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**COMMITTEE OF EXPERTS ON THE TRANSPORT OF  
DANGEROUS GOODS AND ON THE GLOBALLY  
HARMONIZED SYSTEM OF CLASSIFICATION  
AND LABELLING OF CHEMICALS**

Sub-Committee of Experts on the  
Transport of Dangerous Goods

Twenty-fifth session, 5-14 July 2004  
Item 8 of the provisional agenda

**HARMONIZATION WITH THE INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA)  
REGULATIONS FOR THE SAFE TRANSPORT OF RADIOACTIVE MATERIAL**

Transmitted by the expert from the United Kingdom

**Introduction**

1. In the past, the two sets of global non-mandatory provisions for the safe transport of radioactive material and other dangerous goods have been developed separately from one another. They have taken account of the corresponding provisions when appropriate, but it was not until the 11th Revised Edition of the UN Model Regulations that the requirements for the safe transport of radioactive materials were fully incorporated into the Model Regulations.
2. It is perhaps no surprise that a number of differences between corresponding requirements in the two sets of provisions have developed over the years. When the UN Model Regulations fully incorporated IAEA text in the 11th Revised edition of the Model Regulations, it was not part of the mandate of the then Committee of Experts to address such differences other than for essential editorial purposes. Whilst it was recognised that it would be desirable to harmonise the two texts at some point in the future, nothing was included in the work programme for either body to this effect.
3. The expert of the United Kingdom believes that now that the IAEA have moved to a biennial review of the Regulations for the Safe Transport of Radioactive Material and that the UN Sub-Committee is regularly invited to comment on proposals for amendment, it would be appropriate to commence a review of the differences between the two texts leading to proposals for harmonisation wherever possible.

4. The United Kingdom presented an Information Paper at the IAEA TRANSCC IX meeting held in Vienna in March 2004, the text of which is attached to this document (see Annex). The expert of the United Kingdom would welcome the written comments of other participants in the Sub-Committee on these and any other differences between the UN and IAEA texts in good time to permit the submission of initial proposals for harmonisation at the next sessions of the respective bodies.

**Annex (in ENGLISH ONLY)**

**TM-26528**  
**Information Paper No. 20**  
**Rev. 0**



**INTERNATIONAL ATOMIC ENERGY AGENCY**

**TRANSSC 9**  
**TM-26528**

**Vienna**  
**22-26 March 2004**

**UN - IAEA harmonisation**

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### UN - IAEA harmonisation

A number of differences exist between the definitions section of the IAEA Regulations for the Safe Transport of Radioactive Material and the UN Recommendations on the Transport of Dangerous Goods Model Regulations. Several reviews of the differences have been made. This paper picks up some of the differences and proposes a way forward to eliminate them

The proposals have been grouped into two sections, the first (Annex 1) is a set of minor wording changes which could quickly align some definitions. These are seen as minor deviations that have come about through technical editing and the like. It is believed that the intention was the same for both IAEA and UN in these cases. Perhaps the most significant of these changes is the definition of consignee. Both the IAEA and UN made attempts at a definition - and both had their own particular drawbacks. The intent seems clear however, that the person that a consignment is destined for and the person that accepts the consignment at the end of its journey both need to be caught by this definition. Wording changes are suggested to both IAEA and UN. It is suggested that Annex 1 be reviewed by both organisations and revised and adopted as a single common document to prevent further differences. First as this information paper, then as change proposals at future meetings following appropriate consultation.

There are other differences in definitions that are more related to concept differences between the IAEA and the UN. These are set out in Annex 2. For these cases no revised wording is proposed - simply a proposal for a process by which these subjects may be taken forward. There are significant concept differences which would seem to present an insurmountable barrier to harmonisation. However unless these differences are addressed now the gap between the IAEA and UN regulations will continue to widen and it will be harder to bring the regulations together in the future. It is suggested that Annex 2 be reviewed by both organisations and revised and adopted as a single document proposing a joint approach to dealing with key concept differences.

Other differences that are not related to definitions also exist. An example can be found in the consignor's declaration. IAEA paragraph 550 suggests the following wording:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packed, marked and labelled, and are in all respects in proper condition for transport by (insert mode(s) of transport involved) according to the applicable international and national governmental regulations."

The key difference from UN being that IAEA suggests the declaration should include recognition that the consignment may not be suitable for all modes of transport. These differences are not presented here, however they represent issues that could take significant discussion to resolve. It is proposed that the inter agency co-ordination group be tasked with the duty of bringing these to the attention of IAEA and UN and propose a process to deal with each.

