well as the IAEA Training Manual with specific elements to address regional needs. Emphasis will be made on exercises (desk and field work) and will include a discussion on delays and denials of shipments. 25 participants from the region and 10 from the host country are expected to attend this course."

## **MEETINGS RELATED TO DEVELOPMENT OF TRANSPORT SAFETY STANDARDS**

### **Schedule of major meetings for 2008 (IP14)**

The list of major transport safety meetings for 2008 is available in IP14.

## **INTERNATIONAL ORGANIZATIONS**

### **Report of the European Commission**

The EC did not make a presentation. However, Information Paper 16 was made available.

### **Report of International Air Transport Association (IATA) (IP20)**

In IP20, IATA proposed that TRANSSC should provide advice with respect to the discussions which took place at the last session of the UN Sub-Committee of Experts on the Transport of Dangerous Goods (see 3.9.1 above) as regards excepted packages of radioactive material possessing other hazards. IATA proposed that TRANSSC should endorse the decisions taken by the UN Sub-Committee, but in addition that the name corresponding to the radioactive material (e.g. "RADIOACTIVE MATERIAL, EXCEPTED PACKAGE; LIMITED QUANTITY OF MATERIAL") which is required by the UN to be entered in the Transport document but not to be marked on the outer surface of the package, should also be marked on the outer surface on the package. IATA did not agree with the UN decision that the exemptions provided under Chapter 3.5 of the UN Model Regulations for other hazards should not be applicable to excepted packages of radioactive material possessing hazards, and proposed that such packages meeting the requirements for dangerous goods in excepted quantities be treated as excepted packages of radioactive material only without reference to the other dangers.

Mr Kervella explained that the decision of not marking the name corresponding to the excepted package of radioactive material on the outer surface of the package was consistent with the IAEA regulations, that this name would have to be included in the transport document anyway, and that the marking of the word RADIOACTIVE on an internal surface of the package would still be required. For the second IATA

proposal, he said that Chapter 3.5 of the UN Model Regulations contained some requirements for packaging, marking and documentation, some of which could be considered as more stringent than those applicable to excepted packages according to the IAEA Regulations, and it was not clear from the IATA proposal whether these requirements would also apply, and how.

Mr Stewart said that the UN Sub-Committee was an intergovernmental body and that its conclusions should be duly considered and taken into account. He expressed some sympathy for the approach suggested as regards excepted packages of radioactive material with other hazards meeting the conditions of Chapter 3.5 of the UN Model Regulations. The issue had been split into two sections, and he tended to support the UN approach for the first section, but the IATA approach seemed more appropriate for the second section.

### **Report of World Nuclear Transport Institute (WNTI) (IP23)**

This information is found in IP23 and IP25. However, WNTI did not make a presentation.

### **Report of World Nuclear Association (WNA) (IP26)**

The WNA did not make a presentation but provided their report in IP26

## **OTHER BUSINESS**

### **Paper of the US on Review and Revision Cycle**

Mr. Boyle, USA, made a presentation on the review cycle. He noted that the development and maintenance of the regulations and guidance material for the safe transport of radioactive material are the most important function that TRANSSC and the IAEA transport unit perform. He concluded by saying that the implementation of a harmonized regulatory review process which is clearly understood by all participants is a vital component in this program.

Several Member States expressed concern about the recommendations in the presentation. They felt that while some minor improvements might be appropriate, the current review process was sufficient and should be given the opportunity to prove its worth. The Chair opined that it would be appropriate to convene a small consultancy to review the information in Mr. Boyle's presentation and the Chair will lead this consultancy and make any recommendations for a revision of the review/revision process at TRANSSC17.

## **REVIEW OF DRAFT MEETING REPORT OF TRANSSC 16**

### **Preparation of Report**

The Chair described the availability of the first draft of the TRANSSC 16 meeting report and noted that the draft had already been distributed by the Secretariat. The complete report will be available to TRANSSC members in a few months, and will be reviewed and approved by TRANSSC 17.

## **CLOSURE OF MEETING**

Mr. Brach thanked all for their hard work and extra time and effort in making this a very productive meeting. He noted especially the successful TRANSSC 16 review and disposition of over 700 comments on the proposed as TS-R-1, 2009 Edition, which was revised and approved at TRANSSC 16..

The Ms Amaral, Division Director, bid farewell to Mr. Wangler. She thanked him for this contribution to the Division of Radiation, Transport and Waste Safety as the Head of the Transport Safety Unit for the last 5 years.

## **SUMMARY OF APPROVALS AND RECOMMENDATIONS**

### **Decisions**

- Approved DS409 for submission to Member States.
- Approved DS415 for submission to Member States.
- Approved DS413 for submission to Member States.
- Approved DS416 for submission to Member States.
- Approved DS348 for submission to the CSS.
- Approved the DPP for DS419 for submission to the CSS subject to the changes noted.
- Approved the DPP for DS420 for submission to the CSS subject to the changes noted.
- Approved the DPP for 424 for submission to CSS.
- Approved final changes to DS345, TS-R-1 2009 Edition for submission to the other Safety Committees and CSS for final approval and publication

### **Recommendations**

- Secretariat to initiate development of a revised TS-G-1.1 to incorporate the new/revised requirements of the proposed 2009 Edition of TS-R-1
- Secretariat to address regulatory issues from 2007 TS-R-1 review cycle. (see Table of Recommendations of TRANSSC 16 for the decisions/actions)
- Secretariat to convene a small consultancy to review the information in Mr. Boyles presentation and to make a recommendation for a revision of the review/revision process at TRANSSC 17
- TRANSSC to provide an IATA-developed clarification to the UN Subcommittee for inclusion in the Model Regulations

TABLE OF RECOMMENDATIONS OF TRANSSC 16 FOR THE REMAINING REGULATORY ISSUES

**Recommended Meetings and Working Groups by TRANSSC 16<sup>th</sup>:**

TRANSSC 16 Recommendations	No. of recommendations from TM-35916 (see Meeting Report of TM-35916)	Issues No. in TM-35916 (see IP04 of TM-35916)	Original proposal reference (see WP05 of TRANSSC 15 <sup>th</sup> )	Member Stats/ International organizations interested
CM1 Fissile Exception	1	The Regulations should allow specific fissile exceptions to be approved subject to multilateral approval for those materials for which no operational controls which must be maintained during transport (such as consignment mass limit) should be required for safety	None This issue was raised by TM-35916	Japan, WNTI, USA(prepare alternative options), Swedish, France; UK(as Lead), Germany, Spanish, Sweden,. UK plans to arrange an April meeting of experts.
	2	3.7.(e), 3.7.(b), 3.7.(d) and 3.7.(f)	USA/07/10	
	11	3.4, 3.7.(a)(	SPAIN/07/01, USA/07/10	
CM2 Package test	6	5.6 ,5.8;	Fr 07/21,Fr07/20, WNTI 07/19	France, U.S.A., Japan, WNTI (
	7	5.7	FR 07/24, WNTI 07/17, WNTI 07/18	
		5.4	FR 07/18	

