USER-FRIENDLY STRUCTURE OF INTERNATIONAL REGULATIONS FOR THE TRANSPORT OF RADIOACTIVE MATERIAL

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SUMMARY

To date the various modes of transport have used different structures in their codes for the transport of dangerous goods. Since the 1960's, the basis in the modal codes for the transport of class 7 - Radioactive material - has been the "Regulations for the Safe Transport of Radioactive Material" of the International Atomic Energy Agency, Vienna. The basis in the modal codes for all other classes of dangerous goods has been the "Recommendations on the Transport of Dangerous Goods" (Orange Book) of the United Nations, New York and Geneva.

Most of the national and international shipments are multi-mode transports and as a result one of the main problems for the shipper is to follow the various modal codes each with a different structure and partly inconsistent requirements. Consequently the restructuring of the regulations and codes appeared on the agenda of many past meetings in the United Nations framework and ADR and RID meetings.

This paper shows the draft of the restructured ADR and explains the changes. The aim of the restructuring is to make the document more user friendly by grouping similar requirements under single headings, thus making the code subject orientated as opposed to class orientated. This includes the provision of the class 7 material. The ultimate goal is the harmonization of all the modal codes and regulations. It is therefore the current thinking that the UN-Orange Book should become the model.

HISTORICAL DEVELOPMENT AND STATUS

In the dangerous goods transport field there are two main international organizations preparing recommendations:

- the United Nations Economic and Social Council Committee of Experts on the Transport of Dangerous Goods (ECOSOC), Geneva, and
- the International Atomic Energy Agency (IAEA), Vienna.

The UN document covers all dangerous goods, whereas the IAEA only publish recommendations for radioactive materials (class 7). There are also various modal national and international organizations publishing regulations/agreements, obligatory for the Member States.

In the past the national and international organizations used the IAEA-Regulations for the "Safe Transport of Radioactive Material" [IAEA, 1990] as the basis for their own regulations. In addition, however, it was also necessary to take some recommendations for the radioactive material transport from the UN-Recommendation on the Transport of Dangerous Goods (the so-called "Orange Book"), e.g., the UN-numbers for the materials and the provisions for the subsidiary risks. But mostly the "Orange Book" [Orange Book, 1995] referred to concerns the transport of radioactive material to the IAEA-Regulations. There were also some differences between the two Regulations, e.g., definitions.

In 1994, the UN-Committee of Experts considered "that reformatting the Recommendations on the Transport of Dangerous Goods into Model Regulations that could be directly integrated into all modal national and international regulations would enhance harmonization, facilitate regular up-dating of all legal instruments concerned, and result in overall considerable resource savings for the Governments of the Member States, the United Nations, the specialized agencies and other international organizations". [Foreword of Orange Book, 1997]. At its nineteenth session, from 2 to 10 December 1996, the Committee adopted a new structure of its recommendations.

STRUCTURE OF THE IAEA-REGULATIONS FOR THE SAFE TRANSPORT OF RADIOACTIVE MATERIAL

The current structure and format in the latest version of the IAEA-Transport Regulations No. ST-1, Edition 1996 [IAEA, 1996] is other than in the modal regulations of the national, intergovernmental and other international organizations. To facilitate the adoption of the ST-1 Regulations into the "Orange Book", the last TRANSSAC-Meeting [TRANSSAC, 1997] recommended that:

- in the near time frame, the Agency should proceed with developing a restructured presentation of ST-1 for use in the integration of those requirements into the regulations of the other international organizations. It is regocnized that some problems may arise which will need to be addressed, such as consistent use of terminology and approaches;
- in the medium time frame, the Secretariat should explore the feasibility of joint sponsorship by the UN and the Agency of the UN's Orange Book and ST-1 and report back to TRANSSAC on these possibilities;
- the long-range option of wider integration and joint publication should be considered later as experience is gained in the earlier stages.

It was proposed that the IAEA Consultants would use the RID/ADR-Working Group draft format as the basis for integration of the ST-1 Regulations into the "Orange Book". The content will remain unchanged. Furthermore, all parties expressed, that the IAEA should play a leading role, both now and in the future, the review and revision of the Transport Regulations.

COMPARISON BETWEEN THE UN RECOMMENDATIONS AND THE LAND MODE AGREEMENTS FOR THE TRANSPORT OF RADIOACTIVE MATERIAL

Annexes 1 and 2 of this paper show the new structure both of the "Orange Book" and the adopted ADR-Draft. The tables of contents for the first six parts are very similar, and contain the provisions for the substances and articles, packagings and consignment procedures.

