

April 20, 2011

Terrence Reis, Deputy Director  
Division Materials Safety and State Agreements  
Office of Federal and State Materials and  
Environmental Management Programs  
U.S. Nuclear Regulatory Commission  
T8-E24  
Washington, D.C. 20555-0001

Dear Deputy Director Reis,

Enclosed is a copy of the final revisions to the proposed Kansas Radiological Health Rules known as the Kansas Department of Health and Environment Standards for Protection Against Radiation. The package contains both the comments from NRC dated October 26, 2010 and the as-published regulations. Additional material included in the package is a letter dated April 13, 2011 addressed to Raney Gilliland of the Kansas Legislative Research Department. This letter, which is known as a responsiveness summary, documents our response to all comments presented related to the regulations that were received during the comment period. The response to the NRC comments is included in that letter. Supporting documentation of the public hearing is also included.

<u>Rats ID</u>	<u>Title</u>	<u>State Section</u>	<u>NRC Section</u>
2006-1	Minor Amendments-Part 20, 30, 32, 35, 40 and 70	28-35-181m 28-35-181o 28-35-264	32.72 32.74 Part 35 (adopted by reference)
2007-1	Medical Use of Byproduct Material- Minor Corrections and Clarifications 10 CFR Parts 32 and 35	28-35-181m 28-35-181o 28-35-264	32.72 32.74 Part 35 (adopted by reference)
2007-2	Exemptions from Licensing, General Licenses and Distribution of Byproduct Material: Licensing and Reporting Requirements	28-35-192b 28-35-192c 28-35-192d 28-35-192g 28-35-178b	30.14 30.15 30.16 30.18 31.5
2007-3	Requirements for Expanded Definition Of Byproduct Material 10 CFR Parts 20,	28-35-135w 28-35-231c	20.1003 20.2006

	30, 31, 32, 33, 35, 50, 61, 62, 72, 110, 150 170, and 171	28-35-175a 28-35-192c 28-35-192g 28-35-192e 28-35-181m 28-35-411 28-35-178b 28-35-181j 28-35-178e 28-35-264	30.3(a) 30.15 30.18 30.20(a) 30.32 30.72 31.5 32.57 32.58 Part 35 (adopted by reference)
2008-1	Occupational Dose Records, Labeling Containers, and the Total Effective Dose Equivalent Parts 19 and 20	28-35-334 28-35-135t 28-35-212a	19.13 20.1003 20.1201
2009-1	Medical Use of Byproduct Material	28-35-264	Part 35

We believe that adoption of these revisions satisfies the compatibility and health and safety categories established in the Office of Federal and State Materials and Environmental Programs (FSME) Procedure SA-200 with the exception of any issues that are identified in the responsiveness summary that will be addressed in the next regulatory update package.

If you have any questions, please feel free to contact Isabelle Busenitz of my staff at [ibusenitz@kdheks.gov](mailto:ibusenitz@kdheks.gov) or 785-296-8286, or you may contact me at [tconley@kdheks.gov](mailto:tconley@kdheks.gov) or 785-296-1565.

Sincerely,

Thomas A Conley  
Radiation Control Program Director  
Bureau of Environmental Health  
Division of Health  
Kansas Department of Health and Environment

Enclosures: As stated.

April 13, 2011

Raney L. Gilliland  
Assistant Director for Research  
Kansas Legislative Research Department  
Statehouse, Rm 010W  
Topeka KS 66612-1504

RE: KDHE Article 35 Radiation Protection Permanent Regulations  
Revoked KAR 28-35-181e and 28-35-192d  
Amended KAR 28-35-135l, 28-35-135t, 28-35-135w, 28-35-175a, 28-35-178b,  
28-35-178e, 28-35-178j, 28-35-180b, 28-35-181a, 28-35-181j, 28-35-181m,  
28-35-181o, 28-35-192b, 28-35-192c, 28-35-192e, 28-35-192g, 28-35-194a,  
28-35-212a, 28-35-216a, 28-35-231c, 28-35-242, 28-35-264, 28-35-334, 28-35-346,  
and 28-35-411  
New KAR 28-35-225b

Response to Joint Committee on Administrative Rules and Regulations Comment Letter

Dear Mr. Gilliland:

In response to your letter of August 20, 2010, to Secretary Bremby, Kansas Department of Health and Environment (KDHE), on behalf of the Joint Committee on Administrative Rules and Regulations (Joint Committee), this letter and attachments provide information regarding public participation in the process of adoption of the above-referenced administrative regulations. KDHE also provides its response to all comment received during the public comment period, including its response to each specific comment listed in the letter submitted on behalf of the Joint Committee.

The notice of hearing and public comment period of at least 60 days for the proposed radiation protection regulations was published in the *Kansas Register* on July 22, 2010. During the public comment period preceding the hearing, KDHE received no written comment by letter or electronic mail from the general public or the regulated community. KDHE received a comment letter from Raney L. Gilliland, Legislative Research Department, on behalf of the Joint Committee.

The public hearing was conducted on October 7, 2010, in the Prairie Conference Rm., Curtis State Office Bldg., Topeka. In addition to the hearing officer, two individuals from the regulated community with an interest in the proposed regulations, as well as five KDHE staff members attended. One comment letter was submitted during the hearing in support of amendments to a regulation. No oral

Raney L. Gilliland

April 13, 2011

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comment from the public regarding the proposed regulations was presented at the hearing. During the portion of the public comment period following the hearing, KDHE received a comment letter from the Nuclear Regulatory Commission. No other comment was received during the public comment period which concluded November 1, 2010.

All comment received regarding the proposed regulations was fully reviewed and considered following close of the comment period. KDHE determined that post hearing changes in the proposed regulations were needed to address the comment and to correct a statutory citation in the history of one regulation. The regulations with post hearing changes were re-submitted to the Department of Administration and the Attorney general for review and approval.

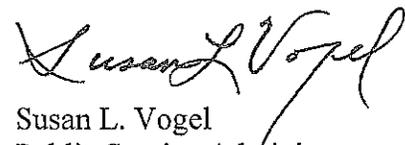
KDHE prepared a responsiveness summary to address the comment. The responsiveness summary lists each comment received, provides a detailed explanation of the agency's response and action to address each comment and gives the text of any changes made in a regulation. The hearing officer entered both the comment and the agency's responsiveness summary into the official record of the proceedings and these documents are attached to, and made a part of, the report of the hearing officer. The agency's response to the Joint Committee's comment is found on pages one and two, with attachment, of the responsiveness summary. The report of the hearing officer is attached to this letter for reference.

On the basis of the administrative record, the hearing officer found that the Secretary of KDHE has authority pursuant to KSA 48-1607 to promulgate the above-listed permanent radiation protection regulations. The hearing officer also concluded that KDHE has met the requirements of KSA 2009 Supp. 77-415, *et seq.*, as amended by L. 2010, ch. 95 [K.S.A. 2010 Supp. 77-415, *et seq.*], including public participation requirements, for adopting regulations and filing with the Secretary of State.

These regulations, therefore, have been adopted by the Secretary of KDHE and were forwarded to the Secretary of State January 27, 2011, for filing and final publication in the *Kansas Register*. The regulations were published in the *Kansas Register* March 3, 2011, and will become effective March 18, 2011. A copy of the published regulations is attached for reference.

Thank you for your consideration. Please do not hesitate to contact this office if any further information is needed.

Sincerely,



Susan L. Vogel  
Public Service Administrator

Attachments

STATE OF KANSAS

BEFORE THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT

In the Matter of the

Proposed Adoption of Permanent Kansas Administrative Regulations

New regulation K.A.R. 28-35-225b; amendments to regulations K.A.R. 28-35-135l, 28-35-135t, 28-35-135w, 28-35-175a, 28-35-178b, 28-35-178e, 28-35-178j, 28-35-180b, 28-35-181a, 28-35-181j, 28-35-181m, 28-35-181o, 28-35-192b, 28-35-192c, 28-35-192e, 28-35-192g, 28-35-194a, 28-35-212a, 28-35-216a, 28-35-231c, 28-35-242, 28-35-264, 28-35-334, 28-35-346 and 28-35-411; and the revocation of K.A.R. 28-35-181e and 28-35-192d

REPORT OF THE HEARING OFFICER

This matter comes before Elizabeth W. (Lou) Saadi, PhD, hearing officer appointed by the Secretary of the Kansas Department of Health and Environment (KDHE) to receive the comments of the public regarding the adoption of proposed permanent administrative regulations.

