INTERNATIONAL ATOMIC ENERGY AGENCY
DIVISION OF RADIATION, TRANSPORT AND WASTE SAFETY

12th Meeting of
The Transport Safety Standards Committee
(TRANSSC 12)

IAEA Headquarters, Vienna
27 February to 3 March 2006

REPORT OF THE TWELFTH MEETING
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I Executive Summary

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.

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 it activities with other safety standards committee to ensure transport safety issues are addressed and 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 of Safety Standards to ensure that its activities fit consistently and coherently within the Agency’s strategic work on safety standards.

The Twelfth Meeting of the Transport Safety Standards Committee (TRANSSC) was held during 27 February – 3 March 2006. This Meeting was the third in the fourth TRANSSC term. Each TRANSSC term is three years. A total of 70 people, representing 32 Member States and 5 International Organizations attended this meeting.

Ms. E. Amaral, Director Division of Radiation, Transport and Waste Safety, IAEA opened the meeting. In the opening remarks she underlined the important issues to be addressed by the meeting, particularly developing specific criteria for revision of the regulations in line with the policy approved by the Board of Governors and addressing the issue of denial of shipment.

The meeting established two Working Groups, one tasked with development of specific criteria for revision of regulations and the other to recommend future measures to reduce incidence of denial of shipment.

Plenary accepted the reports of the two Working Groups. With regard to the 2007 Edition of TS-R-1, TRANSSC decided that the 2007 Edition should not be published and that with respect to TS-G-1.1, TRANSSC recommended that the Agency should publish a TS-G-1.1 based on the 2005 Edition of TS-R-1. A revised document will be presented to TRANSSC 13. With respect to Denials of Shipments TRANSSC recommended the basis for a Terms of Reference for a Technical Meeting to be held in May on this subject.

Additionally, a harmonization process in which IAEA and UN Model Regulations could continuously move to a fully harmonized structure was deferred until TRANSSC13. Meanwhile, the Secretariat would consult UN and develop a plan for the process.

The meeting noted that TRANSSC had been consulted on the Safety Fundamentals document and that additional comments had been and would be provided to the Secretariat and CSS Coordinator for consideration prior to the meeting of the CSS in June 2006.

With regard to a rationalized approach to package removable surface contamination provisions the meeting approved the convening of a consultants meeting to address the matter.

Finally, for submission to the Commission of Safety Standards TRANSSC approved DS-377, the draft document, TS-G-1.5 on Radiation Protection Programmes, DS-387, the Document Preparation Profile for Schedules of Provisions of the IAEA Regulations for the Safe Transport of Radioactive Material, and DS-407, the Document Preparation Profile for a draft safety guide on Criticality Safety for Radioactive Waste Arising in the Nuclear Fuel Cycle.
II Introduction

II.1 Background

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.

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 it activities with other safety standards committee to ensure transport safety issues are addressed and 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 of Safety Standards to ensure that its activities fit consistently and coherently within the Agency’s strategic work on safety standards.

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II.2 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, 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.

III TRANSSC 12 Meeting

III.1 Opening of the Meeting

III.1.1 Opening of the Meeting by the Director, Division of Radiation, Transport and Waste Safety (WP26)

Ms. E. Amaral, Director, Division of Radiation, Transport and Waste Safety extended a warm welcome to the participants to the meeting and briefly identified the issues which were to be addressed by the meeting during the busy week. Refering to the new policy on review and revision of the Regulations approved by the Board of Governors she observed that the Transport Regulations would continue to be reviewed every two years, and the decision on revision and publication will be made based on the assessment of TRANSSC and the CSS. She asked TRANSSC to carefully consider the need for revision. TRANSSC must consider that a proposal for change stemming from a review cycle is sufficiently important for safety so as to necessitate publication as soon as possible. She indicated that the work on the criteria for revision be completed so that they could be submitted to the CSS for endorsement at its June 2006 meeting. She underlined the importance of TranSAS and requested TRANSSC to recommend a strategy for encouraging future TranSAS missions in Member States. She informed the Committee that in May 2006, the Agency will convene a Technical Meeting to address the subject of delays and denials of shipments. She asked TRANSSC to consider this subject and make recommendations for addressing the issue.
III.1.2 Opening Remarks by Chair

Mr. J. Duffy, Chair, TRANSSC welcomed the participants of TRANSSC and provided a brief introduction of himself. He pointed out how his increasing involvement with the transport safety activities of the Agency had culminated in his taking up the responsibility of the Chair of TRANSSC. He thanked Mr. Peter Colgan, former Chair of TRANSSC, for successfully playing the role of TRANSSC Chair until September 2005. Pointing out that Mr. Clive Young, UK had just retired he placed on record the Committee’s appreciation of the contribution made by Mr. Young to the field of transport of radioactive material. He would like to see greater involvement from delegates that may not have been afforded the opportunity to contribute as actively as they may have wished in the past and to encourage them do so from now on. He suggested that TRANSSC should have a greater emphasis on the application of the regulations and where possible in future meetings a number of delegates would be invited to make PowerPoint presentations on the experience in their countries.

III.2 TRANSSC Guidelines and Business

III.2.1 Agenda (WP01)

The provisional agenda, WP01 (Rev.3), for the meeting was taken up for discussion and adoption. Mr. R. Boyle’s suggestion that a report on the recent RTSG meeting should be included in the agenda was accepted. It was assigned the agenda item number 12.3. Mr. V. Ershov’s suggestion that a slot be provided for his proposed presentation about the conference on transport of radioactive material in the last week of September 2006 in Russia was also accepted and item number 12.4 was assigned to it. Chair pointed out that the working groups indicated in the agenda may be created only if a need for them was perceived. Upon deciding about the formation of working groups the Secretariat could come up with the terms of reference.

With the above amendments, the agenda was adopted.

III.2.2 Terms of Reference and Working Methods (WP02)

Mr Duffy drew the attention of the Members to the Terms of Reference of TRANSSC as determined by the DDG and given in WP02.

III.2.3 Administrative arrangements for the meeting

Mr Wangler outlined administrative arrangements for the meeting.

III.2.4 TRANSSC 11 Report (WP03)

The report of TRANSSC 11 was presented by Mr. Wangler. Mr. Brach suggested the following comments on the report. (i) Page 3: Last para. The first sentence is to be amended as “Plenary accepted the reports of the two WGs subject to comments from Member States to be submitted to the Secretariat by 30 September 2005”. (ii) Page 11: First para. The last sentence is to be amended as “After a very short discussion the documents were approved for submission to the CSS subject to comments from Member States to be submitted to the Secretariat by 30 September 2005”. (iii) Page 14: Para III.13.5.: Line 2 is to be amended as, “Florida (IP05). The sponsors are DOT, DOE, NRC and INMM. They are developing a web site to inform of”. (iv) At the end of para III.9.5., it may be added: “In response to a question on how previous Member State comments on the draft glossary were addressed, the Secretariat responded that one could review the current draft to determine how comments were considered. He further stated that the Secretariat did not prepare a comment resolution document.” Mr. Boyle noted that appendix 4 of the report did not reflect the results of the working group 1 of TRANSSC 11 and that appendix 5 was missing. Mr. Wangler pointed out that the Secretariat did its best to capture the contents of the report of Working Group 1, in appendix 4. As for appendix 5, however, he said that in the interest of paper economy the Secretariat had deliberately excluded it. In fact, the relevant material could be found in WP09 of TRANSSC 12. Japan had comments which would be submitted to the Agency. Chair felt that with the incorporation of the
comments made by members, the report may be brought before TRANSSC12 for adoption later in the meeting.

