

February 29, 2012

Matthew McKinley, Administrator  
Radiation Health Program  
Cabinet for Health and Family Services  
275 East Main Street, HS1C-A  
Frankfort, KY 40621-0001

Dear Mr. McKinley:

We have reviewed the final revision to the Commonwealth of Kentucky regulations Title 902 Chapter 100 Radiology, received by our office on January 19, 2012. These regulations were reviewed by comparison to the equivalent Nuclear Regulatory Commission (NRC) rules in 10 CFR Parts 20, 30, 32, 34, 35, 36, 39, 40, 61, 70, 71 and the requirements of the 12 amendments identified in the enclosed State Regulation Status (SRS) Data Sheet. We discussed our review of the regulations with Curt Pendergrass on February 29, 2012.

As a result of our review, we have 14 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 request that when you revise your regulations to address our comments, a copy of the "as published" regulations be provided to us for review. As requested in FSME Procedure [SA-201](#), "Review of State Regulatory Requirements," please highlight the location of any changes made by Kentucky, in response to our comments, and provide a copy to Division of Materials Safety and State Agreements, FSME. The SRS Data Sheet summarizes our knowledge of the status of other Kentucky regulations, as indicated. Please let us know if you note any inaccuracies, or have any comments on the information contained in the SRS Data Sheet. This letter, including the SRS Data Sheet, is posted on the FSME website: <http://nrc-stp.ornl.gov/rulemaking.html>.

If you have any questions regarding the comments, 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 (email: [kathleen.schneider@nrc.gov](mailto:kathleen.schneider@nrc.gov)) or Monica Orendi at 610-337-5214 (email: [monica.orendi@nrc.gov](mailto:monica.orendi@nrc.gov)).

Sincerely,

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Pamela J. Henderson, Acting Deputy Director  
Division of Materials Safety and State Agreements  
Office of Federal and State Materials and  
Environmental Management Programs

Enclosures:  
As stated

COMPATIBILITY COMMENTS ON *KENTUCKY* FINAL REGULATIONS

STATE SECTION		NRC SECTION	RATS ID	CATEGORY	SUBJECT and COMMENTS
1	100:019 Section 3	20.1201	1998-5 2002-1	A	<p><b>Occupational Dose Limits for Adults</b></p> <p>Kentucky needs to change 100:019 Section 3 (1)(a)1. to read "Total effective dose equivalent being equal to five (5) rem (<b>0.05</b> SV); and."</p> <p>Kentucky needs to make the above change in order to meet the Compatibility Category A designation assigned to 10 CFR 20.1201.</p>
2	100:142 Section 5	39.33	1998-5	C	<p><b>Radiation Detection Instruments</b></p> <p>Kentucky omits paragraph 10 CFR 39.33(b) from 100:142 Section (5).</p> <p>Kentucky is less restrictive with regards to its retention for calibration records. NRC requires that these records be maintained for a period of three years after the calibration date, while Kentucky only requires them to be maintained for a period of two years.</p> <p>Kentucky needs to adopt the essential objectives of 10 CFR 39.33(b) and changes their retention time for calibration records to three years in order to meet the Compatibility Category C designation assigned to 10 CFR 39.33.</p>
3	100:142 Section 1	39.15	2000-1	C	<p><b>Agreement With Well Owner or Operator</b></p> <p>In 100:142 Section 1 (1), Kentucky allows written agreements between the licensee and the drilling contractor. 10 CFR 39.15 does not allow the licensee to enter into an agreement with the drilling contractor which make Kentucky's regulation less restrictive than NRC's regulation.</p>

