CHAIRMAN’S REPORT OF THE CONSULTANTS MEETING ON THE THEMATIC SAFETY AREA OF TRANSPORT OF RADIOACTIVE MATERIAL (TSA-7)

A Consultants Meeting on the thematic safety area of Transport of Radioactive Material (TSA-7) was held at the IAEA Headquarters in Vienna during 26 – 30 November 2012. A list of participants is given in appendix 1.

Opening of the Meeting

The meeting was opened by Mr A.Khatibeh, Head, Regulatory Infrastructure and Transport Safety Section, NSRW. He provided a brief background of the thematic safety area 7 (TSA-7). He pointed out that the Agency has been striving to achieve progress in the implementation of its radiation safety programme in the Member States. For this purpose, action plans were developed and milestones were identified. However, in the past, a chronological sequence of operations came to be associated with the application of milestones. Parallel progress was not achieved because of this perception. The milestone approach was not efficient in reaching the desired goals. With appropriate technical assistance, Member States would be able to register the desired level of progress. The available resources would be best utilised if technical assistance was determined on the basis of performance indicators. He pointed out that the present approach of assigning performance indicators to the different elements in each area would be more effective. In evaluating the PIs, the existing safety standards in the States should be considered. The parameters against which the safety standards were evaluated should be relevant to the nature of operations normally required to be carried out in the States. He asked the consultants to consider also identifying the appropriate weighting factor for each assessment criterion relevant to transport safety.

The consultants agreed the Mr C. Pecover as Chair of the meeting and Mr A.Nandakumar as the Secretary.

Each participant introduced himself.

The provisional agenda (WP 1) was reviewed adopted by the consultants without amendment (appendix 2).

The provisional terms of reference (WP 2) was discussed by the consultants. The participants noted that States which do not require certain provisions of the regulations would need to be assessed on the basis of the current needs of the State. Therefore in developing the Performance Indicators (PIs) and the level of compliance with the regulations should be considered against the applicability of specific regulatory requirements. The terms of reference were amended accordingly (WP 2 Rev.1, appendix 3).

Presentation on the Background and Application of TSAs

At the request of the Chair, Mr Pacheco Jimenez made a presentation on the Background and Application of Thematic Safety Areas and RaWaSIPs (Radiation Safety Information Systems, RASIMs). The presentation related to TSA-1. A TSA should refer only to requirements. TSA-7 should also identify key elements which are not applicable. Great care should be exercised in
assigning weighting factors as the key elements are essentially all important. The information obtained from the Member State through the Agency’s SARIS is verified by the Agency through the applicable TSA supported by Expert Missions and Appraisal Missions and the PI is assigned to the State. A draft template was prepared and made available to the consultants.

**Working method**

It was decided to consider the key elements first and then identify the assessment criteria under each key element. Performance indicators for the assessment criteria under each key element were finally assigned. The input provided by the Agency staff was considered and utilized as appropriate, in developing and refining the draft TSA-7.

**Key elements**

The key elements listed in WP3 were discussed in detail and amended as given in WP-3 Rev.1 (Appendix 4). The key elements under which this issue can be discussed were identified. The consultants felt that the key element relating to emergency response should include only the provisions specific to transport emergencies since the Thematic Safety Area 5 (TSA-5) adequately considered emergency response requirements. It was decided that under the key element of dose monitoring, the relevant assessment criteria should be included. It was felt that the Secretariat should be encouraged to examine whether dose assessment criteria for transport workers were adequately addressed in TSA-2.

The consultants felt that the comment, “Not applicable”, should be applied to assessment criteria and Mr Pacheco advised that the meeting report should recommend that the comment, “Not applicable”, should be applied to assessment criteria.

