

Looking to the future

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RAPPORTEUR REPORT of Wednesday 6th October

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**Safe International Transport
Of Radioactive Materials
(SITRAM)**



Key messages

▶ Competent Authority Activities (T23) Main Hall

- ◆ In yesterday's session on "Competent Authority Activities" we were informed of significant moves by Competent Authorities for their future activities by increasing cooperation across national boundaries - by USA / Canada in their development of a Joint Guide for Approval of Type B(U) and Fissile Transport Packages and in a paper by the UK which described how an Initial Agreement with French Counterparts has been used to inform the formation of an "Association of European Competent Authorities".
- ◆ Other papers from UK, Nigeria and Germany set out the progress being made by Competent Authorities in carrying out verification of approval submissions and ensuring compliance amongst the full spectrum of users including, in particular, "small users".



Key messages

▶ Dry Storage Issues (T24) Conference Room 1

- ◆ The challenges of design and construction of dry storage casks were described by Andy Andrews and other papers in this session covered impact testing and thermal analysis of dry store casks.
- ◆ Innovation to produce a new range of transport and storage systems to cope with rising demands for used fuel storage capacity were described by Garcia Justo in this session.
- ◆ Two papers, one from the USA, one from Germany addressed conditions in storage, respectively Seismic Response and a Storage Accident.



Key messages

▶ Sources and Radiopharmaceuticals (T22) Conf. Room 2

- ◆ The issue of denials of shipments was a recurring theme in the session on "Sources and Radiopharmaceuticals", particularly for air transport of radiopharmaceuticals and sea shipment of sources. This session described suggestions for mitigation, by future education of the General Public, and training particular groups.
- ◆ Progress on the important continuing international, multi-agency, coordination of efforts to recover lost, abandoned and orphaned sources was described by James Matzke, USA, completing this session.



Key messages

▶ Shielding Calculations (T21) Conference Room 3

- ◆ In Conference Room 3, the session "Shielding Calculations" dealt mostly with intercode comparisons and possible future improvements in Cross Section Libraries intended to improve the precision of future shielding calculations.
- ◆ The consequences of ever increasing spent fuel burn-ups were discussed in a paper authored by Prakash Narayanan in the final paper of this session. The answer perhaps lies in advanced neutron shielding which also has good gamma shielding properties.



Key messages

▶ Denials of Shipment (T27) Main Hall

- ◆ The denials issue was covered in more detail in this session which followed up from Tuesday's panel session covering denial and delays of shipments (P1 in Conf. 1). The efforts being made by various organisations, agencies and regulators to mitigate and reduce the occurrence of denials of shipment were identified. The importance of industry to report denials was reemphasised.
- ◆ A paper presented by Bernard Monot addressed the particular potential challenge of maintaining the supply of front end materials required to support the Nuclear Renaissance – a warning for the future!



Key messages

▶ Non Spent Fuel Package Design (T26) Conference Room 1

- ◆ This session was largely occupied by presentations concerning design and testing for packages used to transport e.g. sources, two new 30" UF₆ overpacks, UO₂ packages, High Activity Vitrified Waste Casks and packages for fresh MOX fuel.
- ◆ The presentation on future UO₂ packages, by Francois Marvaud, described plans to produce a package design which, it was hoped, would obtain world-wide approval in Europe, USA and beyond, with the goal that current and foreseen Nuclear Power Plant Fuel Buildings could be accommodated. This was considered feasible, though different package type designations would be required where regulations differ between some countries.



Key messages

► Impact Testing (T28) Conference Room 2

- ◆ The "Impact Testing" session contained several presentations on particular package designs, including those for Trans-Uranic Waste Transport, MOX Powder Transport, High Active Waste Transport and, interestingly for any historians, future waste transport from the original Windscale Piles.
- ◆ A paper presented by Pierre Malesys gave an Industry Perspective on the issue of whether or not features added to a package at the time of transport (e.g. transport and/or handling frames) need to be taken into account, and if so how, in the analysis and testing of package designs – which many consider is still not sufficiently clear in the IAEA Transport Regulations.



