DANGEROUS GOODS PANEL (DGP)

MEETING OF THE WORKING GROUP OF THE WHOLE

Montreal, 18 to 22 April 2005

Agenda Item 5: Discussion of miscellaneous dangerous goods issues

INFORMATION PAPER ON DENIAL OF SHIPMENTS OF RADIOACTIVE MATERIAL

(Presented by IAEA)

This paper provides an update on actions and proposed paths forwards by the International Atomic Energy Agency to address the issue of denial and delays in transport of radioactive material, particularly those material that are used for medical purposes. Several actions have occurred since the October 2004, meeting in Abu Dhabi.

Development of training course material

In December 2004, the Agency convened a Consultant's Meeting to advise on appropriate changes to the Training Course Series No. 1 (TCS-1). The consultants reviewed the consultancy and forum on this subject and determined that training was a key activity to ensuring that the cargo handlers and others would have the information to make and informed decision and handling radioactive material. The consultants recommended a limited module on Class 7 that could be provided to cargo handlers and public authorities as part of their dangerous good training. The module would require about 0.5 day and would be comprehensive enough for the cargo handlers and others to perform their duties. The specific recommendations individuals who would be involved in radioactive material transport are appended to this paper.

TRANSSC 10

TRANSSC, the Transport Safety Standards Committee met in March 2005. In addition to its discussions on safety requirements and guides, the Committee considered the issue of how the Agency can further its efforts in denial of shipments. A Working Group (WG) discussed extensively the issue of Denial of Shipments, the outcome of the July 2004 consultancy meeting, and developments since the July meeting. The WG recognized that Denial of Shipments is a multi-faceted issue including concerns for 1) fuel cycle transport (including spent fuel and waste), 2) medical applications transport, 3) modal considerations and 4) national/trans-national customs controls. The following recommendations were developed by the WG and approved by TRANSSC plenary:

1. The Agency should finalize the ½ and 1 day training modules prepared by the December 2004 Consultants Meeting and forward these modules to Member States and Modal Organizations for

review, comments and interim use. The Agency should finalize the training modules and provide in final form as soon as practical.

2. The Agency should finalize the Radiation Protection Program Guidance Document and make it available in all languages as soon as possible. (WG recognizes approval of TS.G.1.4 is on the TRANSSC 10 Agenda).
3. The Agency should be pro-active in promoting the Safe Transport of all Radioactive Materials (including, for example, medical applications) through multiple outreach activities including training, meetings, other communication strategies utilizing the Agency website, publications, and engaging with other international entities (e.g. modal organizations).
4. The Agency should not pursue mini-TranSAS Missions with the sole or main purpose to address denial of shipments, as it is not the best use of limited Agency and Member States resources.
5. Support the Agency in the creation of a denial of shipments advisory group with participation by a limited number of representatives (e.g. producers, carriers, port authorities, customs organizations) who may authoritatively speak on the issue and suggest resolutions.

Guidance for radiation protection programs

The Agency will present to its Members States a draft guide on radiation protection programmes for transport of radioactive material. This guide currently addresses only the big programs. Prior to its publication information on programmes that apply to cargo handlers will be added.

The Agency intends to pursue these recommendations. We will be working with the appropriate modal and trade organizations to ensure that the appropriate information is provided to relevant sectors of the work force, who handle radioactive material.

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APPENDIX

EXTRACT FROM FINAL REPORT OF CONSULTANTS MEETING ON TRANSPORT SAFETY TRAINING

6. Training courses recommended

The consultants discussed the seven training programmes identified above and recommended the course contents and durations of the programmes as follows:

Description of the Training Programme	Duration (working days)
Competent authority	10
Consignors & consignees	5 – 10
Carrier management & Freight Forwarders	2
Cargo Handlers	0.5
Drivers	0.5
Public functionaries	0.5
Emergency Responders	0.5

6.1 Competent authority:

The training programme described in TCS-1 is adequate with the amendments recommended in this report.