INTRODUCTION

Pursuant to K.S.A. 2009 Supp. 77-421, as amended by L. 2010, ch. 95, sec. 9, notice of the public comment period and public hearing was published in the Kansas Register on July 22, 2010. A copy of the public notice is included in this report as Attachment 1. The public hearing was conducted at 1:00 p.m. on October 7, 2010, in the Prairie Room, Curtis State Office Building, 1000 SW Jackson, Topeka, Kansas. These regulations are promulgated under the authority of K.S.A. 48-1607. The purpose of these regulations is to maintain compliance with K.S.A. 48-1601 that requires the state to provide for compatibility with the standards and regulatory programs of the federal government regarding sources of radiation. The amended and revoked regulations and new regulation included in the proposed regulation package fall into two broad categories. The first category encompasses regulations that need to be updated to maintain compatibility with the corresponding Nuclear Regulatory Commission (NRC) regulations. The second category includes regulations that are being updated to meet internal or external stakeholder requests to clarify or improve the structure of the existing regulations.

A list of those persons present at the public hearing on October 7, 2010, is included in this report as Attachment 2.

SUMMARY OF THE RECORD

The hearing officer opened the public hearing with introductory remarks and called upon Mr. Tom Conley to briefly review and discuss the proposed regulations. Following these remarks, the hearing officer invited public comment. No oral comment was presented at the

hearing. Comment letters were received from Raney Gilliland from the Kansas Legislative Research Department on behalf of the Joint Committee on Rules and Regulations and from Douglas Smith, Executive Director, of the Kansas Academy of Physician Assistants. All in attendance were told that comments will be accepted on these regulations until November 1, 2010, 5:00 pm. Additional written comment was received from the NRC during the extended comment period. No other comments were received during the public comment period. Copies of the comments received are included in this report as Attachment 3.

### POST-HEARING ACTIVITIES

Following the close of the public comment period, all comments received were fully considered and where appropriate, additional changes in the proposed regulations were made. The agency's response to the public comments, including the additional regulation changes proposed in response to the comments, is detailed in the agency's responsiveness summary, which is included in this report as Attachment 4.

### RECOMMENDATIONS

On the basis of the administrative record developed in this matter, the hearing officer finds and concludes that agency staff has met the public participation requirements for adopting the proposed new and amended regulations and for revoking the regulations proposed for revocation.

### FINDINGS OF FACT

1. K.S.A. 48-1607 authorizes the Secretary of the Kansas Department of Health and Environment to adopt and amend administrative rules and regulations related to use of all radiation, radiation machines and radioactive materials to ensure maximum protection of public health and safety.
2. Pursuant to this authority, the Secretary promulgated the radiation control regulations at issue, made a statement of the environmental benefit and economic impact of the proposed regulations and published notice of the public comment period and hearing in the Kansas Register on July 22, 2010.
3. The public hearing was held on October 7, 2010, and the comment period that was established for receiving comments on the adoption of the proposed regulations was concluded on November 1, 2010.
4. Comments related to the adoption of the proposed regulations were received and all comments have been fully considered. Changes in the proposed regulations were needed to address these comments and are detailed in the agency's responsiveness summary.

CONCLUSIONS

The hearing officer concludes that the Secretary of the Kansas Department of Health and Environment has the authority to promulgate the proposed regulations under K.S.A. 48-1607 and has met the requirements established under K.S.A. 2009 Supp. 77-415 *et seq.*, as amended by L. 2010, ch. 95, for adopting regulations and filing these regulations with the Kansas Secretary of State.

Dated this 2 day of January, 2011

Elizabeth W. Saadi  
Elizabeth W. Saadi, PhD  
Hearing Officer

State of Kansas

Department of Health  
and EnvironmentNotice of Hearing on Proposed  
Administrative Regulations

The Kansas Department of Health and Environment, Division of Health, Bureau of Environmental Health, will conduct a public hearing at 1 p.m. Thursday, October 7, in the Prairie Room of the Curtis State Office Building, 1000 S.W. Jackson, Topeka, to consider the adoption of proposed new regulation K.A.R. 28-35-225b; amendments to regulations K.A.R. 28-35-135l, 28-35-135t, 28-35-135w, 28-35-175a, 28-35-178b, 28-35-178e, 28-35-178j, 28-35-180b, 28-35-181a, 28-35-181j, 28-35-181m, 28-35-181o, 28-35-192b, 28-35-192c, 28-35-192e, 28-35-192g, 28-35-194a, 28-35-212a, 28-35-216a, 28-35-231c, 28-35-242, 28-35-264, 28-35-334, 28-35-346 and 28-35-411; and the revocation of K.A.R. 28-35-181e and 28-35-192d, relating to radiation protection. A summary of the proposed regulations and the estimated economic impact follows:

**Summary of Regulations:**

28-35-135l. Amends the definition of low dose-rate remote afterloader to correct an error.

28-35-135t. Amends the definition of total effective dose equivalent (TEDE) for compatibility with Nuclear Regulatory Commission (NRC) regulations.

28-35-135w. Amends the definition of waste required for compatibility with NRC regulations.

28-35-175a. Clarifies the requirements for licensing persons who own or acquire radioactive material required for compatibility with NRC regulations.

28-35-178b. Adds requirements for the element radium and additional requirements for transfer for specific licensees required for compatibility with NRC regulations.

28-35-178e. Adds requirements for the element radium required for compatibility with NRC regulations.

28-35-178j. Replaces the word by-product with the word radioactive to be consistent with the changed NRC definition of by-product required for compatibility with NRC regulations.

28-35-180b. Corrects an error in a value in a table to correspond with the correct value amount stated in the text of the regulation.

28-35-181a. Clarifies a reference to the radiation safety committee.

28-35-181e. Revoked. Removes outdated uses of radioactive materials for compatibility with NRC regulations.

28-35-181j. Adds requirements for the element radium required for compatibility with the NRC regulations.

28-35-181m. Adds the positron emission tomography (PET) facility and updates the definition of authorized nuclear pharmacist required for compatibility with NRC regulations.

28-35-181o. Adds the word transmission required for compatibility with NRC regulations.

28-35-192b. Adds criteria for exemptions for manufacturers, processors or producers required for compatibility with NRC regulations.

28-35-192c. Removes exemptions for certain items that are no longer manufactured required for compatibility with NRC regulations.

28-35-192d. Revoked. Removes references to discontinued practices required for compatibility with NRC regulations.

28-35-192e. Adds a requirement for license to manufacture, process or produce gas and aerosol detectors containing radioactive material required for compatibility with NRC regulations.

28-35-192g. Adds a clarifying statement regarding the aggregation of radioactive material sources to exceed exempt quantities required for compatibility with NRC regulations.

28-35-194a. Requires a specific license with the department if activities are performed within the state for more than 180 days in a calendar year.

28-35-212a. Clarifies calculation methods for determining external exposure required for compatibility with the NRC regulations.

28-35-216a. Requires radioactive sources in storage to be tested for leakage at least every 10 years.

28-35-225b. Adopts by reference the NRC regulation related to disposal of certain radioactive material.

28-35-231c. Updates the dates for the adoption by reference for compatibility with NRC regulations.

28-35-242. Clarifies the description of who can order X-rays as requested by the Board of Healing Arts.

28-35-264. Updates the adoption by reference date required for compatibility with NRC regulations.

28-35-334. Adds additional requirements for providing dose information to individual workers required for compatibility with the NRC regulations.

28-35-346. Corrects minor errors in the text of the regulation.

28-35-411. Adds requirements for the element radium required for compatibility with NRC regulations.

**Economic Impact:**

Cost to licensees or registrants: K.A.R. 28-35-180b includes an increase in the financial assurance amount necessary to ensure adequate funding for decommissioning. Currently, no licensees utilize the financial assurance option that will be affected by this change. K.A.R. 28-35-194a limits the amount of time a licensee may be in the state under reciprocity to 180 days. This is not expected to impact licensees since, to date, none have utilized reciprocity for greater than 180 days. K.A.R. 28-35-216a limits the time a sealed source may be in storage without a leak test to 10 years. This will result in a minor cost impact at 10-year intervals.

