**UNITED NATIONS**

# ST

Distr.
GENERAL

ST/SG/AC.10/C.3/2000/33
20 April 2000

ENGLISH ONLY

**Secretariat**

**COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS**

**Sub-Committee of Experts on the Transport of Dangerous Goods**
**(Eighteenth session, 3-14 July 2000, agenda item 7)**

## ANY OTHER BUSINESS

## Cooperation with the International Atomic Energy Agency (IAEA), the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO

### Note by the secretariat

The secretariat reproduces hereunder a copy of the report of an intersecretariat meeting (UN, ICAO, IMO and IAEA) on the integration of IAEA's Regulations for the Safe Transport of Radioactive Material into the Regulations of other organizations concerned with dangerous goods transport safety.



**Interagency Meeting on**

**Integrating the International Atomic Energy Agency's
"Regulations for the Safe Transport of Radioactive Material"
into the Regulations of other International Transport Safety Organizations**

**Report of the Meeting**

## 1. Introduction

The International Atomic Energy Agency (IAEA) published the latest revision of its *"Regulations for the Safe Transport of Radioactive Material"* (the Transport Regulations) in 1996. Worldwide implementation of the 1996 edition of the IAEA Transport Regulations, also known as ST-1, is to be achieved by adoption of the requirements of ST-1 into the corresponding regulations of Member States and International Organizations. The IAEA recognized that not all regulatory changes can be implemented simultaneously and therefore invited Member States and International Organizations, in adopting the revised requirements of ST-1, to provide for use of both the "old" requirements and the "new" ones during a period of transition which may last for several years. The IAEA recommended that adoption of its revised Transport Regulations occur within a period of five years in order to achieve worldwide harmonization of their application.

Much of the transport of radioactive material involves international as well as multimodal transport. It was therefore important for the IAEA and International Organizations to develop an overall approach to harmonize revisions of their requirements for the transport of radioactive material. For this purpose the IAEA invited representatives of the United Nations Economic Commission for Europe (UN/ECE) (which also provides the secretariat services for the UN ECOSOC Committee of Experts on the Transport of Dangerous Goods (UNCETDG)), the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO) to the first interagency Consultants Meeting (CS-85) in Vienna, 18/19 August 1998. These organizations are responsible for international regulations concerning the transport of dangerous goods by air, sea, rail, road and inland waterways.

At the first interagency meeting the revision process of the international organizations was reviewed in order to establish requirements for achieving the target date of 1 January 2001 for simultaneous implementation of the ST-1 requirements through ICAO Technical Instructions, the International Maritime Dangerous Goods (IMDG) Code, Regulations Concerning the International Carriage of Dangerous Goods by Rail (RID), European Provisions Concerning the International Carriage of Dangerous Goods by Road (ADR) and the European Provisions Concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN). A schedule was established identifying major meetings for the revision of these international regulations. It was agreed that the interagency meetings were useful for supporting the integration process and should continue on an annual basis. A second meeting (CS-35) was held 22/23 April 1999. This meeting, the third interagency Consultants Meeting (CS-43), was held 27/28 March 2000.

The purpose of the 27/28 March 2000 interagency meeting was to share the experiences with the ongoing first time integration of the IAEA Transport Regulations into the international

regulations for which the consultants at this meeting have responsibilities. Issues which have been identified during this first time integration process require recommendations from this interagency meeting for the development of procedures for the following:

1. To address the consequences of different transition periods for implementing new requirements.

2. To identify and deal with differences from the IAEA Transport Regulations. These differences may be in the form of additional requirements, deletion of requirements for other modes of transport and in some cases changed requirements.

3. To ensure that proposals for change to requirements of the IAEA Transport Regulations are taken care of in the IAEA revision process.

