TRANSSC 25 REPORT
REV 0
DRAFT

TRANSSC 25 REPORT

OPENING 29 OCTOBER 2012 1000
CLOSE 2 NOVEMBER 2012 1200

IAEA, BOARD ROOM
1.0 OPENING SESSION
Opening Remarks
1. Section Head, RIT, NSRW
   Mr Ahmad Al-Katibeh welcomed the participants and introduced the significant workload expected of TRANSSC 25, including four working groups. A full copy of his opening statement is included at Annex 1.
2. Chair – Bill Brach
   The chairman welcomed the participants and gave details of the work planned for the week. He noted the problems with late invitations for TRANSSC. His introduction is attached at ANNEX 2

2.0 ADMINISTRATION ITEMS
2.1. Conduct of the Meeting
1. Conduct of meeting and Agenda – Bill Brach
   With minor amendments the Agenda was approved. Rev 2 is attached at Annex 3.
   TRANSSC APPROVED the revised Agenda
2. Terms of Reference – Bill Brach
   The terms of reference were noted.
3. Administrative Meeting Arrangements – Jim Stewart
   Administrative details were presented to TRANSSC.

2.2. Review of previous meetings
1. Previous meeting report – Bill Brach
   Two minor changes were made to the TRANSSC 24 report, the approved report is is posted on the TRANSSC 25 web page
   TRANSSC APPROVED the updated report of TRANSSC 24
2. Action Record Sheet – Jim Stewart
The Action sheet was presented and updated. UK committed to provide the report on SEAL methodology and the table of revised A1/A2 values if the IAEA could not locate a copy. The revised action sheet was approved and is posted on the TRANSSC 25 web page.

**TRANSSC Approved the revised Action Record Sheet**

3. Review of CSS priorities – Bill Brach
   The review of CSS main priorities was presented by the chair, who noted that all relevant activities were covered by TRANSSC. He offered to provide this as an information paper for the next TRANSSC meeting.
   
   **ACTION TRANSSC Chair to produce an information paper for TRANSSC 26.**

4. Review of IAEA General Conference resolution – Jim Stewart
   J Stewart updated TRANSSC on the outcome of the General Conference, noting that the resolution had strong language related to the outcomes of the transport conference. He also mentioned the MS meetings on communication that would be initiated by Ireland and chaired by Norway, focusing on sea shipments of nuclear material. He went on to explain the resolution of the General Conference welcomed the start of the new review cycle.

5. Feedback from the Commission on Safety Standards – Dominique Delattre
   D Delattre gave feedback on the presentations to the CSS and their related decisions. He gave feedback on the Safety Standards status. He gave detailed updates on the review and revision of the Safety Glossary. He noted that all versions would be kept online to ensure that the relevant version for any particular standard would be available and to preserve the reason for changes to glossary terms.

6. Chairs meetings – Bill Brach
   B Brach gave feedback on the chairs meeting, noting the participation of the chair of the new security committee and the CSS chair. The meeting compared the terms of reference of the committees and noted they were very similar, and suggested where the same activity was performed by different committees that the terms of reference should, in future, be identical. Among other items discussed were the late issue of invitations for the safety committees. This was brought to the attention of DDG Flory and DIR Hahn. A summary of the chairs meeting has been provided to TRANSSC.

2.3.
Three Year Action Plan
1. Overview of Three Year action plan – Bill Brach
   The updated action plan was posted, with changes highlighted in red. S Faille from Canada noted some progress has been made on revised text on transport of large items. A presentation could be made to TRANSSC 26. He also noted that the work
on Special Arrangements would start soon and Member State expressions of interest to participate in the work should be sent to him. F Nitche from Germany gave a brief update of the work on LSA requirements, noting that some comments had been provided on the draft and Germany would make a proposal for the next review cycle and an updated paper from Germany would be uploaded on the TRANSSC 25 web page.

2.4. Processes for NS document development

1. Interface Group – Bill Brach

B Brach presented the summary of the Interface Group meeting that had been posted to TRANSSC. He noted that the top level documents would be sent to all committees. The group reviewed all DPPs (60) for safety and security documents in preparation. About 25% of documents had no interface. For documents well advanced in preparation the decision was that any interface should have special treatment to avoid unnecessary delay. He noted that seven security documents would need to be reviewed by TRANSSC.

2. SPESS Revisions – Dominique Delattre

D Delattre presented the updates to the SPESS A and B documents. These are available in the SPESS folder on the TRANSSC web site. SPESS A applies only to safety standards, however SPESS B covers both safety and security. A flow chart to describe the interface process has been included. The important change for Safety Standards with interface is that the Nuclear Security Guidance committee would be consulted in parallel to the relevant safety standard committees. Similarly for security documents with a safety interface the relevant safety standard committees would be consulted at the same time as the security committee.

He noted that the important issue was "what" interface requires. He noted that the main objective of the review was to ensure that safety and security documents with interface should not result in either safety or security being compromised.

Questions were asked regarding the number of security documents expected to be seen by TRANSSC, this was deferred till item 6. It was also questioned whether there could be some way of rationalising the number of committees, D Delattre noted that this was in fact what the new process was intending to achieve in the long run. It was noted that the fact that four security committee representatives on the interface group could be seen as a lack of balance.

3. Challenge on the future publication process – Dominique Delattre

D Delattre explained that the safety standard revision process was moving toward a topical review, covering multiple standards at the same time, offering more stability and efficiency in the review process. He explained the options for publication, and the different processes that could be used for addendums (for paper documents and electronic documents).

It was noted that the simple system of publishing complete text was important to encourage application of the standards
2.5. 
Topical briefing and discussion

1. Best practice for disused source return – ISSPA

J Miller gave a presentation on the manufacturers response to best practice for return of disused sources. Mr Miller described the options of recycling, long term storage and disposal. He noted that recycling was the preferred option and that disposal was not a role for source manufacturers. Regardless of the option chosen the biggest challenge is transport, in relation to source pedigree, container availability and transport logistics. He noted the problem with re-validation of Type B(U) packages. Cost of return of sources has been a problem. He gave an outline of the challenges faced by manufacturers.

The IAEA secretariat informed the meeting that several missions had been informed about the need to harmonise regulations in order to reduce the “re-validation” issues.

F Zamora noted problems in Spain, noting that the manufacturers need to maintain certificates for packages in place until the time of return of sources.

N Bruno of Brazil noted that the presentation would be important to RASSC and WASSC, and that he supported the need for valid certificates to be made. He noted that the recommendation for some time had been source return, and questioned whether this could now be wrong based on the cost.

G Fulford of Canada noted that because sources were in use for up to 20 years it was difficult to ensure costs could be established at the time of sale.

G Sallit noted that the UK had an insurance system in place to place financial guarantees in place for source return. He also noted that it would be good to incorporate security and safety of transport into a single document.

V Ershov from Russia noted that the use requirements were normally more stringent than the transport requirements in terms of the source pedigree assurance, and so should be suitable for consideration as special form.

S Whittingham from the UK noted that an international strategy document by industry might be of use, since some challenges seemed more likely to be solved collectively rather than individually. It could also propose a response desired from regulators.

J Whitworth of IAEA staff noted that the number of different devices considered in the US under GTRI required about 70 different shields, expanding this to the world is a big technical problem. IAEA has a mobile hot cell for removal of sources from devices, and this has been used several times, it has the ability for over-encapsulation.

C Clemente noted France requires a strategy document which is in the French plan for management of waste.

F Nitsche from Germany noted that the first response needed to be from industry. He encouraged an international industry strategy be developed.

2. Member State Presentations, sharing of operational experience
R K Singh gave a presentation on return of dis-used sources from an Indian perspective. He noted that 80% of sources used in India were imported. About 150 sources are disposed of locally each quarter, and 80 sources going to disposal abroad. There are about 350 neutron sources awaiting disposal. He noted there were some cases where it was proving difficult removing some sealed sources from equipment. He noted several challenges, similar to those identified by ISSPA.

N Bruno from Brazil suggested it was possibly good to have an insurance scheme for return of sources. He also asked what services the regulator offered to assist the users. R K Singh responded that there were two services, one was assisting users in understanding how to ship a source, the other was to support the disposal process.

H Mansoux of IAEA staff brought the attention of TRANSSC to the work of his unit, including the importance of long term management. He asked about the use of Special Arrangements. J Miller said he had no experience of using Special Arrangements in his organisation. R K Singh suggested that category 1 and 2 sources for domestic transport could be considered, but it was difficult for international transport. F Zamora supported the views of R K Singh, he also suggested special arrangements should be “special” and not routine. S Faille from Canada acknowledged that the work led by Canada on Special Arrangement could review this subject and report to TRANSSC.

**TRANSSC ACTION**

Secretariat to suggest to RASSC that the issue of insurance for end of life source management be considered.

J Cook made TRANSSC aware of the recent risk analysis in the USA of Spent Fuel Transport. This was the fourth review and risk study of spent fuel transport by NRC over the past 35 years. The full report is available on the NRC website.

An information paper was distributed on behalf of Japan describing the establishment of the new Japanese nuclear regulator.

3. Open discussion

3.0 REVIEW OF SAFETY STANDARDS FOLLOWING FUKUSHIMA

3.1. Implementation of the IAEA Action Plan on Nuclear Safety

1. Status report – Gustavo Carruso

   There was no presentation under item 3.1. It was noted that rather than provide a generic presentation the main aspects of the Action Plan related to transport would be dealt with as individual items on the Agenda.
Safety Standards Action Plan
1. Update on plan – Dominique Delattre
   D Delattre gave a review of the action plan for review of safety standards. He noted that DS 462 was for a draft addendum to three standards (requirements) all related to Fukushima, and that there would also be some items related to two standards (requirements) under preparation. He outlined the process for production of the addendum and noted the presentations of the two standards under review would be presented afterward.

3.3. Status reports
1. Progress report on DS 462 Revision through addenda of GSR Part 1, NS-R-3, SSR-2/1, SSR-2/2 and GSR Part 4
   D Delattre presented the progress on DS462 and informed TRANSSC about the tracking of changes from issues identified to changes implemented. The draft should be submitted to the next TRANSSC meeting in June 2013.
2. Progress report on DS456, GSR Part 2: Leadership and Management for safety
   P Gest provided an overview of the current status of the document. The document would be provided for review at the June meeting. He confirmed that a complementary guide on safety culture was in preparation.
3. Progress report on DS457, Preparedness and Response for a Nuclear or Radiological Emergency
   S Nestoroska provided an update on the status of the development of DS457. She identified the meetings held, and the major steps to be taken in the future. She noted that there were no gaps identified in the requirements as a result of Fukushima, but some improvements could be made. The document would be provided to the next TRANSSC meeting for review and approval.

4.0 THE DEVELOPMENT OF DOCUMENTS/PRODUCTS
4.1. Transport Safety Standards status overview
1. SSR6(TS-R-1) and TS-G-1.1 - Jim Stewart
   The publication of SSR6 in English was noted, and publication in other languages will be available soon. The advisory material was under development and was currently in editing. Later it was noted that some printing errors had occurred in SSR6 and it would be re-issued one week later. In addition it was noted that TS-G-1.1 had completed the initial editing.
2. TS-G-1.2 - Kasturi Varley
   A brief overview of the status was presented. It was noted that the contents should be consistent with the title and use of the term “event” rather than “accident” would be appropriate.
3. TS-G-1.6 - Nancy Capadona
An update on the status of the schedules and e-schedules was provided.

**TRANSSC ACTION**

- Secretariat to provide CD of “E-Schedules” to TRANSSC members by November 2, 2013
- TRANSSC members to provide feedback to the Secretariat on the use of “e-schedules” by end March 2013

4. NORM Report – Kasturi Varley
   TRANSSC was informed that publication committee approval would be considered in about a month.

5. Air Accident Severity Report – Jim Stewart
   TRANSSC was informed that the publication decision would follow the decision on the NORM document

4.2. DPP Approval
1. DS 469 TS-G-1.2
   The revised DPP was presented. TRANSSC modified the items in the gap analysis that were relevant to the revision of TS-G-1.2 and approved the DPP.
   **TRANSSC DECISION** DPP for DS469 is approved

4.3. Draft Safety Standards approval
   A presentation of the revised schedules matching the 2012 Edition of the regulations was provided. TRANSSC approved the document for 120 day MS review.
   **TRANSSC DECISION** DS 461 was approved for Member State Review

2. DS 419, Radiation Safety for Well Logging Sources
   A short description of the status and content of DS 419 was given by I Gusev. He noted that six comments had been offered by TRANSSC members, one was accepted, four would be addressed by RASSC and one on security would be addressed by NSGC. In response to questions he noted other guides for other activities would be forthcoming.
   **TRANSSC DECISION** DS 419 was approved for Member State Review

3. DS 458, Radiation Safety and Regulatory Control for Consumer Products
   A short description of DS458 in terms of status and content was presented by I Gusev. He gave information on 92 comments from Member States and described their resolution. Germany, India and J Miller (as participant in the work) agreed with the resolution. One comment was that this guide offered good advice for consideration by the UN Sub-Committee of Experts
   **TRANSSC DECISION** DS 458 was approved for Member State Review

4.4. Final document approval
1. No documents under this item.

4.5. Work with others
1. TRANSSC work with WASSC on extended storage followed by transport - Kasturi Varley/Monica Kinker
   K Varley reported that there had been limited activity since the last TRANSSC meeting.

4.6. Information from other UN/International bodies on their documents
1. UNECE
   1.1. Interface with the UN – Jim Stewart / Olivier Kervella
   It was explained that the effective interface between UNECE and IAEA was improving as time went on. TRANSSC was informed that the papers presented at this meeting demonstrated a commitment to collaborative working. O Kervella informed TRANSSC of recent activities in the area of transport of relevance.
   1.2. Transport of UF6 samples
   A Konnai presented the secretariat paper on UF6, which should be discussed in working groups.

2. ICAO
   K Rooney noted that Annex 17 to the ICAO Technical Instructions deals with security, Annex 18 deals with safety. A group has been set up in ICAO to ensure appropriate interface between the two subjects. TRANSSC was also informed that ICAO is moving from a mandatory audit cycle to a continuous monitoring approach.

3. IMO
   No report

4. Others
   EC
   J Binet noted that the proposal for carrier registration was now submitted to the European Council. This proposal may take time to progress.