Cost to the agency: There is no increase in costs to the agency.

Cost to other governmental agencies or units: There is no known additional cost.

The time period between publication of this notice and the scheduled hearing serves as the required public comment period of at least 60 days for the purpose of receiving written public comments on the proposed regulations. At any time during the public comment period any interested parties may submit written comments to Thomas Conley, Kansas Department of Health and Environment, Bureau of Environmental Health, 1000 S.W. Jackson, Suite 330, Topeka, 66612-1365, or by e-mail to

*(continued)*

conley@kdheks.gov. All interested parties intending to provide oral comments will be given a reasonable opportunity to present their view of the proposed regulations during the hearing. In order to give each individual or entity an opportunity to present their view, it may be necessary for the hearing officer to request that each presenter limit any of their presentation to an appropriate time frame.

Complete copies of the proposed regulations and the corresponding regulatory impact statement may be obtained on the Radiation Control Program Web site at <http://www.kdheks.gov/radiation/radpubnotice.html> or by contacting Thomas Conley at the address above, (785) 296-1565 or fax (785) 296-0984.

Any individual with a disability may request accommodation in order to participate in the public hearing and may request the proposed regulations and regulatory impact statement in an accessible format. Requests for accommodation should be made at least five working days in advance of the hearing by contacting Thomas Conley.

Roderick L. Bremby  
Secretary of Health  
and Environment

Doc. No. 038553

State of Kansas

## Department of Transportation

### Request for Comments

The Kansas Department of Transportation requests comments on the amendment of the Statewide Transportation Improvement Program (STIP) FY 10-13 by adding the following projects:

**Project K-7890-02**, Permanent Signing Associated with Project K-7890-01 on US-69 from .7 mile north of RS-1203, north to Linn-Miami county line, Linn County

**Project K-7891-04**, Permanent Signing Associated with Project K-7891-01 on US-69 from .3 mile south of RS-1204 interchange north .7 mile north of RS-1203, Linn County

The amendment of the STIP requires a public comment period of 30 days. To receive more information on any of these projects or to make comments on the STIP amendment, contact the Kansas Department of Transportation, Bureau of Program and Project Management, 2nd Floor Tower, Eisenhower State Office Building, 700 S.W. Harrison, Topeka, 66603-3754, (785) 296-3526, fax (785) 368-6664. Additional information about these projects and other pending STIP amendments may be viewed online at [www.ksdot.org/publications.asp](http://www.ksdot.org/publications.asp).

This information is available in alternative accessible formats. To obtain an alternative format, contact the KDOT Bureau of Transportation Information, (785) 296-3585 (Voice/Hearing Impaired-711).

The comment period regarding the STIP amendment for these projects will conclude August 23.

Deb Miller  
Secretary of Transportation

Doc. No. 038540

(Published in the Kansas Register July 22, 2010.)

## City of Overland Park, Kansas

### Notice of Public Information Meeting

The city of Overland Park will be conducting a public meeting regarding the roadway improvement plan for 159th Street — Antioch Road to Metcalf Avenue. This meeting has been scheduled to review the concept plans and the preliminary schedule for this project.

The public meeting will be held at 6 p.m. Tuesday, July 27, at the Blue Valley Public Works Maintenance Facility, 6869 W. 153rd St., Overland Park.

The city of Overland Park wants to ensure that the public is aware of this meeting. The city considers the Johnson County and Overland Park communities' thoughts and ideas about this project to be valuable and encourages attendance at the meeting.

For more information, contact Larry Blankenship, Assistant City Engineer, city of Overland Park, at (913) 895-6007.

Nancy Sappington  
Contract Specialist  
Public Works Department  
City of Overland Park, Kansas

Doc. No. 038561

State of Kansas

## Department of Transportation

### Notice to Contractors

Sealed proposals for the construction of road and bridge work in the following Kansas counties will be received at the Bureau of Construction and Maintenance, KDOT, Topeka, or at the Eisenhower State Office Building, 700 S.W. Harrison, fourth floor west wing, Topeka, until 1 p.m. August 18 and then publicly opened:

#### District One — Northeast

**Brown**—36-7 KA-0714-01 — U.S. 36 bridges over Spring Creek and Walnut Creek, 2.2 miles and 5 miles east of Fairview, bridge replacement. (Federal Funds)

**Johnson**—435-46 KA-1860-01 — I-435 bridges 1.8 miles west of the Kansas-Missouri state line, bridge repair. (State Funds)

**Riley**—18-81 K-6796-06 — K-18 from the Geary-Riley county line northeast to south of Walnut Street in Ogden, seeding and sodding. (Federal Funds)

**Wyandotte**—70-105 KA-0064-01 — I-70 in Wyandotte County from the junction of K-7 to 118th Street, milling and overlay, 1.3 miles. (State Funds)

**Wyandotte**—105 N-0286-01 — 110th Street from Riverview north to I-70, grading and surfacing, 0.2 mile. (Federal Funds)

**Wyandotte**—105 N-0458-01 — 78th Street between I-70 and State Avenue, grading, bridge and surfacing, 0.9 mile. (Federal Funds)

#### District Three — Northwest

**Rawlins**—77 C-4587-01 — County road 3.5 miles south and 4 miles west of Atwood, grading, bridge and surfacing, 0.2 mile. (Federal Funds)

## Attachment 2 -- Hearing Sign-in Sheet

### Kansas Radiation Control Program Regulations Public Hearing, October 7, 2010 Sign-In Sheet

Name (please print)	Representing	Address/Email Address	Verbal / written Comments
1. Don SLADKY	THE Boeing Company	Wichita, KS don.sladky@boeing.com	N/A
2. Isabella Busenitz	KDHE	ibusenitz@kdheks.gov	None
3. Susan Vogel	KDHE		no
4. Lou Saad	KDHE	lSaadi@kdheks.gov	no
5. James Harris	KDHE	jharris@kdheks.gov	no
6. David Whitfill	KDHE	dwhitfill@kdheks.gov	No
7. Doug Smith	Ks Academy of Physician Assistants	Kansaspa @ sbglobal.net	Yes - written
8. Tom Conley	KDHE	tconley@kdheks.gov	NO
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			

# Attachment 3 -- Public Comment

STATE OF KANSAS

ALAN D. CONROY  
Director  
RANEY L. GILLILAND  
Assistant Director for Research  
J.G. SCOTT  
Chief Fiscal Analyst



STAFF  
LEGISLATIVE COORDINATING COUNCIL  
INTERIM COMMITTEES  
STANDING COMMITTEES  
LEGISLATIVE INQUIRIES

## KANSAS LEGISLATIVE RESEARCH DEPARTMENT

Room 68-West — State Capitol Building — 300 SW Tenth Avenue — Topeka, Kansas 66612-1504  
PHONE (785) 296-3181 ♦ FAX (785) 296-3824 ♦ TTY (785) 296-3677  
INTERNET: <http://www.kslegislature.org/kldr> E-MAIL: [kslegres@kldr.ks.gov](mailto:kslegres@kldr.ks.gov)

August 20, 2010

RECEIVED

AUG 24 2010

SECRETARY OF  
HEALTH & ENVIRONMENT

Mr. Roderick Bremby, Secretary  
Kansas Department of Health and Environment  
1000 SW Jackson, Suite 540  
BUILDING MAIL

Dear Secretary Bremby:

At its meeting on August 16, 2010, the Joint Committee on Administrative Rules and Regulations reviewed for public comment rules and regulations concerning definitions; definitions; definitions; persons licensed; americium-241 or radium-226 in the form of calibration or reference sources; general license for use of radioactive material for certain in vivo clinical or laboratory testing; financial assurance for decommissioning; specific licenses for human use of radioactive material in medical institutions; specific licenses to manufacture and distribute calibration sources containing americium-241 or radium-226; specific licenses to manufacture, prepare, or distribute radiopharmaceuticals containing radioactive material for medical use; specific licenses to manufacture and distribute sources and devices for use as a calibration, transmission, or reference source or for certain medical uses; exemptions, exempt concentrations of radioactive materials; exceptions, other radioactive material; exemptions, gas and aerosol detectors containing radioactive material; exemptions, exempt quantities; reciprocal recognition of licenses; occupational dose limits for adults; testing for leakage or contamination of sealed sources; disposal of certain radioactive material; transfer for disposal, manifests; general requirements; general requirements; reports to individuals; leak testing of sealed sources; table of quantities of radioactive material, need for contingency plan; and revocations. After discussion, the Committee had the following comments.