The meeting started with a review of the activities and the progress related to incorporating the current ST-1 requirements into the international regulations. This was followed by a review of the schedule for incorporating future revisions to ST-1. The following issues were discussed in order to develop recommendations at this meeting:

- different implementation dates and transition periods,
- differences from the original ST-1 regulations and
- future proposals for change to requirements for the transport of radioactive material submitted to the international organizations.

The recommendations developed during the discussions are summarized at the end of this report.

## 2. Incorporating Current ST-1 Requirements into the International Regulations

### 2.1 The UN Recommendations on the Transport of Dangerous Goods

Model Regulations for the Transport of Dangerous Goods, which are annexed to the UN Recommendations on the Transport of Dangerous Goods, are used by international organizations as the basis for regulating air, sea, rail, road and inland waterways transport of dangerous goods. The 11$^{th}$ revised edition of the UN Recommendations on the Transport of Dangerous Goods (including the UN Model Regulations), published in July 1999 (English version) includes all the requirements of ST-1 restructured in the format of the UN regulations. Corrigendum 1 was published in October 1999 and Corrigendum 2 is expected to be published in April 2000. The 11th edition of the UN Model Regulations has been used by the International Civil Aviation Organization, the International Maritime Organization and the United Nations Economic Commission for Europe for the current revision of their regulations for the transport of dangerous goods by air, sea, rail, road and inland waterways.

2.2 The International Civil Aviation Organization (ICAO) Technical Instructions

The ICAO Technical Instructions apply to the international air transport of dangerous goods and are also adopted for national transport in many countries. The ICAO Dangerous Goods Panel meeting DGP/17 (Montréal, 1-10 November 1999) recommended the incorporation of the requirements of the 1996 edition of the IAEA transport regulations (ST-1), using the format of the UN Model Regulations, into the 2001/2002 Edition of the ICAO Technical Instructions. The Air Navigation Commission (ANC) recommended and the Council approved the 2001/2002 Edition of the ICAO Technical Instructions at their meetings in February 2000 and March 2000 respectively. The 2001/2002 Edition will be published during the summer of 2000 and will enter into effect on 1 January 2001 and replace the current ICAO Technical Instructions without any transition period.

Note. The International Air Transport Association (IATA) Dangerous Goods Board at its 7-9 March 2000 meeting in Dubai (DGB/76) adopted the requirements of the 2001/2002 Edition of the ICAO Technical Instructions for the next edition of the IATA Dangerous Goods Regulations. The next edition of the IATA Dangerous Goods Regulations therefore also includes the requirements of the 1996 Edition of the IAEA Transport Regulations (ST-1). The next edition of the IATA Dangerous Goods Regulations will also become effective 1 January 2001 and will replace their current Dangerous Goods Regulations without any transition period.

2.3 The International Maritime Dangerous Goods (IMDG) Code

The International Maritime Organization (IMO) Sub-Committee Meeting (DSC 5) in February 2000 approved the reformatted IMDG Code which incorporates the requirements of the 1996 edition of the IAEA Transport Regulations (ST-1), using the format of the UN Model Regulations. The Maritime Safety Committee (MSC 72) is expected to adopt this revised Code at its meeting in May 2000. The new Code will then enter into force on 1 January 2001 with a 12 month transition period during which either the current or the new IMDG Code may be applied. For radioactive material this means that either the requirements of the 1985 edition or the 1996 edition of the IAEA Transport Regulations may be applied during this period but only the requirements of the 1996 edition as of 1 January 2002.

2.4 International Rail, Road and Inland Waterways Regulations (RID/ADR/ADN)

Significant restructuring was involved in the revision of the RID/ADR regulations in accordance with the UN Model Regulations. In addition it is necessary to translate the revised documents into all the languages of the countries applying these regulations before they can be implemented. It has not been possible to complete all the necessary work in time for the original implementation target date of 1 January 2001. The following summarizes major aspects of the process involved in the ongoing revision of these regulations.

