Spent Fuel Management Seminar XXVIII
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IAEA Transport Safety Standards Committee (TRANSSC) and Transport Regulations

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Overview

- What is the Transport Safety Standards Committee (TRANSSC)
- IAEA Safety Standards Organization and Committee Structure
- Regulations for the Safe Transport of Radioactive Material
- Interface with other UN transport organizations
- Future considerations for transport regulations

What is the Transportation Safety Standards Committee (TRANSSC)

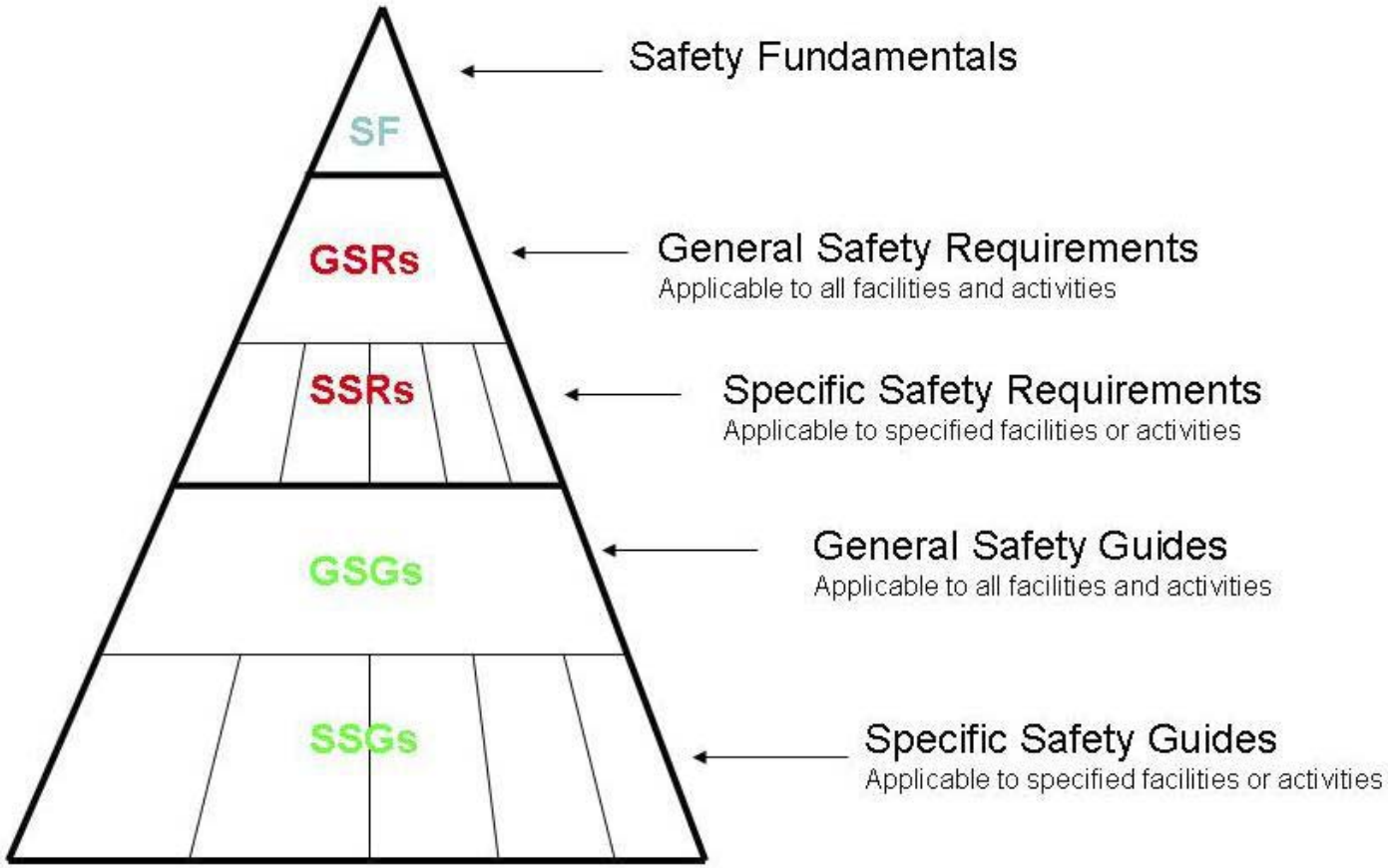
- One of four IAEA Safety Standards Committees
- Primary responsibility to establish and maintain the IAEA transport safety standards
- Comprised of regulatory/government representatives from 45 countries
- Participants also include representatives from other UN organizations such as International Maritime Organization (IMO), International Civil Aviation Organization (ICAO), UN Subcommittee of Experts on Transport of Dangerous Goods (SCETDG), and seven other non-governmental international organizations
- Meets twice a year in Vienna, with multiple technical and consultants meetings throughout year