STATE SECTION	NRC SECTION	RATS ID	CATEGORY	SUBJECT and COMMENTS
				<p>Kentucky has two wrong references in 100:142 Section 1. In Section 1. (1)(d), Kentucky references Section 14 of this administrative regulation. This points to the wrong Section and Kentucky should reference <b>Section 24</b> of this administrative regulation. In Section 1. (1)(f), Kentucky references Section 23 of this administrative regulation. This also points to the wrong section and Kentucky should reference <b>Section 27</b> of this administrative regulation.</p> <p>Kentucky needs to make the above changes in order to meet the Compatibility Category C designation assigned to 10 CFR 39.15.</p>
4	100:142 Section 19	39.53	2000-1	<p><b>Energy Compensation Source</b></p> <p>Kentucky lists a wrong reference to 10 CFR 39.77 in 100:142 Section 19 (3). Kentucky mistakenly references Section 25 as the equivalent to 10 CFR 39.77, however this should be corrected to read Section 27 (...subject to the requirements of Sections 1, 6, 7, and <b>27</b>).</p> <p>Kentucky needs to make the above change in order to meet the Compatibility Category C designation assigned to 10 CFR 39.53.</p>
5	100:100 Section 16	34.83	2000-2	<p><b>Records of Personnel Monitoring Procedures</b></p> <p>Kentucky references the wrong section in 100:100 Section 19 (7)(a)3. Kentucky should state "... shall be included in the records maintained in accordance with paragraph (b) of this subsection and subsection <b>10(b)</b> of this section."</p> <p>Kentucky needs to make the above change in order to meet the Compatibility Category C designation assigned to 10 CFR 34.83.</p>

STATE SECTION		NRC SECTION	RATS ID	CATEGORY	SUBJECT and COMMENTS
6	100:042 Section 11 and 15	30.35/ 10 CFR 30 Appendix B	2003-1	H&S/B	<p><b>Financial Assurance and Recordkeeping for Decommissioning</b></p> <p>Kentucky has an error in 100:042 Section 16, its equivalent to 10 CFR 30 Appendix B. Kentucky lists the quantity for Strontium-90 as 0.12 microcuries when it should be listed as 0.10 microcuries.</p> <p>Kentucky needs to make the above change in order to meet the Compatibility Category H&amp;S designation assigned to 10 CFR 30.35 and the Compatibility Category B designation assigned to 10 CFR 30 Appendix B.</p>
7	100:010 Section 1	71.4	2004-1	[B]	<p><b>Definition: Deuterium</b></p> <p>Kentucky omits the definition for deuterium from 100:010.</p> <p>Kentucky needs to add deuterium to 100:010 in order to meet the Compatibility Category [B] designation assigned to 10 CFR 71.4 Definition: Deuterium.</p>
8	100:010 Section 1 (116)	71.4	2004-1	[B]	<p><b>Definition: Fissile Material</b></p> <p>Kentucky has a wrong reference cited in 902 KAR 100:010 Section 1 (116)(c). Instead of 10 CFR 70.15, Kentucky should reference 10 CFR 71.15.</p> <p>Kentucky needs to make the above change in order to meet the Compatibility Category [B] designation assigned to 10 CFR 71.4 Definition: Fissile Material.</p>

STATE SECTION		NRC SECTION	RATS ID	CATEGORY	SUBJECT and COMMENTS
9	100:010 Section 1	71.4	2004-1	[B]	<p><b>Definition: Graphite</b></p> <p>Kentucky omits a definition for Graphite from 100:010.</p> <p>Kentucky needs to add the definition for graphite to 100:010 in order to meet the Compatibility Category [B] designation assigned to 10 CFR 71.4 Definition: Graphite.</p>
10	100:010 Section 1 (165)	71.4	2004-1	[B]	<p><b>Definition: Low Specific Activity (LSA)</b></p> <p>Kentucky has a wrong reference cited in 100:010 Section 1 (165). Instead of 10 CFR 70.15, Kentucky should reference 10 CFR 71.15.</p> <p>Kentucky needs to make the above change in order to meet the Compatibility Category [B] designation assigned to 10 CFR 71.4 Definition: Low Specific Activity (LSA).</p>
11	100:070 Section 3	71.14(b)	2004-1	NRC	<p><b>Exemption for Low Level Materials</b></p> <p>Kentucky includes this section in 100:070 Section 3. Since this is a Compatibility Category NRC regulation, Kentucky needs to remove 100:070 Section 3(2) from its regulations.</p> <p>Kentucky needs to make the above change in order to meet the Compatibility Category NRC designation assigned to 10 CFR 71.14(b).</p>
12	100:070 Section 15	71.22	2004-1	[B]	<p><b>General License: Fissile Material</b></p> <p>Kentucky does not have the complete equation for "CSI=" in 100:070 Section 15. Kentucky needs to correct the equation to read:</p> $CSI = 10 \left[ \frac{\text{grams of } ^{235}\text{U}}{X} + \frac{\text{grams of } ^{233}\text{U}}{Y} + \frac{\text{grams of Pu}}{Z} \right]$