The UN/ECE Working Party on the Transport of Dangerous Goods (WP.15) and of the RID Safety Committee (RID/ADR/ADN Joint Meeting), at their sessions held in September 1999, November 1999 and March 2000, have incorporated the requirements of the 1996 edition of the IAEA Transport Regulations in the draft restructured RID and ADR. Final approval by WP 15 in

May 2000 and by the RID Committee of Experts in June 2000 is still needed for initiating the official legal amendment procedure (which takes one year for RID and six months for ADR). In accordance with this procedure the new provisions should enter into force on 1 July 2001 with an 18 month transition period during which either the current or the new provisions may be applied. For radioactive material this means that the requirements of the 1985 edition continue to apply until 1 July 2001. From 1 July 2001 until 1 January 2003 either the requirements of the 1985 edition or the 1996 edition of the IAEA Transport Regulations may be applied but after 1 January 2003 only the requirements of the 1996 edition will apply. The ADN provisions should also be amended by WP 15 in January 2001 in order to match RID and ADR. It was noted that a transition period shorter than the 18 months may be arranged for the radioactive material transport requirements.

2.5 Summary of implementation schedules

The current schedule for implementation of ST-1 requirements through international regulations is as follows:

- revised ICAO Technical Instructions, effective 1 January 2001 with no transition period,
- revised IMDG Code, effective 1 January 2001 with a one year transition period,
- revised RID/ADR/ADN, effective 1 July 2001 with an 18 month transition period

## 3. Implementing Future Revisions of the IAEA Transport Regulations into the International Regulations

The process for revision of the 1996 Edition of the IAEA Transport Regulations was started in March 2000. Proposals for change will be accepted until 22 May 2000. The Revision Panel Meeting , 4-8 September 2000 in Vienna will review these proposals and make recommendations for TRANSSAC which at its meeting in February 2001 will decide which proposals it endorses.

The process for incorporating revised ST-1 requirements into the UN, ICAO, IMDG, RID, ADR and ADN regulations starts by introducing the proposed ST-1 revisions into the process for revision of the UN Model Regulations. The revised UN Model Regulations will then be used as the basis for the revision of these other regulations.

The next edition of the UN Model Regulations (the 12$^{th}$ Edition) will be approved in December 2000 and is then expected to become effective through the next revision of ICAO, IMDG, RID/ADR/ADN regulations on 1 January 2003. The latest opportunity for introducing revisions into this current revision cycle for the UN Model Regulations would be April 2000 (10 weeks prior to the July 2000 meeting of the UN Sub-Committee of Experts on the Transport of Dangerous Goods (UNSCETDG)). The April 2000 date is too early for having proposals from the IAEA process for revision of its Transport Regulations. Therefore the 12$^{th}$ Edition of the UN Model Regulations and the related revision of the ICAO, IMDG, RID/ADR/ADN regulations, which will become effective on 1 January 2003, will still include the requirements for the transport of radioactive material in accordance with the 1996 edition of the IAEA Transport Regulations. The earliest opportunity for implementing changes to the IAEA Transport

Regulations is therefore in the revision cycle for these international regulations which, with their revised editions, will become effective 1 January 2005.

It was agreed at this interagency meeting that following the February 2001 TRANSSAC meeting the UN Sub-Committee of Experts on the Transport of Dangerous Goods (UNSCETDG) will be informed about the endorsed proposals for change. The information should be provided in April 2001 (10 weeks prior to the July 2001 UNSCETDG meeting). The latest opportunity for incorporating changes to ST-1 into the 2003 Edition (the 13th Edition) of the UN Model Regulations will be by acceptance of the proposed changes at the July 2002 UNSCETDG meeting. The changes to the UN Model regulations, accepted at the July 2002 UNSCETDG meeting will be the basis for the changes to the ICAO, IMDG, RID/ADR/ADN regulations which will become effective on 1 January 2005.