Key messages

▶ Shielding Materials / Basket Materials (T25) Conf. Room 3

- ◆ The session "Shielding Materials / Basket Materials" contained papers describing new materials and potential new uses for existing materials.
- ◆ Papers on thermal aging (vinylester) and radiation aging (High and Ultra High Molecular Weight Polythenes) of shielding materials were presented.
- ◆ Heat removal capability and slump resistance of lead for use in lead-shielded multiwall casks was described by Toshi Ashida.
- ◆ The properties of nano-particle-strengthened boronated aluminium for use in fuel basket construction were described by K P Singh.



Key messages

▶ Panel “Liability and Insurance” (P5) Main Hall

- ◆ In this session, the complicated current position on nuclear third party liability and insurance, given the various conventions, treaties and national law was explained and debated.
- ◆ Of note was the WNTI’s Task Force on Liability's study of the current regime as it applies to transport, which identified where further efforts are needed in future to provide greater adherence to the to current treaties, education, and to encourage governments to work towards a unified global regime acceptable to all concerned parties.



Key messages

▶ Panel “Public Acceptance” (P8) Conf. Room 1

- ◆ This session identified some of the key strategies needed to acquire and maintain Public Confidence and Acceptance of the need for, and the safety and security of radioactive material transport.
- ◆ Significant to future success were openness, transparency, clarity and authority of presentation to the public, together with a pro-active approach, including informing Members of the General Public, at one level, and short, clear, targeted training to relevant organisations.
- ◆ Be prepared for the unexpected breaking of an adverse media story which can spread quickly. Need a good prepared story to tell.



Key messages

▶ Panel “Long Term Storage and Transport – Technical Issues” (P9) Conference Room 2

- ◆ Issues concerning long-term storage of waste prior to transport were described. Japan’s application code and guidelines for the application of borated aluminium and borated stainless steel for use in SNF basket designs for transport and storage was described. Results of corrosion tests Al-B₄C MMC used in storage racks were presented.
- ◆ Pierre Malesys discussed the options available to reconcile the relatively short period for which transport regulatory approvals are currently issued (typically 3 to 5 years) with the need to retain a long term (~ decades) storage capability to transport to a final repository.



Key messages

▶ Panel “Management Controls” (P11) Conf. Room 3

- ◆ Presentations varied over a range of management issues, from the Dangerous Goods Safety Adviser (DGSA) role in the UK to the application of Quality Assurance and Inspection measures applied in the US by the USNRC.
- ◆ Jim Stewart, IAEA, provided a compilation of "good practices" which Competent Authorities might apply which had been identified during the several "Transport Safety Appraisal Service" (TranSAS) missions to various national Competent Authorities.
- ◆ Other presentations included a discussion of how Emergency Response can be coordinated when transport typically traverses several countries and time zones and a description of Canada's Emergency Response Procedures and Experience.
- ◆ Simon Jakes described the "Dangerous Goods Safety Adviser" role and requirements in the UK, pointing out the lack of take-up of this requirement and the consequent poor compliance amongst "small users".

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Thank you for your attention

Time	Main Hall	Conference Room 1	Conference Room 2	Conference Room 3
07:00 – 08:00	Speakers Breakfast			
08: 15 – 08:40	Morning Plenary Security of the Transportation of Radioactive Materials			
08:40 – 08:50	Rapporteurs Summing-Up			
9:00 / 10:40	Session T31 : Group 3 Regulations & Guidance	Session T30 : Group 2 Emergency Response (Session A)	Session T29 : Group 1 Package Design & Strategies (Session A)	Session T32 : Group 4 Seal Behaviour
Coffee				
11:00 / 13:00	Session T39 : Group 3 Radiation Protection Issues	Session T36 : Group 4 Structural Analysis	Session T7 : Group 3 Fissile Exceptions	Session T40 : Group 4 Characterisation of Energy Absorbers
Lunch				
14:00 / 15:40	Panel P7 Long Term Storage & Transport – Regulatory Issues	Panel P6 Security Issues	Panel P10 Emerging Regulatory Issues	Session T45 Group 5 Finite Element Modelling – ASME
Tea				
16:00 / 17:40	Session T35 : Group 2 Transport Systems	Session T34 : Group 2 Emergency Response (Session B)	Session T33 : Group 1 Package Design & Strategies (Session B)	Session T38 : Group 2 Spent Fuel Transport