Subsequently, TRANSSC resumed its discussion on adoption of TRANSSC 11 report. After a detailed discussion, it was decided as follows:

The appendix 4 given in WP03 should be removed. It should be replaced by the original report of the working group 1 with all its attachments which was submitted to the plenary of TRANSSC 11. A new appendix 5, viz., the report of the working group 2 of TRANSSC 11 should be introduced. A new appendix 6, the red-line strike-out version of TS-R-1, reflecting the amendments accepted by the plenary of TRANSSC 11 should be introduced. The relevant text citing the attachments should be introduced by the Secretariat in the report at the appropriate places. Because of the large number of pages, only an electronic version of the full report would be made available.

Recommendation: TRANSSC adopted the report of TRANSSC 11 report, with the above amendments.

III.2.5 Participants’ introduction and brief statement on application of the transport safety standards in their countries (TRANSSC Members)

At the request of the Chair each participant at the meeting introduced himself / herself to TRANSSC. The list of participants is given in Appendix 1. Each member informed the Committee about the state of implementation of transport regulations in their countries. It was evident that TS-R-1 was implemented in all the European Union countries through the modal Regulations, viz., ADR, RID, ADN, ICAO and IMDG Code. The other States had adopted TS-R-1 (1996) Edition or 2003 edition. In the US, where presently TS-R-1, 1996 edition (2000) is in force, the Regulations were being updated.

III.3 Safety Fundamentals

III.3.1 Presentation on Safety Fundamentals (WP04 and WP33)

Mr. A. Karbassioun, in his presentation about the status of the Safety Fundamentals document, pointed out that a large number of comments were received from the Member States. As the Safety Fundamentals would be consulted by many Government authorities and policy makers, it was prepared without jargon. He remarked that security was a concern. The Agency was seeking co-sponsorship from more International Organizations. It would make the document more acceptable. Mr. J. Stewart noted that the comment resolution was provided in response to their request. However, some of the accepted comments had not been incorporated in the document. He also pointed out that some of the principles are specific to nuclear facilities and not general enough to be applicable to transport. The process being followed did not conform to the approved DPP. Mr. Karbassioun stated that the document had evolved considerably since it was first taken up. Mr. Brach pointed out that the US had additional comments. They would need to be taken into account while finalizing the document.

Chair recommended that approval of DS-298 be deferred until DPP and the US comments are provided to the Committee for consideration later in the week.

Resuming the deliberations, upon detailed consideration of the Safety Fundamentals (DS-298), TRANSSC noted that in line with the DPP, TRANSSC has been consulted on the Safety Fundamentals document. Additional comments by the delegates in WP33 have been provided to the Secretariat / CSS Coordinator and it is expected that these along with any other comments that would be provided by the members of the other Safety Standards Committees would be taken into account prior to consideration by the CSS meeting in June 2006.

Recommendation: It was noted that TRANSSC was consulted on the Safety Fundamentals (DS-298) and that comments had been provided to the Secretariat.

III.4 Basic Safety Standards
III.4.1 Status of Review of BSS (WP05)

Mr. C. Mason, NSRW, made a presentation on the current status of revision of the Basic Safety Standards (BSS). The focus in 2006 is on review: BSS would retain its role as the international benchmark for radiation safety standards across all fields, maintain close connection with ICRP and keep cosponsors and all the safety committees fully involved. The plan is to involve Member States as much as possible. The CM held in November 2005 noted that clause 107(e) in TS-R-1 should be reviewed. Reassessment of the numerical values of surface contamination limits and the TS-R-1 (and the BSS) exemption values is needed. A dedicated web-page is planned. Mr. Brach appreciated the efforts on the part of the Agency to include transport.

III.4.2 Rationalized approach to package removable surface contamination provisions (WP06)

Mr. Brach made a presentation about a rationalized approach to package removable surface contamination. He made a proposal for an approach to package surface contamination. A meeting in the Spring of 2006 was proposed to develop the approach. Delegates from Canada, France, UK, USA and WNTI were prepared to contribute. The meeting approved the convening of a CM in harmony with BSS. Mr. Wangler agreed to explore the possibility of holding a Consultants Meeting in June/July to look at the contamination limits. The meeting could be held as early as April 2006 if one of the interested Member States would volunteer to host the meeting. Additionally, the meeting would need to be cost free to the Agency.

III.4.3 Discussion of BSS and needs for transport

Chair stated that the Committee had heard the presentation on the agency’s work plan for BSS. The Committee should wait for the detailed papers to be made available. Any comments may be conveyed to the Secretariat.

III.5 Transport Safety Standards and supporting documents

III.5.1 Criteria for revision of the Regulations and review procedure (WP07 and WP27)

Mr. N. Bruno presented the report of the Working Group 2 of TRANSSC 11. The working group had recommended the criteria for determining whether an amendment arising from the review cycle was sufficiently important to safety to necessitate the revision of TS-R-1. Mr. Boyle noted that the proposals accepted by Working Group 1 of TRANSSC 11 were not subjected to the new revision criteria rigorously. The Japanese delegation was of the view that none of the accepted proposals were important enough for safety to warrant revision of the regulations. Mr. Clark cautioned that a mechanism should be in place to consider changes to the UN regulations which could impact Class 7 material.

The Chair suggested that a Working Group would be constituted to evaluate the accepted amendments against the criteria. He invited the members of the Working Group 2 of TRANSSC 11 to serve in this Working Group. Appendix 2 of the Report of Working Group 2 at TRANSSC 11 and the forms suggested by UK were used as a basis for the Working Group. The Secretariat developed the terms of reference.

As desired by plenary, Mr. Wangler presented the Terms of Reference of the Working Group for recommending criteria for revision of the Regulations. The Terms of Reference were accepted by the plenary. Members were invited by the Chair to include their names in the Working Group. This Working Group was chaired by Mr Brach (USA) and Mr Vince (UK) acted as Secretary.

The working group considered the working paper, WP 07, on the general criteria approved by TRANSSC11, as the basis for evaluation of accepted amendments to the regulations for their importance to safety to warrant immediate revision of the regulations. The working group recommended that the proposal for amendment should include a statement of the importance of the proposal for safety. The working group felt that the forms suggested by UK (Potential forms for TS-R-
1 changes. WP 27) would be useful. The working group prepared a non exhaustive list of questions in the form of two appendices. The first list of questions (Appendix 1 of the Working Group Report were designed to act as a guide in determining if proposed changes to TS-R-1 are sufficiently important to necessitate publication of a new edition. If these questions resulted in a ‘yes’ answer then those proposed paragraph amendments would then be assessed by subsidiary questions (Appendix 2 of the Working Group Report) designed to gain additional evidence in support or otherwise of the main questions.