Following the February 2001 TRANSSAC meeting further work in the process for revision of the IAEA Transport Regulations involves the preparation of the revised regulations (ST-1) and the related advisory material (ST-2 and ST-3) for approval by TRANSSAC at its meeting in March 2002. Revisions to the 1996 edition of the IAEA Transport Regulations are then expected to be approved for publication by the end of September 2002. The first opportunity to have revised ST-1 requirements implemented through the ICAO, IMDG, RID/ADR/ADN regulations is 1 January 2005 as described above.

## 4. The Issue of Implementation Dates and Transition Periods

At the November 1999 ICAO Dangerous Goods Panel meeting (DGP/17) the implementation date for its next edition of the Technical Instructions was discussed extensively because at that time it was clear that the RID/ADR regulations would not be ready in time for the 1 January 2001 target date. At that time it was not clear if those provisions would be ready at their next target date of 1 July 2001 and it was also noted that the RID/ADR regulations already contained a provision allowing shipments packaged for air or sea transport (in accordance with their new regulations) to be accepted by the ground mode. At that time there was some question about the comprehensiveness of this provision but it was considered that it should relieve many possible problems of incompatibility. ICAO therefore decided to implement its new edition of the Technical Instructions at the original target date of 1 January 2001 (with no transition period). IMO at its Sub-Committee Meeting (DSC 5) also kept this original target date for starting the implementation of the next edition of the IMDG Code (with a one year transition period).

Since that time it has become clear that the provision of ADR marginal 2007, and the equivalent RID marginal, which allow shipments packaged for air or sea transport (in accordance with the new air/sea regulations), is not sufficiently comprehensive to prevent incompatibility problems. This provision, combined with the difference of dates of effective application of the ST-1 requirements through modal instruments, is likely to cause considerable confusion in the countries which are contracting parties to RID/ADR at least during the period 1 January 2001 to 30 June 2001. This confusion is expected in particular with multimodal transport involving air transport. Much of this confusion relates to the significant changes in the UN numbers used for the transport of radioactive material. Five of the thirteen UN numbers used with the previous edition of the IAEA Transport Regulations have been kept in ST-1 (2910, 2912 2913, 2978, 2979) but have now

a more precise or considerably restricted definition. Eight of these thirteen UN numbers have been deleted from the UN numbers list in ST-1 and twenty new UN numbers have been added. There is no clear correlation between the old and the new numbers. It will therefore be difficult, especially for a carrier who until 30 June 2001 may not yet have the list of new numbers, to determine the appropriate transport conditions according to the existing RID/ADR. The documentation is difficult because the UN number and the name in the transport document would have to be as required by the current RID/ADR. The description in the transport document would then not correspond to the UN numbers on the package.

A possible solution could be the use of multilateral agreements for an additional variation from the provisions of RID/ADR, allowing the use of the new UN numbers and the related proper shipping name in the transport documents as well. Otherwise there may be a need for duplication of the shipment documentation (according to the old rules and the new rules). From a safety standpoint this different or dual documentation is not desirable.

The potential problems are not restricted to documentation. It was noted for example that the Government of France intends to propose to other Contracting Parties to RID and ADR a multilateral agreement allowing package approvals according to the new ST-1 requirements also when the packages are only transported by road or rail. The intention is to apply these particular future RID/ADR requirements before their entry into force, i.e. during the period 1 January 2001-30 June 2001. There may be other alternatives under consideration which would add to the confusion.

If the transition problem in countries which are Contracting Parties to RID and ADR is to be addressed by multilateral agreements, it might be desirable to have one single multilateral agreement that would be more comprehensive and that would allow the application of all the provisions of ST-1 for road and rail transport prior to the entry into force of the amended provisions of RID and ADR, i.e. from 1 January 2001 to 30 June 2001. However, this would imply significant preparatory work to initiate such an agreement in accordance with the legal procedures, and it is not certain that all relevant provisions would be available in all languages of Contracting Parties to RID and ADR, therefore some countries might be reluctant to sign such a multilateral agreement. Furthermore, the consequences should also be carefully evaluated at national level, especially with respect to practical implementation, information of consignors, carriers and control authorities and training of their staff.