- KAR 28-35-135t. In subsections (x) and (y), reference is made to portions of the CFR. Please indicate through a cross-reference to the location of the regulation where the particular CFR has been adopted by reference. If they have not been adopted, please amend these paragraphs to adopt these portions of the CFR in the appropriate manner.
- KAR 28-35-135w. Paragraph (a)(1)(c) refers to 10 CFR 20.1003. If this CFR has been adopted by reference, please make the appropriate cross-reference. If not, please amend the regulation so that the CFR is adopted appropriately by reference.
- KAR 28-35-175a. In subsection (a), reference is made to 10 CFR 20.1003. See comment above.

- o KAR 28-35-178b. In paragraph (b)(7), reference is made to 10 CFR Part 110. See prior comments relative to adoptions by reference.
- o KAR 28-35-180b. Please incorporate the information contained in Table 1 of this regulation into the Economic Impact Statement.

Prior to filing with the Secretary of State, review the history sections of the rules and regulations to update them to the most recent statutory citations, making certain the citations for authorizing and implementing statutes are correct and complete. Please indicate your agency's website address in the filing notice where proposed regulations can be located. In addition, if your agency accepts written comments by e-mail include this information in the public notice. Further, e-mail requests for public accommodation should be included as a part of the notice. Finally, verify that the adoption by reference of any materials included in the regulations is properly completed as prescribed in the *Policy and Procedure Manual for the Adoption of Kansas Administrative Regulations*.

Please make this letter a part of the public record on these regulations. The Committee will review the regulations which the agency ultimately adopts, and reserves any expression of legislative concern to that review.

To assist in that final review:

- o Please inform the Joint Committee and me, in writing, at the time the rules and regulations are adopted and filed with the Secretary of State, of any and all changes which have been made following the public hearing.
- o Please notify the Joint Committee and me, in writing, when your agency has adopted the regulations as permanent; delayed implementation of the regulations; or decided not to adopt any of the regulations.
- o Also, please indicate separately to the Joint Committee and me, any changes made to the proposed regulations reviewed by the Committee.

Based upon direction from the Committee, failure to respond to each and every comment contained in this letter may result in the request that a spokesperson from your agency appear before the Committee to explain the agency's failure to reply.

Sincerely,



Raney L. Gilliland  
Assistant Director for Research

RLG\j

# Kansas Academy of Physician Assistants

Post Office Box 597 • Topeka • Kansas • 66601-0597 • 785-235-5065

October 7, 2010 .

Mr. Thomas Conley  
Kansas Department of Health and Environment  
Bureau of Environmental Health  
1000 S.W. Jackson Avenue, Suite 330  
Topeka, Kansas 66612

Dear Mr. Conely:

Thank you for the opportunity to present comments on the Agency's proposed amendments to administrative regulations, specifically, I would like to address my comments toward K.A.R. 28-35-242.

By way of background, I am Doug Smith and I serve as the Executive Director for the Kansas Academy of Physician Assistants (KAPA), a component society of the American Academy of Physician Assistants. KAPA serves as the official representative voice for the Physician Assistants (PA) in Kansas. Our purpose is to enhance the quality of medical care of the citizens of Kansas by providing medical education to physician assistants, other health professionals, the legislature, governing bodies and to the public. In Kansas, there are more than 820 Physician Assistants licensed by the State Board of Healing Arts. The Kansas Academy of Physician Assistants membership includes 325+ licensed and practicing PAs and student members.

A Physician Assistant serves an integral part in the practice of medicine by providing needed health care services across this state. Physician Assistants are providing a variety of medical services and are qualified to evaluate, diagnose and treat many illnesses and conditions, as well as performing urgent lifesaving procedures. Physician Assistants also offer patient education and counseling. Without the use of Physician Assistant the accessibility to medical care in many of our communities can be limited, particularly in rural areas.

The Kansas Academy of Physician Assistants support the amendments proposed in 28-35-242, which will include a Physician Assistant to the list of providers authorized to order X-rays and we encourage your favorable action on this request as you consider adopting this proposal.

There are other healthcare duties that PAs are qualified to perform, but are not currently authorized by statute or regulation to perform and we would like to work with your agency to remedy these policies in the future as well.

Thank you for your time today and consideration.

Douglas E. Smith  
Executive Director  
Kansas Academy of Physician Assistants



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

October 26, 2010

Thomas A. Conley, Chief  
Radiation & Asbestos Control Section  
Department of Health and Environment  
Bureau of Air and Radiation  
1000 SW Jackson, Suite 310  
Topeka, KS 66612-1366

Dear Mr. Conley:

We have reviewed the proposed changes to Kansas Radiological Health Rules, "Kansas Department of Health and Environment Standards for Protection Against Radiation," received by our office on August 19, 2010. These regulations were reviewed by comparison to the equivalent Nuclear Regulatory Commission (NRC) rules in 10 CFR Parts 19, 20, 30, 31, 32, 33, 35, 40, 61, 70 and 150 and the requirements of the six amendments identified in the enclosed State Regulation Status (SRS) Data Sheet. We discussed our review of the regulations with Isabelle Busenitz on October 21, 2010.

As a result of our review, we have 19 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. Under our current procedure, a finding that the Kansas regulations meet the compatibility and health and safety categories of the equivalent NRC regulation may only be made based on a review of the final Kansas regulations. However, we have determined that if your proposed regulations were adopted, 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.

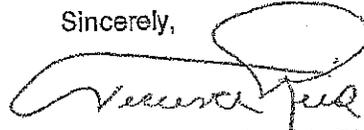
We request that when the proposed regulations are adopted and published as final regulations, a copy of the "as published" regulations be provided to us for review. As requested in FSME Procedure SA-201, "Review of State Regulatory Requirements," please highlight the final changes, and provide a copy to Division of Materials Safety and State Agreements, FSME.

The SRS Data Sheet summarizes our knowledge of the status of other Kansas regulations and legally binding requirements, 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>.

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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 ([kathleen.schneider@nrc.gov](mailto:kathleen.schneider@nrc.gov)) or Nicole Coleman at (301) 415-1048 ([nicole.coleman@nrc.gov](mailto:nicole.coleman@nrc.gov)).

Sincerely,

A handwritten signature in black ink, appearing to read "Terrence Rels". The signature is fluid and cursive, with a large loop at the end.

Terrence Rels, Deputy Director  
Division of Materials Safety and State Agreements  
Office of Federal and State Materials and  
Environmental Management Programs

Enclosures:  
As state

**COMPATIBILITY COMMENTS ON KANSAS PROPOSED REGULATIONS**

STATE SECTION	NRC SECTION	RATS ID	CATEGORY	SUBJECT and COMMENTS
1	28-35-181m	32.72(b)(5)	2007-1	<p><b>Manufacture, preparation, or transfer for commercial distribution of radioactive drugs containing byproduct material for medical use under Part 35.</b></p> <p>Kansas needs to replace, in 28-35-181m (f)(5), the term "Board of pharmaceutical specialties" with "specialty board whose certification process has been recognized..."</p> <p>Kansas needs to make the above change in order to meet Compatibility Category B designation assigned to 10 CFR 32.72(b)(5).</p>
2	28-35-192g	30.18	2007-2 2007-3	<p><b>Exempt quantities</b></p> <p>Kansas regulation 28-35-192g(a) needs to add the terms "owns, receives" before "or transfers."</p> <p>Kansas regulation 28-35-192g(b) needs to add the term "owns" after "or transfers."</p> <p>Kansas needs to make the above changes in order to meet the Compatibility Category B designation assigned to 10 CFR 30.18.</p>
3	28-35-178b	31.5	2007-2	<p><b>Certain detecting, measuring, gauging, or controlling devices and certain devices for producing light or an ionized atmosphere</b></p> <p>Kansas regulation 28-35-178b(b)(8)(C)(ii) omits, "Removes, alters, covers, or clearly and unambiguously augments the existing label (otherwise required by (c)(1) of this section)."</p> <p>Kansas needs to make the above change in order to meet the Compatibility Category B designation assigned to 10 CFR 31.5.</p>