**Work done**

The consultants considered each element given in the working paper 2 and identified the assessment criteria on the basis of the report of the Consultancy on Radiation Safety Infrastructure Profiles for IAEA Member States Receiving Assistance, held in Vienna during 8 – 11 November 2011. (Working Paper 4, appendix 5). A table of all the key elements with the corresponding assessment criteria was developed. The appropriate references to the criteria were identified from the Agency’s Publications on Safety Requirements, viz., GSR Part 1 and SSR-6. This table is placed in appendix 6. The consultants identified relevant key information in the transport safety guides of the Agency which are published as Safety Standards but were advised not to cite them against the assessment criteria.

The consultants identified performance indicators for the various assessment criteria. (Appendix 7).

The consultants considered the question of assigning weighting to factors to the assessment criteria and were of the view that application of weighting factors could be an unwelcome complication.

Performance indicators should include a “not applicable” category in order to avoid penalising Member States because of inflexible markings against inapplicable criteria.

It was recognized that some TSAs would overlap particularly TSA-7 is expected to overlap with TSA-1, 4, 5 and 6 but the requirements specific to transport scenario warrant the overlap. It is considered preferable for some overlaps to occur rather than have some key aspects / assessment criteria overlooked or not addressed.
It is envisaged that the Agency technical officers in charge of the TSAs would need to closely liaise when conducting their assessments and drawing conclusions.

The issues of denial and delay of shipment and security during transport were discussed and it was agreed that reference to this issue should be made under the relevant key elements. (Key element 1, assessment criteria 12 & 13; Key element 9, assessment criterion 8; Key element 11, assessment criterion 5(d)).

The items for further consideration listed in the Report of the Consultancy on Radiation Safety Infrastructure Profiles for IAEA Member States Receiving Assistance, held in Vienna during 8 – 11 November 2011 were discussed. It was concluded as follows:

- The order of listing of key elements / sub-elements (now known as assessment criteria) according to the order of sections in TS-R-1, was not considered helpful to end users of the TSA-7 document.
- Emphasis on authorization process was considered and included in the relevant TSA-7 key elements.
- Emphasis on mode-specific transport operations was considered and thought including them in TSA-7 would introduce unnecessary complications.
- Separation of dose monitoring and modal transport operations into different key elements was effectively carried out as outlined under key element numbers 7 & 8 (now entitled transport radiation protection programmes and inspection of transport operations).
- Inclusion of security related to transport was considered and actioned.
- Arrangements to reduce denial of shipments were considered and actioned.
- Identification of elements / sub-elements applicable to States that manufacture and test packages, have nuclear fuel cycle facilities, have non-nuclear power and have research reactors was considered not to be appropriate.

**Recommendations**

On the basis of the deliberations held during the meeting, the consultants recommend as follows:

1. Before application of the TSAs the Agency should consider advising the Member States to define the scope of the regulated operations in their State through a “Know your Users” exercise.
2. The associated performance indicator (PI) system used when considering the assessment criteria should be sufficiently flexible to recognize when a particular assessment criterion is not applicable.
   - It is recommended that the final assessment of the PI system takes this into account in order to avoid an inappropriate evaluation being assigned to a Member State.
   - Whilst it is expected that every key element will be applicable to some extent, there may be some assessment criteria that may not be applicable depending on the scope of the regulated operations in the Member State. It is recommended that due care is exercised in the final performance indicator system of TSA-7 to avoid misleading evaluations.
3. Coordination / cooperation between the Agency technical officers responsible for evaluation of the TSA-7 in conjunction with the other related TSAs should be encouraged for the successful implementation of the TSA project.
4. The Agency should not pursue the transport mode-specific, material-type specific or facility-type specific approach when further developing assessment criteria in TSA-7.
5. Application of weighting factors to performance indicator system should not be pursued as it could introduce unnecessary complications in the overall assessment of TSA-7 key elements.

Appendix list:

1. List of participants
2. WP 1: Agenda
3. WP 2 Rev.1: Terms of reference
4. WP 3 Rev.1: Key elements
5. WP 4: Report of the Consultancy on Radiation Safety Infrastructure Profiles for IAEA Member States Receiving Assistance, held in Vienna during 8 – 11 November 2011
6. Draft TSA-7
7. Spreadsheet to identify PIs