Similar arrangements might be needed also in other parts of the world if the road and rail regulations are not ready for implementation of the requirements of ST-1, by 1 January 2001. The use of the UN Model Regulations could be considered, but there would still be the problem of enacting a relevant national or international law to make them applicable, as well as the problem of informing and training consignors, carriers and control authorities.

An alternative which may eliminate the need for a possible multitude of multilateral arrangements, would be to reconsider the effective implementation dates. If ICAO would revise its implementation schedule either by allowing a 6 month transitional period or by delaying the entry into force of the 2001 amendments to 1 July 2001 and if RID/ADR would apply a six month transition period for Class 7 (i.e. until 31 December 2001) instead of a 18 month transitional

period then the transition problems would be eliminated at least in those countries where RID/ADR applies. The transition problems would then be eliminated for all modes because the new IMDG Code already involves a transition period of 1 year from 1 January 2001. This would mean that the requirements of the 1985 edition of the IAEA regulations could be used for international multimodal transport in the countries where RID/ADR applies, until 1 July 2001. The requirements of ST-1 could be used for such transport from 1 July 2001 until 1 January 2002. Depending on the transition periods and the mode of transport there is some possibility of either the "old" the "new" requirements during the year 2001 but as of 1 January 2002 all modes should be in accordance with ST-1 only.

Confusion with regard to the applicable requirements is also a safety concern. The interagency meeting felt that, considering the potential confusion, the related safety concern and the lack of time, it would be desirable to bring urgently these alternatives to the attention of the organizations concerned and to request them to evaluate with pragmatism the practicality of each alternative and the consequences in a multimodal chain of transport. The consultants would investigate this in their respective organizations and would inform each other of further developments. Coordination at national level for the various modes of transport is deemed highly desirable.

## 5. The Issue of Differences from the Original ST-1 Regulations

Incorporation of the requirements of ST-1 into the UN Model Regulations involved

- using existing UN regulations for equivalent ST-1 requirements
- modifying existing UN regulations to include ST-1 requirements
- adding ST-1 requirements which were not in the UN regulations

This process required restructuring and rewording ST-1 requirements to be consistent with the structure and wording of the UN Model Regulations. In some cases this involved combining several ST-1 paragraphs into a single paragraph in the UN Model Regulations or representing single ST-1 paragraphs in several paragraphs of the UN Model Regulations. In other cases it involved deleting ST-1 paragraphs which were not regulatory requirements or moving some of the ST-1 paragraphs outside the UN Model Regulations into the Recommendations section of the UN document. A table of correspondence was included in the 11$^{th}$ revised edition of the UN document to identify where all the original ST-1 paragraphs ended up in the UN document.

Great care was taken by the many experts involved in the process of incorporating the requirements of ST-1 into the UN document to ensure that all the requirements of ST-1 would be retained and remain unchanged. It may be possible however that some errors were made in the work of incorporating the ST-1 requirements into the UN Model Regulations. Such errors could have resulted in differences from the ST-1 requirements. To date no such errors have been identified. In case a difference is identified the interagency meeting recognizes the original objective to incorporate the ST-1 requirements into the UN Model Regulations and the international modal regulations without changing these requirements.

The modal regulations follow essentially the structure and the wording of the UN Model Regulations, however, some differences exist. The modal regulations have some requirements for

the transport of radioactive material which are in addition to the requirements from ST-1. They also include additional restrictions through State variations (ICAO) or Operator variations (IATA). Also, the modal regulations delete the requirements which apply only to the other modes of transport.