TRANSSC 16 Recommendations	No. of recommendations from TM-35916  (see Meeting Report of TM-35916)	Issues No. in TM-35916  (see IP04 of TM-35916)	Original proposal reference  (see WP05 of TRANSSC 15 <sup>th</sup> )	Member Stats/ International organizations interested
		5.5	FR 07/19	
CM3 Review the results of the report of the CRP on air accident severity	8	7.1	CA/07/03, UK/07/03, USA/07/07	Canada, U.K., U.S., France, Germany, Sweden,,
CG1 Small quantities of UF6	12	4.2	FRANCE/07/08, UNECE/07/01, WNTI/07/7	UNECE, France, UN, USA, WNTI, Belgium, UK, Canada, Germany (as Lead), Russia, France Spain
CG2 Transitional arrangements	13	8.7	FR 07/29	France(as Lead), Canada, UK and Belgium, U.S.A., WNTI, Germany
CG3 Shipments of large components	14	8.15	USA07/11	UK, Sweden, France, Japan and Germany, U.S.A(as Lead),, WNTI, Spain
TM1 UF6 subsidiary risk, exclusive use provisions, addressing limited	3	4.3 and 6.1	WNTI/07/10, UNECE 07/01	France, UNECE, USA, WNTI, UK, Germany, Czech Japan, Netherlands, Sweden, Belgium,
	4	8.10	UK 07/08	
	5	8.8	UK07/06	

TRANSSC 16 Recommendations	No. of recommendations from TM-35916  (see Meeting Report of TM-35916)	Issues No. in TM-35916  (see IP04 of TM-35916)	Original proposal reference  (see WP05 of TRANSSC 15 <sup>th</sup> )	Member Stats/ International organizations interested
quantities	9	7.5	USA/07/05, US/07/16	
	10	7.4	Czech/07/01, Czech/07/02, USA/07/03, USA/07/14, USA/07/15	
TM2 Surface contamination	15	7.3	UK/07/01	France, U.S.A. Japan, WNTI, UK, Sweden  Japan volunteered to provide meeting facilities for this TM, 10 November is being considered.

**APPENDIX 1: LIST OF PARTICIPANTS**

Argentina	LOPEZ VIETRI Jorge
Australia	SARKAR Samir
Austria	KIRCHNAWY Friedrich
Belgium	COTTENS Erik
Belgium	SANNEN Herman
Bulgaria	BAKALOVA Aneta
Canada	FAILLE Sylvain
Canada	GREEN Catherine
Canada	PRÉVOST Marc
Canada	ZAIDAN John
China	LI Xiaoqing
Croatia	BELAMARIC Nera
Czech Republic	DUCHÁČEK Vlastimil
Denmark	BREDDAM Kresten
Egypt	EI-SHINAWY Rifaat, M.K.
France	GETREY Christophe
France	LANDIER David
France	RAVACHOL Jean-Yves

France	RECULEAU Jean-Yves
France	SERT Gilles
Germany	ALTER Ulrich
Germany	DROSTE Bernhard
Germany	GIRKENS Peter
Germany	NITSCHKE Frank
Hungary	SÁFÁR József
Iran, Islamic Republic of	EMAMJOMEH Ahmad
Iran, Islamic Republic of	ESHLAGHI Ahmad
Ireland	DUFFY Jarlath
Israel	KOCH Jean
Italy	ORSINI Alberto
Japan	AMANO Masanori
Japan	ASAMI Mitsufumi
Japan	HAMADA Takashi
Japan	HIRASE Toshiaki
Japan	HIROSE Makoto
Japan	IKOMA Yutaka
Japan	MORITA Shingo
Japan	REITA Eiichi

Japan	YAMANAKA Tsuneyasu
Japan	YASUDA Tomoyuki
Korea, Republic of	CHO Dae-Hyung
Netherlands	TER MORSHUIZEN Mathieu
Netherlands	VAN HALEM Hans
New Zealand	ARDOUIN Cris
Norway	HORNKJØL Sverre
Norway	SEKSE Tonje
Pakistan	RASHID Muhammad
Poland	DZIUBIAK Tadeusz
Russian Federation	ERSHOV Vladimir
South Africa	HINRICHSSEN Paul
South Africa	WORTMAN Gerhard
Spain	ZAMORA MARTIN Fernando
Sweden	HÄGGBLÖM Eric
Sweden	MENNERDAHL Dennis, E
Sweden	SVAHN Birgitta
Switzerland	KRIETSCH Torsten
Turkey	ERTÜRK Korhan
United Kingdom	BARLOW Ian
United Kingdom	CABIANCA Tiberio

United Kingdom	MOORE Andrew
United Kingdom	OWEN Garry
United Kingdom	SALLIT George
United Kingdom	STEWART James, Torrens
United States of America	BOYLE Richard
United States of America	BRACH E. William
United States of America	COOK John
United States of America	PATKO Anthony
European Commission	BINET Joël
International Civil Aviation Organization	ROONEY Katherine, M.
International Source Suppliers and Producers Association (ISSPA)	CHARETTE Marc André
Steering Committee on Denial of Shipments	ROLSTONE Jeremy
Tantalum-Niobium International Study Center (T.I.C.)	SCHWELA Ulric
United Nations/Economic Commission for Europe	KERVELLA Olivier
Universal Postal Union	BOWERS David
World Nuclear Association	GORLIN Serge
World Nuclear Transport Institute	CHRIST Richard
World Nuclear Transport Institute	DEKKER Ben, G.



**APPENDIX 2: LIST OF PAPERS**

Paper Number	Title	Agenda Item	Available
<b>Working Papers</b>			
WP01, Rev 0	Agenda	2.1, 2.3	✓
WP02, Rev 0	Terms of Reference and Working Methods	2.2	✓
WP03, Rev 0	Draft TRANSSC 15 Report	2.4, 2.5	✓
WP04, Rev 0	DS-345 Review of TS-R-1, 2005 Edition: Harmonization with the UN Draft 2009 Edition	6.5	✓
WP05, Rev 0	Table of Changed Paragraphs-2005x2009 Edition of TR-R-1	6.5	✓
WP06, Rev 1	Compilation of MS and IO's Comments	6.5	✓
WP06a, Rev 1	Compilation of MS and IO's Comments by para order	6.5	✓
WP06b, Rev 1	Compilation of MS and IO's Comments by editorial YN	6.5	✓
WP06c, Rev 0	Transport of UF6	6.5	✓
WP06d, Rev 0	Comments from Mexico on DS345	6.5	✓
WP06e, Rev 1	Compilation of MS and IO's Comments rearranged by Japan	6.5	✓
WP07, Rev 1	TM on Regulatory Issues from TS-R-1 2011 Review Cycle	6.6	✓

<b>Paper Number</b>	<b>Title</b>	<b>Agenda Item</b>	<b>Available</b>
WP08, Rev 0	DS409: Radiation Safety in Gamma, Electron and X ray Irradiation Facilities	7.1	✓
WP09, Rev 0	DS415 Governmental and Regulatory Framework for Nuclear, Radiation, Radioactive Waste and Transport Safety	7.2	✓
WP10, Rev 0	DS413 Safety of Nuclear Power Plants: Operation	7.3	✓
WP11, Rev 0	DS416 Licensing process for nuclear installations	7.4	✓
WP12, Rev 0	DS348: Safety Assessment and Verification	7.5	✓
WP13, Rev 0	DS419: Radiation Safety in Well Logging	7.7	✓
WP14, Rev 0	DS420: Radiation Safety for Nuclear Gauges	7.8	✓
WP15, Rev 0	DS424 Establishing a National Nuclear Safety Infrastructure	7.9	✓
WP16, Rev 0	Reserved		
WP17, Rev 0	Reserved		
WP18, Rev 0	Provisional Terms of Reference for Working Groups	6.5	✓
WP19, Rev 0	Transport of Uranium Hexafluoride	6.5	✓
WP20, Rev 0	Report of Working Group 1	6.5	✓
WP21, Rev 0	Report of Working Group 2	6.5	✓
WP22, Rev 0	Report of Working Group 3	6.5	✓
WP23, Rev 0	Report of Working Group 4	6.5	✓
WP24, Rev 0	Report of Working Group 5	6.5	✓
WP25, Rev 0	DS345 Resulting from Working Group Reports	6.5	✓