STATE SECTION		NRC SECTION	RATS ID	CATEGORY	SUBJECT and COMMENTS
					<p>Kentucky lists the wrong tables in 100:070 Section 15(5)(c). 100:070 15(5)(c) should read "The values of X, Y, and Z used in the CSI equation must be taken from 10 CFR Tables 71-1 or 71-2, as appropriate."</p> <p>Kentucky has an incorrect reference in 100:070 Section 15(5)(d). 100:070 Section 15(5)(d) should read "If 10 CFR Table 71-2 is used to obtain..."</p> <p>Kentucky has an incorrect reference in 100:070 Section 15(5)(e). 100:070 Section 15(5)(e) should read "10 CFR Table 71-1 values for..."</p> <p>Kentucky needs to make the above changes to 100:070 Section 15 in order to meet the Compatibility Category [B] designation assigned to 10 CFR 71.22.</p>
13	100:072 Section 64	35.50	2005-2 2006-1	B	<p><b>Training for Radiation Safety Officer</b></p> <p>Kentucky omits a citation in 100:072 Section 64 (4). Section 64 (4) should read "... completed the requirements in subsections (5) and in (1)(a)(1) and (2) or (1)(b)(1) and 2 or (2)(a) or (3)(a) or (3)(b)...."</p> <p>Kentucky needs to make the above change to 100:072 Section 64 (4) in order to meet the Compatibility Category B designation assigned to 10 CFR 35.50.</p>

STATE SECTION		NRC SECTION	RATS ID	CATEGORY	SUBJECT and COMMENTS
14	100:058 Section 9	32.72	2006-1	B	<p><b>Manufacture, Preparation, or Transfer for Commercial Distribution of Radioactive Drugs Containing Byproduct Material for Medical Use Under Part 35.</b></p> <p>Kentucky omits a reference in 100:058 Section 9(2). This section should read "A licensee described by subsection (1)(b)(3) or (4) of this section may:."</p> <p>Kentucky needs to make the above change in order to meet the Compatibility Category B designation assigned to 10 CFR 32.72.</p>

**STATE REGULATION STATUS**

State: Kentucky

Tracking Ticket Number: 12-3

[ 12 amendment(s) reviewed is identified by a ★  
at the beginning of the equivalent NRC requirement.]

Date: February 29, 2012

RATS ID	NRC Chronology Identification	Date Due for State Adoption	Incoming Package	Outgoing Package	Notes
1991-1	Safety Requirements for Radiographic Equipment Part 34 55 FR 843 <b>(Superceded by 1997-5)</b>	01/10/1994	Final	No Comments 03/15/1996	Kentucky has adopted Final Regulations equivalent to RATS ID: 1997-5.
1991-2	ASNT Certification of Radiographers Part 34 56 FR 11504 <b>(Superceded by 1997-5)</b>	none	Not Required	Not Required	Kentucky has adopted Final Regulations equivalent to RATS ID: 1997-5.
1991-3	Standards for Protection Against Radiation Part 20 56 FR 23360; 56 FR 61352; 57 FR 38588; 57 FR 57877; 58 FR 67657; 59 FR 41641; 60 FR 20183;	01/01/1994	Final	No Comments 04/17/1998	
1991-4	Notification of Incidents Parts 20, 30, 31, 34, 39, 40, 70 56 FR 64980;	10/15/1994	Final	No Comments 03/15/1996	
1992-1	Quality Management Program and Misadministrations Part 35 56 FR 34104 <b>(Superceded by 2002-2)</b>	01/27/1995	Final	No Comments 03/15/1996	Kentucky has not yet adopted Final Regulations equivalent to RATS ID: 2002-2.
1992-2	Eliminating the Recordkeeping Requirements for Departures from Manufacturer's Instructions Parts 30, 35 57 FR 45566	none	Not Required	Not Required	Kentucky has adopted Final Regulations equivalent to RATS ID: 1997-5.
1993-1	Decommissioning Recordkeeping and License Termination: Documentation Additions [Restricted areas and spill sites] Parts 30, 40 58 FR 39628	10/25/1996	Final	No Comments 03/15/1996	
1993-2	Licensing and Radiation Safety Requirements for Irradiators Part 36 58 FR 7715	07/01/1996	Not Applicable <sup>1</sup>	Not Applicable	Kentucky does not have any licensees subject to these regulations. (See SECY-95-112)

