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DATE: September 11, 2000

TO: Secretary
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

ATTN: Rulemaking and Adjudications Staff

FROM: Eric Boeldt
Radiation Safety Officer

SUBJECT: ST-1 Compatibility rule change

Thank you for this opportunity to comment on the issues published in the Federal Register on July 17, 2000 [page 44,359].

General Comments

It is important to have complete conformance between DOT/NRC regulations and IATA rules for all public shipments. Discrepancies will result in shipments properly prepared under DOT regulations being frustrated by public carriers who, unknown to the shipper, only accept IATA prepared forms. The rules should be made the same, and then conformance to DOT regulations should be required for all domestic shipments. Allowing public carriers to decide for themselves which set of rules to follow results in confusion and non-compliance.

Issue 1 Change Part 71 to SI units only.

- 1 What conforming changes would be required?
  1. The shipping papers used to transport radioactive material form the central receiving location (Health Physics Office) to the individual laboratories would have to be changed. These shipping papers are also used as the in-laboratory inventory records and the data-entry source for entry of the inventory into the Health Physics Office's campus inventory database. Therefore, preventing inclusion of the mCi units on the shipping papers would seriously affect the way laboratory and campus inventory records are developed and maintained. My objections to the "SI units only" policy could be eliminated by either of the following methods:
     1. Specifically state that any relevant information is allowed in the comment section of the

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shipping papers. Without a specific statement to that effect, someone could be cited for including this information on the shipping papers.

2. Include an exemption for self shipping of material via a private carrier:
   49CFR?? Except as provided in paragraph (a), all shipping papers will use SI units only.
   (a) Shipping papers used by a single licensee, operating as the carrieer, to transport licensed material over public roads may include the English units AFTER the SI units.

2. If SI units are the only units allowed, all authorization limits and inventory records should be considered for change. Researchers in laboratories would have to start ordering radioactive material in MBq.
3. My institution's electronic inventory database will have to be completely revised to SI units.
4. The NRC and Agreement States, should start providing authorization limits in Bq.
5. RAMREG-01-98 must be revised immediately.

●2 Risks and safety impacts?
Most public transport would not be affected by this change. Allowing dual labels has worked well to change the thinking of the professional shippers, (those people who regularly ship radioactive material). Persons who work in research laboratories, in my experience, very rarely prepare shipments for public transport to a separate licensee. I do not feel that "SI unit only" transport will have an associated increased risk as long as intra-license shipments are allowed to maintain dual unit shipments. Most people in research laboratories would not know a becquerel if it bit them.

●3 Transition period?
To avoid confusion and to ensure compatibility with IATA rules, minimize the transition period..

●4 Other changes?
Remove all reference to curies from Part 71 and the DOT regulations.

Issue 2 Radionuclide Exemption Values

●1 Would shippers have to expend extra resources for identification . . . ?
Not in my case.

●2 Should it apply to domestic shipments?
Yes. This exemption applies to shippers only, and most shippers will be happy to be able to ship "exempt from shipping restriction" material rather than a limited quantity. However, the NRC must make if very clear that this shipment exemption is not the same as the "Exempt Material" exemption. I am afraid that this will be interpreted to allow the material to be shipped directly to a laboratory rather than the location indicated by the licensee. The NRC/DOT should add a requirement that all radioactive material must be shipped to the address stated on the license or by the recipient, and that failure to do so should be reported to the NRC.

●3 If applied to export only, would the resulting standard be practical to implement?

No! To ensure conformance with IATA rules, the exemptions should apply to domestic as well as export shipments. I believe most licensees ship only one or two radionulicdes in the normal course of events and will thus be able to follow these new limits and change procedures easily. Having different export versus domestic requirements will greatly increase the confusion.

●4 Are there unintended consequences?

The only unintended consequence that I see is the confusion between exempt from shipping requirements, exempt from licensing requirements, and exempt from disposal requirements.. Clarity and parenthetical explanations, written directly into the regulations, would reduce this problem. Again, the NRC/DOT should make it compulsory to ship all radioactive material to the address on the license or to the address directed by the licensee.

Issue 3 Revision of A_1 and A_2.?

●1 Alternative to A_1 and A_2?

Since airlines and (probably) other common carriers will be using revised values. It behooves the NRC to adopt these revisions. Different regulations for different shipments is a very nasty thought. How would the NRC/DOT handle enforcement if a material is a Limited Quantity under IATA regulations but a Type A quantity under NRC/DOT regulations. Would I be allowed to ship material in accordance with IATA rules some days and DOT regulations on other days?

Issue 9 Changes to various definitions

●2 Other definitions?

1 Para 225 – "Low dispersible radioactive material" should indicate that this does not refer to surface contamination, but rather activation of a solid material.

2 add — ' "Sealed Source" means (for use of A_1 values) encapsulated radioactive material that was designed and manufactured under a specific license and has been assigned a sealed source identification registry number.' The source identification number should be included on the shipping papers.

Other issues

● Clarity

The NRC/DOT regulations should specifically state when and who is allowed, or required, to use IAEA/IATA rules for shipments. I had thought that IATA rules were for air transport only. Recently shipment paperwork (not the package) was returned to me because we had completed the paperwork in accordance with DOT requirements rather than IATA rules. (The main change was checking the IATA rather than the DOT box.) The common carrier for this ground shipment indicated that they only excepted packages prepared in compliance with IATA rules. When are IATA rules allowed and when is DOT required? DOT/NRC regulations should clarify this situation.

● Conformance

All domestic shipments should be required to comply with one set of regulations. The problem

mentioned above would then not recur.

- Clarity again

  Be certain that the values for fissile materials (and therefore limited quantities) reflect the values listed in Part 71. Enriched uranium and plutonium should have notes referring the user to the appropriate sections in Part 71.

- Ease of use.

  Do not put the exempt quantities and concentrations in a table separate from the A_1 and A_2 table. The more tables that must be consulted, the more difficult the whole shipment process becomes. If at all possible, include a half-life column in the A_1 and A_2 table. Since the Ci columns will be removed, there should be plenty of space available for this information that is important to emergency responders.

- Ease of use.

  Change everything so that the IAEA requirements **are** the DOT regulations. Adopt by reference with a statement that "this is the law".

Thank you for the opportunity to comment on these issues.