Paper Number	Title	Agenda Item	Available
<b>Information Papers</b>			
IP01, Rev 0	Management System for IAEA Safety Standards	3.1	✓
IP02, Rev 0	Report of 22 <sup>nd</sup> Meeting of the Commission on Safety Standards (CSS)	3.2	✓
IP03, Rev 0	4 Year Report of CSS	3.3	✓
IP04, Rev 0	Long-term structure for Safety Standards: Report of Draft Roadmap from the CSS task force	3.4	✓
IP05, Rev 0	Reserved		
IP06, Rev 0	Report of the Working Group on Transport Security Issues for the Nuclear Security Series Recommendations Documents	8.1	
IP07, Rev 0	Harmonization with UN Recommendations on the Transport of Dangerous Goods – Model Regulations	9.1	✓
IP08, Rev 0	Reserved		
IP09, Rev 0	Report from International Civil Aviation Organization	9.3	✓
IP10, Rev 0	Reserved		
IP11, Rev 0	CRP on Naturally-Occurring Radioactive Materials	9.4	✓
IP12, Rev 0	Report of CRP on Accident severity during air transport of radioactive material	9.5	✓
IP13, Rev 0	Relevant actions for reducing the incidence of denial of shipments	9.6	✓

<b>Paper Number</b>	<b>Title</b>	<b>Agenda Item</b>	<b>Available</b>
IP14, Rev 0	Schedule of major meetings for 2008	10.1	✓
IP15, Rev 0	TRANSSC 2005-2007 Term Report.		✓
IP16, Rev 0	Report from European Commission	11.1	✓
IP17, Rev 0	Draft 2008 National Competent Authorities List For The Safe Transport Of Radioactive Material	2.5	✓
IP18, Rev 0	Opening Remarks by Mr Taniguchi	1.1	✓
IP19, Rev 0	Guiding Principles for the UN Model Regulations	9.1	✓
IP20, Rev 0	Report from IATA	11.2	✓
IP21, Rev 0	Provisional DPP for TS-G-1.1.doc	2.5, 6.5	✓
IP22, Rev 0	IAEA and Committee on Peaceful Uses Outer Space (COPUOS)	7.6	✓
IP23, Rev 0	WNTI Uranium Concentrates – Industry Good Practices for ISO Containers in Multimodal Transport	11.3	✓
IP24, Rev 0	Paper of the US on the Review and Revision Cycle	12.1	✓
IP25, Rev 0	The World Nuclear Transport Institute Presentation for TRANSSC 16	11.3	✓
IP26, Rev 0	World Nuclear Association: Building a Communications Platform for Class 7 Transport	11.4	✓
<b><i>Presentation Papers</i></b>			
PP01	DS 346 TS-G-1.1, Advisory Material for the 2005 Edition of the IAEA Transport	6.1	✓

Paper Number	Title	Agenda Item	Available
PP02	DS 326 TS-G-1.X: Draft Safety Guide on Management Systems for Safe Transport	6.2-	✓
PP03	DS 327 TS-G-1.Y: Compliance Assurance For The Safe Transport of Radioactive Material	6.3	✓
PP04	DS 345 Review of TS-R-1, 2005 Edition: Harmonization with the UN	6.5-	✓
PP05	Other UN Languages	9.9-	✓
PP06	Latin America Training Course	9.10	✓
PP07	Safety Standards General Presentation	3.1	✓
PP08	CSS 22 Meeting report 4y report and roadmap	3.2, 3.3, 3.4	✓
PP09	Spent Fuel Transport in China.	5.2	✓
PP10	TM-35916 Regulatory Issues from TS-R-1 Review Cycle	6.6	✓
PP11	DS409 Safety Guide: Radiation Safety in Gamma, Electron and X ray Irradiation Facilities	7.1	✓
PP12	Draft DS 413 Safety of Nuclear Power Plants: Operation NS-R-2	7.3	✓
PP13	DS348 Safety Assessment and Verification of Nuclear Facilities and Activities	7.5	✓
PP14	DPP DS419 Safety Guide: Radiation Safety in Well Logging	7.7	✓
PP15	DPP DS420 Radiation Safety for Nuclear Gauges	7.8	✓
PP16	CRP on Accident severity during air transport	9.5	✓
PP17	Denial of Shipments-Relevant Actions	9.6	✓
PP19	Status of Actions .from TRANSSC 15	2.5	✓

<b>Paper Number</b>	<b>Title</b>	<b>Agenda Item</b>	<b>Available</b>
PP20	Meetings for 2008	10.1-	✓
PP21	DS 416 NI Licensing Process	7.4	✓
PP22	COPUOS Draft Framework	7.6	✓
PP23	DS424 Document Nuclear Safety Infrastructure.ppt	7.9	✓
PP25	BSS Revision	5.1	✓
PP26	DS415- GS-R-1	7.2	✓
PP27	Transport Security	8.1	✓
PP28	CRP on NORM	9.4	✓

### **APPENDIX 3: TERMS OF REFERENCE FOR TRANSPORT SAFETY STANDARDS COMMITTEE**

The Transport Safety Standards Committee (TRANSSC) is a standing body of senior experts in transport of radioactive material, established by the Deputy Director General, Head of the Department of Nuclear Safety and Security. TRANSSC advises the Deputy Director General on the overall programme for the development, review and revision of standards relating to safety of transport of radioactive material. Its objective is to achieve consensus, quality, coherence and consistency in the development of international standards for transport safety.

#### Functions

The functions of TRANSSC are:

To advise on the approach to the development of the transport safety standards issued in the Agency's Safety Standards Series, covering Safety Fundamentals, Safety Requirements and Safety Guides, and to advise on priorities.

To review proposals for the development of new standards relating to transport safety and to approve the relevant document preparation profiles (DPPs) prior to their submission to the Commission on Safety Standards.

To review draft transport safety standards, considering, throughout the preparation and review process, the value of each draft standard and the needs of users of the standards.

To approve the text of draft transport safety standards prior to their submission to Member States for comment and again prior to their submission to the Commission, in accordance with the established procedure.

To ensure a broad international input in the preparation and review of transport safety standards.

To advise on transport safety standards, relevant regulatory issues and activities for supporting the use and application of the Agency's safety standards.

To advise on the timely review of and the need for revision of published safety standards.

The functions of TRANSSC members are:

To prepare for and attend the meetings of TRANSSC and to contribute actively to the work of TRANSSC.

To disseminate the draft transport safety standards in their respective States to seek comments from their potential users and to develop a national position on each draft safety standard.

To promote awareness of the safety standards in their respective States.

To share experience within TRANSSC on how transport safety standards are being used in their respective States.