STATE SECTION		NRC SECTION	RATS ID	CATEGORY	SUBJECT and COMMENTS
4	N/A	20.1003 30.4 150.3	2007-3	H&S	<p><b>Definition</b></p> <p>Kansas omits the definition of <i>discrete source</i>.</p> <p>Kansas needs to adopt the essential objectives of the definition of discrete source in order to meet the Compatibility Category H&amp;S designation assigned to 10 CFR 20.1003, 30.4 and 150.3.</p>
5	28-35-135w	20.1003	2007-3	B	<p><b>Definition</b></p> <p>Kansas needs to insert the word "transuranic" before "waste" in 28-35-135w(a)(1)(E).</p> <p>Kansas should revise 28-35-135w(a)(1)(C) to read "byproduct material as defined in paragraph (2), (3) and (4) of the definition of byproduct material in 10 CFR 20.1003, dated December 1, 2009."</p> <p>Kansas needs to make the above changes in order to meet the Compatibility Category B designation assigned to 10 CFR 20.1003.</p>
6	Appendix B, Table 3	Part 20, Appendix B	2007-3	A	<p><b>ALIs and DACs of Radionuclides for Occupational Exposure; Effluent Concentrations; Concentrations for Release to Sewerage</b></p> <p>Kansas needs to add Nitrogen and Oxygen to the applicable tables.</p> <p>Kansas needs to make the above change in order to meet the Compatibility Category A designation assigned to 10 CFR 20, App. B.</p>
7	28-35-175a	30.3(a)	2007-3	C	<p><b>Activities requiring license</b></p> <p>Kansas regulation needs to include "manufacture and produce" as being conducted only with a specific or general license.</p>

STATE SECTION		NRC SECTION	RATS ID	CATEGORY	SUBJECT and COMMENTS
					Kansas needs to make the above change in order to meet the Compatibility Category C designation assigned to 10 CFR 30.3(a).
8	N/A	30.4	2007-3	C	<p><b>Definition</b></p> <p>Kansas omits the definition of <i>consortium</i>.</p> <p>Kansas needs to adopt the essential objectives of the definition of <i>consortium</i> in order to meet the Compatibility Category C designation assigned to 10 CFR 30.4.</p>
9	N/A	30.32(g)	2007-3	C	<p><b>Application for specific licenses</b></p> <p>Kansas regulations omit an equivalent section to 10 CFR 30.32(g) from their regulations.</p> <p>Kansas needs to adopt the essential objectives of this requirement in order to meet the Compatibility Category C designation assigned to 10 CFR 30.32(g).</p>
10	28-35-181m/181b/180a	30.32(j)	2007-3	B	<p><b>Application for specific licenses</b></p> <p>Kansas regulations omit an equivalent section to 10 CFR 30.32(j) from their regulations.</p> <p>Kansas needs to incorporate 10 CFR 30.32(j) in their regulations to meet the Compatibility Category B designation assigned to 10 CFR 30.32(j).</p>
11	N/A	30.34(g)	2007-3	H&S	<p><b>Terms and conditions of licenses</b></p> <p>Kansas regulations omit an equivalent section to 10 CFR 30.34(g) from their regulations.</p> <p>Kansas needs to adopt the essential objectives of this requirement in order to meet the Compatibility Category H&amp;S designation assigned to 10 CFR 30.34(g).</p>

STATE SECTION		NRC SECTION	RATS ID	CATEGORY	SUBJECT and COMMENTS
12	28-35-181m	30.34(j)	2007-3	B	<p><b>Terms and conditions of licenses</b></p> <p>Kansas regulations omit an equivalent section to 10 CFR 30.34(j) from their regulations.</p> <p>Kansas needs to incorporate 10 CFR 30.34(j) in their regulations to meet the Compatibility Category B designation assigned to 10 CFR 30.34(j).</p>
13	28-35-197a	30.71	2007-3	B	<p><b>Schedule B</b></p> <p>Kansas needs to add the following elements to 28-35-197a: Germanium 68 (Ge 68), Gold 195 (Au195), Yttrium 88 (Y88).</p> <p>Kansas needs to make the above change in order to meet the Compatibility Category B designation assigned to 10 CFR 30.71.</p>
14	28-35-178b	31.5(b)(1) & (c)(13)	2007-3	B	<p><b>Certain detecting, measuring, gauging, or controlling devices and/or an ionizing atmosphere</b></p> <p>Current Kansas regulations exclude those devices listed in 31.5(c)(13)(i) from the general license granted under this part. These devices, with these radionuclides, would need to be specifically licensed in Kansas, which is more restrictive than NRC's regulations.</p> <p>Kansas regulations have the essential elements of the NRC, but are more restrictive than the NRC's GL rule. As noted in the September 20, 2007 All Agreement States Letter FSME-07-087, the determination on this provision will be held in abeyance until such time that the NRC completes the GL device rulemaking initiated in August 2007.</p>

STATE SECTION		NRC SECTION	RATS ID	CATEGORY	SUBJECT and COMMENTS
15	N/A	31.12	2007-3	C	<p><b>General license for certain items and self-luminous products containing radium-226</b></p> <p>Kansas regulations omit an equivalent section to 10 CFR 31.12 from their regulations.</p> <p>Kansas needs to adopt the essential objectives of this requirement in order to meet the Compatibility Category C designation assigned to 10 CFR 31.12.</p>
16	28-35-181j	32.57	2007-3	B	<p><b>Calibration or reference sources containing americium-241 or radium-226: Requirements for license to manufacture or initially transfer</b></p> <p>Kansas regulation, 28-35-181j(5), should incorporate the phrase "and the five prototype sources have satisfactorily passed the prototype test" between "or radium-226," and "as follows."</p> <p>Kansas needs to make the above change in order to meet the Compatibility Category B designation assigned to 10 CFR 32.57.</p>
17	28-35-181m	32.72(b)(4) and (b)(5)(iv)	2007-3	B	<p><b>Manufacture, preparation, or transfer for commercial distribution of radioactive drugs, containing byproduct material for certain in vitro clinical or laboratory testing under general license</b></p> <p>Kansas regulations omit the requirements of 32.72(b)(4) and (b)(5)(iv).</p> <p>Kansas needs to incorporate 10 CFR 32.72(b)(4) and (b)(5)(iv) in order to meet the Compatibility Category B designation assigned to 10 CFR 32.72.</p>

STATE SECTION		NRC SECTION	RATS ID	CATEGORY	SUBJECT and COMMENTS
18	28-35-264	35.2	2007-3	H&S	<p><b>Definition</b></p> <p>Kansas omits the definition of <i>positron emission tomography (PET) radionuclide production facility</i>.</p> <p>Kansas needs to adopt the essential objectives of the definition of <i>positron emission tomography (PET) radionuclide production facility</i> in order to meet the Compatibility Category H&amp;S designation assigned to 10 CFR 35.2.</p>
19	28-35-334	19.13	2008-1	C	<p><b>Notification and reports to individuals</b></p> <p>In 28-35-334(b), the reference to <b>K.A.R. 28-35-217b</b> (General Surveys) should be to <b>K.A.R. 28-35-217a</b> (Conditions requiring individual monitoring...)</p> <p>Kansas needs to make the above change in order to meet the Compatibility Category C designation assigned to 10 CFR 19.13.</p>

**STATE REGULATION STATUS**

Tracking Ticket Number: 10-42  
Date: October 26, 2010

State: Kansas  
[6 amendment(s) reviewed is identified by a \*  
at the beginning of the equivalent NRC requirement.]

