

THE BENEFITS OF SIMPLE SHORT AND CLEAR TRAINING FOR TARGETED AUDIENCES

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STRUCTURE OF THE PRESENTATION

- **BACKGROUND**
- **MISCELLANY OF TRAINING NEEDS**
- **TRAINING MODULES FOR TARGET AUDIENCES**
- **DENIAL OF SHIPMENT**
- **DURATION OF THE TRAINING PROGRAMME**
- **COURSE CONTENTS - GENERIC AND SPECIFIC**
- **CLEAR LANGUAGE**
- **VISUAL AIDS**
- **CONCLUSIONS**

BACKGROUND

- Many training programmes on safe transport of radioactive material conducted regularly in many countries.
- The IAEA's training programme encompasses **all aspects** of safety of transport of radioactive material.
- The participant would be able to assure compliance with the regulations.

MISCELLANY OF TRAINING NEEDS

- In a training programme audience is generally a mixture of representatives of
 - Competent Authority,
 - suppliers of isotopes,
 - safety specialists,
 - organization engaged in forwarding fissile material,
 - institutions transporting spent nuclear fuel
 - others
- Every participant would be interested in **some specific aspects** of the subject and very few, may be interested in **all the aspects** of the subject.

Al a carte Training – Examples A

- Users of industrial radiography sources transport sources from one site to another in their own conveyances or through contract vehicles. They need specific training on the safe transport of industrial radiography sources.
- Users of telegamma therapy sources, blood irradiators, gamma chambers, brachytherapy sources, nuclear gauges and well logging sources send the decayed sources to an authorised disposal facility. They should have complete knowledge of the requirements.

Al a carte Training – Examples B

- Persons transporting uranium ore need training on LSA material but they need not undergo a comprehensive training programme that deals with Type B(U) / (M) packages, etc.
- Very few of the transporting organizations may need to undergo training programme on specific requirements for transport of fissile material such as criticality safety evaluation for a single package and an array of packages and derivation of CSI.

TRAINING MODULES FOR TARGET AUDIENCES

- The IAEA Regulations specify that persons engaged in the transport of radioactive material shall receive training in the contents of these Regulations **commensurate** with their responsibilities.
- A graded approach should be adopted: The amount, type and complexity of training should be commensurate with the nature and degree of hazards and the type and complexity of the duties of the audience in the transport of radioactive material.

SPECIFIC TRAINING NEEDS

- Based on training needs of specific segments of transport community IAEA has prepared specific training modules.
- The following criteria were used in identifying the specific training modules:
 - radioactive material to be transported
 - the specific segment(s) of the transport community
 - common modes of transport

SAMPLE TRAINING MODULES FOR SPECIFIC TARGET AUDIENCE

Target audience	Shipments of interest	Air	Sea	Road/ rail/
Nuclear reactors	Spent fuel, Type B(U)/(M)			
Facilities handling fissile materials	Enriched U fuel / plutonium / Fissile material			
UF ₆ plants	UF ₆			
Uranium mine staff	LSA material			
Ind. radiography	Rad sources Type B(U)/(M)			

MIX AND MATCH

- A given target audience may need to be trained in many modules. For example, the modules for the transport of spent fuel, fissile material and low activity radioactive waste may be of interest to the operators of a nuclear power plant.
- Transporting organization, for example, nuclear power plant operator, to ensure that the concerned persons are trained in the specific aspects of transport of radioactive material.

DoS: An interlude

Reasons for delay and denial:

- variations in State Regulations
- perceptions about radiation
- lack of familiarity with uses of radiation and
- inadequate awareness among State Officials who have an interface with shipment of radioactive material.

State officials are identified as target audience for familiarization programme.

DURATION OF THE TRAINING PROGRAMME

- The duration of each module is short: 2 hours to one day depending upon the topic of the module.
- If demonstrations, visits and tutorials are included in a training programme, the programme may extend beyond one day.
- Actual duration is determined by course contents and needs of the target audience and in turn the organizers of the training programme.

COURSE CONTENTS - GENERIC AND SPECIFIC

- What are radioactive materials?
- Uses of radioactive material
 - Healthcare applications
 - Industrial applications
 - Other uses
- Safety: Transport Regulations
- Exercise & Appendices

All modules have common features

Each module contains requirements & guidance
specific to needs of target audience.