To compile feedback from the users of transport safety standards, including feedback on any identified shortcomings or gaps, and to report on it to TRANSSC.

#### Membership

Member States will be requested to nominate a senior expert in transport safety of radioactive material to represent their views. The Deputy Director General, Head of the Department of Nuclear Safety and Security, will appoint the members for a term of three years.

Specialized international organizations and relevant non-governmental bodies may be invited by the Deputy Director General to attend the TRANSSEC meetings.

The Director of the Division of Radiation, Transport and Waste Safety or his appointee will participate in all TRANSSEC meetings.

The Director of the Division of Radiation, Transport and Waste Safety will designate a scientific secretary for TRANSSEC.

#### Working methods

The Deputy Director General will appoint a chairperson for TRANSSEC three-year term from among the members.

Ordinarily, TRANSSEC will meet twice a year with each meeting lasting up to five working days. Extraordinary meetings may be called when required. The chairperson, in conjunction with the scientific secretary, will prepare a report of the proceedings of each meeting and a report at the end of each three-year period giving on of the progress made.

The Director of the Division of Radiation, Transport and Waste Safety, in consultation with TRANSSEC, may establish working groups of experts to deal with specific tasks for the purpose of assisting TRANSSEC in its work.

The chairperson will represent the views of TRANSSEC at the meetings of the Commission and will ensure that TRANSSEC members are kept informed of any decisions taken. In particular, the chairperson will seek the views of the Commission on any unresolved issues.

Modern technology for information exchange will be used, particularly in dealing with draft standards and related documents.

Meetings will be conducted in English.

TRANSSEC will report to the Deputy Director General, Head of the Department of Nuclear Safety and Security.

#### Resources

The Secretariat will provide all the resources necessary for ensuring the efficient working of TRANSSEC.

All costs involved in the participation of each TRANSSEC member, including travel and per diem expenses, will be borne by the Member State that nominated the member.



APPENDIX 4: AGENDA

<b>TRANSPORT SAFETY STANDARDS COMMITTEE (TRANSSC)</b>			
<b>16<sup>TH</sup> MEETING OF TRANSSC</b>			
<b>3-7 March 2008</b>			
<b>VIC- C02/I</b>			
<b>Provisional Agenda</b>			
<b>3-7 March 2008</b>			
Start 10:00			
<b>1.0 OPENING SESSION</b>			
1.1.	Opening of the Meeting	Mr. T. Taniguchi, DDG-NS IP18	
1.2.	Chair's Opening Remarks	Mr. E.W. Brach, Chair	
<b>2.0 TRANSSC ADMINISTRATION ITEMS</b>			
2.1.	Agenda ( <b>Chair</b> )	Adoption	WP01
2.2.	Terms of Reference and Working Methods ( <b>Chair</b> )	Information	WP02
2.3.	Administrative arrangements for the meeting ( <b>K. K. Varley</b> )	Information	WP01
2.4.	TRANSSC 15 Report ( <b>K. K. Varley</b> )	Adoption	WP03
2.5.	Status of actions resulting from TRANSSC 15 ( <b>K. K. Varley</b> )		WP03, IP17, IP21
<b>3.0 SAFETY STANDARDS COORDINATION</b>			
3.1.	Overall Presentation on IAEA Safety Standards ( <b>D. Delattre</b> )	Information	IP01
3.2.	Report of 22 <sup>nd</sup> Meeting of the Commission on Safety Standards (CSS) ( <b>D. Delattre</b> )	Information	IP02
3.3.	4 Year Report of CSS ( <b>D. Delattre</b> )	Information	IP03
3.4.	Long-term structure for Safety Standards: Report of Draft Roadmap from the CSS task force ( <b>D. Delattre</b> )	Discussion	IP04
<b>4.0 BASIC SAFETY STANDARDS</b>			
4.1.	Report from IAEA Secretariat on Review of the BSS ( <b>R. Czarwinski</b> )	Information	IP05
<b>5.0 APPLICATION OF THE SAFETY STANDARDS BY MEMBER STATES</b>			
5.1.	Participants' introduction and brief statement on application of the transport safety standards in their countries. ( <b>TRANSSC Members</b> )		

5.2.	Presentation: Spent Fuel Transport in China ( <b>X. Li</b> )			
<b>6.0 TRANSPORT SAFETY STANDARDS AND SUPPORTING DOCUMENTS</b>				
6.1.	DS-346	TS-G-1.1, Advisory Material for the 2005 Edition of the IAEA Transport Regulations ( <b>N. Bruno</b> )	Status	
6.2.	DS-326	TS-G-1.X: Draft Safety Guide on Management Systems For The Safe Transport of Radioactive Material ( <b>N. Bruno</b> )	Status	
6.3.	DS-327	TS-G-1.Y: Compliance Assurance For The Safe Transport of Radioactive Material ( <b>N. Bruno</b> )	Status	
6.4.	DS-387	Draft Safety Guide on Schedules related to TS-R-1 (TS-G-1.Z) ( <b>Y. Zhao</b> )	Status	
6.5.	DS-345	Review of TS-R-1, 2005 Edition: Harmonization with the UN ( <b>N. Bruno</b> )	For Approval	WP04, WP05 WP06, WP06a, WP06b, WP06c, WP06d, WP06e, WP18; IP21
6.6.		Regulatory Issues from TS-R-1 Review Cycle ( <b>Y. Zhao</b> )	For decision	WP07
<b>7.0 THE DEVELOPMENT OF OTHER IAEA SAFETY DOCUMENTS</b>				
<b>Review of Safety Requirements</b>				
7.1.	DS409	Safety Guide: Radiation Safety in Gamma, Electron and X ray Irradiation Facilities [Rev SS 107] ( <b>E. Reber</b> )	Approval for submission to Member States	WP08
7.2.	DS415	Governmental and Regulatory Framework for Nuclear, Radiation, Radioactive Waste and Transport Safety [Rev GS-R-1] ( <b>K. Mrabit/G. Caruso</b> )	Approval for submission to Member States	WP09
7.3.	DS413	Safety of Nuclear Power Plants: Operation [Rev NS-R-2] ( <b>D. Dubois</b> )	Approval for submission to Member States	WP10
7.4.	DS416	Licensing process for nuclear installations [Safety Guide GS-R-1] ( <b>S. Calpena</b> )	Approval for submission to Member States	WP11