RATS ID	NRC Chronology Identification	Date Due for State Adoption	Incoming Package	Outgoing Package	Notes
1993-3	Definition of Land Disposal and Waste Site QA Program Part 61 58 FR 33886	07/22/1996	Not Applicable <sup>1</sup>	Not Applicable	Kentucky does not have any licensees subject to these regulations. (See SECY-95-112)
1994-1	Self-Guarantee as an Additional Financial Mechanism Parts 30, 40, 70 58 FR 68726; 59 FR 1618	none	Not Required	Not Required	These regulations are not required to be adopted for purposes of Compatibility.
1994-2	Uranium Mill Tailings Regulations: Conforming NRC Requirements to EPA Standards Part 40 59 FR 28220	07/01/1997	Not Applicable	Not Applicable	Kentucky does not have authority to regulate this material under its Agreement.
1994-3	Timeliness in Decommissioning Material Facilities Parts 30, 40, 70 59 FR 36026	08/15/1997	Final	No Comments 04/17/1998	
1995-1	Preparation, Transfer for Commercial Distribution, and Use of Byproduct Material for Medical Use Parts 30, 32, 35 59 FR 61767; 59 FR 65243; 60 FR 322	01/01/1998	Final	No Comments 04/17/1998	
1995-2	Frequency of Medical Examinations for Use of Respiratory Protection Equipment Part 20 60 FR 7900	03/13/1998	Final	No Comments 04/17/1998	
*1995-3	Low-Level Waste Shipment Manifest Information and Reporting Parts 20, 61 60 FR 15649; 60 FR 25983	03/01/1998	Final ML120190307	No Comments 02/29/2012 ML120390127	
1995-4	Performance Requirements for Radiography Equipment Part 34 60 FR 28323 <b>(Superceded by 1997-5)</b>	06/30/1998	Final	No Comments 03/15/1996	Kentucky has adopted Final Regulations equivalent to RATS ID: 1997-5.
1995-5	Radiation Protection Requirements: Amended Definitions and Criteria Parts 19, 20 60 FR 36038	08/14/1998	Final	No Comments 04/17/1998	
1995-6	Clarification of Decommissioning Funding Requirements Parts 30, 40, 70 60 FR 38235	11/24/1998	Proposed	No Comments 06/21/2000	

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1995-7	Medical Administration of Radiation and Radioactive Materials Parts 20, 35 60 FR 48623 <b>(Superceded by 2002-2 and 2005-2)</b>	10/20/1998			Kentucky has not yet adopted Final Regulations equivalent to RATS IDs: 2002-2 and 2005-2.
1996-1	Compatibility with the International Atomic Energy Agency Part 71 60 FR 50248; 61 FR 28724 <b>(Superceded by 2004-1)</b>	04/01/1999	Final	Comments 06/21/2000	Kentucky has not yet adopted Final Regulations equivalent to RATS ID: 2004-1.
1996-2	One Time Extension of Certain Byproduct, Source and Special Nuclear Materials Licenses Parts 30, 40, 70 61 FR 1109	02/15/1999	Not Required	Not Required	These regulations are not required to be adopted for purposes of Compatibility.
1996-3	Termination or Transfer of Licensed Activities: Record keeping Requirements Parts 20, 30, 40, 61, 70 61 FR 24669	06/17/1999	Final	No Comments 06/21/2000	
1997-1	Resolution of Dual Regulation of Airborne Effluents of Radioactive Materials; Clean Air Act Part 20 61 FR 65120	01/9/2000	Final	No Comments 04/17/1998	
1997-2	Recognition of Agreement State Licenses in Areas Under Exclusive Federal Jurisdiction Within an Agreement State Part 150 62 FR 1662	02/27/2000	Final ML010780156	No Comments 03/30/2001 ML010890409	
1997-3	Criteria for the Release of Individuals Administered Radioactive Material Parts 20, 35 62 FR 4120	05/29/2000	Final	No Comments 04/17/1998	
1997-4	Fissile Material Shipments and Exemptions Part 71 62 FR 5907 <b>(Superceded by 2004-1)</b>	02/10/2000	Not Required	Not Required	These regulations are not required to be adopted for purposes of Compatibility. (See STP-97-078)
1997-5	Licenses for Industrial Radiography and Radiation Safety Requirements for Industrial Radiography Operations Parts 30, 34, 71, 150 62 FR 28947	06/27/2000	Final ML010780156	Comments 03/30/2001 ML010890409	