   ISO
   P Malesys noted that the revision of the leakage testing and UF6 ISO standards are in progress. It was noted that the ISO standard for UF6 required approvals not consistent with SSR6. It was agreed that IAEA and ISO should discuss this.

   **TRANSSC ACTION** IAEA and ISO to discuss the approvals in the ISO UF6 standard.

   ISSPA
   J Miller noted that ISSPA was taking part in a radioactive source working group meeting. He also noted that the next annual meeting would be held Feb 26-27 Berlin

   TIC
   U Schwela noted there was not much change since the last TRANSSC. They currently had 89 members 26 countries. Denial remained important to TIC. Ethiopia still was experiencing denial problems. TIC was now working with WNA on transport. He noted that for the simplified denial reporting form some improved guidance was
required. At the recent annual meeting in Cape Town there were 3 papers on transport. In the view of TIC more guidance on regulating NORM in transport was required.

WNTI
There was not much to report since July. A recent workshop in Kazakhstan had taken place on Uranium Ore Concentrate (UOC) transport as part of the PATRAM 2010 legacy.

5.0
WORKING GROUP DISCUSSIONS (Tuesday 0900 – Weds 1530)

5.1.
Meeting on the transport environment
1. Presentation of draft agenda – Nancy Capadona
   The proposed outline of the programme for the technical meeting was presented. The importance of knowing what the normal transport conditions were was emphasised. Several TRANSSC members cautioned that the WG should maintain focus on the issues the meeting had been set up to deal with and should not broaden the scope too much.

5.2.
Technical Basis Document
1. Presentation of document – Chris Bajwa
   The document outline was presented. The idea was shared that the issues from the past revision cycles could be of benefit. The need to consider the impact on TS-G-1.1 was noted in the light of the new technical basis document.

5.3.
Changes accepted by UNECE for the 2011-2012 Bi-ennium
1. Presentation of UN papers of interest – Jim Stewart
   Examples of issues of interest were explained.

5.4.
Plans for next review cycle
1. Presentation of Quality Plans - Chris Bajwa
   The outline of the review quality plan and the revised quality plan were presented. The viability of the shorter cycle was questioned and confirmed, some members urged for the shortest period possible

2. Issues of importance for next review cycle
   TRANSSC identified the following issues of importance:
   - Large Components
   - Special Arrangements
   - LSA III requirements
   - Dose rate increase in normal conditions of transport
   - Regulation of NORM
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• Issues left over from the previous review cycle

TRANSSC ACTION Secretariat to identify issues left over from the previous review cycle

5.5.
WORKING GROUPS
1. Terms of Reference
TOR WG 1 CHANGED and accepted and included in Annex 4
2. Discussions in WG
   2.1. Transport Environment
   2.2. Technical Basis
   2.3. UN orange book changes
   2.4. Review cycle

5.6.
Working group recommendations report to plenary
1. Transport Environment
   A report of the working group was presented, this is attached at Annex 4. The report included the subjects to be considered and the format of the meeting. Several potential presentations were identified by potential presentation sponsors. Some concern was raised over the language of “beyond the regulations”. It was suggested that the regulatory system being unacceptable was not the question, what the meeting should focus on was the changes to the transport environment.

2. Technical Basis Document
   A report of the working group was presented, this is attached at Annex 5. Although the suggestion of the working group was to remove background/explanatory material from TS-G-1.1 it was suggested the better approach was to review TS-G-1.1 in light of this document and add or remove text as appropriate after the TECDOC was completed.

3. UN Orange Book changes
   A report of the working group was presented, this is attached at Annex 6. It was noted that not all items had been reviewed. Plenary reviewed additional items later in the week and this discussion is included in the annex. Issues regarding toxicity of UF6 were discussed, and it was suggested that any changes should not be limited to consideration of 100g samples of UF6.

4. Review cycle
   A report of the working group was presented, this is attached at Annex 7. The Working group presented a marked up revision to the quality plan, in addition to several recommended improvements.

5. Approval of WG recommendations
   Plenary endorsed the working group recommendations. Summary of the Working Groups report to plenary may be found in annex 8 to this meeting report.
6.0
THE DEVELOPMENT OF IAEA SECURITY DOCUMENTS  (Wednesday 1600-1700)

6.1.
NSGC committee, Nuclear Security Update

1. Feedback to TRANSSC – Ian Barraclough
   An overview of the status of security publications was presented by Ian Baraclough. The process for development of documents in the nuclear security series was presented, along with the outcomes of and plans for the NSGC. He noted that there were differences of opinion as to whether security document should be passed to safety committees to “see” or to “approve”. One or two new security interface DPPs for each meeting of TRANSSC was the current expectation.
   It was noted that members wished to be sure TRANSSC was notified directly when NST017 and NST022 were posted for Member State 120 day comment. Comments would be sent by TRANSSC members to the TRANSSC coordinator for input. Concern was expressed in favour of early document review noting that early synergies could be positive, and early discussion could avoid later disagreements. Some concern was expressed over transport burdens added by security and the influence on denial. Further concern was expressed over the suggestion that TRANSSC would see and not approve security documents.
   Ann-Margeth Eklund Erikson provided an update on the document related to detection of illicit trafficking at borders. NST017 was ready to send to Member States. It was expected that NSS 9 revision would start in 2013. Several training courses had been held and several were due to be held. Security of uranium concentrates was an issue that was topical. It was encouraged that TRANSSC members should provide their input on NST017 through their Member State route where possible.

6.2.
Interface documents for TRANSSC review and approval
   An overview of the status of the following security documents was presented by Ian Baraclough.
   1. NST002 – DPP for approval
      DPP has been approved, draft possibly late 2013 for TRANSSC 27 review. Limited transport, but scope under discussion.
   2. NST004 – TRANSSC action not obvious
      Drafting proceeding (step 4), limited transport interface. Draft possibly late 2013 for TRANSSC 27 review.
   3. NST006 – Approval of draft for MS comment
      DP approved, draft possibly ready late 2013 for TRANSSC 27 review.
   4. NST010 – Final draft to be approved by TRANSSC
      Late in development, so treated as an exception. ONS to obtain agreement of TRANSSC chair on text for scope saying document excludes safety.
   5. NST016 – Approval of draft for MS comment
Draft for submission to MS available for TRANSSC 26 review and approval.

6. NST017 – Approval of draft for MS comment
   This is the most important of this group for TRANSSC. Final draft for publication 2013 meeting 2, TRANSSC should comment during 120 day Member State comment period. Comment period starts possibly by end November.

7. NST022 – Approval of draft for MS comment
   Final draft for publication for TRANSSC 27 review and approval, TRANSSC should comment during 120 day period. Comment period starts possibly by end November.

7.0 DENIAL OF SHIPMENTS

7.1. Update on Denial and Delay
1. Report from ISCDOS
   Serge Gorlin of WNA presented an update on denial of shipment. He refreshed the memory of TRANSSC regarding the denial issues raised at the transport conference. He also gave TRANSSC some feedback on the ISC activities during the IAEA general conference. He gave information regarding recent developments of relevance. Several members encouraged immediate action to resolve identified issues.

2. Presentation on the Action plan
   Serge Gorlin presented a map of ISC actions to the TRANSSC action plan. He identified that TRANSSC could take on roles related to review of denial reports, SAT questionnaires, training material, communication material, analysis of disconnects between regulations in different states.

3. Future management of denial of shipment activities
   J Stewart mentioned that TRANSSC should consider under item 8.4 how to incorporate the denial work into the 3 year plan and identify how to carry forward the management activities of denial related to TRANSSC future activities.

4. Experience in Brazil

   N Bruno provided information of Member State experience from Brasil related to denial. He noted some case studies, and identified that a list of medical isotopes were now given priority for air transport (available on the CAA web page). N Bruno, on behalf of Brazil, offered to host a TRANSSC review panel meeting in Brazil in 2014.

   **TRANSSC ACTION Secretariat to respond to the offer from Brazil**

8.0 TRANSSC WORK NOW AND IN THE FUTURE

8.1.
Transport Safety Unit Mentor Program

1. Update – Jim Stewart

J Stewart noted that the “Mentor Program” had not yet been initiated, but that he presently plans to start the program at TRANSSC 26.

8.2. Technical Cooperation Projects

Secretariat discussed technical cooperation projects upcoming, and in particular:

1. Asia – Kasturi Varley
   A meeting is scheduled for Nov 16 in Pakistan.

2. Africa – Nancy Capadona
   First coordination meeting in July 2012. 18 countries participated in the project. Slight delay in the project, but meetings will take place in the next year.

3. Latin America – Nancy Capadona
   Workshop upcoming in Brasil, possibly in December this year.

4. Inter-Agency – Jim Stewart
   IAEA is working with ICAO and UNECE along with other relevant UN organizations to coordinate and collaborate on transport

8.3. Extra Budgetary funded projects

Secretariat discussed extra budgetary funded projects that might be upcoming, and in particular:

1. Caribbean – Jim Stewart
   Possibly delayed until next year

2. Asia – Jim Stewart
   Offer of funding, not yet formally accepted

3. Mediterranean – Jim Stewart
   Offer of funding, not yet formally accepted

4. Inter-Agency – Jim Stewart
   Due to a conflicting meeting this was delayed until next year

8.4. Review/revision of work plans for Transport and Transport Safety Unit

1. Input of WG recommendations to work plan – Bill Brach
   A revised workplan was presented with changes resulting from TRANSSC 25 and identifying where the recommendations from the working groups would be incorporated. The revised work plan will be posted on the TRANSS web site and an extract is included at Annex 10

2. Review of remaining issues from gap analysis for transport – J Stewart
   The items remaining from the gap analysis were presented and a path forward agreed. This is included at Annex 11

3. Review of remaining issues from Transport Conference and March TM – Jim Stewart
J Stewart presented the items from the Transport conference follow up meeting, and identified which were appropriate for inclusion in the transport plan. These are attached at Annex 12

4. Review of remaining issues from 2012 General Conference – Jim Stewart
   Several items from the General Conference Resolution were brought to the attention of TRANSSC, the most important in terms of the work plan being application of transport requirements in MS, to this end a survey would take place of Member States in the near future.

   J Stewart presented an outline of the 2014 and 2015 provisional programme, where the numbers of meetings would remain relatively constant. However this excluded both TC meetings and meetings where EB funding had not been agreed.

6. Open discussion on updated priority list - Bill Brach

   Some discussion on priorities took place, and the transport unit was encouraged to make the documents available to TRANSSC prior to discussions in future. It was agreed that the work plan would be split into two sections, a priority list for items underway and a list of items where no action was being undertaken.

   TRANSSC ACTION chair to separate the work plan into two tables, one showing “no action” items

   TRANSSC ACTION Secretariat to post the revised work plan on the TRANSSC web page

9.0
REVIEW OF TRANSPORT PROGRAMME

9.1. OIOS
   The Office of Internal Oversight Services (OIOS) held a special plenary session with TRANSSC participants to receive input on issues of concern with regard to the IAEA transport safety program and TRANSSC. For this discussion, the Transport Safety Unit Secretariat departed from the meeting room, so that their presence would not inhibit open discussion and candor of TRANSSC participants’ comments. This special plenary discussion was in addition to a separate survey conducted by OIOS and in addition to one-on-one private meetings held with TRANSSC participants throughout the week of the TRANSSC meeting. TRANSSC members offered numerous views and suggestions on how the IAEA transport safety program and TRANSSC meetings could be improved to better utilize TRANSSC participants’ time and efforts. The OIOS review team engaged in the discussion to be sure comments were understood and to elicit additional input. The OIOS review team also observed the entire TRANSSC meeting. A report of the OIOS review would be provided to IAEA management in 2013 for review and action. An overview of the OIOS review an dreport is expected to be presented at the TRANSSC 26 meeting in June 2013.
REVIEW OF DRAFT MEETING REPORT

10.1. Review of Actions in Meeting Report
1. Report reading – All participants
2. Bill Brach
   The report was reviewed, and all actions were agreed. The report will be posted for
   review on the TRANSSC web page
   TRANSSC ACTION – the report to be posted on the TRANSSC web page for
   approval at TRANSSC 26
   TRANSSC ACTION – TRANSSC members to provide comments 2 months prior to
   the next meeting

11.0 AGENDA FOR NEXT TRANSSC
11.1. Items of interest for TRANSSC
1. Issues for topical discussion – operational feedback
2. Recommended TRANSSC 26 agenda items - Bill Brach
   Suggested agenda topics for TRANSSC 26 included consideration/action on the
   recommendations resulting from the OIOS review of the transport safety program.
   Canada and Germany previously had offered to brief TRANSSC 26 on the
   outcome/status of their respective reviews of transport of large items, Special
   Arrangements and low specific activity materials.

12.0 CLOSE OF MEETING
Closing Remarks
12.1.1 Bill Brach - B Brach noted that this is the first time, TRANSSC formally
reviewed and commented on proposed changes to the UN Orange Book. This was
an action TRANSSC initiated and approved in October 2011 to strive to improve
harmonization of the IAEA transport regulations with the UN Orange Book. B Brach
also recognized and thanked Ms Konnai and Mr Hirose who were attending their last
TRANSSC meeting in their present capacity, and thanked them for their significant
contributions to international transport safety.

12.1.2 Director NSRW Mr. Hahn thanked all the TRANSSC participants for their
very productive and engaging work. He especially thanked all the TRANSSC
participants for their active engagement and support of the Office of Internal
Oversight Services review of the IAEA transport safety program. He stated that he
looks forward to consideration of the recommendations from this review. He also
thanked Ms Konnai and Mr Hirose for their hard work and support of TRANSSC and
international transport safety. He wished everyone a safe trip home and he looks forward to our next TRANSSC meeting in June 2013.
Good Morning Ladies and Gentlemen,

I am pleased to welcome each of you here to Vienna today, and to formally open the twenty-fifth meeting of the Transport Safety Standards Committee (TRANSSC). While this meeting has some important work to carry out in terms of safety standards it also stands out as an important meeting in terms of the direction of work of the Agency in terms of transport.

At this meeting we intend soliciting your input through four working groups:

1. We would like you to look at the outline for a meeting on the “transport environment”. This meeting is in response to a general conference resolution, and this resolution should be your primary focus. While we understand that some issues related to Fukushima may be able to be addressed in the meeting it is also important that you should not lose the primary focus.

