

September 22, 2011

Ms. Ruth E. McBurney
Executive Director
Conference of Radiation Control Program Directors, Inc.
Office of Executive Director
1030 Burlington Lane, Suite 4B
Frankfort, KY 40601

Dear Ms. McBurney:

We have reviewed the final revisions to the Suggested State Regulations (SSR) Part T, "Transportation of Radioactive Material" received by our office on July 21, 2011 for federal concurrence. This regulation was reviewed by comparison to the equivalent Nuclear Regulatory Commission (NRC) rules in 10 CFR Parts 71. We discussed our review of the regulations with Bruce Hirschler on September 21, 2011.

As a result of our review, we have 12 comments that have been identified in the enclosure. Please note that we have limited our review to regulations required for compatibility and/or health and safety. We have determined that if these regulations are revised, incorporating our comments and without other significant change, they would meet the compatibility and health and safety categories established in the Office of Federal and State Materials and Environmental Management Programs (FSME) Procedure [SA-200](#). We have also listed separately eight editorial comments for your consideration.

We request that when you revise your regulations to address our comments, a copy of the "as published regulations" be provided to us for review and we will be able to offer our federal concurrence after the review of the changes. As requested in FSME Procedure [SA-201](#), "Review of State Regulatory Requirements," please highlight the location of any changes made, in response to our comments, and provide a copy to Division of Materials Safety and State Agreements, FSME.

If you have any questions regarding the review results, the compatibility and health and safety categories, or any of the NRC regulations used in the review, please contact Kathleen Schneider, State Regulation Review Coordinator at 301-415-2320 (kathleen.schneider@nrc.gov) or Merri Horn at 301-415-08126 (merri.horn@nrc.gov).

Sincerely,

/RA M.S. Delligatti for/

James G. Luehman, Acting Director
Division of Materials Safety and State Agreements
Office of Federal and State Materials and
Environmental Management Programs

Enclosures:

As stated

cc w/enclosures: David Allard, PA
Chair, Suggested Regulation Council
Bruce Hirschler, CRCPD

COMPATIBILITY COMMENTS ON CRCPD FINAL PART T REGULATIONS

STATE SECTION		NRC SECTION	RATS ID	CATEGORY	SUBJECT and COMMENTS
1	T.2	§71.4	2004-1	B	<p>Definitions</p> <p>The definition for “Criticality Safety Index (CSI)” does not include the required reference to §71.59 in the last sentence. The text should read “is described in T.10, T.11, and 10 CFR 71.59.”</p> <p>CRCPD needs to add the above reference to meet the Compatibility Category B designation assigned to §71.4, Definitions: “Criticality Safety Index (CSI).”</p>
2	T.2	§71.4	2004-1	B	<p>Definitions</p> <p>In definition for “Low Specific Activity (LSA) material”, paragraph (3) LSA-III., subparagraph (iii), Part T leaves out the term “estimated” before “average specific activity.” This changes the meaning and should be corrected.</p> <p>CRCPD needs to revise paragraph (3)(iii) of the definition to add the word “estimated” to meet the Compatibility Category B designation assigned to §71.4, Definitions: “Low Specific Activity (LSA) material.”</p>
3	T.2	§71.4	2004-1	B	<p>Definitions</p> <p>The definition for “Special form radioactive material” under item (3) omits “A special form encapsulation designed in accordance with the requirements of § 71.4 in effect on June 30, 1983 (see 10 CFR part 71, revised as of January 1, 1983), and constructed before July 1, 1985, and a special form encapsulation</p>

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					<p>designed in accordance with the requirements of § 71.4 in effect on March 31, 1996 (see 10 CFR part 71, revised as of January 1, 1983), and constructed before April 1, 1998, may continue to be used. Any other special form encapsulation must meet the specifications of this definition.” Instead Part T just refers to 10 CFR 71.4, without specifying the provisions of (3) under the definition of “special form radioactive material”. As written, this provision is not equivalent.</p> <p>CRCPD needs to make the above change to meet the Compatibility Category B designation assigned to §71.4, Definitions: “Special form radioactive material”.</p>
4	T.5	§71.5	2004-1	B	<p>Transportation of licensed material.</p> <p>The punctuation used in T.5a.i.(1) and (2) changes the meaning of the section. In (2) the listing should be “Subpart D; §§ 172.400 through 172.407 and §§ 172.436 through 172.441 of Subpart E.” In (3) the listing should be “Subpart F, especially §§ 172.500 through 172.519 and 172.556; and Appendices B and C.”</p> <p>In Section T.5b. the reference to paragraph “T.5a.i” should be “T.5a.” to meet the Compatibility Category B designation.</p> <p>CRCPD needs to make the above changes in order to meet the Compatibility Category B designation assigned to §71.5.</p>