RATS ID	NRC Chronology Identification	Date Due for State Adoption	Incoming Package	Outgoing Package	Notes
1997-6	Radiological Criteria for License Termination Parts 20, 30, 40, 70 62 FR 39057	08/20/2000	Final	No Comments 06/21/2000	
1997-7	Exempt Distribution of a Radioactive Drug Containing One Micro curie of Carbon-14 Urea Part 30 62 FR 63634	01/02/2001	Final	No Comments 04/17/1998	
1998-1	Deliberate Misconduct by Unlicensed Persons Parts 30, 40, 61, 70, 71, 150 63 FR 1890; 63 FR 13773	02/12/2001	Final	No Comments 06/21/2000	
1998-2	Self-Guarantee of Decommissioning Funding by Nonprofit and Non-Bond-Issuing Licensees Parts 30, 40, 70 63 FR 29535	07/01/2001	Not Required	Not Required	These regulations are not required to be adopted for purposes of Compatibility.
1998-3	License Term for Medical Use Licenses Part 35 63 FR 31604 <b>(Superseded by 2002-2)</b>	07/10/2001	Not Required	Not Required	These regulations are not required to be adopted for purposes of Compatibility. (See STP-98-074)
1998-4	Licenses for Industrial Radiography and Radiation Safety Requirements for Industrial Radiographic Operations Part 34 63 FR 37059	07/09/2001	Final ML010780156	No Comments 03/30/2001 ML010890409	
*1998-5	Minor Corrections, Clarifying Changes, and a Minor Policy Change Parts 20, 32, 35, 36, 39 63 FR 39477; 63 FR 45393	10/26/2001	Final ML120190307	Comments 02/29/2012 ML120390127	
*1998-6	Transfer for Disposal and Manifests: Minor Technical Conforming Amendment Part 20 63 FR 50127	11/20/2001	Final ML120190307	No Comments 02/29/2012 ML120390127	
1999-1	Radiological Criteria for License Termination of Uranium Recovery Facilities Part 40 64 FR 17506	06/11/2002	Not Applicable	Not Applicable	Kentucky does not have authority to regulate this material under its Agreement.

RATS ID	NRC Chronology Identification	Date Due for State Adoption	Incoming Package	Outgoing Package	Notes
1999-2	Requirements for Those Who Possess Certain Industrial Devices Containing Byproduct Material to Provide Requested Information Part 31 64 FR 42269	10/04/2002	Not Required	Not Required	These regulations are not required to be adopted for purposes of Compatibility.
*1999-3	Respiratory Protection and Controls to Restrict Internal Exposure Part 20 64 FR 54543; 64 FR 55524	02/02/2003	Final ML120190307	No Comments 02/29/2012 ML120390127	
*2000-1	Energy Compensation Sources for Well Logging and Other Regulatory Clarifications Part 39 65 FR 20337	05/17/2003	Final ML120190307	Comments 02/29/2012 ML120390127	
*2000-2	New Dosimetry Technology Parts 34, 36, 39 65 FR 63750	01/08/2004	Final ML120190307	Comments 02/29/2012 ML120390127	Part 36 regulation changes were not adopted by Kentucky because they do not have any licensees. See RATS ID: 1993-2.
2001-1	Requirements for Certain Generally Licensed Industrial Devices Containing Byproduct Material Parts 30, 31, 32 65 FR 79162	02/16/2004	License Condition for 32.52 (a) & (b) only (nothing else reviewed) ML040550046	Comments 03/16/2004 ML040770705	
*2002-1	Revision of the Skin Dose Limit Part 20 67 FR 16298	04/05/2005	Final ML120190307	Comments 02/29/2012 ML120390127	
2002-2	Medical Use of Byproduct Material Parts 20, 32, 35 67 FR 20249	10/24/2005	Proposed ML042720262	Comments 10/28/2004 ML043030121	
*2003-1	Financial Assurance for Materials Licensees Parts 30, 40, 70 68 FR 57327	12/03/2006	Final ML120190307	Comments 02/29/2012 ML120390127	
*2004-1	Compatibility With IAEA Transportation Safety Standards and Other Transportation Safety Amendments Part 71 69 FR 3697	10/01/2007	Final ML120190307	Comments 02/29/2012 ML120390127	