2. We have been developing a “technical basis” document which aims at collecting together the origins of the transport requirements. We would value your input on how this can be further developed and used in the future. The document itself has been distributed to you, but you will be made aware of the full scope of the work at this meeting, which goes well beyond the simple document you have been given.

3. We have two quality plans for your consideration, one for review and a second for revision of the transport standards. The intention of these plans is to treat several documents at the same time, to ensure consistency. We have just published the 2012 Edition of the requirements, and I would like to take this opportunity to emphasise that the General Conference welcomed this review. In line with your
recommendation at TRANSSC 24, we have produced a quality plan showing immediate initiation of a new review. We remain confident that our safety standards are high quality and would ask you to consider carefully whether stability would add more benefit at this time as you progress with the review.

4. Another issue is our integration with the UN Orange Book. We have reviewed all changes to the Orange Book that have been approved so far in this bi-ennium and tried to highlight the ones which could relate to the transport of radioactive material. We have noted that at least one could be interpreted as being in conflict with IAEA Safety Standards. We believe it is important for you to review each of these papers carefully so that we can agree an INF paper for submission to the UN.

We noted that this year has seen some significant developments in the area of transport. I am pleased to say the developments have not stopped. At this meeting you will hear of further developments, which will be of significant interest to you – this is related to extra-budgetary support. Extra-budgetary funding supports a wide variety of transport activities. Approximately half of the transport activities are supported by extra-budgetary contributions and this will increase over time.

You will, toward the end of this meeting, be asked to look at the plans for the future. You will have heard about the decision of the International Steering Committee on Denial of Shipment to end its activities. Denial will not end. By the end of this meeting we need an effective proposal for integration of any remaining work within our normal work programme. In
particular I would like to ask you to consider how we can make use of the extensive denial network in supporting the work of the TRANSSC committee in order to improve regional representation.

Welcome to Vienna. I wish you all a very productive meeting. I hope you will not only take the time to work hard, but you will spend time in the events we have organised getting to know each other. On Wednesday I understand that a meal has been arranged. I hope you enjoy it.

Now I would like to introduce Mr. William Brach of the United States of America, the chair of TRANSSC. You have a very heavy workload ahead of you this week and I am confident that under the leadership of Mr. Brach, it will be possible to achieve the intended results.

Thank you.
ANNEX 2

OPENING REMARKS FOR THE 25th MEETING OF THE TRANSPORT SAFETY STANDARDS COMMITTEE (TRANSSC)
BILL BRACH, CHAIRMAN

I want to “Thank” Mr. Al-Khatibeh for opening our 25th meeting of TRANSSC. He identified a number of important topics relevant to transport and TRANSSC resulting from the September 2012 General Conference and other IAEA initiatives and activities. Some of these actions and activities will directly impact TRANSSC and will require our discussion at this meeting.

I too want to welcome everyone to our TRANSSC meeting. In particular, I wish to extend a special welcome to those who are attending their first TRANSSC meeting.

I invite everyone to ask me or the Secretariat staff, or your neighbor, if you have any questions or require other assistance. I know that on occasion we use multiple acronyms in our discussions; sometimes we use the acronym as a word which can be quite confusing. Some of us even use different dialects of English such as the “Queens” English in contrast to that good ole “Tennessee” English. It can be confusing to us all. So please do not hesitate to ask for clarification. It is important that we all be engaged and informed in our discussions.

Only a little more than 3 months have elapsed since our last TRANSSC meeting. You may be thinking that is not sufficient time to generate papers and tasks for our meeting. Further, you may have noticed that there were not many documents posted for our review until just recently. However, let’s consider what is on our plate for this meeting. The proposed revision of Safety Guide TS-G-1.6, Schedules of Provisions of the IAEA Regulations for the Safe Transport of Radioactive Material (2012 Edition of SSR-6), is posted for our review and approval to be issued to Member States for the 120-day review and comment period. The proposed Document Preparation Profile to revise Safety Guide TS-G-1.2, Planning and Preparing for Emergency Response to Transport Accidents Involving Radioactive Material, to include Fukushima lessons learned and the outcome of the October 2011 transport conference and the March 2012 Technical Meeting is posted for our review and approval. You are aware of the Secretariat’s posting of changes to the UN Orange Book that require our review and comment as part of our effort to improve harmonization. The draft Technical Basis document was posted for our review. We have follow-up action from TRANSSC 24 to review in more detail the Fukushima lessons learned relative to transport. We need to formulate plans for the next two-year review cycle for SSR-6. We need to discuss and develop plans for, what I will describe as a major Technical Meeting on “transport environment” scheduled for July 2013. And, following the September 2012 General Conference, we have to act on the Safety Resolution direction to initiate immediate action on the outcomes of the October 2011 transport conference and the follow-up March 2012 Technical Meeting.

I think we have a very full plate.

There is also a procedural issue I want to raise and that is the late IAEA issuance of invitation letters to this TRANSSC meeting. At the Chairs meeting on 8 October 2012, I raised this issue and concern to IAEA management and with the other Committee Chairs. On the one hand, I was pleased that the letters were issued shortly thereafter on 10 October. However, I recognize the difficulty the delay in issuance of invitation letters caused some of you here, and the additional consequence that some of our colleagues are not able to be with us at this meeting. I will discuss this issue a little more under agenda item 2.2.6, Chairs Meeting, but I want you to
know that the Chairs requested that the IAEA put in place an internal process so that this situation does not reoccur in planning for future Safety Standards Committee meetings.

Some of you may have already met the newest member of Jim’s staff, Mr. Chris Bajwa. Chris is from the USA and joined the Transport Safety Unit in early September. I have worked with Chris at the Nuclear Regulatory Commission for a number of years and I am very pleased that he is now bringing his outstanding knowledge and skills to the IAEA. I am also very happy to "Welcome" Chris to his first TRANSSC meeting and to introduce him to you. Chris, would you please stand so everyone can see you. Chris, Thank you and welcome. We look forward to working with you on TRANSSC and transport-related activities over the coming years.

Now, if you all are ready, we can move to our next agenda item, item 2.1.1, which is review and approval of the TRANSSC 25 meeting agenda.

Thank you!
Annex 3
TRANSSC 25 AGENDA

OPENING 29 OCTOBER 2012 1000
CLOSE 2 NOVEMBER 2012 1200

IAEA, BOARD ROOM
# TRANSSC 25 AGENDA

**STARTING:**

29 OCTOBER 2012  
**1000 (10AM)**  
IAEA, BOARD ROOM

## 1.0 OPENING SESSION (Monday 1000-1015)

| Purpose |  
|---------|---|
| • To Welcome Participants  
• To provide TRANSSC Direction for the Meeting |  
| 1.1. Opening Remarks |  
| 1. Section Head, RIT, NSRW  
2. Chair – Bill Brach |  
| Output Required |  
| • None – For information only |
### Purpose
- To establish a clear set of guidelines for the conduct of TRANSSC
- To adopt the agenda
- To inform TRANSSC of the Administrative arrangements
- To make people aware of key discussion topics
- To provide follow up to previous meetings and related administrative matters
- To provide an opportunity for sharing and awareness on a topical issue

### 2.1. Conduct of the Meeting
- 1. Conduct of meeting and Agenda – Bill Brach
- 2. Terms of Reference – Bill Brach
- 3. Administrative Meeting Arrangements – Jim Stewart

### 2.2. Review of previous meetings
- 1. Previous meeting report – Bill Brach
- 2. Action Record Sheet – Jim Stewart
- 3. Review of CSS priorities – Bill Brach
- 4. Review of IAEA General Conference resolution – Jim Stewart
- 5. Feedback from the Commission on Safety Standards – Dominique Delattre
- 6. Chairs meetings – Bill Brach

### 2.3. Three Year Action Plan
- 1. Overview of Three Year action plan – Bill Brach

### 2.4. Processes for NS document development
- 1. Interface Group – Bill Brach
- 2. SPESS Revisions – Dominique Delattre
- 3. Challenge on the future publication process – Dominique Delattre

### 2.5. Topical briefing and discussion
- 1. Best practice for disused source return – ISSPA
- 2. Member State Presentations, sharing of operational experience
- 3. Open discussion
<table>
<thead>
<tr>
<th>Output Required</th>
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<tbody>
<tr>
<td></td>
<td>• Approved agenda</td>
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<td></td>
<td>• Approved TRANSSC 24 Meeting Report</td>
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<td>• Updated action record sheet</td>
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## 3.0 REVIEW OF SAFETY STANDARDS FOLLOWING FUKUSHIMA (Monday 1400 - 1500)

<table>
<thead>
<tr>
<th>Purpose</th>
<th>To review Safety Standards in the light of Fukushima</th>
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<tbody>
<tr>
<td>3.1.</td>
<td>Implementation of the IAEA Action Plan on Nuclear Safety</td>
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<tr>
<td></td>
<td>1. Status report – Gustavo Carruso</td>
</tr>
<tr>
<td>3.2.</td>
<td>Safety Standards Action Plan</td>
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<td>1. Update on plan – Dominique Delattre</td>
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<tr>
<td>3.3.</td>
<td>Status reports</td>
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<td></td>
<td>1. Progress report on DS 462 Revision through addenda of GSR Part 1, NS-R-3, SSR-2/1, SSR-2/2 and GSR Part 4</td>
</tr>
<tr>
<td></td>
<td>2. Progress report on DS456, GSR Part 2: Leadership and Management for safety</td>
</tr>
<tr>
<td></td>
<td>3. Progress report on DS457, Preparedness and Response for a Nuclear or Radiological Emergency</td>
</tr>
<tr>
<td>Output Required</td>
<td>None – For information only</td>
</tr>
</tbody>
</table>
# THE DEVELOPMENT OF DOCUMENTS/PRODUCTS (Monday 1500 - 1730)

## Purpose
- To inform TRANSSC about the status of safety standards
- To comment on and decide on whether to approve documents sent to TRANSSC
- To inform TRANSSC about the status of other relevant requirements

### 4.1. Transport Safety Standards status overview

| 1. SSR6(TS-R-1) and TS-G-1.1 | Jim Stewart |
| 2. TS-G-1.2 | Kasturi Varley |
| 3. TS-G-1.6 | Nancy Capadona |
| 4. NORM Report | Kasturi Varley |
| 5. Air Accident Severity Report | Jim Stewart |

### 4.2. DPP Approval

1. DS 469 TS-G-1.2

### 4.3. Draft Safety Standards approval

2. DS 419, Radiation Safety for Well Logging Sources
3. DS 458, Radiation Safety and Regulatory Control for Consumer Products

### 4.4. Final document approval

1. 

### 4.5. Work with others

1. TRANSSC work with WASSC on extended storage followed by transport - Kasturi Varley/Monica Kinker

### 4.6. Information from other UN/International bodies on their documents

1. UNECE
   1.1. Interface with the UN – Jim Stewart
   1.2. Transport of UF6 samples
2. ICAO
3. IMO
4. Others

## Output Required
- Approval of DPP for DS 469
- Approval of DS 461 for MS review
- Approval of DS 419 for MS review
- Approval of DS 458 for MS review
- INF paper to UNECE on UF6 (if required)
## 5.0 WORKING GROUP DISCUSSIONS (Tuesday 0900 – Weds 1530)

### Purpose
- To identify and discuss topics to be considered in TRANSSC working groups
- To describe plans for TRANSSC Working Groups to review and provide to TRANSSC plenary the Working Group’s recommendations for TRANSSC consideration and action

<table>
<thead>
<tr>
<th>5.1.</th>
<th>Meeting on the transport environment</th>
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<tr>
<td></td>
<td>1. Presentation of draft agenda – Nancy Capadona</td>
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<tr>
<th>5.2.</th>
<th>Technical Basis Document</th>
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<td>1. Presentation of document – Chris Bajwa</td>
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<tr>
<th>5.3.</th>
<th>Changes accepted by UNECE for the 2011-2012 Bi-ennium</th>
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<tr>
<td></td>
<td>1. Presentation of UN papers of interest – Jim Stewart</td>
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<tr>
<th>5.4.</th>
<th>Plans for next review cycle</th>
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<tr>
<td></td>
<td>1. Presentation of Quality Plans - Chris Bajwa</td>
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<td>2. Issues of importance for next review cycle</td>
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<tr>
<th>5.5.</th>
<th>WORKING GROUPS</th>
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<tbody>
<tr>
<td></td>
<td>1. Terms of Reference</td>
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<td></td>
<td>2. Discussions in WG</td>
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<td></td>
<td>2.1. Transport Environment</td>
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<td></td>
<td>2.2. Technical Basis</td>
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<td>2.3. UN orange book changes</td>
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<td></td>
<td>2.4. Review cycle</td>
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<tr>
<th>5.6.</th>
<th>Working group recommendations report to plenary</th>
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<tr>
<td></td>
<td>1. Transport Environment</td>
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<td>2. Technical Basis Document</td>
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<td>3. UN Orange Book changes</td>
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<td>4. Review cycle</td>
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<td></td>
<td>5. Approval of WG recommendations</td>
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</table>

### Output Required
- TRANSSC decisions on
  - Transport Environment Meeting
  - Technical Basis Document
  - UN Orange Book changes
  - Review cycle

WG from Tuesday 1030 – Weds lunch
Plenary reconvenes 1330 Weds
## 6.0 THE DEVELOPMENT OF IAEA SECURITY DOCUMENTS (Wednesday 1600-1700)

**Purpose**
- To inform TRANSSC about the status of security standards

**6.1. NSGC committee, Nuclear Security Update**
- 1. Feedback to TRANSSC – Ian Barraclough

**6.2. Interface documents for TRANSSC review and approval**
- 1. NST002 – DPP for approval
- 2. NST004 – TRANSSC action not obvious
- 3. NST006 – Approval of draft for MS comment
- 4. NST010 – Final draft to be approved by TRANSSC
- 5. NST016 – Approval of draft for MS comment
- 6. NST017 – Approval of draft for MS comment
- 7. NST022 – Approval of draft for MS comment

**Output Required**
- TRANSSC approval of security interface documents

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## 7.0 DENIAL OF SHIPMENTS (Thursday 0900 - 1000)

**Purpose**
- To inform TRANSSC on the work of the steering committee on delay and denial
- To provide TRANSSC input to the work of the International Steering Committee on Denial (ISC)

**7.1. Update on Denial and Delay**
- 1. Presentation from Brazil – N Bruno
- 2. Report from ISCDOS –
- 3. Presentation on the Action plan
- 4. Future management of denial of shipment activities