7.5.	DS348	Safety Assessment and Verification of Nuclear Facilities and Activities <i>[Requirements]</i> ( <b>M. El-Shanawany</b> )	Approval for submission to CSS	WP12
7.6.		IAEA and Committee on Peaceful Uses Outer Space (COPUOS) ( <b>D. Delattre</b> )	Information and Comment	IP22
<b>Review of DPP's</b>				
7.7.	DS419	Safety Guide: Radiation Safety in Well Logging <i>[New]</i> ( <b>M. Wangler for T. Boal</b> )	Approval for submission to CSS	WP13
7.8.	DS420	Radiation Safety for Nuclear Gauges <i>[New]</i> ( <b>M. Wangler for T. Boal</b> )	Approval for submission to CSS	WP14
7.9.	DS424	Establishing a National Nuclear Safety Infrastructure <i>[New]</i> ( <b>D. Delattre</b> )	Approval for submission to CSS	WP15
7.10.		Safety Requirement on Prevention of Accidents ( <b>D. Delattre</b> )	Information	
<b>8.0 THE DEVELOPMENT OF IAEA SECURITY DOCUMENTS</b>				
8.1.		Status of preparation of guidance on security during transport of radioactive material ( <b>A-M Eriksson</b> )	Status	IP06
<b>9.0 TRANSPORT SAFETY STANDARDS PROCESSES</b>				
<b>Coordination</b>				
9.1.		Harmonization with UN Recommendations on the Transport of Dangerous Goods – Model Regulations ( <b>N. Bruno</b> )		IP07, IP19
9.2.		Report from UNECE ( <b>O. Kervella</b> )		
9.3.		Report from International Civil Aviation Organization ( <b>K. Rooney</b> )		IP09
<b>Status of Coordinated Research Projects (CRP)</b>				
9.4.		CRP on Naturally-Occurring Radioactive Materials ( <b>K. K. Varley</b> )		IP11
9.5.		Report of CRP on Accident severity during air transport of radioactive material ( <b>M. Wangler</b> )		IP12
<b>Denial of Shipments</b>				
9.6.		Relevant actions for reducing the incidence of denial of shipments ( <b>M. Wangler</b> )		IP13
<b>Translation of Standards</b>				
9.7.		Translation of TS-G-1.1 into Spanish ( <b>N. Bruno</b> )		Status
9.8.		Issue of accepting proposals for change to TS-R-1 and TS-G-1.1 in Spanish (or other official language) ( <b>N. Bruno</b> )		Status
<b>Training</b>				
9.9.		Training Course on Safe Transport of Radioactive Material – Argentina 2008 ( <b>J. Lopez-Vietri</b> )		Status

<b>10.0 MEETINGS RELATED TO DEVELOPMENT OF TRANSPORT SAFETY STANDARDS</b>			
10.1.	Schedule of major meetings for 2008 ( <b>K. K. Varley</b> )	Information	IP14
<b>11.0 INTERNATIONAL ORGANIZATIONS</b>			
11.1.	Report from European Commission ( <b>J. Binet</b> )		IP16
11.2.	Report from IATA ( <b>K. Rooney for D. Brennan</b> )		IP20
11.3.	Report from World Nuclear Transport Institute		IP23, IP25
11.4.	Report from the World Nuclear Association		IP26
<b>12.0 OTHER BUSINESS</b>			
12.1.	Paper of the US on the Review and Revision Cycle		IP24
<b>13.0 REVIEW OF DRAFT MEETING REPORT OF TRANSSC 16</b>			
13.1.	Summary of recommendations and preparation of report ( <b>Chair and Participants</b> )		
<b>14.0 CLOSURE OF MEETING</b>			

- A. The dates of the meeting are 3-7 March 2008
- B. Plenary will convene in Room C02/I.
- C. The working times for the meeting will be:
- 1000 to 1700 on Monday,
  - 0900 to 1700 on Tuesday and Wednesday and Thursday.
  - 0900 to 1300 on Friday
- D. Breaks will be taken mid-morning (around 1030) and mid-afternoon (around 1530) each day. Coffee bars will be open on 4<sup>th</sup> floor of C-building and on 7<sup>th</sup> floor of C-building from 0900 to 1630.
- E. Lunch will be from 1230 hours to 1400 hours each day or at alternate times at the discretion of the Meeting Chair.
- F. A special dinner event for participants and accompanying persons will be held Wednesday evening.
- G. The following rooms have been reserved for use of the meeting: C07-VI, A-0478 and A-2774.
- H. You are kindly requested to be at Checkpoint 1 of the Vienna International Centre (VIC) at least one hour before the meeting starts to allow adequate time for our Pass Office to issue your photo badge. The Pass Office opens at 08:00.

APPENDIX 5: TRANSSC MEMBERSHIP FOR 2008-2010

Updated 20 February 2008

Country Organization	Member	Corresponding Member	Alternate	Other
Argentina (re.nominated)	Mr. Jorge LÓPEZ VIETRI Autoridad Regulatoria Nuclear Gerencia Seguridad Radiologica, Fisico y Salvaguuardias Office 313 B Avenida del Libertador 8250 1429 Buenos Aires ARGENTINA Tel.: +54 (11) 6323-1722 / 6323-1708 Fax: +54 (11) 6323-1771 / 6323-1798 Email: jlvietri@sede.arn.gov.ar		Ms. Nancy Mabel CAPADONA Autoridad Regulatoria Nuclear Gerencia Seguridad Radiologica, Fisica y Salvaguuardias, Office 313 B Avenida del Libertador 8250 1429 Buenos Aires ARGENTINA Tel.: +54 (11) 6323-1722 / 6323-1708 Fax: +54 (11) 6323-1771 / 6323-1798 Email: ncapadon@sede.arn.gov.ar	

<b>Country Organization</b>	<b>Member</b>	<b>Corresponding Member</b>	<b>Alternate</b>	<b>Other</b>
<b>Australia</b>  (re-nominated)	Mr. Samir SARKAR Manager. Nuclear Safety (Non- Reactor) Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) Level 2, 38-40 Urunga Parade Miranda NSW 2228 AUSTRALIA Tel.: +61 (2) 9541 8341 Fax: +61 (2) 9645 834 Email: samir.sarkar@arpansa.gov.au			
<b>Austria</b>  (re-nominated)	Mr. Friedrich KIRCHNAWY Federal Ministry of Transport, Innovation and Technology, Division II/ST8 Hetzgasse 2 A-1030 Vienna, AUSTRIA Tel.: + 43 1 7116265 5771 Mobile: +43 664 4141258 Fax: +43 1 7116265 5725 Email: friedrich.kirchnawy@bmvit.gv. at			

Country Organization	Member	Corresponding Member	Alternate	Other
<b>Belgium</b>  (re-nominated)	Mr. Erik COTTENS Federal Agency for Nuclear Control Radiation Protection Department Ravensteinstraat 36 1000 Brussels BELGIUM Tel.: (+32 2) 2892185 (direct line) or 89 (secretariat) or 11 (reception) Fax: (+32 2) 289 21 82 Email: erik.cottens@fanc.fgov.be			
<b>Bulgaria</b>  (re-nominated)	Ms. Aneta BAKALOVA Nuclear Regulatory Agency 69 , Shipchenski prokhod Blvd., 1574 Sofia BULGARIA Tel.: (+359 2) 94 06 859 Fax: (+359 2) 94 06 919 Email: A.Bakalova@bnsa.bas.bg			

Country Organization	Member	Corresponding Member	Alternate	Other
<b>Canada</b> (new)	Mr. André RÉGIMBALD Acting Director-General, Directorate of Nuclear Substance Regulation, Directeur général par intérim, Direction générale de la réglementation des substances nucléaires, Canadian Nuclear Safety Commission Commission canadienne de sûreté nucléaire P.O. Box 1046, Station B Ottawa, Ontario K1P 5S9 CANADA Tel.: +1 613 943-7676 Fax: +613 995-5086 Email: <a href="mailto:andre.regimbald@cnsccsn.gc.ca">andre.regimbald@cnsccsn.gc.ca</a>			
<b>China</b> (new)	Mr. Xiaoqing LI CNNC Everclean Co. Ltd. P.O. Box 2102 Beijing 100822 CHINA Tel: Tel: +86-10-68011733 Cell: 13911041283 Fax: Fax: +86-10-68011703 Email: <a href="mailto:xiaoqing@mx.cei.gov.cn">xiaoqing@mx.cei.gov.cn</a>			