### III.5.2 Results of the 2004/2005 Review Cycle of the IAEA Transport Regulations (WP08, WP14, WP29 and WP32)

Mr. Bruno made a brief presentation on DS 345, draft TS-R-1 (2007 Edition). In order to determine if the proposed paragraph changes in the draft TS-R-1 document were sufficiently significant to warrant publication, plenary applied the above mentioned Appendix 1 questions to each approved proposed change. This resulted in further discussion and the Appendix 2 questions being applied to paragraphs 550(m), 672 et al., and 832. These deliberations concluded that the proposals for change were not sufficiently significant to warrant publication of the draft TS-R-1 (2007 Edition) The meeting accepted this position and agreed that publication of TS-R-1 (2007 Edition) was not warranted. Further, TRANSSC recommended that the Secretariat should include these accepted amendments in the next revision of TS-R-1.

**Recommendation:** Publication of TS-R-1 (2007 Edition) is not warranted as the proposals for change were not considered to be sufficiently significant. The proposals for change which were accepted during the just-concluded review cycle should be considered for inclusion in the next revision of TS-R-1.

### III.5.3 Advisory Material for the Transport Regulations


**Recommendation:** Publication of TS-G-1.1 (2007 Edition) is not required. However, the approved draft safety guide, TS-G-1.1 (2005 Edition) should be published as recommended by TRANSSC 11 and the guidance material relating to the proposals for amendment, accepted during the recently-concluded review cycle, should be considered for inclusion in the next edition of TS-G-1.1.

### III.5.4 DS-327, Draft TS-G-1.4 on Compliance Assurance (WP10)

Mr. Bruno presented the draft safety guide on compliance assurance and sought TRANSSC approval for posting the document for 120 day comment. TRANSSC 12 approved the draft safety guide for 120 day comment. Comments from the US were received and noted.

### III.5.5 DS-377, Draft Safety Guide on Radiation Protection Programmes for Transport (WP11)

Mr. Nandakumar presented the status of the draft safety guide on Radiation Protection Programmes for Transport of Radioactive Material. He informed the Committee that following the 120-day comment period, a Technical Meeting was convened by the Agency to resolve the Comments. On the basis of the resolution of the comments the draft safety guide was prepared and submitted to the Steering Committee. Mr. Hughes pointed out that an appendix to the Annex I, recommending a checklist and a short training programme for the Competent Authorities was left out. The Committee agreed that the appendix should be included.

**Recommendation:** The draft safety guide, with the above amendment, was approved by TRANSSC 12.
III.5.6  **DS-387, Draft DPP for Schedules related to TS-R-1 (TS-G-1.6)(WP12)**

Mr. Bruno presented the DPP for the Schedules relating to the Transport Regulations, TS-R-1 (2005 Edition). He outlined the background of the safety guide to be prepared.

Mr. Zamora felt that the time that may be taken to publish is too long. Mr. Bruno attributed it to the in-house procedure. Mr. Welleman of Sweden suggested that a Schedule on UF6 should be included. Mr. Sert recommended that the Schedules should be prepared with reference to UN numbers. Mr. Ershov suggested that the schedules should include fissile-excepted materials. Mr. Nelson urged that the document should be published quickly. Mr. Boyle also advocated quick publication of the Schedules. He offered to make available a document developed in the US for this purpose which could be referred to by Consultants developing the Schedules.

*Recommendation: The DPP for Schedules related to TS-R-1 (proposed TS-G-1.6) was approved with the provision that a Schedule on UF6 should be included. The Schedules should be prepared with reference to UN numbers. The schedules should include fissile-excepted materials.*

III.5.7  **Review of TSR-1 for 2009**

Mr. Wangler made a presentation about the review of TS-R-1 for 2009. TRANSSC should consider if there are any areas in the Regulations which need to be addressed in the next review cycle. Mr. Stewart informed the Committee that the UK had submitted some forms which would help in this review process. These draft forms are anticipate to help in the evaluation of the safety significance of a proposal and may be useful when considering the issue of harmonisation. Mr. Amano of Japan felt that harmonization by itself should not be a criterion for revision. The debate that ensued indicated a spectrum of views. It was noted that if the review process recommended by the Working Group 2 of TRANSSC 11 was to be adopted, the Agency will have to wait until June 2007 (odd year) and on the other hand, if review was taken up in June 2006, then major issues encountered during the process could not be adequately handled. While it would be appropriate to commence the review cycle in June 2007, the intervening time should be properly utilised.

*Recommendation: TRANSSC recommended that the review cycle for the 2011 edition may be commenced in June 2007. Until then, TRANSSC should focus on issues like BSS and harmonization with UN regulations and preparation for the next review process.*

III.6  **The development of other safety documents**


Mr. Warnecke presented the DPP for Criticality Safety for Radioactive Waste arising in the Nuclear Fuel Cycle. He noted that the original scope of the document was to include only spent fuel and radioactive waste. The scope now includes all activities except for operating nuclear power plants. In response to a query from Mr. Trivelloni, he confirmed that the scope included fresh fuel facilities. Mr. Stewart suggested that there are national and international standards relating to criticality safety. Mr. Warnecke affirmed that all national and international standards made available to the Agency would be a useful input. Mr. Malesys informed the Committee that there are ISO Working Groups developing standards for criticality safety and that ISO would be willing to contribute to the development of the document. Since the DPP made available to the meeting, as pointed out by Mr. Brach, was not the updated version, it was decided to defer the decision. Subsequently, the updated DPP was made available to the members of TRANSSC. Mr. Stewart’s suggestion that in Section 4, “ISO” be added to “other organizations” was accepted.

*Recommendation: The DPP for Criticality Safety for Radioactive Waste Arising in the Nuclear Fuel Cycle was approved with the suggested amendment.*
III.7 The development of IAEA security documents

III.7.1 Preparation of a security series document on security during transport of radioactive material

Ms. A-M Eriksson informed the Committee about the progress made since TRANSSC 11. She noted that the document would not be described as a Safety Guide as indicted in the agenda. It would be a security series document. Last year two Consultant Meetings were held and in January 2006 a Technical Meeting was held to review the document. The comments received at the TM have been compiled. The draft document would be posted for 120-day comment by Member States. The Secretariat was keen on publishing the document quickly. She confirmed that there was adequate in-house support to publish the document.