**Output Required**
- A list of denial actions to be monitored by TRANSSC

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Guest presentation – Leadership and Management Systems
### 8.0 TRANSSC WORK NOW AND IN THE FUTURE (Thursday 1000 - 1500)

<table>
<thead>
<tr>
<th>Purpose</th>
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<tbody>
<tr>
<td>To provide feedback to TRANSSC Members</td>
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<tr>
<th>Section</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>8.1.</strong></td>
<td>Transport Safety Unit Mentor Program</td>
</tr>
<tr>
<td>1.</td>
<td>Update – Jim Stewart</td>
</tr>
<tr>
<td><strong>8.2.</strong></td>
<td>Technical Cooperation Projects</td>
</tr>
<tr>
<td>1.</td>
<td>Asia – Kasturi Varley</td>
</tr>
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<td>2.</td>
<td>Africa – Nancy Capadona</td>
</tr>
<tr>
<td>3.</td>
<td>Latin America – Nancy Capadona</td>
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<tr>
<td>4.</td>
<td>Inter-Agency – Jim Stewart</td>
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<tr>
<td><strong>8.3.</strong></td>
<td>Extra Budgetary funded projects</td>
</tr>
<tr>
<td>1.</td>
<td>Carribean – Jim Stewart</td>
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<td>2.</td>
<td>Asia – Jim Stewart</td>
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<td>3.</td>
<td>Mediterranean – Jim Stewart</td>
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<td>4.</td>
<td>Inter-Agency – Jim Stewart</td>
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<tr>
<td><strong>8.4.</strong></td>
<td>Review/revision of work plans for Transport and Transport Safety Unit</td>
</tr>
<tr>
<td>1.</td>
<td>Input of WG recommendations to work plan – Bill Brach</td>
</tr>
<tr>
<td>2.</td>
<td>Review of remaining issues from gap analysis for transport – J Stewart</td>
</tr>
<tr>
<td>3.</td>
<td>Review of remaining issues from Transport Conference and March TM – Jim Stewart</td>
</tr>
<tr>
<td>4.</td>
<td>Review of remaining issues from 2012 General Conference – Jim Stewart</td>
</tr>
<tr>
<td>6.</td>
<td>Open discussion on updated priority list - Bill Brach</td>
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<th>Output Required</th>
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<tbody>
<tr>
<td>Approval of CHANGES TO Transport Three Year Work Plan</td>
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<tr>
<td>Offers of assistance</td>
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### 9.0 REVIEW OF TRANSPORT PROGRAMME (Thursday 1500 - 1730)

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<thead>
<tr>
<th>Purpose</th>
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<tbody>
<tr>
<td>To describe IAEA plans for the independent evaluation of the IAEA’s Regular Programme Activities in Transport Safety (an independent audit of the “transport safety Program)</td>
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<tr>
<td>To engage TRANSSC members in feedback on topics/questions prepared by the (IAEA) evaluation team</td>
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<tr>
<th>Section</th>
<th>Description</th>
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<tr>
<td><strong>9.1.</strong></td>
<td>OIOS</td>
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<td>1.</td>
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<tr>
<td>Output Required</td>
<td>• Gathering of information relevant to the evaluation team (IAEA audit team)</td>
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</table>
### 10.0 REVIEW OF DRAFT MEETING REPORT (Friday 1000 - 1100)

<table>
<thead>
<tr>
<th>Purpose</th>
<th>To approve the list of actions and decisions by TRANSSC</th>
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<tbody>
<tr>
<td>10.1.</td>
<td>Review of Actions in Meeting Report</td>
</tr>
<tr>
<td></td>
<td>1. Report reading – All participants</td>
</tr>
<tr>
<td></td>
<td>2. Bill Brach</td>
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<td>Output</td>
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<td>Required</td>
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<tr>
<td></td>
<td>• Agreed list of actions and decisions</td>
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</table>

### 11.0 AGENDA FOR NEXT TRANSSC (Friday 1100-1130 )

<table>
<thead>
<tr>
<th>Purpose</th>
<th>To identify items for the next TRANSSC meeting TRANSSC 26</th>
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<tbody>
<tr>
<td>11.1.</td>
<td>Items of interest for TRANSSC</td>
</tr>
<tr>
<td></td>
<td>1. Issues for topical discussion – operational feedback</td>
</tr>
<tr>
<td></td>
<td>2. Recommended TRANSSC 26 agenda items - Bill Brach</td>
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<td>Output</td>
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<td>Required</td>
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<td></td>
<td>• A list of items to be considered for the next TRANSSC agenda</td>
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</table>

### 12.0 CLOSE OF MEETING (Friday 1130)

| Purpose | To summarise the meeting results  
<table>
<thead>
<tr>
<th></th>
<th>To thank participants for their work</th>
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<tbody>
<tr>
<td>12.1.</td>
<td>Closing Remarks</td>
</tr>
<tr>
<td></td>
<td>1. Bill Brach</td>
</tr>
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<td></td>
<td>2. Director NSRW</td>
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<tr>
<td>Output</td>
<td>None – For information only</td>
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<tr>
<td>Required</td>
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</tbody>
</table>
A. The dates of the meeting are 29 October-2 November 2012
B. Plenary will convene in the IAEA Board Room, side rooms M0E68, M0E69 and M0E70
C. The working times for the meeting will be:
   • 1000 to 1700 on Monday,
   • 0900 to 1730 on Tuesday to Thursday.
   • 0900 to 1700 on Friday, aiming to complete by 1200
D. Breaks will be taken mid-morning (around 1030) and mid-afternoon (around 1530) each day.
E. Lunch will be from 1200 hours to 1330 hours each day or at alternate times at the discretion of the Meeting Chair.
F. A special event for participants and accompanying persons will be arranged for Wednesday, 31 October.
G. 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.
Preparation for Technical Meeting: Review of environment experienced by packages in transport

WG1 meeting report
30\textsuperscript{th} and 31\textsuperscript{st} of October 2012.
1.0 Introduction

The terms of references for the meeting were introduced by M. Stewart and approved. The document is provided in Attachment 2. The list of participants is provided in attachment 1.

The WG reviewed the output from the 2011 transport conference and the associated technical meeting and did not identify any topics from conference findings that should be considered at the TM.

2.0 Topics

Concerning environment of the transport described in the regulation or in the guidance, the following list of potential identified problems was produced by the participants:

The Meeting Report of the July 2012 Virtual CM was considered. Additional topics were identified:

The WG1 has reviewed the Fukushima document (see attachment 4) to select the issues related to environment to be addressed during TM. All lessons 1, 2 (if plenary agrees), 3, 4, 8 should be addressed during TM. Lesson 27 needs to be discussed under item 1.

Natural environment:
- Temperature – including air transport
- Pressure – including air transport
- Solar insolation
- Natural extreme conditions:
  - Extreme weather
  - Earthquakes (Tsunami etc)
- Duration and depth of immersion test

Other environment loadings:
- Accelerations (depends on the package weight, the mode of transport, the direction, Effect of vibration – frequencies – amplitude – random,...). Very different values are proposed in norms or guidance. IRSN, TNI and BAM have begun collecting data on acceleration factors for all modes of transport. During the TM, the other participants can provide their data on acceleration factors (measurement campaigns, recommended values, etc.). Furthermore, IRSN will start to investigate a methodology different from the current pseudo-static approach, consisting in a spectral density approach for package design. To harmonize practises it can be proposed to review appendix IV of TS-G-1.1 (rev.1) in the light of the available data in literature and to identify missing data and prepare actions to fill the gap. IRSN and other interested parties to give presentation to TM.

- Surroundings
Nuclear – presence of PE on criticality and thermal fire enhancement
Cooling systems (e.g. to ensure temperature limits on INF ships)
Thermal – fire enhancement: tunnel fire, metallic and other package
seals performance under thermal conditions ..
Thermal – insulation (e.g. a canopy prevents cooling)
Burial, dynamic crush test, puncture test (including loadings from
earthquake and/or tsunami, from Fukushima event)
Relationship between package and conveyance.

In addition, a need to clarify the boundaries between routine and normal conditions of transport, between normal and accident conditions of transport, and between accident and severe accident (beyond the Regulations) conditions of transport was pointed out.

The organization of the July 2013 TM was discussed by the participants. It was proposed:

- First two days:
  Plenary session.
  
  **WG1 suggests the background and definitions for routine, normal, and accident conditions be discussed. This should occur in advance of the TM, for instance during the CS in January 2013, so that this topic does not detract from the TM focus and effort.**

  Environmental parameters and initiating events will be reviewed with specialists from weather, accelerations per mode of transport, air and sea transport, external events (earthquakes, flooding including tsunami, etc.) and packaging experts. The background of the paragraphs in the regulation and guidance where package transport environment is quoted will be presented. Environmental parameters (extreme temperature, extreme pressure, accelerations, surroundings could be briefly presented by each countries over the past ten years).

  Do we need change in the regulation and/or in its guidance? Could new parameters affect routine, normal, accident conditions of transport and beyond regulatory requirements, based on the meaning of these conditions?

- The last three days will be used to identify problems, to collect first ideas to solve them, to identify countries interested in contributing to address the identified problems with a leading country to organize future work (correspondence groups, consultancy meetings, research project,..). Specialists from the environmental parameters and initiating event stay.

  4 Working groups are proposed.

  o **Mechanical experts**

  **Routine and normal conditions of transport**
  , Pressure – including air transport, natural extreme weather

  **Accident conditions of transport and beyond regulatory**
  Extreme events, duration of immersion against depth, dynamic crushing and puncture/tearing test due to earthquakes consequences
○ Thermal experts

**Routine and normal conditions of transport**
Temperature including air transport, natural extreme weather, insolation
Cooling systems (e.g. to ensure temperature limits on INF ships)
Thermal – insulation (e.g. a canopy prevents cooling)

**Accident conditions of transport and beyond regulatory**
Thermal – fire enhancement: tunnel fire, Nuclear – presence of PE on thermal fire enhancement, solar insolation, burial, presence of debris (including from earthquake, from Fukushima-like situation), extreme event

○ Criticality experts

**Routine and normal conditions of transport**
Fissile – presence of PE on criticality and relationship to all thermal paragraphs and criticality

**Accident conditions of transport and beyond regulatory**
Duration of immersion against depth, presence of PE on criticality and thermal fire enhancement and relationship to all thermal paragraphs and criticality
Nuclear – presence of PE on criticality and thermal fire enhancement and relationship to all thermal paragraphs and criticality

○ Working group on accelerations and stowage (or tie down)

Several member states are considering presentation topics, but are unable to commit to specific topics and/or participation at this time.

The preliminary list of presentations and sponsors (if others candidate are interested to provide a presentation they can contact Ms. Capadona and Ms. Lizot):

- Air Transport -ICAO
- Climate change - UK
- Interaction between package and conveyance- UK
- Acceleration – Germany, WNTI and France
- Burial – WNTI and France
- Immersion - WNTI and France
- Thermal (fire testing) – U.S.
- Earthquake – WNTI
- Classification of transportation incidents caused by natural events (including Fukushima) - WNTI
- Note: For each presentation, provide the basis of current applicable regulations (particularly if changes are being considered.)

- Note: Prior to presentations, provide results of CS consideration of routine, normal, and accident conditions in transport.

WG1 participants to propose lecturers to Ms. Capadona or Ms. Lizot by e-mail.

A CS will take place in January 2013 week 3 (from 14th to 18th January) to go on with the preparation of the TM to be held in July 2013. The agenda for this CS will be distributed in December. France, WNTI, Germany, Switzerland are interested in participating in this CS.

The proposed agenda of the TM is given in attachment 3.

3.0 Close of Meeting

Ms. Lizot thanked M. Cook and the participants for their contribution. The meeting accomplished its Terms of Reference.
### Attachment 1: List of Participants

<table>
<thead>
<tr>
<th>Country/Role</th>
<th>Name</th>
</tr>
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<tbody>
<tr>
<td>IAEA</td>
<td>CAPADONA, N</td>
</tr>
<tr>
<td>France, chair</td>
<td>LIZOT, MT</td>
</tr>
<tr>
<td>Switzerland</td>
<td>ASKITOGLU, E</td>
</tr>
<tr>
<td>UK</td>
<td>BARLOW, I</td>
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<tr>
<td>ICAO</td>
<td>ROONEY, K</td>
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<tr>
<td>Corea</td>
<td>KIM, W.T.</td>
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<tr>
<td>Canada</td>
<td>FULFORD, G</td>
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<td>Belgium</td>
<td>LOURTIE, G</td>
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<td>Australia</td>
<td>SAMIR SARKAR</td>
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<td>Croatia</td>
<td>ILIJAS</td>
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<td>Germany</td>
<td>KOMANN</td>
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<td>USA</td>
<td>A. PATKO</td>
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<td>USA, secretary</td>
<td>SAMPSON, M</td>
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<td>USA, secretary</td>
<td>COOK, J</td>
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<td>Egypt</td>
<td>NADA, A</td>
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<td>Sweden</td>
<td>ZIKA, H</td>
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<td>Russia</td>
<td>SHUGAEVA, M</td>
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<td>Russia</td>
<td>BUCHELNIKOV, A</td>
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<tr>
<td>WNTI</td>
<td>HIROSE, Makoto</td>
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<tr>
<td>International Organization for Standardization</td>
<td>MALESYS, Pierre</td>
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</tbody>
</table>
Attachment 2: Terms of Reference

Working group 1 – Transport Environment: Terms of Reference

A. Background

The IAEA General Conference resolution GC(53)/RES/10, September 2009 stated:

48. Calls upon the Agency to continue to take into account scientific evidence of changing global weather patterns, changes to infrastructure and changes to industry operations in the ongoing review of the relevant Agency safety standards, and encourages the Secretariat to facilitate the development of new fissile-excepted material requirements for the transport of radioactive material;

IAEA has initiated a review of the background of the transport requirements in the Regulations TS-R-1/SSR-6 and associated guidance (TS-G-1.1). At the TRANSSC22 meeting, a program of review of “Technical Basis of Regulations” was presented. Among the concerned topics, package transport environment and associated issues may be considered.