RATS ID	NRC Chronology Identification	Date Due for State Adoption	Incoming Package	Outgoing Package	Notes
1991-1	Safety Requirements for Radiographic Equipment Part 34 Superseded by 1997-9	01/10/1994	Final ML060940369	No Comments 05/18/2006 ML061370535	Kansas has adopted Final Regulations equivalent to RATS ID 1997-9
1991-2	ASN Certification of Radiographers Part 34 56 FR 45507 Superseded by 1997-6	none	Final ML060940369	No Comments 05/18/2006 ML061370535	Kansas has adopted Final Regulations equivalent to RATS ID 1997-6
1991-3	Standards for Protection Against Radiation Part 20 56 FR 23360; 56 FR 61352; 57 FR 38588; 57 FR 57877; 58 FR 67667; 59 FR 41641; 60 FR 20183;	01/01/1994	Final	No Comments 12/30/1997	
1991-4	Notification of Incidents Part 20, 30, 31, 34, 39, 40, 70 56 FR 64880;	10/15/1994	Final ML060940369	No Comments 05/18/2006 ML061370535	
1992-1	Quality Management Program and Misadministrations Part 35 56 FR 24104 Superseded by 2002-2	01/27/1995	Not Required	Not Required	Kansas has adopted Final Regulations equivalent to RATS ID 2002-2
1992-2	Eliminating the Recordkeeping Requirements for Departures from Manufacturing Functions Part 35 57 FR 45566	none	Not Required	Not Required	These regulation changes are not certified to be adopted for purposes of compatibility
1993-1	Decommissioning Recordkeeping and License Termination: Documentation Additions [Restricted areas and spill sites] Part 30, 40 58 FR 39628	10/25/1996	Final	No Comments 01/03/1997	

RATS ID	NRC Chronology Identification	Date Due for State Adoption	Incoming Package	Outgoing Package	Notes
1993-2	Licensing and Radiation Safety Requirements for Irradiators Part 36 58 FR 7715	07/01/1996	Final ML060940369	No Comments 05/18/2006 ML061370535	
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	Kansas does not have any licensees subject to these regulations. (See SECY-95-112)
1994-1	Self-Governance of Additional Elements in a Licensee's Parts 50, 40, 50 58 FR 68726; 59 FR 16718	None	Not Required	Not Required	These regulations changes are not required to be adopted for purposes of compliance.
1994-2	Uranium Mill Tailings Regulations: Controlling NRC Requirements to EPA Standards Part 40 59 FR 28230	07/01/1997	Not Applicable	No Applicable	Kansas does not have authority to regulate this material under its laws.
1994-3	Timeliness in Decommissioning Material Facilities Parts 30, 40, 70 59 FR 36026	08/15/1997	Final ML060940369	No Comments 05/18/2006 ML061370535	
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 ML060940369	No Comments 05/18/2006 ML061370535	
1995-2	Frequency of Medical Examinations for Use of Respiratory Protection Equipment Part 20 60 FR 7900	03/13/1998	Final ML060940369	No Comments 05/18/2006 ML061370535	
1995-3	Low-Level Waste Shipment Manifest Information and Reporting Parts 20, 61 60 FR 15649; 60 FR 25983	03/01/1998	Final ML060940369	No Comments 05/18/2006 ML061370535	
1995-4	Performance Requirements for Radiography Equipment Part 32 60 FR 23323 (Superseded by 1997-5)	06/30/1998	Final ML060940369	No Comments 05/18/2006 ML061370535	Kansas has adopted Final Regulations equivalent to RATS ID 1997-5

RATS ID	NRC Chronology Identification	Date Due for State Adoption	Incoming Package	Outgoing Package	Notes
1995-5	Radiation Protection Requirements: Amended Definitions and Criteria Parts 19, 20 60 FR 36038	08/14/1998	Final ML060940369	No Comments 05/18/2006 ML061370535	
1995-6	Clarification of Decommissioning Funding Requirements Parts 30, 40, 70 60 FR 38235	11/24/1998	Final ML060940369	No Comments 05/18/2006 ML061370535	
1996-2	Meritor Administrative, Radiation and Radioactive Materials Parts 20, 30, 40, 61, 70 60 FR 48543 (Superseded by 2002-2 and 2005-2)	10/20/1998	Final ML060940369	No Comments 05/18/2006 ML061370535	Kansas has adopted Final Regulations equivalent to RATS ID's 2002-2 and 2005-2.
1996-4	Competition with the International Atomic Energy Agency Part 71 60 FR 60248, 61 FR 23724 (Superseded by 2004-1)	04/07/1996	Not Required	Not Required	Kansas has adopted Final Regulations equivalent to RATS ID 2004-1.
1996-2	One-Time Extension of Certain Byproduct, Spillage and Special Nuclear Materials Licenses Parts 30, 70, 70 61 FR 4109	02/15/1995	Not Required	Not Required	These regulations are not required to be adopted for purposes of comparability.
1996-3	Termination or Transfer of Licensed Activities: Record Keeping Requirements Parts 20, 30, 40, 61, 70 61 FR 24669	06/17/1999	Final ML060940369	No Comments 05/18/2006 ML061370535	
1997-1	Resolution of Dual Regulation of Airborne Effluents of Radioactive Materials; Clean Air Act Part 20 61 FR 65120	01/9/2000	Final ML060940369	No Comments 05/18/2006 ML061370535	
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 ML060940369	No Comments 05/18/2006 ML061370535	

RATS ID	NRC Chronology Identification	Date Due for State Adoption	Incoming Package	Outgoing Package	Notes
1997-3	Criteria for the Release of Individuals Administered Radioactive Material Parts 20, 35 62 FR 4120	05/29/2000	Final ML060940369	No Comments 05/18/2006 ML061370535	
1997-4	Essential Material Shipments and Exemptions Part 71 62 FR 3907 (Superseded by 2004-1)	07/10/2000	Not Required	Not Required	These regulation changes are not required to be adopted for purposes of Compatibility. (See S (P) 95 (D) 74) Kansas has adopted Final Regulations equivalent to 62 FR 3907.
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 ML060940369	No Comments 05/18/2006 ML061370535	
1997-6	Radiological Criteria for License Termination Parts 20, 30, 40, 70 62 FR 39057	08/20/2000	Final ML072010244	No Comments 08/30/2007 ML072390354	
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 ML060940369	No Comments 05/18/2006 ML061370535	
1998-1	Deliberate Misconduct by Unlicensed Persons Parts 30, 40, 61, 70, 71, 150 63 FR 1890; 63 FR 13773	02/12/2001	Final ML060940369	No Comments 05/18/2006 ML061370535	
1998-2	Self-Guarantee of Decommissioning Funding by Nonprofit and Non-Benefit Societies Parts 30, 40, 70 63 FR 29535	07/01/2001	Not Required	Not Required	These regulation changes are not required to be adopted for purposes of Compatibility.
1998-3	License Term for Medical Use Licenses Part 35 63 FR 24607 (Superseded by 2002-2)	07/10/2001	Not Required	Not Required	These regulation changes are not required to be adopted for purposes of Compatibility. (See S (P) 95 (D) 74) Kansas has adopted Final Regulations equivalent to 63 FR 24607.

RATS ID	NRC Chronology Identification	Date Due for State Adoption	Incoming Package	Outgoing Package	Notes
1998-4	Licenses for Industrial Radiography and Radiation Safety Requirements for Industrial Radiographic Operations Part 34 63 FR 37059	07/09/2001	Final ML060940369	No Comments 05/18/2006 ML061370535	
1998-5	Minor Corrections, Clarifying Changes, and a Minor Policy Change Parts 20, 35, 36 63 FR 39477; 63 FR 45393	10/26/2001	Final ML060940369	No Comments 05/18/2006 ML061370535	
1998-6	Transfer for Disposal and Manifests: Minor Technical Conforming Amendment Part 20 63 FR 50127	11/20/2001	Final ML060940369	No Comments 05/18/2006 ML061370535	
1999-1	Radiological Criteria for License Termination of Uranium Recovery Facilities Part 20 64 FR 17590	09/17/2002	Not Applicable	Not Applicable	Kansas does not have the authority to regulate its maintenance Agreement
1999-2	Requirements for Pressurized Water Reactor Industrial Devices Containing Byproduct Material to Provide Requested Information Part 34 64 FR 42289	10/07/2002	Not Required	Not Required	These regulatory changes 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	License Condition ML052510063	No Comments 09/22/2005 ML052660291	
2000-1	Energy Compensation Sources for Well Logging and Other Regulatory Clarifications Part 39 65 FR 20337	05/17/2003	Final ML072010244	No Comments 08/30/2007 ML072390354	
2000-2	New Dosimetry Technology Parts 34, 36, 39 65 FR 63750	01/08/2004	Final ML060940369	No Comments 05/18/2006 ML061370535	