STATE SECTION		NRC SECTION	RATS ID	CATEGORY	SUBJECT and COMMENTS
5	T.4d.	§71.13	2004-1	[B]	<p>Exemption of physicians.</p> <p>The last sentence of T.4d. contains identical language to the NRC regulations, but does not include the reference to Part G. Part T should be revised to read “licensed under Part G, 10 CFR part 35, or equivalent Agreement State regulations.”</p> <p>CRCPD needs to make the above changes in order to meet the Compatibility Category B designation assigned to §71.13.</p>
6	T.4c.	§71.15	2004-1	[B]	<p>Exemption from classification as fissile material.</p> <p>T.4c.vi states a plutonium quantity “less than 20 percent” but the requirement in §71.15(f) is “not more than 20 percent.” The NRC wording indicate less than or equal to and not just less than.</p> <p>CRCPD needs to make the above change in order to meet the Compatibility Category B designation assigned to §71.15(f).</p>
7	T.8	§71.20	2004-1	[B]	<p>General license: DOT specification container.</p> <p>The general license in §71.20 expired on October 1, 2008 and has been deleted from 10 CFR Part 71. Part T should not include this general license, since it no longer exists and is not recognized on a national level.</p> <p>CRCPD needs to delete T.8 in order to meet the Compatibility Category B designation assigned to §71.20.</p>

STATE SECTION		NRC SECTION	RATS ID	CATEGORY	SUBJECT and COMMENTS
8	T.15k.	§71.47	2004-1	[B]	<p>External radiation standards for all packages</p> <p>In T.15k., the introductory paragraph is different and needs to be revised to better track the language in the introduction to paragraph §71.47(b) as follows: “A package that exceeds the radiation level limits specified in paragraph T.15j. of this section must be transported by exclusive use shipment only, and the radiation levels for such shipment must not exceed the following during transportation:.”</p> <p>T.15k.i notes “accessible external surface” instead of just “external surface.” CRCPD needs to remove the word “accessible”.</p> <p>T15k.ii includes the language “with a personnel barrier” and an associated footnote that is not part of the NRC requirement. This addition changes the requirement and should be removed.</p> <p>In T.15i.(iii) at the end of the first and second sentences, the language states “in paragraph (i)(i) of this section.” There should not be any () around the first “i.”</p> <p>CRCPD needs to make the above changes in order to meet the Compatibility Category B designation assigned to §71.47.</p>
9	T.21d	§71.101(g)	2004-1	C	<p>Quality assurance requirements.</p> <p>T21.d refers to “meeting the requirements of Part E.12 of these regulations.” The reference should also include NRC or equivalent Agreement State requirements.</p> <p>CRCPD needs to make the above change in order to meet the</p>

STATE SECTION		NRC SECTION	RATS ID	CATEGORY	SUBJECT and COMMENTS
					Compatibility Category C designation assigned to §71.101(g).
10	Appendix A	Appendix A to Part 71	2004-1	[B]	<p>Determination of A₁ and A₂</p> <p>CRCPD SSR in Appendix A, the formulas in IV. (a) – (f) should state \sum_i instead of Σ_i for consistency with the formula.</p> <p>CRCPD SSR in Appendix A, IV., paragraph (e), in the description after the formula, it should read “and [A] is the activity” and not “[A](i).”</p> <p>CRCPD SSR in Appendix A, IV., paragraph (f), in the description after the formula, it should read “and A is the activity” instead of “A(i).”</p> <p>CRCPD needs to make the above changes in order to meet the Compatibility Category B designation assigned to Appendix A to Part 71.</p>
11	Appendix A	Appendix A to Part 71, Table A-1	2004-1	[B]	<p>Table A-1</p> <p>The entry for Mo-99 under column A₂ (Ci) of Table A-1 should be 2.0×10^1 to reflect the domestic value and not the international value.</p> <p>In Table A-1, The entry for U (dep) under the Specific activity (Ci/g) column should read “(See Table A-4)” and not A-3.</p> <p>CRCPD needs to make the above changes in order to meet the Compatibility Category B designation assigned to Appendix A to Part 71, Table A-1.</p>
12	Appendix A	Appendix A to Part 71, Table A-2	2004-1	[B]	<p>Table A-2</p> <p>In Table A-2, the first page of the table does not have the table title or column headings.</p>