Country Organization	Member	Corresponding Member	Alternate	Other
<b>Croatia</b> (new)	Ms. Nera BELAMARIĆ Head, Department of Education, Cooperation, Legal and Common Affairs State Office for Radiation Protection Frankopanska 11 10 000 Zagreb, CROATIA Tel.: +385 1 4881770 or 4881785 Fax: +385 1 4881780 Email: nera.belamaric@dzzz.hr			
<b>Cuba</b> (re-nominated)		Mr. QUEVEDO GARCIA Cargo: Especialista en Seguridad Nuclear Direction: Calle 28 No. 504 e/5ta y 7ma. Playa Ciudad de la Habana, CUBA Tel.: +537 897986 Fax: +537 2023166 Email: quevedo@orasen.co.cu		

<b>Country Organization</b>	<b>Member</b>	<b>Corresponding Member</b>	<b>Alternate</b>	<b>Other</b>
<b>Czech Republic</b> (re-nominated)	Mr. Vlastimil DUCHÁČEK Division of Radioactive Waste and Spent Fuel Management State Office for Nuclear Safety Senovážné náměstí 9 110 00 Prague 1 CZECH REPUBLIC Tel.: +420 221 624 666 Fax: 420 221 624 786 Email: vlastimil.duchacek@subj.cz			
<b>Denmark</b> (re-nominated)	Mr. Karsten BREDDAM National Institute of Radiation Hygiene Knapholm 7 DK-2730 Herlev DENMARK Tel.: +45 44 543454, direct: +45 44 543463 Fax: +45 44 543450 Email: krb@sis.dk			

Country Organization	Member	Corresponding Member	Alternate	Other
<b>Egypt</b> (re-nominated)	Mr. R.M.K. EL-SHINAWY Atomic Energy Authority Radiation Protection Section Nuclear Research Center 36, El-Zaher Street El-Zaher, Cairo EGYPT Tel.: +(20 2) 5930932 (home) Tel.: (+20 2)4691750 (office) Mobile: +(202) 0106607050 Fax: (+20 2) 2876031 Email: r_elshinawy@hotmail.com			
<b>Finland</b> (re-nominated)	Ms. Anna LAHKOLA Inspector, Radiation and Nuclear Safety Authority (STUK) Nuclear Waste and Material Regulation P.O. Box 14 FI-00881 Helsinki FINLAND Tel.: +358 9 759 88 722 Fax: +358 9 759 88 670 Email: anna.lahkola@stuk.fi			

<b>Country Organization</b>	<b>Member</b>	<b>Corresponding Member</b>	<b>Alternate</b>	<b>Other</b>
<b>France</b> (re-nominated)	Mr. David LANDIER Autorité de Sécurité Nucléaire Directeur des activités industrielles et du transport 10 route du Panorama Robert Schuman F-92266 Fontenay-aux-Roses Cedex FRANCE Tel.: (+33 1) 4319 7002 Fax: (+33 1) 4319 7027 Email: david.landier@asn.fr			Mr. Gilles SERT IRSN/DSU BP 17 F-92262 Fontenay-aux-Roses Cedex FRANCE Tel.: +33 1 5835 9624 Fax: +33 1 5835 9574 Email: gilles.sert@irsn.fr
<b>Germany</b>	Mr. Helmut REIN Federal Ministry of Transport, Building and Housing Head of Division A 33, Transport Dangerous Goods Robert-Schuman-Platz 1 D-53175 Bonn, GERMANY Tel.: +49 30888 300 2640 Fax: +49 3088 300 807 2640 Email: helmut.rein@bmvbw.bund.de	Mr. Frank NITSCHKE  Federal Office for Radiation Protection Section Head, Transport of Radioactive Material P.O. Box 100149 D-38201 Salzgitter, GERMANY Tel.: +49 3018 333 1770 Fax: +49 3088 10 333 1770 Email: fnitsche@bfs.de	Mr. Ulrich ALTER Federal Ministry for the Environment, Nature Conservation and Nuclear Safety Head of Division, Other Aspects of the Nuclear Fuel Cycle Robert-Schuman-Platz 1 D-53175 Bonn, GERMANY Tel.: +49 3088 305 2932 Fax: +49 3088 10 305 2932 Email: ulrich.alter@bmu.bund.de	
<b>Ghana</b> (new)	Mr. G. EMI-REYNOLDS Principal Scientific Officer Ghana Atomic Energy Commission (GAEC) P.O. Box 80 Legon, GHANA Tel.: +21 400976 Email: gemi- reynolds@idngh.com			

Country Organization	Member	Corresponding Member	Alternate	Other
<b>Greece</b> (re-nominated)		Ms. Stavroula VOGIATZI Department of Licensing and Inspections of GAEC Greek Atomic Energy Commission P.O. Box 60092 153 10 Aghia Paraskevi – Attikis GREECE Tel.: +30 210 6506750 Fax: +30 210 6506748 Email: sbogiatz@gaec.gr. Or sbogiatz@eeae.gr		
<b>Hungary</b> (re-nominated)	Mr. József SÁFÁR Hungarian Atomic Energy Authority P.O. Box 676 Fényes A. 4 H-1539 Budapest HUNGARY Tel.: (+36 1) 436 4872 Fax: (+36 1) 436 4843 Email: safar@haea.gov.hu			

Country Organization	Member	Corresponding Member	Alternate	Other
<b>India</b> (re-nominated)	Mr. S.P. AGARWAL Head, Radiological Safety Division Atomic Energy Regulatory Board Niyamak Bhavan Anushaktinagar, Mumbai 400 094 INDIA Tel.: (+91 22) 2557 2989 / 2310 Fax: (+91 22) 2557 4287 Email: spa25@indiatimes.com <i>or</i> spagarwal@aerb.gov.in			
<b>Indonesia</b> (new)	Mr. Djarot WISNUBROTO Head of Center for Radioactive Waste Technology National Nuclear Energy Agency Vila Pamulang CB3/6 Pamulang, Ciputat Tangerang/Banten 15416 INDONESIA Tel.: +62 21 7563142 Fax: +62 21 7560927 Mobile: 62 816758663 Email: djarot@batan.go.id			

Country Organization	Member	Corresponding Member	Alternate	Other
Iran (new)	Mr. Ahmad ESHRAGHI Atomic Energy Organization of Iran P.O. Box 14155-4494 End of North Kargar Tehran, IRAN, ISLAMIC REPUBLIC OF Tel.: +98 21 82064182 Fax: +98 21 88009502 Email: aeshraghi@aeoi.org.ir	Mr. Ahmad EMAMJOMEH No. 7, Tandis St., Africa Ave. P.O. Box 14395-1486 Tehran, IRAN, ISLAMIC REPUBLIC OF Tel.: +98 21 23882857 Fax: +98 21 22058480 Email: ahmad351@yahoo.com		