III.8 Transport safety standards processes

Coordination

III.8.1 Issues resulting from coordination with UN on TS-R-1 (WP16)

Mr. Bruno made a presentation about the issues resulting from coordination between IAEA and the UN on TS-R-1. He briefed the Committee about the Consultants Meeting on Harmonization of UN – IAEA Regulations, which was held in Vienna in February 2006, where it was agreed that a new chapter be included with provisions relating to class 7 material. The table of correspondence between the 14th version of the UN Model Regulations and the 2005 edition of the IAEA Transport Regulations was revised. The CM recommended that a harmonization process be established by which IAEA and UN Model Regulations could continuously move to a fully harmonized structure. Mr. Stewart informed the Committee that 30 paragraphs in TS-R-1 were marked for harmonization. In view of the new features contained in the report and because of the length of the report (93 pages), it was felt by the Meeting that more time would be required to study the report of the CM before implementing the recommendations of the CM.

Recommendation: Further consideration was deferred until TRANSSC 13. Meanwhile, the Secretariat would consult UN.

III.8.2 Issues resulting from coordination with IMO (WP17)

Mr. Nandakumar made a presentation about the participation of IAEA in the IMO deliberations on review of the IMDG Code on the basis of the UN recommendations and on denial of shipment. It was noted that the participants in the IMO meetings advocated sustained efforts for addressing the issue of denial of shipment and harmonising international regulations for transport of dangerous goods including class 7 cargo. Mr. Stewart remarked that IAEA’s co-ordination with IMO was effective.

III.8.3 Issues resulting from coordination with ICAO (WP18)

Mr. Wangler made a presentation on the issues resulting from coordination with ICAO. The Dangerous Goods Panel sought clarification on Radiation Protection Programmes. As for the UN provision for the Orientation label, the panel accepted the clarification provided by IAEA. ICAO was concerned about an incident involving a shipment of Iridium 192 sources from Sweden to US. In response to a query from Mr. Stewart about the labelling requirements for an excepted package carrying exempt quantities, Mr. Wangler clarified that a majority of the Members of the Panel preferred dual labelling. Referring to the incident involving the shipment of Iridium 192 sources, Mr. Wellemann informed the Committee that investigations carried out in Sweden confirmed that the package was forwarded for transport in conformity with the applicable Regulations. Mr. Boyle stated that in the US, investigation of the incident was in progress.

Status of Coordinated Research Projects
III.8.4 CRP on LSA/SCO

Mr. Nandakumar provided an update on the status of the CRPs on Development of a Radiological Basis for the transport of LSA materials and SCOs. He informed the Committee that the draft CRP report had been forwarded to the participants of the CRP and the comments were being resolved.

III.8.5 CRP on Severity of Air Accidents

Mr. Nandakumar provided an update on the status of the CRP on severity of air accidents. He informed the Committee that the third and final Research Coordination Meeting was held in September 2005 wherein the results of the project were discussed in detail and the structure and the contents of the CRP were agreed upon. Some of the CRP participants have sent in their input for the report. An ad-hoc meeting is proposed to be held in April – May to draft the CRP report. Mr. Stewart urged that the meeting be convened before the end of March 2006 so that UK would be in a position to extend the necessary expert support.

III.8.6 CRP on Naturally-Occurring Radioactive Materials

Mr. Wangler advised that the Agency had received proposals from Brazil, Canada, France, Germany, Iran, Israel, United Kingdom and the United States. There was considerable interest in the other Units of the Division in the CRP. The Agency expects to convene the first Research Coordination Meeting in June – July 2006.

III.9 Action plan for safety of transport of radioactive material

Program Plan

III.9.1 The Agency’s Programme and Budget for Transport Safety:2006-2007 (WP19 and WP22)

Mr. Wangler presented the Agency’s programme and budget for Transport Safety Programme during 2006 – 2007. In response to a query on the elements covered in the budget, Mr. Wangler clarified that the budget included all heads, such as salaries, expenditure for Technical Meetings, Consultants Meetings and the staff participation in meetings. The UK queried as to whether the Agency was moving in the right direction and suggested that sustainability of transport safety programme to be a project heading.

III.9.2 Status of Actions on Action Plan (WP25)

Mr. Wangler presented the status of actions on the Action Plan. He noted that the Safety of Transport of Radioactive Materials programme has completed much since the Action Plan was approved by the Board of Governors in March 2004. The Action Plan is expected to be completed by 2009.

III.9.3 Discussion of Program Plan, Strategy and Trends for Transport Safety

The Chair remarked that in the interest of efficient time management, it was proposed not to establish a working group on this topic. He invited members to provide suggestions to the Secretariat. The discussion that ensued suggested that the Action Plan should be revisited to assess whether the Secretariat was moving in the right direction. Mr. Kardan suggested that a S.W.O.T. analysis be considered to assist the process.

Recommendation: The Action Plan should be revisited in order to determine if the Agency is moving in the right direction. The sustainability of transport should be emphasized and encouraged in projects undertaken. A strengths, weakness, opportunities and threat (SWOT) analysis should be considered to assist in identifying a short and long-term vision for transport safety.

Denial of Shipments
**III.9.4 Results of UK-sponsored meeting on Denial of Shipments (WP28)**

Mr. Stewart, UK made a presentation on the one-day meeting on denial of shipments sponsored by UK and conducted at the IAEA Headquarters, Vienna. A wide range of views were expressed. Participants made presentations on examples of and the need for transport of radioactive material. The participants were informed about the database on denial incidents which had been collected. It was noted that IAEA had contributed to seeking a solution to the issue and that short training programmes were being developed. Examples of good practice were discussed. In the context of the fact that perception about radiation was a reason for denials, IFALPA made a presentation, in that meeting, on handling fear. It was noted that other reasons for denial were multiplicity of authorities, variations in the Regulations of individual States from TS-R-1. Mr. Stewart pointed out that a compilation of these variations would be of considerable help. Mr. Clark noted that the guidance material such as the Safety Guide on schedules would be of considerable help to consignors. The Chair requested the Members to bear in mind the results of the UK sponsored meeting while discussing the issue again under the agenda item No. 9.5.

**III.9.5 Updated Comprehensive Training Manual and new Short Training Programmes for cargo Handlers & Public Authorities (WP21)**

Mr. Nandakumar informed the Committee that as recommended in the Action Plan, the Comprehensive Training Manual on Safe Transport of Radioactive Material (TCS-1, Third Edition) was updated on the basis of the IAEA Regulations, TS-R-1 (2005 Edition). All the visual aids were also updated accordingly. Further, as recommended by the Consultants Meeting on Denial of Shipment (July 2004), training manuals and visual aids for short training programmes, each of duration half-a-day, for Public Authorities (other than Competent authority) and for Cargo Personnel, were prepared. Now the updated training manual, TCS-1 (Fourth Edition), would include the manual for the Comprehensive Course and for the two short courses. The Chair remarked that the training manuals and the visual aids would be a useful product.