RATS ID	NRC Chronology Identification	Date Due for State Adoption	Incoming Package	Outgoing Package	Notes
2001-1	Requirements for Certain Generally Licensed Industrial Devices Containing Byproduct Material Parts 30, 31, 32 65 FR 79162	02/16/2004	Final ML072010244	Comments 08/30/2007 ML072390354	
2002-1	Revision of the Skin Dose Limit Part 20 67 FR 16298	04/05/2005	Final ML060940369	No Comments 05/18/2006 ML061370535	
2002-2	Medical Use of Byproduct Material Parts 20, 32, 35 67 FR 20249	10/24/2005	Final ML070851184	No Comments 04/23/2007 ML071140120	
2003-1	Financial Assurance for Materials Licensees Parts 30, 40, 70 68 FR 57327	12/03/2006	Final ML060940369	No Comments 05/18/2006 ML061370535	
2004-1	Compatibility With IAEA Transportation Safety Standards and Other Transportation Safety Amendments Part 71 69 FR 3697	10/01/2007	Final ML060940369	No Comments 05/18/2006 ML061370535	
2005-1	Security Requirements for Portable Gauges Containing Byproduct Material Part 30 70 FR 2001	07/11/2008	Final ML072010244	No Comments 08/30/2007 ML072390358	
2005-2	Medical Use of Byproduct Material - Recognition of Specialty Boards Part 35 70 FR 16336; 71 FR 1926	04/29/2008	Final ML060940369	No Comments 05/18/2006 ML061370535	
2005-3	Increased Controls for Risk-Significant Radioactive Sources (NRC Order EA-05-090) 70 FR 72128	12/01/2005	License Condition ML052650212	No Comments 09/27/2005 ML052650327	

RATS ID	NRC Chronology/Identification	Date Due for State Adoption	Incoming Package	Outgoing Package	Notes
*2006-1	Minor Amendments Parts 20, 30, 32, 35, 40 and 70 71 FR 15005	03/27/2009	Proposed ML102360612	No Comments 10/xx/2010 ML102810058	
2006-2	National Source Tracking System - Serialization Requirements Part 32 with reference to Part 20 Appendix E 71 FR 65685	02/06/2007	Final ML072010244	No Comments 08/30/2007 ML072390354	
2006-3	National Source Tracking System Part 20 71 FR 65685, 72 FR 59162	01/31/2009	Final ML072820681	No Comments 10/30/2007 ML073040008	
*2007-1	Medical Use of Byproduct Material - Minor Corrections and Clarifications Parts 32 and 35 72 FR 45147, 54207	10/29/2010	Proposed ML102360612	Comments 10/26/2010 ML102810058	
*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	Proposed ML102360612	Comments 10/26/2010 ML102810058	
*2007-3	Requirements for Expanded Definition of Byproduct Material Parts 20, 30, 31, 32, 33, 35, 61, 150 72 FR 55864	11/30/2010	Proposed ML102360612	Comments 10/26/2010 ML102810058	
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 ML081270294	No Comments 05/14/2008 ML081350450	
*2008-1	Occupational Dose Records, Labeling Containers, and Total Effective Dose Equivalent Parts 19, 20 72 FR 68043	02/15/2011	Proposed ML102360612	Comments 10/26/2010 ML102810058	

RATS ID	NRC Chronology Identification	Date Due for State Adoption	Incoming Package	Outgoing Package	Notes
*2009-1	Medical Use of Byproduct Material – Authorized User Clarification Part 35 74 FR 33901	09/28/2012	Proposed ML102360612	No Comments 10/26/2010 ML102810058	

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

## Attachment 4 -- KDHE Responsiveness Summary

### Responsiveness Summary: Radiation Regulations effective March 18, 2011

On October 7, 2010, a public hearing was held in the Prairie Room of the Curtis State Office Building, Topeka, Kansas. The purpose of the hearing was to receive comment from the public regarding the adoption of proposed new, revoked and amended radiation protection regulations. The comment period for the proposed regulations began on July 22, 2010 and ended November 1, 2010, at 5:00 P.M. The following lists comment received during the public comment period, including the public hearing and provides the agency response and action to address each comment.

The Joint Committee on Administrative rules and Regulations considered the proposed radiation protection regulations at its August 16, 2010, meeting. A copy of the Joint Committee's letter is included with Attachment 3 to the Report of the Hearing Officer. The Joint Committee's comments and the KDHE responses follow:

**Comment:** 28-35-135t. In subsections (x) and (y), reference is made to portions of the CFR. Please indicate through a cross-reference to the location of the regulation where the particular CRF has been adopted by reference. If they have not been adopted, please amend these paragraphs to adopt these portions of the CFR in the appropriate manner.

**Response:** The applicable documents in this regulation that have been adopted by reference are cited as applicable. There are other documents referenced that are not adopted by reference and are included in the regulations as a part of the historical background. The inclusion of these references is important for the proper education of regulated individuals. In addition, the Department of Administration "Policy and Procedure Manual for the Filing of Kansas Administrative Regulations" advises "Use cross-references sparingly and carefully. Too many cross-references can make a regulation difficult to read and understand." KDHE believes that the existing language is consistent with the Department of Administration's guidance manual. The regulation as written was reviewed and approved by the Department of Administration and by the Attorney General.

**Action:** No change has been made to the proposed regulation based on this comment.

**Comment:** 28-35-135w. Paragraph (a)(1)(c) refers to 10 CFR 20.1003. If this CFR has been adopted by reference, please make the appropriate cross-reference. If not, please amend these paragraphs to adopt these portions of the CRF in the appropriate manner.

**Response:** The specific meaning of by-product material used in two instances, 28-35-135w and 28-35-175a(a), is different than what is intended for the remainder of the

regulations. Adopting this definition for the entire set of regulations would change their meaning and is not what is intended. The regulation was reviewed and approved as written by the Department of Administration and by the Attorney General.

**Action:** No change has been made to the proposed regulation based on this comment.

**Comment:** 28-35-175a. In subsection (a), reference is made to 10 CFR 10.1003. See comment above.

**Response:** The specific meaning of by-product material used in two instances, 28-35-135w and 28-35-175a(a), is different than what is intended for the remainder of the regulations. Adopting this definition for the entire set of regulations would change their meaning and is not what is intended. The regulation was reviewed and approved as written by the Department of Administration and by the Attorney General.

**Action:** No change has been made to the proposed regulation based on this comment.

**Comment:** 28-35-178b. In paragraph (b)(7), reference is made to 10 CFR Part 110. See prior comments relative to adoptions by reference.

**Response:** The applicable documents in this regulation that have been adopted by reference are cited as applicable. There are other documents referenced that are not adopted and are a part of the historical background and important to the proper education of regulated individuals. In addition, the Department of Administration "Policy and Procedure Manual for the Filing of Kansas Administrative Regulations" advises "Use cross-references sparingly and carefully. Too many cross-references can make a regulation difficult to read and understand." KDHE believes that the existing language is consistent with the Department of Administration's guidance manual. The regulation as written was reviewed and approved by the Department of Administration and by the Attorney General.

**Action:** No change has been made to the proposed regulation based on this comment.

**Comment:** 28-35-180b. Please incorporate the information contained in Table 1 of this regulation into the Economic [Regulatory] Impact Statement.

**Response:** KDHE agrees with this comment.

**Action:** The Regulatory Impact Statement has been revised to incorporate the information contained in Table 1 of this regulation. The revised Regulatory Impact Statement is attached to this responsiveness summary.

The United States Nuclear Regulatory Commission (NRC) also provided comments. Below are the NRC comments from the letter dated October 26, 2010, and the KDHE response.

**Comment:** 28-35-181m. Kansas needs to replace, in 28-35-181m (f)(5), the term “Board of pharmaceutical specialties” with “specialty board whose certification process has been recognized...”

**Response:** KDHE agrees with this comment.

**Action:** The regulation was changed as suggested.

**Comment:** 28-35-192g. Kansas regulation 25-35-192g(b) needs to add the term “owns” after “or transfers.”

**Response:** KDHE agrees with this comment.

**Action:** The regulation was changed as suggested.

**Comment:** 28-35-178b. Kansas regulation 28-35- 178b(b)(8)(C)(ii) omits, “Removes, alters, covers, or clearly and unambiguously augments the existing label (otherwise required by (c)(1) of this section).”