<b>Country Organization</b>	<b>Member</b>	<b>Corresponding Member</b>	<b>Alternate</b>	<b>Other</b>
<b>Ireland</b> (re-nominated)	<p>Mr. Jarlath DUFFY Inspector, Regulatory Service Radiological Protection Institute of Ireland, 3 Clonskeagh Square Clonskeagh Road Dublin 14, IRELAND Tel.: (+353 1) 2697766 (Reception) Fax: (+353 1) 269 7437 (Reception) Email: jduffy@rpii.ie Direct Dial: (+353 1) 206 6945 Fax no.: (+353 1) 260 5797 (Reg. Office) Mobile: 087 678 5760 E-mail: jduffy@rpii.ie Web: <a href="http://www.rpii.ie">http://www.rpii.ie</a></p>			
<b>Italy</b> (re-nominated)	<p>Mr. Sandro TRIVELLONI Agenzia per la Protezione dell'Ambiente e per i Servizi Tecnici (APAT) Radioactive Material Transport Division Via Vitaliano Brancati, 48 I-00144 Rome, Italy Tel.: (+39 06) 5007 2570 Fax: (+39 06) 5007 2584 Email: <a href="mailto:sandro.trivelloni@apat.it">sandro.trivelloni@apat.it</a></p>		<p>Mr. Alberto ORSINI Ente Nazionale per le Nuove Tecnologie, l'Energia e l'Ambiente (ENEA), Radioactive Waste Management Division CR, Casaccia, Via Anguillarese 301 I-00123. Maria di Galeria Rome, ITALY Tel.: +39 (06) 3048 3206 Fax: +39 (06) 3048 3147 Email: <a href="mailto:alberto.orsini@casaccia.enea.it">alberto.orsini@casaccia.enea.it</a></p>	



Country Organization	Member	Corresponding Member	Alternate	Other
<b>Japan</b> (re-nominated)	Mr. Masanori AMANO Director, Nuclear Fuel Transport and Storage Regulation Division Nuclear and Industrial Agency (NISA) Ministry of Economy, trade and Industry (METI 1-3-1 Kasumigaseki, Chiyoda- ku Tokyo 100-8986 JAPAN Tel.: +81 3 3580 6158 Fax: +81 3 3501 8427 Email: amano- masanori@meti.go.jp			
<b>Korea</b> (new)	Mr. Dae-Hyung CHO Korea Institute of Nuclear Safety Radioactive Device and Transport Department 19, Kuseong, Taejeon, 305-338 REPUBLIC OF KOREA Tel.: +82 42 868 0306 Fax: +82 42 868 0415 Email: dhcho@kins.re.kr			

<b>Country Organization</b>	<b>Member</b>	<b>Corresponding Member</b>	<b>Alternate</b>	<b>Other</b>
<b>Libya</b> (new)	Mr. Abdulaziz Taher KEKLI Head, Radiation Protection and Health Physics Department Renewable Energies and Water Desalination Research Centre (REWDRC) P.O. Box 30878 Tajoura - Tripoli, LIBYA Tel.: +218-91-322398 Email: Azikek@hotmail.com			
<b>Lithuania</b> (new)	Mr. Vaidas STATKUS Radiation Protection Centre Kalvariju St. 153 P.O. Box LT-08221 Vilnius LITHUANIA Tel: +370 5 2105817 Fax: +370 5 276 3633 Email: v.statkus@rsc.lt			

Country Organization	Member	Corresponding Member	Alternate	Other
<b>Malaysia</b> (re-nominated)	Mr. Mohd. Pauzi Mohd. <b>SOBARI</b> Director, Division of Licensing Regulatory Authority Atomic Energy Licensing Board Ministry of Science, Technology and Environment Batu 24, Jalan Dengkil 43800 Dengkil, MALAYSIA Tel.: +60 3 8922 3707 Fax: +60 3 8922 3685 E-mail: pauzi@aelb.gov.my		Mr. Zainal Abidin HUSAIN Assistant Director, Division of Code & Standard Atomic Energy Licensing Board (AELB) Batu 24, Jalan Dengkil 43800 Sepang, Selangor Dural Ehsan MALAYSIA Tel.: +60 3 89267699 Fax: +60 3 89254578 Email: zainal@aelb.gov.my	
<b>Morocco</b> (new)		Mr. Abderrahim ALLACH  Centre national de l'énergie, des sciences et des techniques nucléaires (CNESTEN) B.P. 1382 10001 Rabat, Agdal MOROCCO Tel.: +212 15321181 Fax: +212 37803067 Email: allach@cnesten.org.ma; or Allach74@yahoo.fr		

<b>Country Organization</b>	<b>Member</b>	<b>Corresponding Member</b>	<b>Alternate</b>	<b>Other</b>
<b>Netherlands</b> (new)	Mr. Mathieu ter MORSHUIZEN Senior Policy Adviser Ministry of Housing, Spatial Planning and the Environment Directorate Chemicals, Waste and Radiation Protection P.O. Box 30940 2500 GX The Hague THE NETHERLANDS Tel.: +31 70 339 4910 Fax: +31 70 339 1286 Email: mathieu.termorshuizen@minvr om.nl			
<b>New Zealand</b> (re-nominated)		Mr. Cris ARDOUIN National Radiation Laboratory 108 Victoria Street Christchurch, NEW ZEALAND Tel.: +64 3 366 5059 Fax: +64 3 366 1156 E-mail: Cris_Ardouin@nrl.moh.govt.n z		

Country Organization	Member	Corresponding Member	Alternate	Other
<p><b>Norway</b> (re-nominated)</p>	<p>Mr. Sverre HORNKJØL Norwegian Radiation Protection Authority, P.O. Box 55 N-1332 Østeraas, NORWAY Tel.: +47 67 16 25 00 Fax: +47 67 14 74 07 E-mail: sverre.hornkjol@nrpa.no</p>			
<p><b>Pakistan</b> (re-nominated)</p>	<p>Mr. Muhammad RASHID Principal Scientific Officer Transport and Waste Safety Directorate Pakistan Nuclear Regulatory Authority P.O. Box 1912 Islamabad PAKISTAN Tel.: +92 51 9203055 Fax: +92 51 9204112 Email: m.rashid@hq.pnra.org</p>			
<p><b>Paraguay</b> (former full member)</p>		<p>Mr. Luis Edilberto MORE TORRES Jefe de Protección Radiológica Comisión Nacional de Energía Atómica Universidad Nacional de Asunción</p>		

Country Organization	Member	Corresponding Member	Alternate	Other
		Campus Universitario San Lorenzo Ruta 2 Km. 11.5 Mcal. Estigarribia C.C.: 3023, C.P.: 2169 San Lorenzo, PARAGUAY Tel.: +595 21 585540/2 int. 1077 Fax: +595 21 585540/2 int. 1078 Email: cnea@rec.una.py <i>or</i> lmore@sce.cnc.una.py		
<b>Poland</b> (re-nominated)	Mr. Tadeusz DZIUBIAK Department for Regulatory Control of Radiation Application National Atomic Energy Agency 7, Konwaliowa, Str. 03-194 Warsaw POLAND Tel.: +48 22 676 97 07 Fax: +48 22 614 42 52 Email: Tadeusz.Dziubiak@paa.gov.pl			

Country Organization	Member	Corresponding Member	Alternate	Other
<b>Portugal</b> (re-nominated)	Mr. Romão Buxo da TRINDADE Departamento de Protecção Radiológica e Segurança Nuclear Estrada Nacional n.º 10 Apartado 21 2686-953 Sacavém PORTUGAL Tel.: +351 219946317 Fax: +351 219941995 Email: romao@itn.pt			