**III.9.6 Next Steps in Reducing the Incidence of Denial of Shipments (WP28, WP30 and WP31)**

A working group was established by TRANSSC 12 to examine the issue of denial of shipments and recommend the next steps in reducing the incidence of such denials. The Terms of Reference of the Working Group (WP 30) were approved by TRANSSC. The working group was chaired by Mr. J. Stewart. WP28, which is a summary of an ad hoc meeting on this subject held in Vienna on 13 January 2006 was also used in the discussion. The Working Group felt that the proposed technical meeting on the subject and the establishment of an advisory group as recommended by TRANSSC earlier and endorsed by GC are the two important measures which would reduce the incidence of denials. The TM should focus on air and marine shipments and address isolated incidents, policy issues, consequence of denials and possible solutions. The TM should carry out a complete case study of a shipment from A to B so that the problems encountered could be fully appreciated. The Working Group suggested that the advisory group to be constituted by the Agency should have the function of monitoring and advising on the issue of denials. The advisory group should determine the scope of the issues to be addressed, develop potential solutions. The group should determine implementation of the solutions and monitor the effects of the solutions so that corrective measures, if necessary, can be worked out. Mr. Stewart, thanked the members of the Working Group and particularly, Mr. Clark who served as the Secretary of the group. The report of the working group (WP 31) was accepted by TRANSSC.

Recommendation: TRANSSC 12 advised that the recommendations of the Working Group be taken into account in determining the next steps in reducing the incidence of denial of shipments.

**TransSAS**

**III.9.7 TransSAS Mission to Japan**

Mr. Wangler briefed TRANSSC about the TranSAS mission to Japan. Extensive collaborative efforts
were made between the Secretariat and Japan. The appraisal team included experts from Australia, Canada, France, Germany, Ireland, Panama, UK, US and IMO in addition to a maritime expert. The appraisal was conducted from 5 to 16, December 2005. The appraisal confirmed that Japan had a very good transport safety programme. The TranSAS report was drafted and completed soon after the appraisal. The report is currently being reviewed by the Japanese authorities. If permitted by Japan, the results of the appraisal would be published by the agency.

III.9.8 A Strategy for Encouraging Future TranSAS Missions in Member States

The Chair opened the discussion of the topic with the remark that Director, Division of Radiation, Transport and Waste Safety, IAEA was looking to a strategy for encouraging future TranSAS missions. It was agreed to discuss the matter in the plenary rather than constituting a working group. Mr. Wangler clarified that the initiative for this agenda item was the changing focus of the department. So far the basic focus of the department was to develop safety standards. While it is a continuing mission, it is felt that the time has come to focus on application of the standards. Currently approximately one TranSAS mission per year is conducted. At the moment there is no request for a TranSAS mission from any of the Member States. The mission is difficult to organize, time consuming and resource intensive. In the discussion that followed, the question of cost-effectiveness of the mission came up and it was generally felt that there was value in appraisals because being a transparent exercise, an appraisal reassured the neighbours that the appraised state was adhering to the safety standards and that while the appraisal could mean cost for the present, the benefit of the appraisal would be realised in the future. Both Canada and USA indicated that at present, having considered the costs, there were no foreseen benefits. USA also indicated that a summary of findings of TranSAS missions and a follow-up questionnaire to countries that underwent a TranSAS mission would be useful. Japan suggested that high level negotiations would be a useful tool in promoting future missions. Mr. Bruno pointed out that countries with big transport programmes could afford to have a mission. Countries with small programmes who cannot afford a mission need such missions. A solution would be to de-centralise TranSAS missions and identify experts in the region to conduct the mission. It would be more affordable for the countries requesting the mission. Mr. Kardan suggested that the Agency should develop a comprehensive appraisal questionnaire to the Member States who may carry out a self-assessment. Mr. Zamora suggested that as there are other kinds of safety assessment missions, it would be fruitful to conduct integrated missions. Mr. Aguilar informed the Committee that France had requested an integrated mission. The Chair pointed out that there would indeed be considerable overlap between the different safety appraisal missions. So an integrated mission would be helpful.

Recommendation: The positive aspects of a TranSAS Mission should be encouraged including the benefits to neighbouring countries. High level negotiations are considered useful in this regard. The use of local or regional experts should be encouraged to reduce costs. Integrated Missions should be more fully explored and utilized. A summary of findings of TranSAS missions and a follow-up questionnaire to countries that underwent a TranSAS mission would be useful. Self assessment should be encouraged. To reduce the cost to countries with smaller transport programmes, sponsorship should be considered.

Seminar

III.9.9 Safety of Transport of Radioactive Material: A Seminar on Complex Technical Issues

Mr. Brach, USA gave a brief resume of the IAEA Seminar on Complex Technical Issues which was held in Vienna in January 2006. The target audience included policy makers, senior government officials and representatives from the permanent missions of the Member States. The purpose of the seminar was to explain the complex technical issues relating to safe transport of radioactive material. There were 37 presentations and 11 panel discussions. At the conclusion of the seminar, no issues were raised. That was indicative of the success of the seminar. Mr. Stewart remarked that Mr. Brach did very well as the Chair of the seminar which included a large number of presentations and panel discussions to be completed in the allotted time-frame.

Translation
III.9.10 Issues related to translation of TS-R-1 into official languages

Mr. Bruno made a brief presentation on the issues relating to translation of TS-R-1 into official languages. Following advice from Mr. Vietri pointing out errors in the Spanish version of TS-R-1, the Secretariat contacted the Member States and received comments from Mr. Vietri and Mr. Zamora on the Spanish version and from Mr. Ershov on the Russian version. The Agency was expecting comments from China. There was no comment about the Arabic version. He informed the meeting that a Consultants Meeting was proposed to be held later this year to correct the errors in the translations and to recommend methods for avoiding errors in future. Mr. Sert mentioned that there were also comments on the French translation.

III.10 Meetings related to development of transport safety standards

III.10.1 Schedule of meetings (WP23)

Mr. Wangler informed the Committee about the schedule of the meetings for the year 2006. He noted that the TM on denial of shipment was advanced in response to a request from IFALPA. Mr. Boyle requested that the schedule of IAEA meetings, including all types of meetings, such as TM, RCM and CM, relevant to transport of radioactive material be made available to TRANSSC members sufficiently in advance and that the important holidays in the Member States may be taken into account, to the extent possible.

III.10.2 Schedule of transport-related training programmes for 2006

Mr. Wangler informed TRANSSC that in the later part of the year, a comprehensive training programme was scheduled to be held in Pakistan. Further details about the programme from the Division of Technical Cooperation are awaited.

III.11 International Organizations

Governmental

III.11.1 UNECE

There was no representative from UNECE at the meeting. Hence no presentation was made on behalf of UNECE.

III.11.2 International Civil Aviation Organization

There was no representative from ICAO at the meeting. Hence no presentation was made on behalf of ICAO.

III.11.3 International Maritime Organisation

There was no representative from IMO at the meeting. Hence no presentation was made on behalf of IMO.

III.11.4 Universal Postal Union

There was no representative from UPU at the meeting. Hence no presentation was made on behalf of UPU.