A Technical Meeting will be held in July next year to “Review of Environment Experienced by Packages in Transport”. A virtual meeting was held on July to establish a provisional agenda for Technical Meeting in 2013. The final Report of that virtual meeting will be used as an information paper for the working group. To complete the work for preparation of the July TM, there will be a Consultancy Service Meeting at the beginning of 2013.

This working group is expected to produce inputs for the CS related to the papers to be presented, lecturers to be invited, organization of subjects to be addressed, and fixing the date for the CS.

B. Work to be done

- Identify subjects for a preliminary thematic agenda for the TM.
- Review of GAP Analysis from Fukushima document to select the issues related to environment to be addressed.
- Review the output from the 2011 transport conference and the associated technical meeting
- Propose papers to be presented at TM.
- Propose lecturers to be invited
- Fix the final date for next Consultancy Meeting (proposed January – February 2013)

C. Output

The working group will produce a report containing:
• Identification of subjects for a preliminary thematic agenda for the TM.
• Revision of GAP Analysis from Fukushima document to select the issues related to environment to be addressed.
• Proposed papers to be presented at TM.
• Proposed lecturers to be invited
• The final date for next Consultancy Meeting
## Attachment 3 : Agenda for Meeting

### Provisional Agenda

**To prepare for TM – Review of environment experienced packages in transport**

1. First two days:
2. Agreement of scope
3. Presentation on routine, normal and accidental conditions of transport and discussion
4. Presentations of experts
   a. Tie-down system
   b. Environmental: ambient pressure, temperature, rain and/or features added to the package
   c. Fukushima lessons
   d. (others, to be added)
5. Three last days:
   a. four Working Groups
      - Mechanical
      - Thermal
      - Criticality
      - Acceleration
6. Plenary
   a. Presentation of the Working Groups and Conclusions
   b. Next steps?
   c. Report
### (Lessons in Category 1) Preventions of severe accidents

<table>
<thead>
<tr>
<th>No</th>
<th>Lessons learned from the accident</th>
<th>Secretariat</th>
<th>Japan</th>
<th>Proposed action</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Strengthen measures against earthquakes and tsunamis</td>
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</table>

**Are issues such as natural forces fully considered in the hypothetical tests and in the Q system?**

**Requirements in the Transport Regulations are not based on full consideration of natural environmental conditions or forces (environmental conditions such as an ambient temperature, insolation or mechanical impact conditions induced by natural forces). Requirements have been established to include almost of consequences from natural forces and man-induced events based on experiences in dangerous goods transport.**

As one of ideas to consider events beyond expectations, a need for transport risk assessment may be discussed.

WG1: Consider in Technical Meeting.
<table>
<thead>
<tr>
<th>No</th>
<th>28 lessons learned</th>
<th>Gap review</th>
<th>Discussion starters</th>
<th>Japan Preliminary view</th>
<th>Proposed action</th>
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<tbody>
<tr>
<td></td>
<td>(currently 5 times); Combined situation of incidents</td>
<td>Is building collapse (or perhaps collapse of a crane) covered by the requirements, and should it be?</td>
<td>Not all the collapse of buildings or cranes is not covered by the Regulations, and it is almost impossible to cover all collapse conditions by the requirements of the Regulations. But, the possibility that a package encounters such collapse during transport seems very low. If a probable collapse event could be established as a representative requirement, it would be taken into the Regulations. However it seems quite difficult. Probable collapse of a building onto a package in a nuclear facility will be assessed as part of safety evaluation of the facility, and it will be out of the scope of transport.</td>
<td>Is burial a situation that should be considered?</td>
<td>It should be considered when burial situation is credible (e.g. Type C package). For small packages it may be credible, but is seems unlikely for large packages. It seems difficult to generalize or normalize the conditions to assess package (other than Type C packages) burial in the Regulations. When it is credible that a package with high thermal load or less resistant to external compressive load</td>
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<td>encounters burial under actual transport situation, it should be assessed as a safety case, or be classified as a severe accident beyond the regulatory environment.</td>
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<td>Is the stacking load in the regulations sufficient?</td>
<td>The stacking requirement in the Regulations assumes stacking of small packages or containers as same as the other dangerous goods packages. It should not be regarded as external loads by burial or building collapse. For light weight packages, the crush test (drop test III) is specified in the Regulations. When the stacking load beyond the regulatory requirement is credible under actual transport situation, it should be assessed as a safety case.</td>
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<td>Are there accident combinations resulting from natural events that are not included in the hypothetical accident scenarios?</td>
<td>Yes. For example, storage site requirements for dual purpose cask, such as flood, lightning, earthquake, tornado and missile, can be pointed out. Examples of severe event are; collapse of buildings or cranes by earthquake, burial to landslide by earthquake, burial to snow-slide, and sinking to a depth deeper than 15m/200m.</td>
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<td>Though it is not an urgent item, meetings to investigate transport events should be set up.</td>
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<td>Probabilities, however, that packages encounter these events seem enough low not to be incorporated to the Regulations as general events.</td>
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<td>It is useful to provide comprehensive event trees to extract events not only caused by earthquake or tsunami but exhaustively during transport. Is it possible for IAEA to conduct such study as a future project?</td>
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<td>How does the severe accident frequency in the regulations compare to the frequency of severe natural events?</td>
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<td>It is understood as accident conditions and environmental conditions specified in the Transport Regulations were established, without basis of recurrence period or occurrence frequency, but as typical or representative conditions based on empirical judgment at the time when such probabilistic data were not available.</td>
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<td>As one of ideas to consider for events beyond expectations, a need for transport risk assessment may be discussed.</td>
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<td>It is difficult, therefore, to compare quantitatively between severe accidents frequencies and severe natural event frequency.</td>
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<td>However, it is the time to consider needs to evaluate conditions specified in the Regulations based on a probabilistic approach or a risk based approach.</td>
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<td><strong>Is the combined situation of incidents considered in the Regulations?</strong></td>
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<td>assessment method, as a risk based or risk informed regulatory controls becomes more and more common.</td>
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<td>2</td>
<td><strong>Ensure power supplies</strong></td>
<td>It is out of the scope of the Transport Regulations, since no safety function relies on power supplies. On the other hand, some of handling or transport equipment may need to consider secure power supplies, especially multiple power sources for handling crane at a wharf, during incidents. It should be reviewed whether such consideration is</td>
<td></td>
<td>Requirements in the Transport Regulation basically do not consider combined situation of multiple events. However, the accident conditions of transport are considered as a set of sequential events, and for the fissile packages accumulation of damaged package is considered. Under the accident conditions of transport, combined risks (consequences) are not considered.</td>
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<td><strong>WG1: Consider in Technical Meeting</strong></td>
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Is there a need for secondary power supplies for some equipment used in transport (e.g. the INF ships have twin power). Should cranes etc have backup power supplies. These should be judged for respective transport based on the reliability of related equipment and consequences when they failed. For example, when heat removal function of package is maintained by additional forced cooling device, redundant device or back-up power source should be considered to enhance the reliability of the device. In General seldom equipment is required to be backed up, since even when such equipment

**WG1: Different opinions expressed; request plenary resolution.**
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<th>Proposed action</th>
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<td>Discussion starters</td>
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<td>addressed in the guidance material, TS-G-1.1.</td>
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<td><strong>Should cranes etc have backup power supplies.</strong></td>
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<tr>
<td>3</td>
<td>Ensure reliable</td>
<td>To ensure the heat removal function is one</td>
<td>For packages with a high heat</td>
<td>The reduction in cooling capability of package,</td>
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(handling equipment, conveyance) stopped no immediate consequence on the safety of package is expected. The INF ships are equipped with back up power sources. Installation of twin engines has been presumably applied to enhance the safety of voyage and not for the safety of packages directly. As the basic safety of radioactive packages relies on the integrity of packagings, considerations on that equipment are out of the scope of the Transport Regulations. A halt of handling equipment such as crane causes no immediate consequence on the safety of packages. Therefore, need of backup power supplies to such equipment seems uncommon. Wharf cranes to handle packages are equipped with backup power supplies not to interfere transport vessels from emergency evacuation at the time of tsunami. This is a specific practice with considerations to a recurrence period of tsunami.

WG1: Different opinions expressed, request plenary resolution
<table>
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<tr>
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</table>
|    | cooling function of reactors and PCVs | of the essential requirements stipulated in the Transport Regulations. In order to assess this function, the environmental test and the thermal (fire) test are incorporated to Type B(U) and B(M) package design requirements, and the enhanced environmental (burial) test and the enhanced thermal (fire) test are added to Type C package design requirements. It should be reviewed whether the regulatory test conditions are adequate from the viewpoint of maintenance of the heat removal function, and whether to add to secure the heat removal capability after the accident in the emergency response procedures. E.g. Validity of the environmental, thermal (fire) and burial test conditions (ambient temperature, heat transfer coefficients, duration, etc.) | load should reduction in cooling capability be a required test? | which may be resulted from internal causes (failure or degradation of thermal path members, damage on radiation fins) or external causes (changes in heat dissipation environment — ambient temperature, insolation, snowfall, disturbance of air flow due to blockage, burial into the ground), seems an event of low probability, and it also seems extremely difficult to generalize as test conditions to be specified in the Transport Regulations. Though a probable event, which has not yet covered by the conditions specified in the Regulations, should be considered to corporate to the Regulations, the occurrence probability of above event seems very low to be excluded. Events with very low probability but with high consequences should be coped with emergency response (accident management). From this view, when it is credible that a package with high thermal load encounters an event lead to reduction of cooling capability under actual transport situation, it should be assessed as a safety case, and the emergency response
<table>
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<td>4</td>
<td>Ensure reliable cooling functions</td>
<td>See lesson No. 3.</td>
<td>If areas where heat generating packages are stored rely on forced cooling what would be the effect if it failed?</td>
<td>See lesson No.3. Countermeasures to prevent such event should be provided. The loss of forced cooling function may result degradation of safety functions due to damage by heat. It should be handled as a safety case out of regulatory environment.</td>
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<td>of spent fuel pools (SFPs)</td>
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<td>WG1: See response to first lesson</td>
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<td>5</td>
<td>Thorough accident management</td>
<td>The design basis accident conditions in the Transport Regulations are based on a deterministic approach, and packages comply with the Regulations have been transported safely without any major accident for several decades. The guidance to planning and preparing for emergency response to transport accident is provided in a universal (generic) manner independently to a cause or scenario of accidents. However, when information useful to respond to severe transport accidents will be obtained as an outcome of the consideration on the lesson No.27, it should be reviewed to be taken into the guidance.</td>
<td>Based on item 27 can advice on accident response be provided in a more focused manner.</td>
<td>To understand status of respective package after accident or severe accident will provide emergency response measures targeted to more detailed package classification. Based on this, the emergency response guidance should be enforced. However, considerations not to require complicated initial response should be taken. Development of emergency responses match to distinctive characteristics of each Member States should be considered, based on information sharing among the Member States on thorough investigation of the history and technical basis of the Transport Regulations.</td>
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<td>measures (AM) measures</td>
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<td>Assessment of severe accidents may take time. It should be included in the current revision work on TS-G-1.2, if possible.</td>
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<td>WG1: Not applicable for TM</td>
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<td>No</td>
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<td>Secretariat</td>
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<td>Proposed action</td>
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<td>document, TS-G-1.2.</td>
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</table>

6 Responses to multi-site issues

(This issue is specific to a site selection of nuclear facilities, and is not relevant to transport.)

No action

Has consideration been given to other aspects of a transport accident that could interfere with emergency response?

Is it possible to specify the initiating event of emergency beforehand? If possible, certain degree of response can be provided.

National contingency plan should give attention to the combined situation of emergency response to natural disaster or man-made disaster and emergency response to transport accident.

This starter can be moved to No.16, or replaced with “Are simultaneous transport accidents considered?”

It should be included in the current revision work on TS-G-1.2. WG1: Not applicable for TM.

7 Consideration on NPS arrangement in basic design

(This issue is specific to a design of plant arrangement, and is not relevant to transport.)

No action

The accident conditions in the Transport Regulations do not consider multiple accidents, except accumulation of damaged packages for fissile package requirements. We can support the current provisions in the Transport Regulations.

No action

WG1: Not applicable for TM.

8 Ensuring the water tightness of essential

Some package design should take water ingress in account, and some may not. The latter should be reviewed whether the

Is water ingress sufficiently covered in the regulations?

As the criteria for the water spray test under the normal conditions of transport are to prevent dispersal of radioactive content and increase of

Should it be specified in the
<table>
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<td>equipment and facilities</td>
<td>Discussion starters</td>
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<tr>
<td>28</td>
<td>assumed water tightness of the package has been sufficiently demonstrated. As prescribed in the Transport Regulations, the effect of water ingress shall be considered to the fissile package design. A need of additional requirements or further clarification should be reviewed to the “special feature” in para. 677 of the Transport Regulations to prevent water ingress to fissile packages.</td>
<td>radiation level by 20%, the requirements can be fulfilled even when ingressed water may react with radioactive contents. These criteria should be discussed. It should also be clarified whether water ingress can be allowed under the accident conditions of transport, while no actual water ingress is expected.</td>
<td>Regulations? It should be clarified in the advisory material in the next review cycle. WGI should be considered by TM</td>
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</table>

Are there potential scenarios (e.g., changing the state of package contents from solid to liquid) that need to be considered? To add “From viewpoint of critical prevention, is there any apprehension?”