TRANSSC Responsibilities

- Advise on the development of transport safety standards
- Advises on areas for improvement and focus in the overall transport safety program
- Review/approve new/revised standards prior to their submission to other Committees and CSS and prior to their submission to Member States for comment
- Review draft safety standards, considering the needs of users for the standards.
- Ensure broad international input in the preparation and review of safety standards.
- Advise on safety standards, relevant regulatory issues and activities for supporting the use and application of the Agency's safety standards.
- Advise on timely review and need for revision of safety standards.

IAEA Safety standards

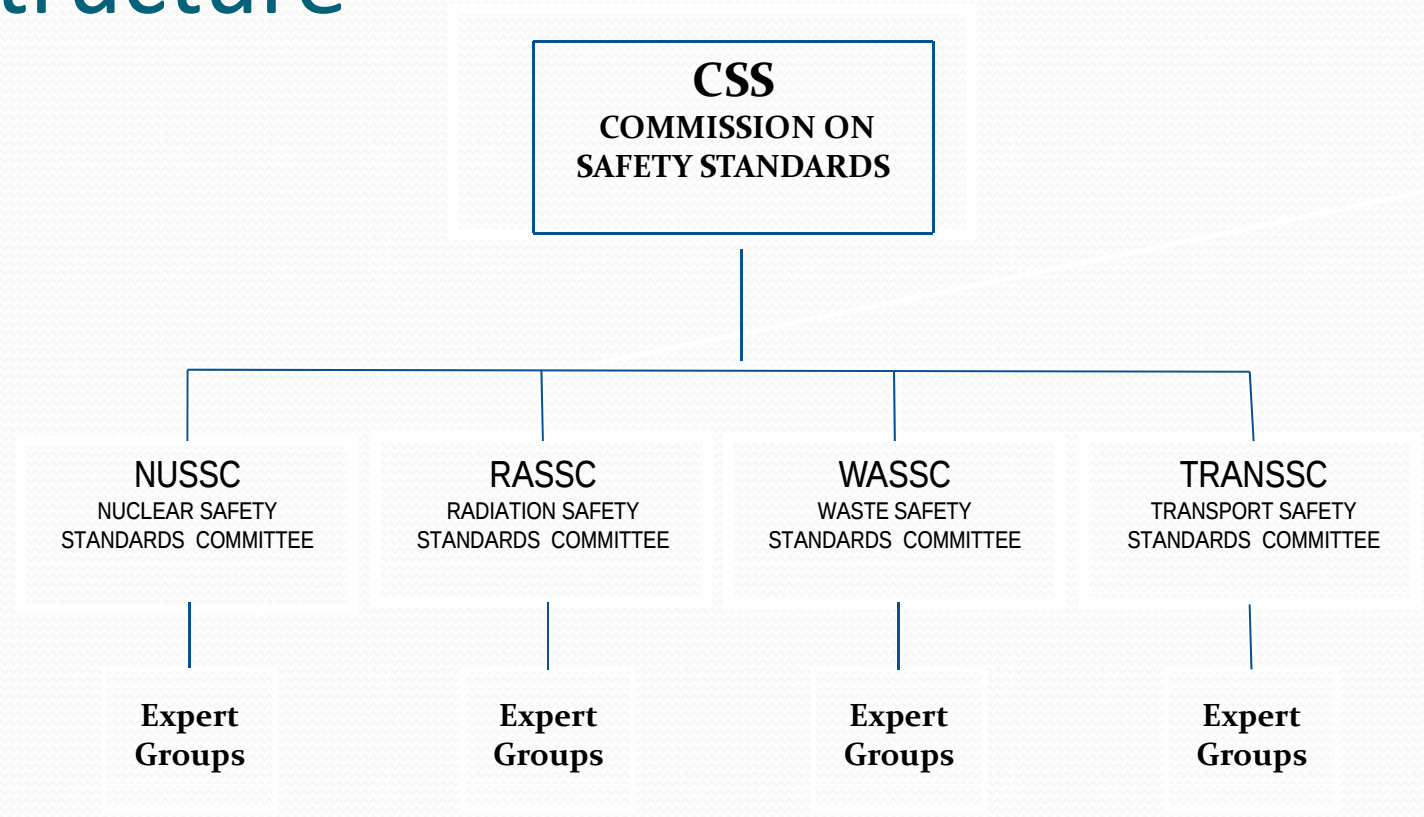
IAEA Safety Standards reflect an international consensus on what constitutes a high level of safety for protecting people and the environment from harmful effects of ionizing radiation