Non-Governmental

III.11.5 International Standards Organization

Mr. Malesys informed TRANSSC that the ISO standards on UF6 containers were revised and
published in 2005. Standards on design and manufacture of trunnions were being prepared. The ISO standards on leakage testing on packages were being revised. He re-affirmed that ISO would be pleased to collaborate in developing the safety guide on criticality safety for radioactive waste arising from nuclear fuel cycle. In response to a query from Mr. Vince relating to the reference to an outdated ISO document in TS-R-1 (2005 edition), Mr. Malesy replied stating that as both the relevant ISO standards and TS-R-1 (2005 edition) were being published in parallel, reference could not have been made in TS-R-1 to the ISO standards. Mr. Wangler added that the clean-up work had not been taken up in the review process and that it would be taken up in future.

III.11.6 International Air Transport Association

There was no representative from IATA when the agenda item was taken up at the meeting. Mr. Clark informed the Committee that it had been brought to his notice that IATA was producing a training video on transport of radioactive material for cargo handlers.

III.11.7 International Federation of Airline Pilots Associations

Mr. Tisdall informed TRANSSC that the present Chairperson of IFALPA was interested in matters relating to radioactive material. IFALPA participated in the IAEA RCM on severity of air accidents. He clarified that the IFALPA proposal about “self-monitoring” of packages containing radioactive material arose from perceptions about radiation. He thanked the Agency for accommodating the interest of IFALPA in determining the dates of the proposed TM on denial of shipment in May 2006.

III.11.8 World Nuclear Transport Institute

Mr. Ishikawa mentioned about the priority areas in which WNTI was currently engaged. They included, contribution to the review process of TS-R-1, addressing the issue of denial of shipments in a pro-active manner, harmonized approach to criticality safety issues in transport of radioactive material, greater regulatory harmonization and contamination limits.

III.11.9 European Commission

Mr. Rossi informed TRANSSC about the five activities of EC that would be of interest to the meeting. The activities are as follows:

1. Communication on transport of radioactive material: The communication on transport of radioactive material should be formally adopted by the Commission in the next few weeks. It will then be transmitted with the 5th report of the EU Standing work on transport of radioactive material to the European Parliament and the European Council.

2. Directives ADR/RID and ADN: The preparatory work for merging the three directives into a single one is nearly completed. It is expected that a proposal for a directive will be submitted to the Commission by the end of the year.

3. Communication and proposal for a Regulation on enhancing supply chain security: The proposal for a Regulation has been recently adopted by the Commission. It will now enter the legislation process for adoption by European Parliament and Council. It was noted that the proposed measures would make operators in the supply chain responsible for their security performance in European freight transport.


5. EU Legislation on the retrieval of orphan sources: Preliminary work on the legislation has been initiated. An impact assessment is being prepared. A draft proposal is planned for the end of the year.

III.12 Other business

III.12.1 Status of actions resulting from TRANSSC 11 (WP24)
Mr. Wangler informed the Committee that the recommendations made by TRANSSC 11, regarding publication of TS-R-1 (2007) Edition and TS-G-1.1 were brought before TRANSSC 12. As decided by TRANSSC 12, the Secretariat advised the UN Sub-Committee of Experts, IMO and ICAO that the use of the orientation labels should not be required. As regards the establishment of an Advisory Group or Steering Committee to assist the IAEA in determining effective actions to be implemented for addressing the issue of denial of shipments wherein a limited number of concerned organizations and countries, which have been taking lead in the matter would be invited to participate, Mr. Wangler informed TRANSSC that a Technical Meeting was being scheduled for May 2006.

III.12.2 Update on incident with a German-operated ship carrying packagings off the Brazilian coast (as described in TRANSSC 11 Report)

Mr. Vince informed TRANSSC about the shipment of three empty containers from UK to Argentina. During the voyage in heavy seas, two of the packages came off their tie-down. Mr. Girken pointed out that information from Argentina confirmed that the package was tied down properly. Mr. Vietri confirmed that the floor of the container was superior to the ISO standards. Mr. Stewart remarked that the incident did not result in any hazard. There was no contamination. There was no need to amend the regulations. Mr. Nitsche confirmed that no change in the regulations was warranted as a result of the incident. The nature of the incident, he pointed out, was not specific to class 7 material.

III.12.3 Report of the RTSG meeting

Mr. Boyle gave a brief report on the RTSG meeting which was held in Vienna on 10 January 2006. It was chaired by Mr. Young of UK. Mr. Boyle has taken over the mantle from Mr. Young. A questionnaire about implementation of TS-R-1 was distributed in the meeting. The next RTSG meeting would be held a week before or after PATRAM ’07. The proposed venue is Washington D.C., USA.

III.12.4 Proposed Conference on Transport of Radioactive Material in Russia

Mr. Ershov informed the meeting about the conference proposed in Petersburg, Russia in September 2006. It would have four parts, viz., a conference strategy of atomic energy and safety and one on safety of nuclear technologies – Transportation of Radioactive Material, an exhibition and technology excursions. He invited TRANSSC members to participate in the conference.

IV Recommendations and Conclusions

IV.1 Recommendations

IV.1.1 The Committee noted that TRANSSC was consulted on the Safety Fundamentals (DS-298) and that comments had been provided to the Secretariat.

IV.1.2 TRANSSC adopted the report of TRANSSC 11 report, with the provision that Appendix 4 given in WP03 should be removed. It should be replaced by the original report of the Working Group 1 with all its attachments which was submitted to the plenary of TRANSSC 11. A new Appendix 5, viz., the report of the Working group 2 of TRANSSC 11 should be introduced. A new Appendix 6, the red-line strike-out version of TS-R-1, reflecting the amendments accepted by the plenary of TRANSSC 11 should be introduced. The relevant text citing the attachments should be introduced by the Secretariat in the report at the appropriate places. Because of the large number of pages, only an electronic version of the full report would be made available.

IV.1.3 Publication of TS-R-1 (2007 Edition) is not warranted as the proposals for change were not considered to be sufficiently significant. The proposals for change which were accepted during the just-concluded review cycle should be considered for inclusion in the next revision of TS-R-1.

IV.1.4 Publication of TS-G-1.1 (2007 Edition) is not required. However, the approved draft
The draft safety guide on Radiation Protection Programmes for Transport of Radioactive Material, with the amendment that a check list for the assessing the adequacy of a Radiation Protection Programme be appended to Annex I of the draft Safety Guide, was approved by TRANSSC 12.

The DPP for Schedules related to TS-R-1 (proposed TS-G-1.6) was approved with the provision that a Schedule on UF6 should be included. The Schedules should be prepared with reference to UN numbers. The schedules should include fissile-excepted materials.

TRANSSC recommended that the review cycle for the 2011 edition may be commenced in June 2007. Until then, TRANSSC should focus on issues like BSS and harmonization with UN regulations and preparation of the next review process.

The DPP for Criticality Safety for Radioactive Waste Arising in the Nuclear Fuel Cycle was approved with the provision that in Section 4, “ISO” should be added to “other organizations”.

