

**From:** "Sharma, Harish C." <hsharma@doeal.gov>  
**To:** <nrcprep@nrc.gov>  
**Date:** Fri, Jul 27, 2007 11:55 AM  
**Subject:** Regulations for Safe Transport of Radioactive Material - Solicitation of Issue Proposals

Mr. Michael T. Lesar:

Regarding the solicitation of Proposed Issues or Identified Problems with the International Atomic Agency Regulations, herewith enclosed is one issue for your consideration.

The issue comes from the fact that transportation of radioactive material is growing and will grow very fast. Items will be delivered to remote places of the world. Many of those places may not even be any map. When an item reaches that remote place, and if the item does not reach the exact destination for various reasons, it will fall into the hands of the local people. Those local people may not know what is written in the package. The trefoil sign may carry no meaning for them.

In my view, the only thing that may make some sense to them is if something is written in the local language there. In my opinion, if they do not understand anything written on it, they will just open the seal and take out the item. And if the item turns out to be a radioactive material, it could become a big problem and no one would be at fault.

For this reason, I would suggest that the NRC and IAEA transportation regulations be modified so that when an item is to be exported, then the markings and placards must be in two languages. One, the language of origin and may be English and the other language will be the language spoken at the destination. I hope you and IAEA would consider this suggestion and implement the same as soon as possible. The cost of implementing this may be insignificant but I think the benefits from this will be immense.

To my surprise, the definition section in both TS-R-1 and in TS-G-1.1 (ST-2), the words "Labeling", "Markings", "Placards" are not even defined. It clearly indicates that marking of a container is the lowest priority for IAEA. This indicates how little, if any, significance is attached to the transport of radioactive materials. This needs to be corrected immediately.

I have filled out the transportation suggestion form which is herewith attached. Hope I have done it correctly. As you can see, I work for Department of Energy-NNSA. I do not work for the transportation division of DOE-NNSA. But as I felt that this gap in the IAEA regulations must be corrected, I decided to submit this as a suggestion. I am also sending this to EM-63 office also.

Should you have any questions or need clarifications, please feel free to contact me or call me.

Thank you and have a good day.

Harish C. Sharma  
 General Engineer  
 Department of Energy - NNSA

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**CC:** "KAPOOR, ASHOK (HQ)" <ASHOK.KAPOOR@em.doe.gov>

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**REVIEW OF THE IAEA TRANSPORT REGULATIONS  
FORM FOR SUBMITTING A PROPOSAL FOR REVIEW OF AN ISSUE OR  
IDENTIFIED PROBLEM**

**Proposal Submitted by:**

Name: Harish C. Sharma  
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**Principal objective of issue or identified problem: (Delete objectives that are not applicable)**

- Required to provide adequate protection to health and safety of public and occupational workers.
- Needed to define or redefine level of protection to health and safety of public and occupational workers.
- Needed to improve implementation of the Transport Regulations.

**The following principles for the publication of a new edition of TS-R-1 shall be used as decision criteria in evaluating the proposals with respect to an issue or identified problem:**

- Socio-economic considerations

**Examples of changes that may warrant a revision are:**

- Consistency with other safety standards (e.g. IAEA Basic Safety Standards and UN Recommendations on the transport of dangerous goods)
- Changes in scope to any part of TS-R-1 (e.g. definitions, A<sub>1</sub>/A<sub>2</sub> values, transport controls)
- New requirements that invalidate designs /certificates

**Topic of issue or identified problem:**

Describe or frame the issue or the identified problem by reference to or using the table of contents of TS-R-1 (2005 Edition) and TS-G-1.1 (ST-2) and the decision criteria as outlined above as guidance material:

**Reference is made to the following:**

TS-R-1: Section V: Marking, Labeling and Placarding.  
Paragraph 536 to 550.

All the Markings, Labeling and Placards indicated are in English and/or in UN accepted languages only.

TS-G-1.1 (ST.2): Section V: Requirements and Controls for Transport.

Paragraph 537.2: Last line: "The marking would also provide, to the knowledgeable observer, valuable information in the event of an accident. Also refer to Paragraph 541.2 under labeling.

File Code: (will be assigned by IAEA)

**Justification for proposed change:**

**Provide a clear statement of the main objectives - What do you want your proposal to achieve?**

**The affected parties should be identified:**

- competent authority,
- nuclear industry,
- medical,
- radiography,
- source industry,
- NORM industry or
- **all the above.**

The nuclear industry is going to grow exponentially, all over the world. Installation of nuclear power plants are no more limited to a select few countries and to certain locations. Increase in the need of power is very great. For that reason, the transport of nuclear material is no more limited. It may now be transported to places which may not even be on any map. People residing those places do not or may not know any form of English at all. They may not identify the word UN. Trefoil symbol may mean nothing to them. For that reason, all the placards and markings should be in two languages. The second language should be the language spoken at the destination.

**The following factors should be considered in determining the appropriate level of detail:**

The two language requirement should be included immediately for the destination site public to benefit.

**Values and impacts that should be assessed, either explicitly or implicitly, include:**

The new markings in the local language will alert people who may accidentally come across the item. Being in the local language, it will be an excellent safeguard for them and the environment.

**Paragraphs affected and proposed text change to regulatory text in TS-R-1:**

In Paragraph 544: Each labels indicated in the figures in English must also contain the same information in the language of the location where the items will be transported to.

**Paragraphs affected and proposed text change to advisory material in TS-G-1.1:**

In TS-G-1.1: In Paragraph 541.2: Besides symbols, markings should be in the language spoken in the area where the item is to be transported to.

**Description of issue or identified problem to be addressed:**

With nuclear energy the way all the countries of the world moving towards, there will be a significant proliferation of the transportation of radioactive material in countries where none exist today. Also the locations may or will be very remote, indeed. Reaching of knowledgeable people to that area will always be limited. For this reason, the local population will or may depend on what is written on the container itself. Even understanding the signs etc. may be different. This is due to the cultural differences all over the world.

**Summary of proposed solution to the issue or identified problem:**

Use of local language is strongly recommended otherwise the labels or placards may make no sense to the local population.

**State expected cost of implementation (negligible, low, medium or high):**

The cost of implementing this should be negligible. On the other hand, the benefits may be immense. Even if one small incident is avoided, besides saving lives, the total cost for implementing this will be realized. There are absolutely no negative or unintended consequences by implementing this additional requirement at all. On the other hand, this will significantly assist the competent authorities and carriers in their safety and security of the items, public and the environment.

The completed form must be returned electronically in Word format to K.K. Varley (K.K.Varley@iaea.org) by 31 August 2007.