IAEA General and Specific Safety Requirements

- General Safety Requirements (GSR):
  - Part 1 Governmental, Legal and Regulatory Framework for Safety
  - Part 2 Leadership and Management for Safety
  - Part 3 Radiation Protection and Safety of Radiation Sources
  - Part 4 Safety Assessment for Facilities and Activities
  - Part 5 Predisposal Management of Radioactive Waste
  - Part 6 Decommissioning and Termination of Activities
  - Part 7 Emergency Preparedness and Response
- Specific Safety Requirements (SSR):
  - SSR-1 Site Evaluation for Nuclear Installations
  - SSR-2 Safety of Nuclear Power Plants
  - SSR-3 Safety of Research Reactors
  - SSR-4 Safety of Nuclear Fuel Facilities
  - SSR-5 Safety of Radioactive Waste Disposal Facilities
  - **SSR-6 Safe Transport of Radioactive Material**

IAEA Safety Standards Committee Structure



Regulations for the Safe Transport of Radioactive Material

- In 1959 the UN Economic and Social Council requested IAEA to develop radioactive material transport recommendations consistent with and in consultation with other UN organizations
- First transport safety standard published in 1961, Regulations for the Safe Transport of Radioactive Material
- Subsequent revisions of the IAEA transport regulations were issued in 1964, 1967, 1973, 1985, 1996, 2000, 2003, 2005, 2009, and 2012

Regulations for the Safe Transport of Radioactive Material

- Transport regulations are a “Specific Safety Requirement” (SSR-6)
- Establishes requirements for all aspects and all modes of transport of radioactive material (e.g., packaging, labeling, testing, documentation, notifications)
- Provides basis for radioactive material transport requirements of UN bodies, regional agreements and Member States
- In some cases SSR-6 is blocked/copied into national regulations
- US NRC and US DOT regulations for radioactive material transport are in most aspects very consistent with IAEA transport regulations

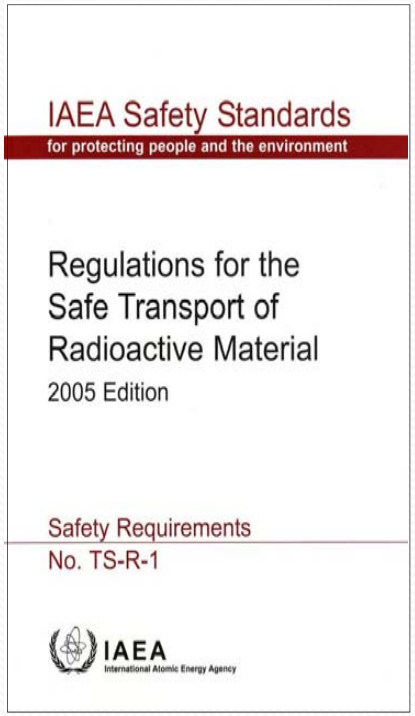
IAEA Transport Safety Standards

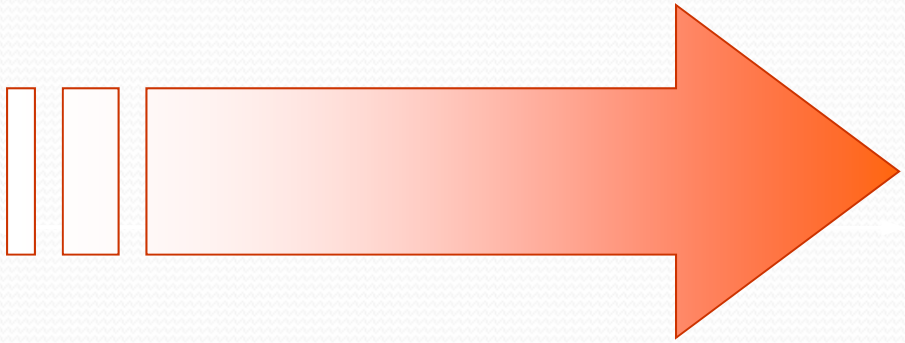
SSR-6	– Regulations for the Safe Transport of Radioactive Material
TS-G-1.1	– Advisory Material (implementing guidance)
TS-G-1.2	– Emergency Preparedness and Response
TS-G-1.3	– Radiation Protection Programs
TS-G-1.4	– Management Systems (quality assurance)
TS-G-1.5	– Compliance Assurance (government regulatory programs)
TS-G-1.6	– Schedules (guidance on package selection and applicable requirements)