Further consideration of the recommendation of a Consultants Meeting on the establishment of a harmonization process in which IAEA and UN Model Regulations could continuously move to a fully harmonized structure was deferred until TRANSSC13. Meanwhile, the Secretariat would consult UN and develop a plan for the process.

TRANSSC 12 advised that the recommendations of the Working Group be taken into account in determining the next steps in reducing the incidence of denial of shipments.

Regarding the programme plan, strategy and trends for transport, the Action Plan should be revisited in order to determine if the Agency is moving in the right direction. The sustainability of transport should be emphasized and encouraged in projects undertaken. A strengths, weakness, opportunities and threat (SWOT) analysis should be considered to assist in identifying a short and long-term vision for transport safety.

The positive aspects of a TranSAS Mission should be encouraged including the benefits to neighbouring countries. High level negotiations are considered useful in this regard. The use of local or regional experts should be encouraged to reduce costs. Integrated Missions should be more fully explored and utilized. A summary of findings of TranSAS missions and a follow-up questionnaire to countries that underwent a TranSAS mission would be useful. Self assessment should be encouraged. To reduce the cost to countries with smaller transport programmes, sponsorship should be considered.

**IV.2 Conclusion**

The Meeting concluded on 2 March 2006. The number of recommendations will require substantial Secretarial effort to accomplish. The Secretariat is expected to report the status at the next meeting, which will take place in Vienna from the 4-8 September 2006.
### APPENDIX 1: LIST OF PARTICIPANTS

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## APPENDIX 2B: LIST OF PAPERS – SORTED BY AGENDA ITEM

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APPENDIX 3: TERMS OF REFERENCE AND WORKING METHODS FOR THE 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 TRANSSC meetings.
- The Director of the Division of Radiation, Transport and Waste Safety or his appointee will participate in all TRANSSC meetings.
- The Director of the Division of Radiation, Transport and Waste Safety will designate a scientific secretary for TRANSSC.
Working methods

- The Deputy Director General will appoint a chairperson for TRANSSC three-year term from among the members.
- Ordinarily, TRANSSC 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 an overview of the progress made.
- The Director of the Division of Radiation, Transport and Waste Safety, in consultation with TRANSSC, may establish working groups of experts to deal with specific tasks for the purpose of assisting TRANSSC in its work.
- The chairperson will represent the views of TRANSSC at the meetings of the Commission and will ensure that TRANSSC 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.
- TRANSSC 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 TRANSSC.
- All costs involved in the participation of each TRANSSC member, including travel and per diem expenses, will be borne by the Member State that nominated the member.
APPENDIX 4, REPORT OF THE WORKING GROUP ON DECISION CRITERIA

Chair: W. Brach – USA
Secretary: D. Vince – UK

Attendees:

J. Koch – Israel
B. Dekker – WNTI
M.R. Kardan – Islamic Republic of Iran
G. Owen – UK
V. Duchacek – Czech Republic
A. Mezrahi – Brazil
J. Lopez Vietri – Argentina
S. Trivelloni – Italy
G. Sert – France
P. Nelson – Canada
E. Cottens – Belgium
K. Jutle – South Africa
M. Hirose – Japan
T. Hamada – Japan
T. Ishikawa – WNTI
M.A. Rehman – Pakistan
M. Amano – Japan
J. Aguilar – France
N. Odano – Japan
J. Safar – Hungary
H. van Halem – Netherlands
H. Kizawa – Japan
P. Malesys – ISO
J. Tikkinen – Finland
G. Dahlin – Sweden
S. Hornkjøl – Norway
K. Breddam – Denmark
B. Knecht – Switzerland
B. Droste – Germany
Y. Fujimaki – Japan
R. Bove – Italy
1.0 Terms of Reference

The terms of reference for the working group were as defined in TRANSSC 12 Working Paper No. 29, Revision 0.

After consideration by the working group it was decided to work as a single group and not to take the option of dividing into subgroups offered by the terms of reference.

2.0 Documents Reviewed or Considered

The following working paper was considered during the deliberations of this working group: TRANSSC 12 Working Paper 07, Revision 0, Criteria for Revisions of the regulations and Review Procedure, Report of Working Group 2 of TRANSSC 11.

3.0 Deliberations

The Working Group’s Terms of Reference (TRANSSC 12 Working Paper No. 29) guided the group’s efforts to develop decision criteria for use in the review of proposed changes to TS-R-1. The purpose of the review of the proposed change(s) as addressed by this Working Group was to identify the change(s) which are needed to maintain and assure the safety of transport and are therefore sufficiently important for safety to necessitate publication of a revised TS-R-1 as soon as possible. An early conclusion of the Working Group was that a proposed change to TS-R-1 which does not successfully pass this evaluation screening may be appropriate to hold for later incorporation in a revision to TS-R-1, but that the change does not on its own merits necessitate publication as soon as possible.

The Working Group began deliberations by discussing the six principles identified in TRANSSC 12 Working Paper No. 07 which are to be used in evaluating proposed changes. The six principles are: Optimization, Efficiency/Practicality/Regulatory Stability, Compliance With Dose Limits, Socio-Economic Considerations, Harmonization With Regulations From Other International Organizations, and Clarification. The Working Group quickly reached a consensus that the principles should not be considered as criteria but rather the principles capture broad topic areas under which a Member State would typically consider and develop proposed changes. The Working Group proceeded to discuss the types of changes which may result from consideration of the six principles. This discussion was very useful in that by identifying the types of changes, the inter-relationship of the six principles was made clear (for example, in considering the optimization of a regulated activity, the principles of efficiency, practicality, compliance with dose limits, and clarification are also considered).

The Working Group determined that it was not feasible to develop decision criteria of a quantitative nature. Many proposed changes would not directly lend themselves to a safety level quantification. Further, the incremental increase/decrease in risk associated with a proposed change could not be quantitatively evaluated without a risk assessment Examples of a proposed change which could not be easily quantified include proposals to introduce a new package test requirement or to establish new materials requirements. The Working Group concluded that the decision criteria should consist of a set of questions which would guide the TRANSSC review. The questions would help assess the significance of a proposed change by evaluating the change against a number of different criteria/program impacts. The questions should be structured to typically provide a “yes” or “no” answer such that a “yes” answer would imply the proposed change should be considered further while a “no” answer would imply the proposed change would not be needed to maintain and assure safety and therefore would not necessitate a publication as soon as possible. Proposed changes which successfully pass the decision criteria questions would then be subject to TRANSSC further review and discussion to determine if the change is needed to maintain and assure the safety
of transport. The Working Group believes this process will significantly reduce the number of proposed changes which would need further TRANSSC review and decision whether to publish as soon as possible.

Two sets of decision criteria questions were developed to guide the review. The Working Group recommends that the first set of questions (Appendix 1) is considered to be the top level or primary set of questions to be answered for each proposed change. The Working Group also recommends that the questions in Appendix 1 be answered for the collective set of proposed changes. The second tier questions (Appendix 2) provide for a more qualitative assessment of the potential impact of the proposed change on the overall safety of transport. The second set of questions (Appendix 2) should be considered for each proposed change as appropriate. For example, the second tier questions in Appendix 2 concerning radiation dose (Question #1) may not be applicable to proposed changes for new package classification.