6.2 Consignors & consignees

Target audience: Consignor (shipper/sender) and consignee (receiver)

Aim: To provide the knowledge, skill and attitude necessary to correctly interpret and apply those aspects of the Transport Regulations to the classification, preparing the package, communication and offering the package to the carrier.

Duration of the programme: 5 to 10 days

Objectives: By the end of the training programme, the consignor and the consignee should be able to

* describe a model of the atom and explain the process of radioactivity

* state the quantities and units used in radiation protection and outline radiation protection principles
* define the terms used in IAEA TS-R-1
* outline the types of radioactive material transported throughout the world
* explain the requirements of the IAEA TS-R-1
* explain the particular considerations necessary for the shipment of fissile material
* explain the role of the National Competent Authority
* describe the agencies and agreements concerned with the transport of dangerous goods and state how they relate to IAEA TS-R-1
* characterize international liability and insurance regarding radioactive material in transit
* outline the processes and procedures necessary to prepare radioactive material for transport
* describe the roles of the consignor and carrier in the control of radioactive material during transport
* explain the procedures necessary to transport a package under special arrangements
* describe the different types of package used for transporting radioactive material
* outline the tests and pass criteria specified by TS-R-1
* outline the role of the Quality Assurance in the safe transport of radioactive material
* outline the guidance given by IAEA in relation to emergency planning and preparedness
* ensure correct and safe execution of all aspects of the transport of radioactive material
* correctly select a vehicle and handling equipment
* describe the basic principles of radiation protection
* explain the quantities and units of activity and dose
* ensure availability and proper functioning of radiation monitoring instruments
* monitor and assess package surface contamination
* monitor and assess dose rates at defined distances from the vehicle and package
* storage conditions, separation and segregation of packages, accumulation of TIs and CSIs
* ensure that appropriate personal dosimeters are issued to drivers and cargo handlers, where required
* interpret dose records for individual employees of the organization and take appropriate action with regard to that individual's immediate future employment
* select employees with appropriate competence and ensure that competence is maintained via education, experience and training
* organize employee training in normal and accident conditions of transport
* take appropriate action if the organization's staff become involved in an accident
* ensure that correct vehicle placards are displayed
* prepare transport documents complete in all details.
* mark and label packages appropriately
* inform the carrier of hazards and provide appropriate instructions
* take appropriate measures to meet the applicable regulatory requirements of the various States where the consignment is likely to be handled or in transit so that the shipment will be completed.

6.3 Carrier management & Freight Forwarders

Target audience: Carriers' personnel (except cargo handlers and drivers) and persons engaged in forwarding radioactive consignments.

Aim: To provide knowledge, skills and attitudes necessary to correctly interpret and apply those aspects of the Transport Regulations applicable to the loading, storage, carriage, handling and unloading of radioactive material.

Duration of the programme: 2 days

Objectives: By the end of the training programme, the carrier management and the freight forwarders should be able to

* describe a model of the atom and explain the process of radioactivity
* state the quantities and units used in radiation protection and outline radiation protection principles
* define the terms used in IAEA TS-R-1
* outline the types of radioactive material transported throughout the world
* explain the requirements of the IAEA TS-R-1
* explain the particular considerations necessary for the shipment of fissile material
* explain the role of the National Competent Authority
* describe the roles of the consignor and carrier in the control of radioactive material during transport
* outline the guidance given by IAEA in relation to emergency planning and preparedness
* describe the important components of a good training programme for personnel involved in the transport of radioactive material
* ensure correct and safe execution of all aspects of the transport of radioactive material
* ensure that a package is stowed and segregated in accordance with applicable national and international regulatory requirements
* storage conditions, separation and segregation of packages, accumulation of TIs and CSIs
* correctly select a vehicle and handling equipment
* describe the basic principles of radiation protection
* explain the quantities and units of activity and dose
* ensure availability and proper functioning of radiation monitoring instruments
* monitor and assess vehicle surface contamination, as it relates to shipping exclusive use and release of unloaded vehicles
* monitor and assess dose rates at defined distances from the vehicle and package , as it relates to shipping exclusive use and release of unloaded vehicles
* ensure that appropriate personal dosimeters are issued to drivers and cargo handlers, where required
* interpret dose records for individual employees of the organization and take appropriate action with regard to that individual's immediate future employment
* select employees with appropriate competence and ensure that competence is maintained via education, experience and training
* organize employee training in normal and accident conditions of transport
* take appropriate action if the organization's staff become involved in an accident
* instruct staff on the optimum method of delivering the radioactive material
* ensure that correct vehicle placards are displayed
* verify that the transport documents are adequate and complete in all details.
* take appropriate measures to meet the applicable regulatory requirements of the various States where the consignment is likely to be handled or in transit so that the shipment will be completed.