For example, chemical reaction occurs between a solid object in Type IP package and water ingressed by the water spray test ($\text{UF}_6$). It should be discussed how to consider hazards from material which react with water under the accident conditions of transport (e.g., $\text{UF}_6$). Though the requirements for fissile packages consider water ingress fully, the requirements of “special features” to except water ingress are not clear enough (requirements on doubled receptacle and inspection, $\text{UF}_6$ cylinders). In TS-G-1.2, considerations to the subsidiary risk of $\text{UF}_6$ should be emphasized, and in TS-R-1, further attention to the $\text{UF}_6$ subsidiary risk should be
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(Lessons in Category 2) Countermeasures against severe accidents

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<th>Japan</th>
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<tr>
<td>9</td>
<td>Enhancement of measures to prevent hydrogen explosions</td>
<td>In para. 642 of the Transport Regulations, a consideration to hydrogen generation is prescribed. Is should be reviewed whether an explanation how to consider it concretely even in case of incidents (i.e. prevention of the hydrogen explosion), and a method to assess the hydrogen generation amount would be added.</td>
<td>Is the guidance on this subject sufficient?</td>
<td>Guidance should be enforced with how to consider hydrogen explosion in package design and with a method to assess the hydrogen generation amount.</td>
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</tbody>
</table>

WG1: Not applicable for TM.

| 10 | Enhancement of the containment venting systems | No action |                |                |

(Even in case of packages where venting system is allowed, the design of vent structure is different from plant venting systems. Consequently, no enhancement of
<table>
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<td>Discussion starters</td>
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<td>Gap review</td>
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<td>11</td>
<td>Improvement to the accident</td>
<td>Requirement on emergency response to the transport accident is stipulated in para. 304 of the Transport Regulations.</td>
<td>The principle of local/remote management of incidents in transport, particularly international transport can be complicated, do we have a consistent and gap free approach to this?</td>
<td>It should be included in the current revision work on TS-G-1.2. WG1: Not applicable for IM.</td>
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<td>response environment</td>
<td>It should be reviewed whether it is effective to establish local response headquarters to control the situation commensurate to the magnitude of incident/accident in TS-G-1.2, which concentrates to respond only at the incident/accident location.</td>
<td>In case of local accident, a principle is to establish a response center at an accident site. On the other hand, with considerations to the magnitude of accident, a safe distance, transportation/traffic of responding members and media, radiological and medical support, etc., a well-equipped response headquarters to be established with a certain distance from the accident site can be considered (in guidance documents). A case inaccessible to the accident site due to traffic disruption by a natural disaster should also be considered.</td>
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<td>Proposed action</td>
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<td>Discussion starters</td>
<td>Preliminary view</td>
<td>clearly stated in guidance documents that such state who is responsible to transport should also establish an emergency response headquarters. (Is it included in the current revision of TS-G-1.2?)</td>
</tr>
<tr>
<td>12</td>
<td>Enhancement of the radiation exposure management system at the time of the accident</td>
<td>No action (part A)</td>
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<td></td>
<td>(Preparedness of infrastructure to measure radiation exposure at the time of the accident is out of the scope of the Transport Regulations. It is already included in TS-G-1.2.)</td>
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<td>To stipulate the radiation exposure criteria (reference level) under the emergency response condition is out of the scope of the Transport Regulations. These limits should be determined by national authorities in accordance with the BSS and ALARA principle with considerations to the exposure situations. However, it should be reviewed to address reference to the BSS in order to determine</td>
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<td></td>
<td>Is it clear that dose limits do not apply in certain situations?</td>
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<td>It is clear to radiation protection experts, but does not seem well-understood for people engaged in transport. It should be addressed in the emergency response guidance (TS-G-1.2) and the radiation protection guidance (TS-G-1.3) that radiation control should be conducted to follow the exposure criteria (the reference level) set forth by a national radiation protection authority during the transient period from occurrence to termination of emergency situation.</td>
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<td>It is not an urgent item. It should be incorporated in the current revision of guidance materials.</td>
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<td>WG1: Not applicable for</td>
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<td>the emergency exposure limits in TS-G-1.2</td>
<td>In the event of a non-transport emergency should there be conditional exemptions to transport requirements? To move the following sentence to No24(3); “In the event of a non-transport emergency should there be conditional exemptions to transport requirements?”</td>
<td>It is reasonable to provide provisions to exempt an emergency transport to save human lives and to protect environment. A provision in the ADR may be helpful. Requirements of emergency transport (radioactive or non-radioactive) should be considered as part of emergency response.</td>
<td>Is an urgent revision of the Regulations required? An addendum to the Regulations may work. WG1: Not applicable for TM.</td>
</tr>
<tr>
<td>13</td>
<td>Enhancement of training for responding to severe accidents</td>
<td>Requirements to the emergency response and training are prescribed in para. 304 and paras 311 – 315 respectively in the Transport Regulations. When information effective to respond to severe transport accidents will be obtained as an outcome of the investigation on the lesson No.27, enhancement of training in TS-G-1.2 based on that information together with the assignment of appropriate</td>
<td>Can we provide guidance on accident response training that is risk informed?</td>
<td>See lesson No.5. Clarification of package status under a severe accident will improve emergency response training program to be more concrete. Assessment of severe accidents may take time. As a cause-and-effect relationship of severe accident is normally unknown beforehand the occurrence of actual accident, development of training program against extended regulatory accident conditions of transport may effective.</td>
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<td>Range of players should be reviewed.</td>
<td>Discussion starters</td>
<td>Preliminary view</td>
<td>applicable for TM</td>
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<tr>
<td>14</td>
<td>Enhancement of instrumentation for reactors and PCVs</td>
<td>No action</td>
<td>(There is no important instrumentation system to safety.)</td>
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<tr>
<td>15</td>
<td>Central control of emergency supplies and setting up of rescue teams</td>
<td>To provide a wide range of infrastructure is out of the scope of the Transport Regulations.</td>
<td>The infrastructure required to cope with transport incidents/accidents is addressed in TS-G-1.2, and it should be reviewed whether the measures addressed are sufficient.</td>
<td>Though an example of emergency equipments are listed in TS-G-1.2, it should be reviewed from a viewpoint of severe accident response based on the evaluation of package status under that condition.</td>
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<td>E.g. Versatile communication system to cope with a combined situation of natural disaster and transport emergency.</td>
<td>Preparation of those equipment and international networking of them can be discussed in inter-agencies with inclusion of emergency response to other dangerous goods transport.</td>
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<td>Ref.: INFCIRC/336 Convention on Assistance in the Case of Nuclear Accident of Radiological Emergency.</td>
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<td>It should be included in the current revision work on TS-G-1.2 as far as possible.</td>
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<td></td>
<td>Inter-agencies meetings are recommended.</td>
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<td>(Lessons in Category 3) Response to nuclear emergencies</td>
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<td>WGI: Not applicable for TM.</td>
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<td>16</td>
<td>Response to a combined situation of</td>
<td>See lesson No. 15.</td>
<td>Have the emergency response provisions been reviewed to ensure they are resilient to events</td>
<td>Current emergency response guidance does not consider combined situation with other disasters or accidents.</td>
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<td>It should be included in the current</td>
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<td>28 lessons learned</td>
<td>Discussion starters</td>
<td>Preliminary view</td>
<td>revision work on TS-G-1.2.</td>
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<tr>
<td>17</td>
<td>massive natural disaster and nuclear emergency</td>
<td>such as natural disasters?</td>
<td>Such attention should be remarked in the guidance</td>
<td>WG1: Not applicable for TM.</td>
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<td>18</td>
<td>Clarification of the allotment of roles between central and local organizations</td>
<td>No action</td>
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<td></td>
<td>Environmental monitoring is addressed in TS-G-1.2. Basically in transport accidents radiologically impacted area is considered to be limited (see para. 4.3 of TS-G-1.2). In case where large area or long term monitoring is deemed to be required, enhanced measures will be taken under para. 3.19 of TS-G-1.2.)</td>
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<td>19</td>
<td>Enhancement of communication regarding the accident</td>
<td>No action</td>
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<td><em>(An importance of communication at the time of incident/accident is addressed in TS-G-1.2, such as in para. 5.93.)</em></td>
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<td>20</td>
<td>Enhancement of response to assistant from other countries and communication to the international community</td>
<td>In the Transport Regulations notification on a certain transport including information on the competent authority approved packages is stipulated. Other information supply or international assistance is generally stipulated by the higher hierarchy documents or conventions, etc. It should be reviewed to add communication to other countries in case when potential multi-state release is expected to TS-G-1.2.</td>
<td>The potential for transport accidents to involve multiple counties exists (e.g. high dose package on an international journey), this can result in more significant effects at distances from an initial event than nuclear accidents, are there sufficient notification requirements in place in the requirements? To be modified as the following.</td>
<td>Under the Convention of Early Notification of a Nuclear Accident, radiological consequences across borders will be notified to states affected. Notification requirements should be clearly stated in the emergency response guidance TS-G-1.2. Preferably a practical computer code to assess doses from accidental release of radioactive material should be developed. Need for an international training on notification should be discussed.</td>
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Ref.: INFCIRC/335 Convention on Early Notification of a Nuclear Accident (Article 5).
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<td>21</td>
<td>Accurate understanding and prediction of the effect of released radioactive materials</td>
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To estimate radiological impact from released radioactive material caused by the transport accident is out of the scope of the Transport Regulations. On the other hand, different from nuclear power stations or fuel cycle facilities, transport incidents/accidents happen unspecified places. To provide such situation, it should be reviewed to develop and maintain an assessment tool for the radiological impact applicable to an unspecified place and to rather limited area. Who will be responsible and how to inform public should also be reviewed (communication).

- Given the potential for release of high exposures in transit, how should public exposure be assessed?
- How should public notification be handled (including international notification)?

A practical computer code to assess doses from accidental release of radioactive material should be developed. Need for development and maintenance of dose assessment code such as INTERTRAN through CRP, etc. should be discussed.

Transport information should be protected due to security reasons. In case of accident occurrence, responsible authorities should disclose the information immediately and timely to public and related states. It should be incorporated in the emergency response guide TS-G-1.2.

Proposal to develop through CRP, etc. It should be included in the current revision work on TS-G-1.2. WG1: Not applicable for TM.
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<th>No</th>
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<th>Secretariat Discussion starters</th>
<th>Japan Preliminary view</th>
<th>Proposed action</th>
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<td>22</td>
<td>Clear definition of the criteria for wide-area evacuations and radiological protection standards in nuclear emergencies</td>
<td>It is out of the scope of the Transport Regulations to determine the intervention levels or to define evacuation area under the transport accident conditions. As it seems, however, useful to evaluate a radiological impact in the accident based on the output from the lesson No.21, it should be reviewed to estimate a width of the impacted area before the commission of the transport, and reflect it to the emergency response plan.</td>
<td>Should we have more informed emergency plans, e.g. does a Type B package accident require the same exclusion distance as an excepted package accident? To what extent should we encourage more specific emergency response procedures in terms of radiological criteria?</td>
<td>Emergency response guidelines further detailed based on a specific package type and its status under accident conditions is advisable. To accomplish this, assessment of package status and radiological impact induced will be required. Safe (segregation) distances are criteria to ensure safety of workers and public under the routine, normal and accident conditions of transport, and in case of accident the distances should vary depending on the situation of accident, types of package, etc. From practicability, emergency response procedures should not be complicated. Apprehensible procedures easy to practice are desirable (e.g. ICAO/IAEA guidelines for emergency transport of contaminated persons).</td>
<td>Assessment of severe accidents may take time. It should be included in the current revision work on TS-G-1.2, if possible. WG1: Not applicable for TM.</td>
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(Lessons in Category 4) Reinforcement of safety infrastructure

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<th>23</th>
<th>Enhancement of safety</th>
<th>No action</th>
<th>Secretariat Discussion starters</th>
<th>Japan Preliminary view</th>
<th>Proposed action</th>
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<td><strong>regulatory and administrative systems</strong></td>
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<td><em>(It is out of the scope of the Transport Regulations. It should be addressed in the higher hierarchy documents.)</em></td>
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<td>24</td>
<td><strong>Establishment and reinforcement of legal framework, standards and guidelines</strong></td>
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<td>From observation on the situation during and after the accident, following items (1)-(3) are proposed to be considered.</td>
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<td>(1) A need for guidance on treatment, transport and disposal of large volume of contaminated waste generated due to the nuclear accident should be reviewed.</td>
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<td>Japan plans to conduct treatment, transport and disposal of large volume contaminated waste generated due to the nuclear accident with considerations to emergency to normal exposure situations. Its progress will be reported to TRANSSC.</td>
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<td>Is it appropriate to wait for special arrangement approvals for waste transport in emergency situations?</td>
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<td>It is reasonable to provide provisions to exempt an emergency transport to save human lives and to protect environment including measuring instrument and contaminated objects. A provision in the ADR may be helpful. Measures and status of treatment, transport and disposal of large volume of contaminated waste will be reported to TRANSSC.</td>
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<td>Can emergency authorizations be handled better at the local level? To add “Is there applicable guidance?”</td>
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<td>It depends on a magnitude of accident. Principle policy of authorizations for transport accidents, whose range of impact is rather limited, should be at the local level with assistance from national radiation protection authority or technical support organizations. The national level authorizations such as in the Fukushima accident is hardly anticipated in</td>
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<td>Is an urgent revision of the Regulations required? An addendum to the Regulations may work.</td>
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<td>No 28 lessons learned</td>
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<td>(2) There is no internationally harmonized contamination limits or standards to ensure smooth transport of general items (commodities) contaminated by radioactive material. It should be reviewed internationally in order to establish such standards.</td>
<td>Should the transport contamination levels be applied to general transport of commodities?</td>
<td>The contamination limits specified in the Transport Regulations seems to be also applicable to transport of goods other than radioactive material generally, since its background has not been based on transport scenario. It is recommended radiation protection experts to discuss whether appropriate scenario applicable to general goods transport is available.</td>
<td>Discussion among radiation protection experts and meetings of national authorities on the subject are recommended. Level of contamination defined in para. 214 of the Transport Regulations should be fully understood by the Member States (level below such cases of transport accident).</td>
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<td>25 Human</td>
<td>No action</td>
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(3) No framework to allow emergency transport of commodities which contains radioactive material at the time of the nuclear accident. (The 20XX Edition of the Transport Regulation adopted the exemption of emergency transport of a person subject to accidental intake of or contamination from radioactive material.) Such framework should be reviewed to be established. European provisions for the emergency transport may be referred.

Can the provisions of ADR relating to emergency transport be applied in TS-R-1?

It is reasonable to provide provisions to exempt an emergency transport to save human lives and to protect environment including measuring instrument and contaminated objects. A provision in the ADR may be helpful.

Is an urgent revision of the Regulations required? An addendum to the Regulations may work.