RATS ID	NRC Chronology Identification	Date Due for State Adoption	Incoming Package	Outgoing Package	Notes
*2005-1	Security Requirements for Portable Gauges Containing Byproduct Material Part 30 70 FR 2001	07/11/2008	Final ML120190307	No Comments 02/29/2012 ML120390127	
*2005-2	Medical Use of Byproduct Material - Recognition of Specialty Boards Part 35	04/29/2008	Final ML120190307	Comments 02/29/2012 ML120390127	
2005-3	Increased Controls for Risk-Significant Radioactive Sources (NRC	12/01/2005	License Condition ML053180137	No Comments 11/15/2005 ML053190005	
*2006-1	Minor Amendments Parts 20, 30, 32, 35, 40 and 70	03/27/2009	Final ML120190307	Comments 02/29/2012 ML120390127	
2006-2	National Source Tracking System - Serialization Requirements Part 32 with reference to Part 20 Appendix E 71 FR 65685	02/06/2007	Not Applicable	Not Applicable	Kentucky responded on 03/02/2007 to FSME 06-110 stating that they currently have no licensees applicable to this rule <sup>1</sup> . ML070610044
2006-3	National Source Tracking System Part 20 71 FR 65685, 72 FR 59162	01/31/2009	License Condition ML083180064	No Comments 12/17/2008 ML083220486	
2007-1	Medical Use of Byproduct Material - Minor Corrections and Clarifications Parts 32 and 35 72 FR 45147, 54207	10/29/2010			
2007-2	Exemptions From Licensing, General Licenses, and Distribution of Byproduct Material: Licensing and Reporting Requirements Parts 30, 31, 32, 150 72 FR 58473	12/17/2010			
2007-3	Requirements for Expanded Definition of Byproduct Material Parts 20, 30, 31, 32, 33, 35, 61, 150 72 FR 55864	11/30/2010			

RATS ID	NRC Chronology Identification	Date Due for State Adoption	Incoming Package	Outgoing Package	Notes
2007-4	Order Imposing Fingerprinting Requirements and Criminal History Records Check Requirements for Unescorted Access to Certain Radioactive Material NRC Order EA-07-305 72 FR 70901	06/05/2008	License Condition ML080990413	No Comments 05/02/2008 ML081220993	
2008-1	Occupational Dose Records, Labeling Containers, and Total Effective Dose Equivalent Parts 19, 20 72 FR 68043	02/15/2011			
2009-1	Medical Use of Byproduct Material – Authorized User Clarification Part 35 74 FR 33901	09/28/2012			
2011-1	Decommissioning Planning Parts 20, 30, 40, 70 76 FR 35512	12/17/2015			
2011-2	Licenses, Certifications, and Approvals for Materials Licensees Parts 30, 36, 39, 40, 70, and 150 76 FR 56951	11/14/2014			
2012-1	Change of Compatibility of 10 CFR 31.5 and 31.6 (See RATS ID: 2001-1 for Rule text) 77 FR 3640	01/25/2015			

<sup>1</sup> IMPEP Team: verify that Kentucky does not have any licensees subject to these regulations during each review.