6.4. Cargo Handlers

Target audience: Employees of the port authorities, carriers, consignors and consignees responsible for moving and storing packages on and off conveyances and within facilities.

Aim: To provide knowledge and skills necessary to protect packages of radioactive material in storage and transport and take appropriate actions in the event of a spill or accident.

Duration of the programme: 0.5 day

Objectives: By the end of the training programme, the cargo handlers should be able to:

* check that the vehicle and stowage of load comply with national regulations
* recognize the significance of transporting radioactive material
* state the basic principles of radiation protection
* quote the quantities and units of activity and dose [$]
* make simple measurements of dose rate using the instruments provided by the carrier [$]
* appreciate that there are international and national regulations for the safe transport of radioactive material and that the latter may differ in different countries
* state the relevant sections of the national regulations for the safe transport of radioactive material
* describe the drivers' particular responsibilities in transporting the radioactive material and relate these to the responsibilities of the carrier
* correctly interpret the information on labelling and marking
* storage conditions, separation and segregation of packages, accumulation of TIs and CSIs
* take appropriate actions if involved in an accident

([$] Note: These objectives are optional as they depend upon the scope of the job assigned to the specific target audience)

6.5 Drivers (Vehicle crew)

Target audience: Drivers and assistants

Aim: To provide knowledge and skills necessary to take appropriate action in normal and accident conditions of transport.

Duration of the programme: 0.5 day

Objectives: By the end of the training programme, the drivers and their assistants should be able to

* check that the vehicle and stowage of load comply with national regulations
* recognize the significance of transporting radioactive material
* state the basic principles of radiation protection
* quote the quantities and units of activity and dose [$]
* make simple measurements of dose rate using the instruments provided by the carrier [$]
* appreciate that there are international and national regulations for the safe transport of radioactive material and that the latter may differ in different countries
* state the relevant sections of the national regulations for the safe transport of radioactive material
* describe the drivers' particular responsibilities in transporting the radioactive material and relate these to the responsibilities of the carrier
* correctly interpret the information on labelling, marking and placarding
* storage conditions, separation and segregation of packages, accumulation of TIs and CSIs
* take appropriate actions if involved in an accident

([$] Note: These objectives are optional as they depend upon the scope of the job assigned to the specific target audience)

6.6 Public functionaries

Target audience: Sea / Air port authorities, customs, national security and other government officials

Aim: To provide the knowledge and attitude necessary to facilitate safe and smooth transport of radioactive material
Duration of the programme: 0.5 day

Objectives: By the end of the training programme, the public functionaries should be able to

* describe a model of the atom and explain the process of radioactivity
* state the quantities and units used in radiation protection and outline radiation protection principles
* define the terms used in IAEA TS-R-1
* outline the types of radioactive material transported throughout the world
* explain the requirements of the IAEA TS-R-1
* explain the particular considerations necessary for the shipment of fissile material
* explain the role of the National Competent Authority
* describe the agencies and agreements concerned with the transport of dangerous goods and state how they relate to IAEA TS-R-1
* appreciate the procedures necessary to transport a package under special arrangements
* describe the different types of package used for transporting radioactive material
* outline the tests and pass criteria specified in TS-R-1
* outline the role of and need for compliance assurance in the safe transport of radioactive material
* outline the guidance given by IAEA in relation to emergency planning and preparedness
* state that requirements for acceptance and smooth carriage of radioactive cargo

6.7 Emergency Responders

Target audience: First-on-the-scene responders such as police, fire brigade, hazardous material teams and medical personnel who may be called upon to administer first aid.