WG1: Not applicable for TM.
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<td>28</td>
<td>resources for nuclear safety and nuclear emergency preparedness and responses</td>
<td>(Issue on human resources will raise essential and high level arguments beyond the Transport Regulations. From the viewpoint of training to be competent, requirements for the training are prescribed in paras 311 to 315 in the Transport Regulations. Respective guidance documents are provided for the specific topics.)</td>
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<td>26</td>
<td>Ensuring the independence and diversity of safety systems</td>
<td>No action</td>
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<td>(Not applicable, since there is no systematic safety installation in packages.)</td>
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<td>27</td>
<td>Effective use of probabilistic safety assessments (PSA) in risk management</td>
<td>The design basis accident conditions stipulated in the Transport Regulations are on a deterministic approach, and packages complies the Regulations have been transported safely without any major accident for several decades. However, it should be reviewed whether any information effective to control transport risks can be obtained through the conduction of comprehensive risk assessment.</td>
<td>Can a generic risk assessment be carried out to identify the most significant risks of exceeding the package failure criteria.</td>
<td>Development of a risk assessment method based on the Transport Regulations is required, and it will take time (a research/development project for medium to long term can be considered). Compared with detailed and complicated PSA or PRA methodologies applied to nuclear power stations or fuel cycle facilities, an assessment method for transport may be simplified to a level which indicates orders of magnitude.</td>
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<td>28</td>
<td>Thoroughly instill a safety culture</td>
<td>Issue on safety culture also will raise essential and high level arguments. Though the Transport Regulations are pragmatic, it should be reviewed to note a view point of the defense-in-depth concept prescribed as Principle No.8 in the IAEA Fundamental Safety Principles (SF-1) in the Regulations. It can be covered by the management systems, as addressed in para. 2.14 of TS-G-1.4. It should be reviewed whether the safety culture is incorporated in the compliance assurance guidance, since it appears only as an example in the Appendix V of TS-G-1.5.</td>
<td>Has the concept of safety culture been adequately considered in transport requirements?</td>
<td>Provisions of the Transport Regulations are backed up by a concept of safety culture. Though an enhancement of safety culture is a key factor in implementing the Transport Regulations, it does not fit well as a regulatory provision. It should be emphasized in guide documents on management systems and compliance assurance.</td>
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(Lessons in Category 5) Thoroughly instill a safety culture
Annex 5

TRANSSC 25 – Working Group 2, Technical Basis of the Transport Regulations

Participants
B Dekker (WNTI), Chair
D Ito (WNTI)
N Odano (Japan)
M Muneer (Pakistan)
H Sannen (Belgium)
T Cabianca (UK), Secretary
V Ershov (Russian Federation)
N Bruno (Brazil)

Work to be done
The participants of this working group are asked to:

1) Review the general layout, format, and current proposed content of the draft document
   • Consider the proposed chapters and provide feedback on the currently proposed order, layout and content of the chapters.
   • Review and provide feedback on the proposed appendices and annexes.
   • Review and provide feedback on the references cited, with consideration on how to make references available to users of the document.

2) Advise on a path forward for publication of the document.
   • Consider and propose the most appropriate final form of output of this project

The output of the meeting:

The working group should produce a report, at the end of the meeting, including:

1) Recommendations related to the layout, format, and content of the draft document;
2) Recommendations on the potential final form of the document for publication.

Summary of work done by the Working Group

Working Group 2 met to discuss the IAEA document Technical Basis for the IAEA Regulations for the Safe Transport of Radioactive Material (TS-R-1), as requested by TRANSSC 25. The version of the document provided to the Working Group was the draft as of early June 2012,
which was the outcome of CS-26. The Working Group also looked at the document 5-2-1 REEditeddraftofTechnicalBasisDocumentfromCS-26.doc, which is a compilation of post CS-26 communications. Part of this information answers questions raised in the text of the main document and some of the communication provides additional text for incorporation. The communication also contains some discussion on section title text and the sequence of sections.

As requested by TRANSSC 25, Working Group 2 reviewed the general layout, format, and current proposed content of the draft document. The group went through the document chapter by chapter and also reviewed appendices and annexes. Working Group 2 looked at the sections and their order and recommends the following content list (Recommendation 1):

1.  INTRODUCTION
2.  GENERAL HISTORY (Note change of title from current version: “AND BACKGROUND” should be deleted)
3.  THE FUNDAMENTAL SAFETY PRINCIPLES
4.  THE SAFETY PRINCIPLES FOR TRANSPORT (Chapter 4 of the current version, THE SAFETY OBJECTIVES FOR TRANSPORT, becomes the first sub-section of this chapter)
5.  GENERAL SAFETY REQUIREMENTS (is 6 in current version)
6.  RADIATION PROTECTION (is 7 in current version)
7.  CONTROLS FOR TRANSPORT (is 12 in current version)
8.  CLASSIFICATION OF MATERIALS (is 9 in current version)
9.  CLASSIFICATION OF PACKAGES (is 10 in current version)
10. PACKAGE DESIGN AND TESTING (is 11 in current version)
11. PREVENTION OF CRITICALITY (is 8 in current version)
12. APPROVAL AND STATUTORY REQUIREMENTS (new section)
13. ACRONYMS (is 13 in current version)

Each chapter should include a brief summary of the historical development of the topic described in the chapter. At the moment a lot of this historical information is contained in the appendices and the brief summary could come from that information. Chapters on general safety objectives and safety objectives of transport regulations should also include historical background on the evolution of the safety objectives of the IAEA regulation over the years (Recommendation 2).
WG2 discussed the relation between the Technical Basis Document (TecBasDoc) and TS-G-1.1 (Advisory Material). Since the TecBasDoc is supposed to contain the WHY’s, while TS-G-1.1 should contain the HOW’s, relevant text could be moved from the TS-G-1.1 to TecBasDoc and be reduced in TS-G-1.1, if not deleted. This can only take place once the TecBasDoc is completed and in the course of the review and revision of TS-G-1.1. The relation between TecBasDoc and the IAEA Safety Standards for Transport Regulations as seen by WG2 is graphically represented in the Figure below. The WG does not consider the TecBasDoc as being part of the Safety Standards portfolio.

In the current version each chapter has its own list of references. WG2 believes that this is very helpful and should be maintained. Following this recommendation, Section 14 (REFERENCES) would not be needed (Recommendation 3). WG2 believes that the IAEA should maintain an easily accessible archive of the references cited in the TecBasDoc. Currently references may be in different places making hyperlinking problematic.

WG2 also reviewed Appendices and Annexes.
WG2 was of the opinion that Appendix 5 is not needed in support of the text in new Section 5 (GENERAL SAFETY REQUIREMENTS) (Recommendation 4).

Appendix 16 should be checked against the old Section 12 (CONTROL FOR TRANSPORT, new Section 8), to ensure consistency and avoid repetition. The text in the Appendix could possibly be moved to the main part of the TecBasDoc (Recommendation 5).

Annex 1 and Annex 2 are used as working information in the drafting of the TecBasDoc and it is the opinion of the WG that these could be deleted once the TecBasDoc is completed (Recommendation 6).

The current status in the TecBasDoc of Annex 3 (History of the development of UN Numbers and proper shipping names) is “to be developed”. Once text is available this Annex could become an Appendix. It is suggested by the WG to include the history of the development of radioactive labels (Recommendation 7).

The WG also discussed in what form and what way the document should be published. The idea of splitting up the document in different publications was not supported. Because of the size of the document the WG suggests that the document should be published in electronic form only. For instance it could be made available via Sharepoint, which is currently under implementation in the Agency. In this way updating the TecBasDoc will be easy and the availability of the latest version is best guaranteed, including the availability and accessibility of the reference archive (Recommendation 8).

The WG observes that the TecBasDoc is generally based on the 2009 Edition of TS-R-1, whereas the criticality text already refers to the 20XX Edition.

The WG further observes that the TecBasDoc is not necessarily referring to individual paragraphs in the Regulations but is more addressing topics.
Annex 6

Working Group 3 (UN harmonisation issues)

WG3 discussed most of the UN papers listed below with the purpose to check them for consistency with the SSR6 Transport Regulations. We lacked the time to identify other UN papers of relevance to the IAEA.

For cooperation with the UN Sub-Committee of Experts on the Transport of Dangerous Goods, I think it would be good if you could inform TRANSSC members of the agenda of the December 2012 session, which is the last one of the biennium for final adoption of amendments to the Orange Book which will be reflected in the 18th revised edition of the UN Recommendations on the Transport of Dangerous Goods to be published next year.

All documents, including agenda, reports of previous sessions, working documents and informal documents have been posted on our website at:


Other informal documents are likely to be posted on a regular basis until the opening of the session.

You will find below links to a selected number of documents that should be of interest to TRANSSC:

Agenda/list of documents (to be revised before the opening of the session as informal document INF.2 that will take account of all informal documents):


Documents under agenda item 4 (Cooperation with IAEA):

UF6


Packing instruction P701 should be P805 because classified in class 8.

Changes in principles of the UN recommendations made over the past 35 years (INF7 paper) should be taken into account. Some people felt that this would justify revisiting the available data on the additional subsidiary hazards (mainly 6.1) of UF6 < 0.1 kg. Action for the new revision cycle.

Harmonization of Orange Book with SSR-6

General comment: the working group identified several inconsistencies between the text of SSR6 and the modifications proposed to the UNOB. The following list contains some editorial comments, some correction to references and some recommendations for the next review cycle (highlighted).

Ch 1.5.1.1 Reference to TS-G1.1 to be provided by IAEA secretariat (new version)

Ch 1.5.1.5.1 delete (c).

Ch 1.5.1.5.2 replace 6.4.7.2 with 7.1.8.4.3

Ch. 1.5.2.5 Reference to TS-G1.2 to be provided by IAEA secretariat (keep)

Ch. 2.7.1.3 *Surface contaminated object (SCO)* means a solid object which is not itself radioactive but which has radioactive material distributed on its *surface*. Should surface be plural or singular (SSR6)? Recommendation WG3: keep singular.

Table 2.7.2.1.1, footnote b: delete “ and 6.4.11.2“ because that paragraph is about fissile material and not fissile-excepted.

Ch. 2.7.2.2.2 (a) and (b) Reference to current BSS is OK (SSR6)

Ch. 2.7.2.3.3.6 (a) and (b) Change reference to ISO 2919:1999 to 2012 version

Ch 2.7.2.4.6.1 “Packages not otherwise classified in 2.7.2.4 (2.7.2.4.1 to 2.7.2.4.5) shall be classified in accordance with the competent authority approval certificate of approval for the package issued by the country of origin of design.” More logical would be:

“Packages not otherwise classified in 2.7.2.4 (2.7.2.4.1 to 2.7.2.4.5) shall be classified in accordance with the competent authority approval certificate of approval for the package *design* issued by the country of origin of design.”

However, without “design” is in accordance with SSR6 (par 431).

Ch. 5.1.5.1.1. Editorial: “In addition to the approval for of package designs”.

Ch. 5.1.5.1.2: Remove the note, because it is not related to the shipment. Check if there is a comment in the guidance material.

Ch. 5.1.5.2.1: Certificate for basic nuclide values missing (also missing in SSR6).

Also the second sentence of the following paragraph can be removed: “The certificates shall confirm that the applicable requirements are met, and for design approvals shall attribute to the design an identification mark. For certificates of approval of alternative activity limits for an exempt consignment of instruments or articles, the competent authority shall attribute to those certificates an identification mark.” This is already in 6.4.23.

Ch. 5.1.5.4.2 (a). References to 5.4.1.5.7.1 (g) and 5.4.1.2.4 are correct.

Ch. 5.2.2.1.12.1: Change reference to 6.4.11.2 to 2.7.2.3.5.

Ch. 5.3.1.2.1. See paper ST/SG/AC.10/C.3/2012/96.
Ch. 6.4.23.9: “An application for approval of design for a fissile material excepted from “FISSILE” fissile classification in accordance with table 2.7.2.1.1, under 2.7.2.3.5 (f) shall include” (SSR6 805)

Ch. 6.4.11.2 (and 6.4.11.3): the use of "excepted" versus "exempt" should be reviewed.

Ch. 6.4.23.2 (c): The details of how the precautions and administrative or operational controls, referred to in the certificate of approval for the package design, if applicable, approval certificates issued under 5.1.5.2.1 5.1.5.2.1 (a) iii, vi or vii, are to be put into effect.

Ch 6.4.23.5: “An application for approval of a Type B(M) package design shall include, in addition to the general information required for package (design) approval in 6.4.23.4 for Type B(U) packages:”

Comment: bring UNOB in line with SSR6. For next review cycle: consider adding “design approval” at the end.

Ch. 6.4.23.10 (h): reference is still valid.

Ch. 6.4.23.11 (a, footnote 9) Check reference to Vienna Convention on Road Traffic (1968). This is not in SSR6, but in TS-G1.1. Check appropriate wording in UNOB.

Ch. 6.4.23.11 (c): Is there a need for type code for basic nuclide value? [UNOB is in line with SSR6: issue for next review cycle].

Ch. 6.4.23.12. Consider use of realistic examples.

AL Alternative activity limits for an exempt consignment of instruments and or articles

Ch. 6.4.24.4. The addition of “ Fissile material and” is not in SSR6. Should be checked in relation with 2.7.2.3.5.

Table of correspondence

526 4.1.9.1.9
527 4.1.9.1.10
528 4.1.9.1.11

Should be:

526 4.1.9.1.10
527 4.1.9.1.11
528 4.1.9.1.12

Table of correspondence

553, 584 – 588: No clear equivalent in UNOB. To be considered.

Consolidated list of changes adopted at the three previous sessions

Other miscellaneous issues that can be of interest to TRANSSC

**Lamps containing small amounts of dangerous substances**


All 3 options in paper ST-SG-AC10-C3-2012-76e.pdf consider exemption limits in grams, which is not directly applicable to radioactive substances. Also the proposed packing specifications are not based on safety considerations but on product quality considerations (protect lamps from breaking). The proposals are unacceptable for radioactive materials.

In SSR6 the concept of alternative activity limits was introduced (par 403b) to enable issues such as this to be accommodated in the Transport Regulations and the existing framework for the transport safety.

**Articles containing small quantities of dangerous goods**


Not reviewed by WG3

**Neutron radiation detectors**


Not reviewed by WG3

**Used medical devices**


Not reviewed by WG3

**Class 7 placard**


(Note: IAEA advice on the issue raised in para 8 is sought, due to inconsistency with general rule)

Ch. 5.2.2.1.1: Meaning of *** should be amended with the underlined text:

*** The class or division symbol or, for divisions 1.4, 1.5 and 1.6, the division number and for label number 7E the word “FISSILE” shall be shown in this top half ”

Issue “mark” versus “marking”. This is used inconsistently in UNOB and SSR6. WG suggest to review all text to ensure consistent use of “mark(s)”, “label(s)”, “placard(s)” and “marking”, “labelling”, “placarding”. “mark(s)”, “label(s)”, “placard(s)” refers to items and “marking”, “labelling”, “placarding” refers to the action.