One requirement, specific for air transport of radioactive material, has been identified in the ICAO (and IATA) regulations which is different from the requirement in ST-1 paragraph 619 and the corresponding UN paragraph 6.4.3.3. The development of this difference indicates the need to have proposals for changes to mode specific requirements in ST-1 sponsored by the modal organization responsible for the modal regulations. The interagency meeting therefore recommends that, although the IAEA allows proposals for change to come from any individual or organization, it should communicate the desirability of sponsorship through Member States or the international organizations which have responsibility for the modal regulations.

In order to be able to deal effectively with any possible or actual differences from the ST-1 requirements in the UN Model Regulations or the international modal regulations the interagency meeting recommends that correspondence tables be further developed by the IAEA to facilitate verification and resolving of any differences. Correspondence tables will be essential also to correctly deal with proposals for change to the requirements for transporting radioactive material (see next issue).

## 6. The Issue of Proposals for Change to the Requirements for the Transport of Radioactive Material Submitted to the International Organizations.

As a result of the process for incorporating the ST-1 requirements into the UN Model Regulations and related international modal regulations it is not necessarily clear which regulation or which part of a regulation in these other regulations comes from ST-1. The word “radioactive” is not in every regulation which originates in ST-1 and not all regulations from ST-1 are in the sections dealing with radioactive material (Class 7). This creates a potential problem in the revision process of these other regulations. Proposals could be made for revision of these other regulations which would change requirements from ST-1. It may not be clear to the originator of the proposal or to the reviewers that the specific proposal affects an ST-1 requirement.

Another potential problem is with regard to proposals which clearly deal with requirements for the transport of radioactive material because not all of these requirements are from ST-1. They could be additional requirements or restrictions introduced by the modal regulations.

In order to be able to deal with these potential problems it is very important to have a comprehensive correspondence list identifying where each ST-1 requirement ended up in the UN Model Regulations (such a list is already included in the 11$^{th}$ edition of the UN Model Regulations) but also the reverse list which identifies, in the sequence of the UN Model Regulations, which of their regulations comes from ST-1 and from where in ST-1. It should also identify any regulation for the transport of radioactive material which does not originate in ST-1. It would be highly desirable to have similar lists with regard to the modal regulations. The interagency meeting recommends that the IAEA arrange for the production of such a

comprehensive list at least with regard to the UN Model Regulations and where possible also with regard to the other international modal regulations.

The interagency meeting agreed that proposals for change to the UN Model Regulations and the International modal regulations which are with regard to regulations which originate in ST-1 should be referred to the IAEA for consideration in their revision process. Proposals which are with regard to requirements or restrictions for the transport of radioactive material which are in addition to requirements from ST-1 should be dealt with by the organization which developed these additional requirements or restrictions and should be referred to the IAEA for their information. The above mentioned comprehensive correspondence list is essential for ensuring that revisions to the regulations are dealt with by the organization responsible for the specific regulations.

## 7. Additional Considerations

The issues identified with the first time incorporation of the requirements of ST-1 into the UN Model Regulations and the related regulations of the international modal organizations make clear that it is essential to continue with the annual interagency meetings. There is also a need to communicate the recommendations from the interagency meeting to the countries and organizations affected by the identified issues. As a minimum the IAEA should have the report of this meeting presented to and reviewed by TRANSSAC, the UN Sub-Committee of Experts on the Transport of Dangerous Goods, the UN/ECE Working Party on the Transport of Dangerous Goods, the RID Safety Committee, the ICAO Dangerous Goods Panel and the IMO Dangerous Goods Sub-Committee. Following discussions at these meetings any further recommendation with regard to the issue of implementation dates and transition periods (section 4 of this report) will be issued in an addendum or addenda to this report as appropriate. More generally it is clear that a procedure needs to be developed to further investigate issues identified but not resolved at the interagency meetings and to communicate the results of further investigations in a timely manner to the affected countries and international organizations.

## 8. Summary of recommendations

## 9. Next meeting

The next interagency consultants meeting is tentatively scheduled for early February 2002.

_____