4.0 Recommendations

The Working Group recommends that the questions in Appendices 1 and 2 be used on a trial basis by TRANSSC and be revised as appropriate based on the trial use.
Appendix 1

Questions to guide the determination if proposed changes to TS-R-1 are sufficiently important to safety to necessitate publication of a new edition of TS-R-1

1. Is the change or set of changes needed to maintain and assure safety?

2. Is the change or set of changes sufficiently important for safety to necessitate, publication as soon as possible?

3. Does the change or set of changes have a substantial impact on the scope of TS-R-1?

4. Will the change or set of changes result in a significant change to existing transport activities or invalidate existing designs or certificates?

5. Does the change or set of changes affect the established radiation protection system or the radiological basis of TS-R-1?

6. Would the change or set of changes result in a reduction, or potential reduction, in overall dose?

7. Is the change or the set of changes related to new package type or material considerations?

8. Is the change or set of changes a result of improvements in testing or analysis capabilities, or from operational experience?

9. If delay in implementation of the set of changes will result in inconsistencies with other international standards, will the existing levels of safety be maintained and assured?

10. What is the risk to safety if we delay publication?
Appendix 2

**Subsidiary Questions used to gain evidence in support of the main questions**

1. Does the proposed change result in any change to the dose to workers?
   1.1. If yes does the dose increase or decrease?
   1.2. If increased is there a net benefit in terms of reduction to the dose to the public in routine, normal or accident conditions of transport?
      1.2.1. If yes are worker dose limits still complied with?
   1.3. If it decreases is there a consequent increase in the dose to the public?
      1.3.1. If yes are public dose limits still complied with?

2. Recognizing that any change to the regulations places a cost burden on the Member States and other stakeholders:
   2.1. are the expected impacts of the change well understood?
   2.2. will there be a financial benefit to either the Member States or other stakeholders?

3. Are the criteria used to demonstrate that the safety benefits outweigh the costs acceptable to TRANSSC?

4. Does the proposal raised by one Member State have a significant detrimental effect on another Member State or other stakeholders?

5. If the change is implemented will TS-R-1 be consistent with other international standards?

6. Will the proposed change provide for increased safety of transport in routine, normal or accident conditions?

7. Will the proposed change affect the risk of an incident or accident?
   7.1. If yes is the resultant change acceptable in terms of dose and/or cost.

8. Will the proposed change affect the consequences (dose/environmental harm/disruption to the transport infrastructure) of an incident or accident?

9. Will the proposed change achieve the existing objectives with reduced effort?

10. Does the proposed change have a broad impact on the Radioactive Materials Transport (RMT) community?
APPENDIX 5, DENIAL OF SHIPMENTS WORKING GROUP

The Advisory Group should be seen as monitoring and advising on a process:

1. Issue Identification
2. Scoping of individual issues
3. Developing Potential Solutions
4. Determine implementation plan for each solution
5. Monitor effects of solutions
6. Revise plans

Item 1 is reasonably complete, and much of item 2 is set out in various reports to date, but it is at this point the advisory group should pick up the work.

TM should focus on air and marine (as surface denials are limited)

1) Individual Package Issues
2) Policy Issues
3) Consequences of Denials
4) Possible Solutions

1) Individual Package issues:
   - Economic
   - Reduce public perception (what happens when there is an emergency)
   - Compliance assurance is vital.
   - Remove doubt from handlers (training, fill out formatted documentation as opposed to completing them)
   - Simplifying the regulations
   - Collect statistics detailing:
     i. when do these occur (before or during shipment?)
     ii. which types of packages are being denied
     iii. conduct route analysis
   - Questionnaire - EC provide its questionnaire to agency to allow anonymous input on their experiences in transporting through various states
   - Administrative burdens on shipments (e.g. is detailed documentation necessary?)
   - Segregation and storage rules for air transport – examine these rules and possible simplify (animals, foodstuff, biological products, film)

2) Policy issues

Complexity of legislation/regulation (overlapping?)
   - Some countries have restricted RAM overflights
   - Examine extent of application of RPP (too restrictive?)
   - RPP resulting in specific authorizations for carriers in order to transport

Lack of consistency in acceptance of unilateral and multilateral approval certificate

Identify reasons for states and operator variations / restrictions (e.g. hours of service) and review reasons why (case study, see Solutions below)

National denials vs. international denials (carrier policy may not differentiate)

Regulations restricting RAM transport to certain times due to requirement for escorts
Coordination of competent authorities authority within a country (RAM vs. transport vs. customs)

Identify if it is a national or international denial and if these have different issues

Fear / understanding of RAM – presentation of issue as per BSS

- Perception training program (IFALPA re: passengers vs. pilots and RAM)
- Good enough is never good enough for RAM (as addressed in BSS)
- Allowance for RAM package to “leak” vs. other classes of DGs
- Make class 7 less special (perception)
  - integrate RAM training into other training
  - harmonization/coordination with UN/ECOSOC

Sustainability to small business:

- economics - additional insurance requirements (small market and large mark-up)
- how to improve infrastructure

Review the Agency’s Regulations with respect to NORM (separate UN # for NORM)

Improved communication amongst all parties

Licensing within the airports?
Local authorities at airport:

- health and safety
- emergency response
- protection of workers / environment

Security??

3) Consequences associated with continuing denials?

Deliberate mis-declaration of shipment
Cancellations of medical procedures
Economic problems
Shifting the risk (to road resulting in more shipments)
Increased security

4) Possible Solutions

Must prioritize the issues and solutions

Collect best practices

Communication

- publish a contact number if in doubt; 1-800 # similar to Class 6.2
- How to distribute the contact information
- Collection of copyright free training material
- Include denials awareness in IAEA illicit trafficking training (security)
- Clarity of contact points for any issue regarding RAM transport
- involve professional association

Facilitation

- both unilateral and multilateral as required
- Involvement of free trade bodies (EC, World Trade Organization)
Complexity – TranSAS mission to determine if complexity in regulations that results in denials
RPP - package rate dose threshold should be reviewed (how to graduate relative to the frequency)

Obligation for minimum service for RAM shipments? (similar to post...UPU)

Invite carriers to Technical Meeting

5) Case study

Have TM complete scenario of transporting package from country A to country B to assist in understanding the problem
Would use various scenarios by mode
Would highlight such issues:
- as number of permits/approvals required
- cost of meeting regulations (approvals fees)

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<tr>
<td>Richard Christ</td>
</tr>
<tr>
<td>Ray Clark (Secretary)</td>
</tr>
<tr>
<td>Tadeusz Dziubiak</td>
</tr>
<tr>
<td>Rifaat El-Shinawy</td>
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<tr>
<td>Korhan Erturk</td>
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<td>Vladimir Ershov</td>
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<tr>
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