Ch. 5.3.1.2.1. Present documents of SSR6 and UN are inline, so this issue should be considered with the next revision cycle of SSR6. The WG does not see an obstacle for harmonisation to 12.5 mm.
WG3 Plenary discussion Thursday PM

**Neutron detectors**
There was agreement that the definition of neutron detector is only applicable to this exemption. Since this term is only used for this exemption it should be limited to this particular exemption. The definition should be for “Boron trifluoride neutron detectors”

**Articles containing small quantities of dangerous goods**
TRANSSC has no comment at this time but would wish to be kept aware of the issues

**Used medical devices**
No comment.

**Pressure vessel v pressure receptacle**
Pressure vessel is a common term in IAEA terminology. This change clarifies the issue by standardizing on pressure receptacle elsewhere.

**Assignment of SP 172 to UN Nos 2977 and 2978**
ADR and RID have wrongly assigned SP 172 to these numbers

**Marking size**
This should be considered during the next review cycle
Annex 7

Working Group 4: Review and Revision of the Transport Regulations

Members:
R. Boyle, US (Chairman)
J. Miller, US (Secretary)
A. Lahkola, Finland
S. Faille, Canada
F. Zamora, Spain
J. van Aarle, Switzerland
F. Nitsche, Germany
T. Yamauchi, Japan
M. Hishida, Japan
R.K. Singh, India

Terms of Reference:
Given the specific reference of the GC to the start of a new review cycle, the participants of this working group are asked to:

1) Review the quality plans for both review and revision of SSR 6 and consider the proposed schedules contained in those documents.
   - Consider the proposed schedules for review and revision of the transport regulations in SSR 6.
   - Identify the most efficient and realistic options for the revision of SSR 6.

2) Recommend key issues to be considered for the 2013 review cycle for SSR 6
   - Consider and propose key issues or issue areas that could be focused upon of the 2013 review cycle of SSR-6.

Output of the Working Group:
Review Process:
Revision Process:
Nothing is going to be raised so no decision.
Alternative 2 is correct for 2013 cycle (make this decision again in 2015 or later)

Specific Focus Areas for the 2013 Review Cycle:

Consider new requirements for authorizing/certification of large components (Canada intends to submit a regulatory proposal in 2013)
Review requirements for Special Arrangements (Canada intends to submit combination of regulatory and advisory material clarifying the use, purpose, meaning of special arrangements)

Consider new requirements for LSA (Germany intends to submit regulatory proposal on the leach test requirements for LSA-III material)

Develop requirements to address inadvertent shipments of naturally occurring radioactive material.

Transport after long term storage (dual purpose casks)

Output of transport conference in 2011 (for example: link between safety and security)

Remove from task 50 from Action Plan since no one is working on requirements/need for low dispersable materials, Type C and other requirements.

**General Comments and Recommendations:**

**The output of the meeting:**

The working group should produce a report, at the end of the meeting, including:

1) A recommendation of specific focus areas for the 2013 review cycle of SSR-6.
2) A recommendation on the schedule options for the revision of SSR-6.

Discussion Notes:

- SPESS complicated the review cycle
- Types of changes,
  - minor change - editorial,
  - detail change – clarification,
  - major change - conceptual change – needs more than 1 or 2 member states
- What is a review? – assessment of need and developing path forward to address the need
- What is a revision? – the change that incorporates the results of the review assessment
- Terms “Proposal” and “Issue” needs clarification,
  - Issue – problem identified in the regulation, justification of the issue
  - Proposal – recommended change to address an issue
- Successful review process – issue identified, justification that supports consideration to address the issue, proposed revision to address the issue.
- Successful revision process – evaluation of the issue, justification and proposal by Member States and IAEA, smaller revision panels (TRANSSC) to review proposals.
Annex 8

Working Group 1

1. There are no items resulting from the transport conference requiring consideration in the meeting.
2. Items 1, 2, 3, 4, 8 from the Fukushima should be considered as part of the meeting, and item 27 should be considered within Item 1.
3. A consultants meeting should be held in the week of 14th January to develop the programme.
4. The programme suggested by working group 1 should be used as a basis (as modified by plenary), but consideration should be given to ensuring the meeting focused on establishing the environment experienced by packages.
   - First two days:
   - Presentation of scope
   - Presentation on routine, normal and accidental conditions of transport and discussion
   - Presentations of experts
     a. Tie-down system
     b. Environmental: global weather patterns, ambient pressure, temperature, rain and/or features added to the package
     c. Fukushima lessons
     d. (others, to be added)
   - Three last days:
     a. four Working Groups
        Mechanical
        Thermal
        Criticality
        Acceleration
   - Plenary
     a. Presentation of the Working Groups and Conclusions
     b. Next steps?
   - Report

Working Group 2

5. The WG recommends the content list in the report be adopted.
   - INTRODUCTION
   - GENERAL HISTORY (Note change of title from current version: “AND BACKGROUND” should be deleted)
   - THE FUNDAMENTAL SAFETY PRINCIPLES
   - THE SAFETY PRINCIPLES FOR TRANSPORT (Chapter 4 of the current version, THE SAFETY OBJECTIVES FOR TRANSPORT, becomes the first sub-section of this chapter)
• GENERAL SAFETY REQUIREMENTS (is 6 in current version)
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• CONTROLS FOR TRANSPORT (is 12 in current version)
• CLASSIFICATION OF MATERIALS (is 9 in current version)
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• PACKAGE DESIGN AND TESTING (is 11 in current version)
• PREVENTION OF CRITICALITY (is 8 in current version)
• APPROVAL AND STATUTORY REQUIREMENTS (new section)
• ACRONYMS (is 13 in current version)

6. Each chapter should include a brief summary of the historical development of the topic described in the chapter. At the moment a lot of this historical information is contained in the appendices and the brief summary could come from that information. Chapters on general safety objectives and safety objectives of transport regulations should also include historical background on the evolution of the safety objectives of the IAEA regulation over the years.

7. In the current version each chapter has its own list of references. WG2 believes that this is very helpful and should be maintained. Following this recommendation, Section 14 (REFERENCES) would not be needed.

8. WG2 believes that the IAEA should maintain an easily accessible archive of the references cited in the TecBasDoc.

9. WG2 was of the opinion that Appendix 5 is not needed in support of the text in new Section 5 (GENERAL SAFETY REQUIREMENTS).

10. Appendix 16 should be checked against the old Section 12 (CONTROLS FOR TRANSPORT, new Section 8), to ensure consistency and avoid repetition. The text in the Appendix could possibly be moved to the main part of the TecBasDoc.

11. Annex 1 and Annex 2 are used as working information in the drafting of the TecBasDoc and it is the opinion of the WG that these could be deleted once the TecBasDoc is completed.

12. It is suggested by the WG to include the history of the development of radioactive labels.

13. The idea of splitting up the document in different publications was not supported. Because of the size of the document the WG suggests that the document should be published in electronic form only. For instance it could be made available via Sharepoint, which is currently under implementation in the Agency. In this way updating the TecBasDoc will be easy and the availability of the latest version is best guaranteed, including the availability and accessibility of the reference archive.

Working Group 3

14. Packing instruction P701 should be P805 because classified in class 8.

15. Changes in principles of the UN recommendations made over the past 35 years (INF7 paper) should be taken into account. Some people felt that this
would justify revisiting the available data on the additional subsidiary hazards (mainly 6.1) of UF6 < 0.1 kg. Action for the new revision cycle.

16. The editorial corrections identified should be taken into account in the text of the UN.

- Ch 1.5.1.1 Reference to TS-G1.1 to be provided by IAEA secretariat (new version)
- Ch 1.5.1.5.1 delete (c).
- Ch 1.5.1.5.2 replace 6.4.7.2 with 7.1.8.4.3
- Ch. 1.5.2.5 Reference to TS-G1.2 to be provided by IAEA secretariat (keep)
- Ch. 2.7.1.3 Surface contaminated object (SCO) means a solid object which is not itself radioactive but which has radioactive material distributed on its surface. Should surface be plural or singular (SSR6)? Recommendation WG3: keep singular.
- Table 2.7.2.1.1, footnote b: delete “and 6.4.11.2” because that paragraph is about fissile material and not fissile-excepted.
- Ch. 2.7.2.2.2 (a) and (b) Reference to current BSS is OK (SSR6)
- Ch. 2.7.2.3.3.6 (a) and (b) Change reference to ISO 2919:1999 to 2012 version
- Ch 2.7.2.4.6.1 “Packages not otherwise classified in 2.7.2.4 (2.7.2.4.1 to 2.7.2.4.5) shall be classified in accordance with the competent authority approval certificate of approval for the package issued by the country of origin of design.” More logical would be:
- “Packages not otherwise classified in 2.7.2.4 (2.7.2.4.1 to 2.7.2.4.5) shall be classified in accordance with the competent authority approval certificate of approval for the package design issued by the country of origin of design.”
- However, without “design” is in accordance with SSR6 (par 431).
- Ch. 5.1.5.1.1. Editorial: “In addition to the approval for of package designs”.
- Ch. 5.1.5.1.2: Remove the note, because it is not related to the shipment. Check if there is a comment in the guidance material.
- Ch. 5.1.5.2.1: Certificate for basic nuclide values missing (also missing in SSR6).
- Also the second sentence of the following paragraph can be removed: “The certificates shall confirm that the applicable requirements are met, and for design approvals shall attribute to the design an identification mark. For certificates of approval of alternative activity limits for an exempt consignment of instruments or articles, the competent authority shall attribute to those certificates an identification mark.” This is already in 6.4.23.
- Ch. 5.1.5.4.2 (a). References to 5.4.1.5.7.1 (g) and 5.4.1.2.4 are correct.
- Ch. 5.2.2.1.12.1: Change reference to 6.4.11.2 to 2.7.2.3.5.
- Ch. 5.3.1.2.1. See paper ST/SG/AC.10/C.3/2012/96.
- Ch. 6.4.23.9: “An application for approval of design for a fissile material excepted from “FISSILE” fissile classification in accordance with table 2.7.2.1.1, under 2.7.2.3.5 (f) shall include” (SSR6 805)
- Ch. 6.4.11.2 (and 6.4.11.3): the use of “excepted” versus “exempt” should be reviewed.
- Ch. 6.4.23.2 (c): The details of how the precautions and administrative or operational controls, referred to in the certificate of approval for the package design, if applicable, approval certificates issued under 5.1.5.2.1 5.1.5.2.1 (a) iii, vi or vii, are to be put into effect.
- Ch 6.4.23.5: “An application for approval of a Type B(M) package design shall include, in addition to the general information required for package [design] approval in 6.4.23.4 for Type B(U) packages:”
- Comment: bring UNOB in line with SSR6. For next review cycle: consider adding “design approval” at the end.
- Ch. 6.4.23.10 (h): reference is still valid.
- Ch. 6.4.23.11 (a, footnote 9) Check reference to Vienna Convention on Road Traffic (1968). This is not in SSR6, but in TS-G1.1. Check appropriate wording in UNOB.
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- Ch. 6.4.23.12. Consider use of realistic examples.
- AL Alternative activity limits for an exempt consignment of instruments and or articles
- Ch. 6.4.24.4. The addition of “Fissile material and” is not in SSR6. Should be checked in relation with 2.7.2.3.5.
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- *** The class or division symbol or, for divisions 1.4, 1.5 and 1.6, the division number and for label number 7E the word "FISSILE" shall be shown in this top half.

19. Issue “mark” versus “marking”. This is used inconsistently in UNOB and SSR6. WG suggest to review all text to ensure consistent use of “mark(s)”, “label(s)”, “placard(s)” and “marking”, “labelling”, “placarding”. “mark(s)”, “label(s)”, “placard(s)” refers to items and “marking”, “labelling”, “placarding” refers to the action.

20. Ch. 5.3.1.2.1. Present documents of SSR6 and UN are inline, so this issue should be considered with the next revision cycle of SSR6. The WG does not see an obstacle for harmonisation to 12.5 mm.

**Working Group 4**

21. Secretariat needs to clarify that editorials and some minor changes (what types?) are being evaluated and processed by the Secretariat and are not included in the review process. Secretariat needs to define this review process and provide separate means for submission of these items.

22. Quality Plan for Review Process needs to be revised to recognize the different meaning of issue, identified problem and proposal.

23. Support the use of smaller technical groups (subject matter experts) to research and develop change proposals and to evaluating and finalizing change proposals submitted to the Secretariat.

24. Mixed opinion regarding 2013 review of TS-G-1.1 because it hasn’t been published yet. WG believes TRANSSC can accept change proposals but doesn’t expect many. Use care in evaluating and incorporating these changes.

25. Secretariat should invite international organizations and UN Organizations to submit issues and change proposal directly to the Secretariat as part of regulatory review process.

26. TRANSSC 26 can take advantage of the scheduled TM on Transport Environment in July 2013 to evaluate, consolidate, complete change proposals and facilitate the review process (if needed).

27. For revision Option 2 should be adopted because the timeline associated with Option 1 is not feasible.

28. Specific Focus Areas for the 2013 Review Cycle
- Items specifically listed in 3 year work plan
  a. Requirements for authorizing/certification of large components (Canada intends to submit a regulatory proposal in 2013).
  b. Requirements for Special Arrangements (Canada intends to submit combination of regulatory and advisory material clarifying use, purpose and meaning of special arrangements)
c. Consider new requirements for LSA (Germany intends to submit regulatory proposal on the leach test requirements of LSA III material)
d. Consider overall simplification of requirements

- Issues not specifically listed in 3 year work plan
  a. Undeclared Class 7 Shipments (inadvertent shipments detected by customs or other radiation scanners; usually NORM
  b. Transport after long-term storage, i.e dual purpose casks
  c. Conclusions from Transport Conference October 2011 (transport security is an example)
  d. Review exemption levels for naturally occurring radioactive materials
  e. Review applicable conditions for dose rate increase of 20% during normal conditions of transport for certain types of packages under certain conditions of use, i.e. exclusive use, (France proposal expected in 2013)
  f. Clarify requirement of “emergency provisions”, in para 304 to be prescriptive for carrier or consignor (France proposal expected in 2013)
  g. Review surface dose rate criteria for excepted packages, current dose rates based on package collocated with camera film