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25 November 2002

Mr. George E. Powers
Office of Nuclear Regulatory research
U.S. NRC – Mail Stop T-9F31
Washington DC 20555-0001

8/28/02
67 FR 55280
16

PROCESSED
NOV 27 11:50 AM '02
Rules and Directives
Enforcement

Dear Mr. Powers:

On 29 August 2002 the United States Nuclear Regulatory Commission staff distributed notice of the 90-day comment period for the draft NUREG-1761, "Radiological Surveys for Controlling Release of Solid Materials." I asked members of the Ohio Department of Health Bureau of Radiation Protection (BRP) staff to review the draft and provide feedback. Attached is a list of comments from members of the BRP decommissioning Program staff.

If you need further information, please feel free to contact me.

Sincerely,

Roger Suppes, Chief
Bureau of Radiation Protection

Template = ADM-013

FRIDS = ADM-03
Add = G. Powers (TOEP)

OHIO DEPARTMENT OF HEALTH
BUREAU OF RADIATION PROTECTION

COMMENTS ON DRAFT NUREG-1761

The draft is generally very good, and the final product should be quite useful. It borrows heavily from the MARSSIM manual, which was thoroughly critiqued and has undergone a couple of revisions since its initial publication. There were no major lapses, though we had a few questions and identified a handful of grammar and syntax errors.

| No. | Page | Line | Comment |
|-----|------|------|--|
| 1 | 12 | 701 | The use of <i>in toto</i> measurement methods must be limited to items or materials of similar content, construction and origin from similar material classes. Use of <i>in toto</i> methods on potentially non-homogeneous materials and mixed batches of small parts should be strongly discouraged or prohibited. Also see comment 3. |
| 2 | 12 | 701 | Grammar error and awkward structure. Sentence has three subjects and a singular object. Suggest change to "It may be possible to use box, drum or tool counters for this purpose." |
| 3 | 13 | 709 | The staff feels that homogenization of material should be strongly discouraged, lest a licensee get the idea that it can dilute away "hot spots" by mixing them into unimpacted or less severely impacted materials. This applies to the use of <i>in toto</i> measurement methods as well. |
| 4 | 21 | 985 | Homogenization is mentioned again here. Of particular concern is the mention of melting materials to achieve homogeneity. This would appear to violate ALARA principles by allowing the licensee to dilute or mask the presence of contamination instead of removing it (it should be possible in most cases for a licensee to remove areas that survey above the DCGL _c from the main mass of material). Melting also has several drawbacks that must be brought to the attention of licensees. <ul style="list-style-type: none">• Radioactive or chemical contaminants may vaporize or become airborne, creating inhalation hazards.• Contaminants may settle in slag or rise into a scum layer, resulting in smaller volumes with higher contaminant concentrations.• Equipment used to melt contaminated materials will become contaminated and may become unsuitable for any other use. |
| 5 | 22 | 1017 | What is the basis for a survey unit with a 17m ² surface area? Diameter of 6 cm and length of 1.5 m each yields area of about 0.28 m ² per piece, which implies a batch of 60 pieces of pipe. What's the basis for this number? |
| 6 | 22 | 1023 | What is the basis for a survey area with a 72 m ² surface area? Diameter of 30 cm and length of 1.5 m each yields area of about 1.41 m ² per piece, which implies a batch of 51 pieces of pipe. What's the basis for this number? |

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COMMENTS ON DRAFT NUREG-1761

- 7 35 1385 This sentence should say that ^{99}Tc does not have similar chemical properties.
- 8 37 1457 Format all three isotopes the same.
- 9 37 1459 Close spacing in the second word (“T he”).
- 10 37 1469 Make MDC plural throughout this sentence (should be “... the MDCs provided in these references ... must not be construed to be universal MDCs ...”).
- 11 37 1481 Delete the “s” on depends (should be “The MDCR will depend ...”).
- 12 38 1488 Delete the second occurrence of “used” in this sentence.
- 13 39 1508 This section is vary hard to read due to the lack of formatting. Indent this section so that all of the variable terms align vertically and use hanging indent to keep the second line of a definition under the first instead of letting it align left under the variables.
- where d' = detectability ...
 b_i = background ...
 i = observational interval (in seconds) based on the scan speed and areal extent ...
- 14 39 1512 Make the format of all of the variable definitions the same. Either use the equals sign or “is the” but do not mix them.
- 15 53 1981 Word missing. “... Scenario B described in *what*?”
- 16 65 2430 Grammar error. Should be “... how efficiently ...”.
- 17 70 2620 Table entries don’t line up. There are three items in the first column and five in the second, so it’s impossible to tell which techniques are appropriate for each radiation type.
- 18 78 2810 See comments 13 and 14.