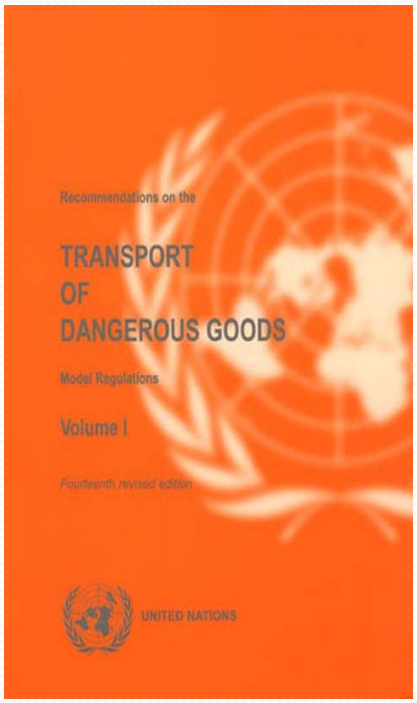
(note the “G” represents a “Safety Guide” under old nomenclature, in future Specific Safety Guides will have SSG-nn sequential numbers)

IAEA Interface with the UNOB

- IAEA maintains close interface with SCETDG, ICAO, IMO
- SSR-6 is incorporated in UNOB (UN Model Regulations)







What is the UN Orange Book

- Produced by UN Subcommittee of Experts on the Transport of Dangerous Goods (a Subcommittee under UN Economic and Social Council)
- Provides model regulations that will allow uniform development of national and international regulations governing the various modes of transport of dangerous goods
- Dangerous goods are categorized in nine classes:
  - Class 1 – explosives, Class 2 – gases, Class 3 - flammable liquids, Class 4 – flammable solids, Class 5 – oxidizing substances and organic peroxides, Class 6 – toxic and infectious substances, **Class 7 – radioactive material,** Class 8 – corrosive substances , Class 9 – miscellaneous dangerous substances and articles
- Reviewed/revised every two years, a new edition of UNOB is approved at the SCETDG meeting (Nov/Dec) of every even year
- ICAO and IMO revise their respective modal regulations to reflect changes in the UNOB and SSR-6

Future Considerations for Transport Regulations

- Biennial “review” of proposed changes to SSR-6 leads to TRANSSC recommendation if “revision” of SSR-6 is needed
  - Biennial review directed by IAEA Board of Governors
  - Revision of SSR-6 provides timely input to UNOB two-year cycle
- IAEA to initiate new “review” cycle in 2013
- TRANSSC developing a new “Technical Basis Document” to provide background on requirements
  - Will address 1961 regulations and all subsequent revisions
  - Ever wonder about the origin of the 30 foot drop test
  - Will help in reviewing future recommended changes, also serve as an instructional aid

Future Considerations for Transport Regulations

- Reviewing regulations for special arrangements, transport of large items, and materials with low specific activity
- Developing new/revised Safety Guides for:
  - Schedules to conform to SSR-6 2012 Edition (revision of TS-G-1.6)
  - Emergency preparedness and response (revision of TS-G-1.2)
  - Special arrangements and transport of large items (possibly new or revised guide)
  - Application review guide for regulators (possibly new guide)
- Ongoing collaboration of WASSC/TRANSSC on extended spent fuel storage followed by transport
  - Multiple Technical meetings, working groups and consultants meetings over the past few years
  - Anticipate effort to produce new guidance and recommendations for revising safety standards

Some Useful IAEA Websites

IAEA Safety Standards

http://www-pub.iaea.org/mctd/publications/resultspagesss.asp

IAEA Transportation Safety Standards Committee (TRANSSC)

http://www-ns.iaea.org/committees/transsc/default.asp?fd=1158&dt=0

Safety of Transport of Radioactive Materials

http://www-ns.iaea.org/tech-areas/radiation-safety/transport.htm