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Regulatory framework



International Atomic Energy Agency (IAEA)
Regulations for the Safe
Transport of Radioactive Material

United Nations (UN)
Recommendations on the transport
of dangerous goods - Model regulations



International
Maritime
Dangerous Goods
(IMDG) Code



Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO-TI)



European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)



Regulations concerning the International Carriage of Dangerous Goods by Rail (RID)



Issues

- Three categories of requirements in IAEA Transport Regulations
 - (very) general requirements
 - "normal" requirements
 - (very) detailed requirements
- Wording of the IAEA Transport Regulations
- Overarching requirements



Normal requirements

555. For each shipment listed in (a), (b), (c) or (d) below, the consignor shall notify the competent authority of the country of origin of the shipment and the competent authority of each country through or into which the consignment is to be transported. This notification shall be in the hands of each competent authority prior to the commencement of the shipment, and preferably at least 7 days in advance. (...)

- ► Who?
- ▶ What?
- In which instances?
- ▶ When?



Very general requirements (1/2)

- 671. Fissile material shall be transported so as to:
- (a) Maintain subcriticality during normal and accident conditions of transport; in particular, the following contingencies shall be considered:
 - (i) Leakage of water into or out of packages;
 - (ii) Loss of efficiency of built-in neutron absorbers or moderators;

(...)

- (vi) Temperature changes.
- (b) Meet the requirements:
 - (i) Of para. 634 for packages containing fissile material;
 - (ii) Prescribed elsewhere in these Regulations which pertain to the radioactive properties of the material; and
 - (iii) Specified in paras 635 and 673–683, unless excepted by para. 417.
- Is a general requirement a requirement?
- How to combine a general requirement with the associated detailed requirements?

Very general requirements (2/2)

302. A radiation protection programme shall be established for the transport of radioactive material.(...) The programme shall incorporate the requirements of paras 301, 303–305, 311 and 559. (...)"

- Who has to establish the radiation protection programme?
- Flexibility vs identification of the actors?



Very detailed requirements

501. Before a packaging is first used to transport radioactive material, the following requirements shall be fulfilled:

- (a) If the design pressure of the containment system exceeds 35 kPa (gauge), it shall be ensured that the containment system of each package conforms to the approved design requirements relating to the capability of that system to maintain its integrity under that pressure
- As there is a requirement for a design pressure over 35 kPa, does it mean that there is no requirement under this value?



Improvement of the wording of the Regulations

- Rewording of the paragraphs which needed to be revised during the normal review / revision cycle
 - Simplify and clarify the provisions, remove extraneous and unnecessary wording, whilst retain the essential meaning of the requirements
 - Remove text which is explanatory or advisory in nature (this is covered by Safety Guides TS-G-1.x)
 - Re-write paragraphs in a way that their meaning is obvious and unambiguous
 - Facilitate translation
 - Facilitate implementation
- Hurdles to overcome
 - Do not impoverish the Regulations
 - Do not miss something
 - Combine with stability in the Regulations
- Wording of the Regulations can still be improved



Overarching requirements

- Need to identify the general principles of the Regulations
- But
 - The Regulations are not a training course!
 - When implementing the Regulations, what is the difference between an "overarching requirement" and a "requirement"?
 - How the layman could manage objectives, principles, requirements, etc.?
- Technical basis on which safety is assured must be included in a Safety Guide TS-G-1.x (TS-G-1.1 or a new guide)



Conclusion

- The Regulations must be clear.
- Rewriting of the Regulations shall contribute to a better implementation
 - Common understanding and stabilization of their implementation



More revision for more stability!