ANNEX 1 DEFINITION DIFFERENCES RELATED TO "EDITORIAL" DIFFERENCES

Definition	IAEA para	UN para	IAEA action	UN action
Competent authority	207	1.2.1		ADD "or international regulatory" after "national".
Consignee	210	1.2.1	Consignee means any person, organisation or government who receives or is the intended recipient of a consignment.	Consignee means any person, organisation or government who receives or is the intended recipient of a consignment.
Consignor	212	1.2.1	Proposal to adopt UN definition already being progressed.	
Defined deck area	219	1.2.1	Delete first comma (between "area" and "of")	
IBC	224	1.2.1	Delete the word performance in para (C)	To note - some definitions are singular, some are plural. Suggest rationalising to the singular throughout.

25 February 2004

Page 1 of 2

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Definition	IAEA para	UN para	IAEA action	UN action
Overpack	229	1.2.1	Adopt UN text: Overpack shall mean an enclosure used by a single consignor to contain one or more packages and to form one unit for convenience of handling and stowage during transport.	Remove examples from the definition (?place as a footnote). Question - does strapping on a pallet form an enclosure?
Passenger aircraft	203	1.2.1	ADD to end "or other cargo"	
Quality Assurance	232	1.2.1	Delete "involved in the transport of radioactive material "	
Special arrangement	238	1.1.2.4.1		Current UN definition contains an error. Suggest change to : "Special arrangement shall mean those provisions, approved by the competent authority, under which consignments of radioactive material which do not satisfy all the applicable requirements of these Regulations may be transported." The consignment is then limited to one of radioactive material, and only the applicable requirements of the regulations related to radioactive material are applied.
vehicle	247	1.2.1	Change to "and semi-trailer combination), railroad car" - by changing "or" to " ,"	

25 February 2004

Page 2 of 2

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## ANNEX 2 DEFINITION DIFFERENCES RELATED TO CONCEPT

There are several terms used in definitions that have key differences in the concepts lying behind them. As a result it is important to examine the concepts rather than the simple wording differences, otherwise further differences will result in future. The primary differences lie "behind" the following definitions.

### Package/Packaging

One of the key issues here is that IAEA, possibly because it deals with very large packagings (100Te and over) has developed the term packaging to include service equipment. For example a very large package may require specialist handling equipment, which is key to it's safe use. How should this service equipment be addressed? Is it appropriate to consider it along with the packaging, or should there be a different way to deal with it?

UN talks of the performance of the containment function as the purpose of packaging. IAEA talks of an enclosure. In essence the UN definition is performance based, while the IAEA definition is item based. Which is more appropriate?

### MNOP

The pressures and temperatures that should be considered during transport vary between Class 7 and other classes. Class 7 uses a term MNOP to cover the highest pressure in the package during transport, it means "Maximum Normal Operating Pressure". Other classes consider different means of determining the pressure to be considered. At the very least there ought to be a standard set of environmental conditions to be applied across the different classes. How should we deal with the effects of the environment on packages (high and low temperatures - high and low pressures)?

### Freight Container

The IAEA allows a freight container to be classed as a packaging in its own right. Now that UN is extended to large packagings should it accept that freight containers may be classed as packagings if they meet the appropriate tests? Or should the IAEA change it's requirements to prevent freight containers being used as packagings?

### Contamination

For Class 7 there is a concept of contamination. This comes from the acceptance that it is impossible to eliminate substances on the surface of packages (for example household dust is radioactive - so household dust on a package would look like the outside was contaminated). At what level of contamination do you become concerned? IAEA sets a "cleanliness goal" which is risk informed. With other classes what would be the appropriate means of defining the safe amount of a dangerous good on the outside of a package? It would not seem appropriate to have the same limits for all classes. This highlights a key difference between IAEA and UN. The package limits in IAEA are risk based. Irrespective of which radioactive material you are carrying and in which amount - by following the IAEA regulations risks are limited to comparable maximums. Could such a risk based methodology be introduced at UN, or should IAEA adopt a more pragmatic approach - taking less cognisance of the risks involved?

### Tank

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The key difference here is that IAEA treats tanks as packagings in the same way that it treats freight containers as packagings - if it passes the packaging tests. Thus we have the problem that something that is a packaging (but not a tank) for Class 7 could be considered as a tank for another class of material. With the advent of large packagings in UN should the issue of how to treat tanks be examined? Or should IAEA introduce additional provisions for packagings that may be used as tanks?

The differences here can seem trivial in places, however looking at the simple issue of contamination gives the indication of the problem that needs to be addressed if these definitions are to be harmonised. It comes down to the basis of the regulations in their entirety - and the basis on which they ought to be developed. Where should the balance between science and pragmatism be? Given that IAEA and UN have developed self-consistent regulations based on different points on the science-pragmatism curve, is there any chance that one set of regulations (or both) can move to another point on the curve? This would require a full review and restructure of one set of regulations against a set of principles the normal drafting group is not familiar with. This is not a simple task.

It is proposed that the IAEA and UN set up a small joint working group to look at these issues and to report back on the effort estimated to harmonise each of the concepts and definitions in three ways, and on the potential benefits from each way:

1. To adopt the UN principles in IAEA.
2. To adopt the IAEA principles in UN.
3. To adopt a compromise position.