CLEAR LANGUAGE

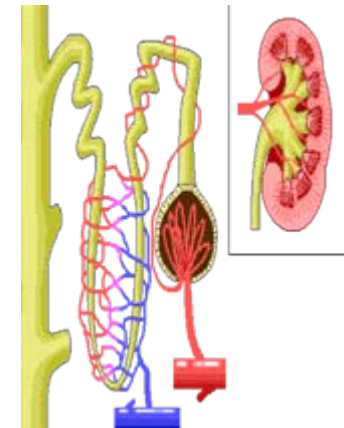
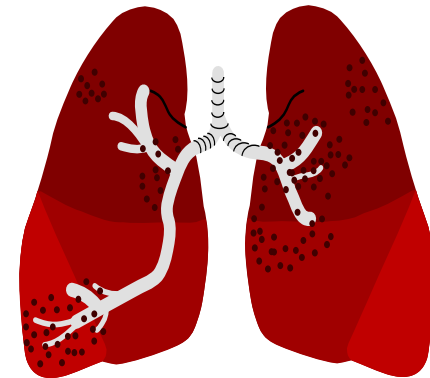
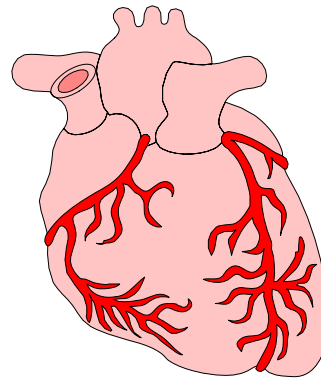
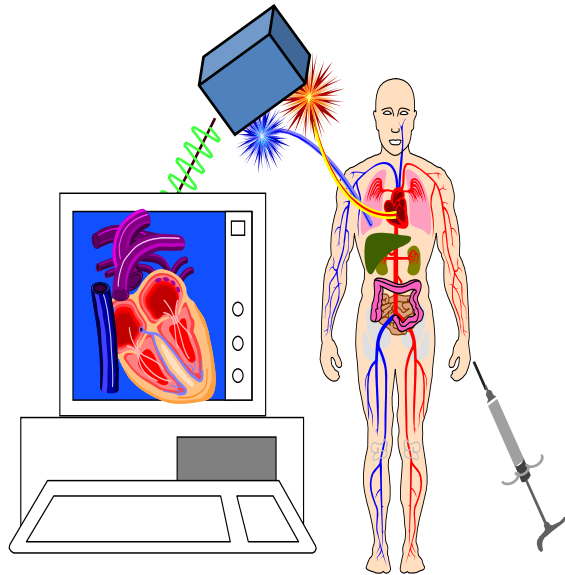
- Language of the training modules is simple
- Can be easily translated to other languages
- Short sentences
- One sentence conveys a single idea
- Regulatory language avoided for reader-friendliness
- Modules intended for public authorities focus on use of radioactive material; how they impact daily lives and the high standards of safety assured by the regulations
- Agency Staff have informally attempted to translate the material into other languages and results encouraging

VISUAL AIDS

- Training material includes visual aids: PowerPoint slides.
- Number of slides for each module is adequate to cover contents.
- Slides prepared without words or with very few words; each slide has figures which demonstrate a specific concept.
- Photographs and sketches used liberally. If a presenter prefers having words, he may well include them in the slides for his presentation.

Sample slide 1

Uses of radioactive material: Nuclear medicine imaging to detect functioning of human tissue.



Sample slide 2

Cancer Treatment



Sample slide 3

Nuclear gauges



Film thickness

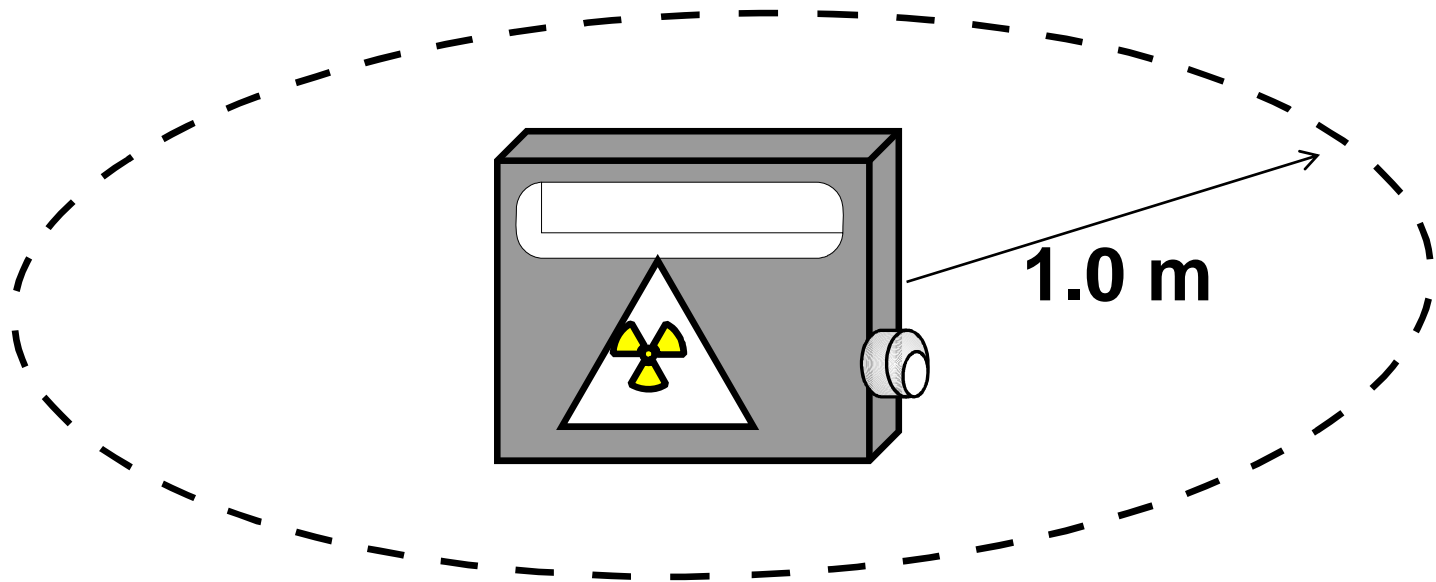


Paper thickness



Beverage filling level

Transport Index (TI)



TI = max dose-rate @ 1.0m ($\mu\text{Sv/h}$)

10

Vehicle Placards



3 placards on vehicle

CONCLUSIONS

- The short training modules for target audiences would impart training to specific ***segments of the transport community*** providing complete information on all ***relevant*** aspects of the regulations ***commensurate*** with the ***specific needs*** of the audience.
- The programme would inform public authorities about safety of radioactive material.