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					<p>In Table A-2, first column (Symbol of radionuclide, the footnote designation (b) was left off of the following: Ba-140, Bi-212, Ce-144, Cs-137, Pb-210, Pb-212, Ra-223, Ra-224, Ra-226, Ra-228, Rn-222, Ru-106, Sr-90, Th-228, Th-229, Th-234, and Th (nat).</p> <p>CRCPD needs to make the above changes in order to meet the Compatibility Category B designation assigned to Appendix A to Part 71, Table A-2.</p>

EDITORIAL COMMENTS ON CRCPD FINAL PART T REGULATIONS

STATE SECTION		NRC SECTION	SUBJECT and COMMENTS
1	T.2	§71.4	<p>Definitions</p> <p>The definition for “Fissile material” includes a reference to §71.15 instead of the CRCPD equivalent T.4.</p>
2	T.5	§71.5	<p>Transportation of licensed material.</p> <p>At the end of the first sentences in T.5b., “DOT” should be placed before ”regulations” to provide clarity as to which regulations are meant. Additionally, there should be a period after “regulations.”</p>
3	T.15i.(iii)	§71.87	<p>Routine determinations</p> <p>CRCPD incorporates the language from DOT 49 CFR 173.443 instead of referencing the DOT regulations.</p>
4	T.20	§71.97	<p>Advance notification of shipment of irradiated reactor fuel and nuclear waste.</p> <p>In T.20a., the footnote reference the Office of State Programs which is consistent with Part 71, however the Office of State Programs no longer exists. This footnote should be revised to reflect the existing organization within NRC with the responsibility for maintaining the list. Replace Office of State Programs with Office of Federal and State Materials and Environmental Management Programs.</p>
5	T.21	§71.101(a), (b), (c)(1)	<p>Quality assurance requirements.</p> <p>CRCPD SSR T.21a., second word, the term ”rule” should be “Part” for consistency. Also T.21c. uses the term “rule” instead of “Part.” Rule is normally appropriate for the preamble or Statements of Consideration but not for the actual rule language.</p>
6	T.21d	§71.101(g)	<p>Quality assurance requirements.</p> <p>CRCPD SSR in T21d., end of the sentence, refers to the requirements of T.7, this should be the requirements of T.7b.</p>
7	Appendix A	Appendix A to	Determination of A₁ and A₂

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		Part 71	In Appendix A the following changes should be made for consistency and clarity: paragraph (c) the formula should be "A ₁ for mixtures =" as is done in paragraph (d); paragraph (e) the formula should be "Exempt activity concentration for mixture ="; and paragraph (f) the formula should be "exempt consignment activity limit for mixture =." These changes are not required but should be made for consistency and clarity.
8	Appendix A	Appendix A to Part 71, Table A-1	<p>Table A-1</p> <p>In the Element and atomic number column of the CRCPD SSRs for Table A-1, the name of the element has been added twice for the following elements: Rhenium (75), Thorium (90), and Uranium (92).</p> <p>The CRCPD SSR Table A-1 has added a footnote c to the table that is not included in the NRC regulations. The footnote is informational and is a footnote from the Table A-2. It is not reference in Table A-1. Part T would be clearer if the reference were not there, however it does not affect compatibility. If the footnote c was removed, footnotes (d) – (i) should then be renumbered. The footnote number needs to be changed to reflect the renumbering for the following row entries: Ir-192, U-230 (fast lung absorption), U-230 (medium lung absorption), U-230 (slow lung absorption), U-232 (fast lung absorption), U-232 (medium lung absorption), U-233 (fast lung absorption), U-233 (medium lung absorption), U-233 (slow lung absorption), U-234 (fast lung absorption), U-234 (medium lung absorption), U-234 (slow lung absorption), U-235 (all lung absorption types), U-236 (fast lung absorption), U-236 (medium lung absorption), U-236 (slow lung absorption), U-238 (all lung absorption types), and U (enriched to 20% or less)</p>