Country Organization	Member	Corresponding Member	Alternate	Other
<b>Russian Federation</b>	Mr. Aleksandr E. BUCHELNIKOV Section Head, Division of Nuclear and Radiation Safety Organization of Licensing and Authorization Federal Atomic Energy Agency Ul. Bolshaya Ordynka, 24/26 Moscow, 119017 RUSSIAN FEDERATION Tel.: +7 (495) 239 4828 Fax: +7 (495) 951 6843 Email: abuch@informatom.ru <i>or</i> buc@mail.ru;			
<b>Spain</b> (re-nominated)	Mr. Fernando ZAMORA- MARTIN Consejo de Seguridad Nuclear (CSN) Area de Transporte y Fabricación de Combustible Nuclear Justo Dorado, 11 E-28040 Madrid, SPAIN Tel.: (+34 91) 3460476 Fax: (+34 91) 3460588 E-mail: fzm@csn.es			



Country Organization	Member	Corresponding Member	Alternate	Other
<b>Sweden</b> (re-nominated)	Mr. Eric HÄGGBLOM Swedish Nuclear Power Inspectorate Department of Nuclear Material and Waste Safety Section of Inspection and Decommissioning Klarabergsviadukten 90 SE-106 58 Stockholm SWEDEN Tel.: +46 8 698 8446 Fax: +46 8 661 9086 Email: eric.haggblom@ski.se		Ms. Birgitta SVAHN Swedish Radiation Protection Authority (SSI) SE-171 16 Stockholm SWEDEN Tel.: +46 8 7297100/242 Fax: +46 8 729 71089 E-mail: birgitta.svahn@ssi.se	
<b>Switzerland</b> (new)	Mr. Thorsten KRIETSCH Swiss Federal Nuclear Safety Inspectorate Transport and Waste Management Section CH-5232 Villigen – HSK SWITZERLAND Tel.: +41 56 310 3994 Fax: +41 56 310 3907 Email: torsten.krietsch@hsk.ch			

<b>Country Organization</b>	<b>Member</b>	<b>Corresponding Member</b>	<b>Alternate</b>	<b>Other</b>
<b>Thailand</b> (new)	Mr. Sombuun JERACHANCHAI Senior Radiation Physicist Office of Atoms for Peace 16 Vibhavadi Rangsit Road Chartuchak, Bangkok 10900 THAILAND Tel.: +66 0-2 562 0089 Fax: +66 0-2561 3013 Email: sombuun@oaep.go.th			
<b>Turkey</b> (re-nominated)	Mr. Korhan ERTÜRK Radiation, Health and Safety Department Turkish Atomic Energy Authority Eskisehir Yolu km. 9 06530 Ankara, TURKEY Tel.: (+90 312)2958804 Fax: (+90 312)2958956 E-mail: korhan.erturk@taek.gov.tr			
<b>Ukraine</b> (new)	Mr. Serhii LOPATIN Head, Safeguards and Transport Department State Nuclear Regulatory Committee of Ukraine, Str. Arsenalna 9/11 01011 Kiev, UKRAINE Tel.: +38 (0)44 254 3513 Fax: +38 (0)44 254 3311 Email: lopatin@hq.snrc.gov.ua			

Country Organization	Member	Corresponding Member	Alternate	Other
<b>United Kingdom</b> (re-nominated)	Mr. James STEWART Radioactive Materials Transport Division Department for Transport Great Minster House, Floor 2 / Zone 33 76 Marsham Street London, SW1P 4DR UNITED KINGDOM Tel.: +44 20 7944 5777 Fax: +44 20 7944 2187 Email: jim.stewart@dft.gsi.gov.uk			
<b>United States of America</b> (re-nominated)	Mr. Richard W. BOYLE U.S. Department of Transportation PHMSA 1200 New Jersey Ave. SE East Building, 2nd Floor, PHH-23 Washington D.C. 20590-0001 UNITED STATES OF AMERICA Tel.: +1 202 366 2993 Fax: +1 202 366 3753 Email: rick.boyle@dot.gov			

<b>Country Organization</b>	<b>Member</b>	<b>Corresponding Member</b>	<b>Alternate</b>	<b>Other</b>
<b>United States of America</b>  (re-nominated)	Mr. E. William BRACH Office of Nuclear Material Safety and Safeguards Division of Spent Fuel Storage and Transportation U.S. Nuclear Regulatory Commission Mail Stop: OWF-13-D-13 Washington D.C. 20555-0001 UNITED STATES OF AMERICA Tel.: +1 301 415 8500 Fax: +1 301 415 8555 Email: ewb@nrc.gov			
<b>Uruguay</b>  (new)	Mr. Aljandro NADER Director de la Autoridad Reguladora Nacional en radioprotección Ministerio de Industria, Energía y Minería Mercedes 1041 Montevideo, URUGUAY Tel.: / Fax: +598 2 908 67 83 Email: a.nader@autoridadreguladora.mie m.gub.uy	Mr. Walter CABRAL Jefe de Departamento de Regulación y Licenciamiento Autoridad Reguladora Nacional en Radioprotección Ministerio de Industria, Energía y Minería Mercedes 1041 Montevideo, URUGUAY Tel.: / Fax: +598 2 908 67 83 Email: w.cabral@autoridadreguladora.mi em.gub.uy		

Country Organization	Member	Corresponding Member	Alternate	Other
<b>EC</b> (re-nominated)	Mr. Joël BINET Technical Counsellor Unit for Nuclear Energy Waste Management Directorate-General for Energy and Transport European Commission EUFO 4291A L-2920 LUXEMBOURG Tel.: +352 4301 38010 Fax: +352 4301 30139 Email: joel.binet@ec.europa.eu			
<b>IATA</b> (re-nominated)	David BRENNAN Assistant Director, Special Cargo Standards 800 Place Victoria PO Box 113 Montreal, Quebec, H4Z 1M1 CANADA Tel: +1 514 874 0202, Ext. 3289 Fax: +1 514 874 2660 Email: brennand@iata.org			

<b>Country Organization</b>	<b>Member</b>	<b>Corresponding Member</b>	<b>Alternate</b>	<b>Other</b>
<b>ICAO</b> (re-nominated)	Ms. Katherine ROONEY Flight Safety Section Air Navigation Bureau International Civil Aviation Organization 999 University Street Montréal, Quebec H3C 5H7 CANADA Tel.: +1 514 954 8099 Fax: +1 514 954 6759 Email: krooney@icao.int			
<b>IFALPA</b> (re-nominated)	Mr. Andrew TISDALL Irish Air Line Pilots' Association Dublin Airport Dublin, IRELAND Tel.: +353 (1) 8445272 Fax: +353 (1) 8446051 Email: atisdall@eircom.net		Mr. Martin GESSL International Federation of Airline Pilot's Associations (IFALPA) Flights Operation Building P.O. Box 98 A-1300 Airport Vienna, AUSTRIA Tel.: +43 664 2522397 Fax: +43 664 1064049 Email: martin.gessler@gmx.at	
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Country Organization	Member	Corresponding Member	Alternate	Other
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<b>Country Organization</b>	<b>Member</b>	<b>Corresponding Member</b>	<b>Alternate</b>	<b>Other</b>
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<b>Country Organization</b>	<b>Member</b>	<b>Corresponding Member</b>	<b>Alternate</b>	<b>Other</b>
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<b>Country Organization</b>	<b>Member</b>	<b>Corresponding Member</b>	<b>Alternate</b>	<b>Other</b>
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