The essential part of this new structure is Part 3 "Dangerous Goods Lists". These lists contain all known dangerous substances/materials in a numerical as well as an alphabetical order. Parts 4 and 5 give the explanations of the tables from the Part 3. Part 6 addresses only the manufacturer/producer of the packagings, intermediate bulk containers and tanks. That means, the different parts of both, the modal regulations and the UN-Model regulations with its new structure are classified for special user groups. Part 7 of the "Orange Book" contains the "Provisions concerning transport operations". In general, development of the detailed provisions would be left to national, modal or regional authorities, but chapter 7.1 contains operational provisions that are applicable to all modes of transport [Orange Book, 1997]. In the ADR, the provisions concerning vehicle construction, equipment and operation are summarized in Annex B behind the first six parts. The same structure have the regulations for the rail mode.

CONCLUSIONS

The new structure of the UN-"Recommendations on the Transport of Dangerous Goods" provides a good basis for all modal codes and regulations. The user friendly structure ensures that it is easier for the newcomer and for the specialists to understand the corresponding parts of the regulations. The work in the compliance assurance field is also easier to fulfill due to the individual responsibilities being more specifically defined.

In the future, the specialists of the member states can concentrate on the provisions for the substances / materials for all classes of dangerous goods within the UN-framework. The modal organizations can concentrate exclusively on the mode dependant parts of the pertinent regulations.

REFERENCES

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Recommendations on the Transport of Dangerous Goods,
Ninth revised edition, New York and Geneva, 1995

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Recommendations on the Transport of Dangerous Goods, Model Regulations,
Tenth revised edition, New York and Geneva, 1997

International Atomic Energy Agency,
2nd Meeting of the Transport Safety Advisory Committee (TRANSSAC-II), Vienna, 10-14 March 1997

Excerpt from: **Annex 1**

UN RECOMMENDATIONS ON THE TRANSPORT OF DANGEROUS GOODS, MODEL REGULATIONS, 10TH REVISED EDITION, 1997

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Excerpt from: **Annex 2**

RESTRUCTURED ADR
- Basis 1997 -

TABLE OF CONTENTS

Chapter	3.6	List of flammable solids (Table E)
Chapter	3.7	List of schedules of requirements for the transport of specified types of radioactive material consignments

Part 4. PACKING REQUIREMENTS (including use of packagings, IBCs, tanks, containers and vehicles for packing purposes)

Chapter	4.1	Use of packagings and intermediate bulk containers (IBCs)
Chapter	4.2	Use of tanks
Chapter	4.3	Use of container or vehicles

Part 5. CONSIGNMENT PROCEDURES

Chapter	5.1	General requirements
Chapter	5.2	Marking and labelling of packages
Chapter	5.3	Placarding and marking of containers, tank-containers and transport units
Chapter	5.4	Documentation
Chapter	5.5	Special requirements

Part 6. REQUIREMENTS FOR THE CONSTRUCTION AND TESTING OF PACKAGINGS; INTERMEDIATE BULK CONTAINERS (IBCs) AND TANKS

Chapter	6.1	Requirements for the construction and testing of packagings (other than receptacles for gases and other than packagings for class 6.2 substances)
Chapter	6.2	Requirements for the construction and testing of receptacles for gases
Chapter	6.3	Requirements for the construction and testing of packagings for class 6.2 substances
Chapter	6.4	Requirements for the construction and testing of packagings for Class 7 material
Chapter	6.5	Requirements for the construction and testing of intermediate bulk containers (IBCs)
Chapter	6.6	Requirements for the construction and testing of tanks
Chapter	6.7	Specific provisions concerning tanks made from GRP
Chapter	6.8	Requirements concerning the materials and construction of fixed welded tanks, demountable welded tanks, and welded shells of tank-containers for which a test pressure of not less than 1 MPa (10 bar) is required, and of fixed welded tanks, demountable welded tanks and welded shells of tank-containers intended for the carriage of deeply refrigerated liquefied gases of Class 2

Annex B: Provisions concerning vehicle construction, equipment and operation

Part 10. GENERAL PROVISIONS, DEFINITIONS AND TRAINING

Chapter	10.1	Scope and applicability of Annex B
Chapter	10.2	Definitions
Chapter	10.3	Training of drivers
[Chapter	10.4	Role of the carrier and consignor]
Chapter	10.5	Derogations
Chapter	10.6	Transitional measures