Aim: To provide the knowledge and attitude necessary to provide response actions for accidents involving of radioactive consignments.

Duration of the programme: 0.5 day

Objectives: By the end of the training programme, the consignor and the consignee should be able to

* describe a model of the atom and explain the process of radioactivity
* state the quantities and units used in radiation protection and outline radiation protection principles
* outline the types of radioactive material transported throughout the world
* explain the requirements of the IAEA TS-R-1
* describe the different types of package used for transporting radioactive material
* outline the tests and pass criteria specified by TS-R-1
* outline the guidance given by IAEA in relation to emergency planning and preparedness

7. Structure of the courses for public functionaries and cargo handlers

The following structure was recommended for the two short courses, viz., for public functionaries and for cargo handlers. (The duration of each course: 0.5 day.)

7.1 Public functionaries:

Module 1
Duration: 30 minutes + discussion for 15 minutes
Number of slides: 5 - 15
Content:
* describe a model of the atom and explain the process of radioactivity
* state the quantities and units used in radiation protection and outline radiation protection principles
* outline the types of radioactive material transported throughout the world

Module 2
Duration: 45 minutes + discussion for 30 minutes
Number of slides: 10 - 25
Content:
* define the terms used in IAEA TS-R-1
* explain the requirements of the IAEA TS-R-1
* explain the particular considerations necessary for the shipment of fissile material
* describe the different types of package used for transporting radioactive material
* outline the tests and pass criteria specified in TS-R-1

Module 3
Duration: 15 minutes + discussion 15 minutes
Number of slides: 3 - 8
Content:
* explain the role of the National Competent Authority
* describe the agencies and agreements concerned with the transport of dangerous goods and state how they relate to IAEA TS-R-1
* explain the procedures necessary to transport a package under special arrangement

Module 4
Duration: 15 minutes + discussion 15 minutes
Number of slides: 3 - 8
Film: 15 minutes + discussion 15 minutes
Content:
* outline the role of and need for compliance assurance in the safe transport of radioactive material
* outline the guidance given by IAEA in relation to emergency planning and preparedness
* state the requirements for acceptance and smooth carriage of radioactive cargo

7.2 Cargo handlers:

Module 1
Duration: 30 minutes + discussion 15 minutes
Number of slides: 5 to 15
Content:
* recognize the significance of transporting radioactive material
* state the basic principles of radiation protection
* quote the quantities and units of activity and dose

Module 2:
Duration: 30 minutes + discussion 15 minutes
Number of slides: 3 to 8
Content:

* check that the vehicle and stowage of load comply with national regulations
* make simple measurements of dose rate using the instruments provided by the carrier
* appreciate that there are international and national regulations for the safe transport of radioactive material and that the latter may differ in different countries
* state the relevant sections of the national regulations for the safe transport of radioactive material

Module 3
Duration: 45 minutes + discussion 30 minutes
Number of slides: 10 to 25
Content:

* describe the drivers' particular responsibilities in transporting the radioactive material and relate these to the responsibilities of the carrier
* correctly interpret the information on labelling and marking
* storage conditions, separation and segregation of packages, accumulation of TIs and CSIs

Module 4
Duration: 15 minutes + discussion 15 minutes
Number of slides: 3 to 8
Film: 15 minutes + discussion 15 minutes
Content:

* take appropriate actions if involved in an accident

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