**Response:** The NRC proposed language does not meet Kansas regulatory style requirements. Language adopted in this regulation has the same meaning as the intent of the suggested language.

**Action:** The regulation was not changed as suggested.

**Comment:** Kansas omits the definition of *discrete source*.

**Response:** Since Kansas regulates all forms of radioactive material the term “Discrete Source” is not used in the Kansas regulations. Kansas regulatory style requirements prohibit adding a definition for an unused term.

**Action:** The definition was not added as suggested.

**Comment:** 28-35-135w. Kansas needs to insert the word “transuranic” before “waste” in 28-35- 135w(a)(1)(E). Kansas should revise 28-35- 135w(a)(1)(C) to read “byproduct material as defined in paragraph (2), (3) and (4) of the definition of byproduct material in 10 CFR 20.1003, dated December 1, 2009.”

**Response:** KDHE agrees with this comment.

**Action:** The regulation was changed as suggested.

**Comment:** Appendices to Part 4. Standards for Protection Against Radiation, Appendix B, Table 3: Kansas needs to add Nitrogen and Oxygen to the applicable tables.

**Response:** Due to the complexity of adding these two isotopes to the tables and the fact that only a few licensees use them, it is not practical to add them at this time.

**Action:** The ALI and DAC values for these isotopes will be incorporated into the licenses authorizing their use by license condition.

**Comment:** 28-35-175a. Kansas regulation needs to include “manufacture and produce” as being conducted only with a specific or general license.

**Response:** KDHE agrees with this comment.

**Action:** The regulation was changed as suggested.

**Comment:** Kansas omits the definition of *consortium*.

**Response:** The term “Consortium” is not used in the Kansas regulations. Kansas regulatory style requirements prohibit adding a definition for an unused term.

**Action:** The definition was not added as suggested.

**Comment:** Kansas regulations omit an equivalent section to 10 CFR 30.32(g) from their regulations.

**Response:** This is included in K.A.R. 28-35-179a. Kansas regulatory style requirements discourage including such specific details of license applications in the regulations. These details are included in the form supplied by the department.

**Action:** The definition was not added as suggested.

**Comment:** Kansas regulations omit an equivalent section to 10 CFR 30.32(j) from their regulations.

**Response:** K.A.R. 28-35-181m does not differentiate between commercial distribution and non-commercial distribution within a consortium.

**Action:** The regulation was not changed as suggested.

**Comment:** Kansas regulations omit an equivalent section to 10 CFR 30.34(g) from their regulations.

**Response:** K.A.R. 28-35-264 adopts 10 CFR 35 by reference. 10 CFR 30.34(g) is redundant with 10 CFR 35.204. Kansas regulatory style requirements discourage the use of redundant regulations.

**Action:** The regulation was not changed as suggested.

**Comment:** Kansas regulations omit an equivalent section to 10 CFR 30.34(j) from their regulations.

**Response:** K.A.R. 28-35-181m does not differentiate between commercial distribution and non-commercial distribution within a consortium.

**Action:** The regulation was not changed as suggested.

**Comment:** 28-35-197a. Kansas needs to add the following elements to 28-35-197a: Germanium 68 (Ge 68), Gold 195 (Au195), Yttrium 88 (Y88).

**Response:** These elements are scheduled to be added to K.A.R. 28-35-197a in the next regulation update.

**Action:** The regulation is scheduled to be changed during the next update.

**Comment:** Current Kansas regulations exclude those devices listed in 31.5(c)(13)(i) from the general license granted under this part. These devices, with these radionuclides, would need to be specifically licensed in Kansas, which is more restrictive than NRC's regulations.

Kansas regulations have the essential elements of the NRC, but are more restrictive than the NRC's GL rule. As noted in the September 20, 2007 All Agreement States Letter FSME-07-087, the determination on this provision will be held in abeyance until such time that the NRC completes the GL device rulemaking initiated in August 2007.

**Response:**

STAFF REQUIREMENTS – SECY-10-0105 – FINAL RULE: LIMITING THE QUANTITY OF BYPRODUCT MATERIAL IN A GENERALLY LICENSED DEVICE changed the compatibility category of 10 CFR 31.5 from B to C. Therefore, K.A.R. 28-35-178b is now compatible with 10 CFR 31.5.

**Action:** No action necessary.

**Comment:** Kansas regulations omit an equivalent section to 10 CFR 31.12 from their regulations.

**Response:** K.A.R. 28-35-178i is a more restrictive regulation than 10 CFR 31.12. Since the compatibility category for 10 CFR 31.12 is "C" the Kansas regulation is compatible.

**Action:** The regulation is scheduled to be reviewed during the next update. Any changes necessary to improve wording of the regulation will be made at that time.

**Comment:** 28-35-181j. Kansas regulation, 28-35-181j(5), should incorporate the phrase "and the five prototype sources have satisfactorily passed the prototype test" between "or radium-226," and "as follows."

**Response:** KDHE agrees with this comment.

**Action:** The regulation was changed as suggested.

**Comment:** Kansas regulations omit the requirements of 32.72(b)(4) and (b)(5)(iv).

**Response:** KDHE agrees with this comment.

**Action:** Changes were made to K.A.R. 28-35-181m(f) to bound the conditions specified in 32.72(b)(4) and 32.72(b)(5)(iv).

**Comment:** Kansas omits the definition of *positron emission tomography (PET) radionuclide production facility*.

**Response:** The term "positron emission tomography" is not used in the Kansas regulations. Kansas regulatory style requirements prohibit adding a definition for an unused term.

**Action:** The definition was not added as suggested.

**Comment:** In 28-35-334(b), the reference to **K.A.R. 28-35-217b** (General Surveys) should be to **K.A.R. 28-35-217a** (Conditions requiring individual monitoring...)

**Response:** KDHE agrees with this comment.

**Action:** The regulation was changed as suggested.

A comment letter was submitted by Douglas E. Smith, Executive Director, Kansas Academy of Physicians, at the public hearing on October 7, 2010.

**Comment:** The organization particularly supports the proposed amendments to K.A.R. 28-35-242, which will add physician assistants to the list of providers authorized to order X-rays.

**Response:** KDHE appreciates the participation of the organization in the public hearing and agrees with the comment stated in the letter submitted.

**Action:** No change to the proposed regulations is necessary based on this comment.

**Kansas Department of Health and Environment**

**Division of Health**

**Bureau of Environmental Health**

**REGULATORY IMPACT STATEMENT CONSISTING OF:**

**I. ENVIRONMENTAL BENEFIT STATEMENT**

**AND**

**II. ECONOMIC IMPACT STATEMENT**

Pursuant to K.S.A. 77-416

**November 8, 2010**

**Part 1: GENERAL**

**Proposed Amendment of Radiation Protection Regulations:**

**K.A.R. 28-35-135l, 28-35-135t and 28-35-135w**

**PART 3: LICENSING OF SOURCES OF RADIATION**

**Proposed Amendment of Radiation Protection Regulations:**

**K.A.R. 28-35-175a, 28-35-178b, 28-35-178e, 28-35-178j, 28-35-180b, 28-35-181a, 28-35-181j, 28-35-181m, 28-35-181o, 28-35-192b, 28-35-192c, 28-35-192e, 28-35-192g, 28-35-194a**

**Proposed Revocation of Radiation Protection Regulations:**

**28-35-181e, 28-35-192d**

**PART 4: STANDARDS FOR PROTECTION AGAINST RADIATION**

**Proposed Amendment of Radiation Protection Regulations:**

**K.A.R. 28-35-212a, 28-35-216a, 28-35-231c**

**Proposed New Regulation:**

**K.A.R. 28-35-225a**

**PART 5: USE OF X-RAYS IN THE HEALING ARTS**

**Proposed Amendment of Radiation Protection Regulations:**

**K.A.R. 28-35-242**

**PART 6: USE OF SEALED RADIOACTIVE SOURCES IN THE HEALING ARTS**

**Proposed Amendment of Radiation Protection Regulations:**

**K.A.R. 28-35-264**

**PART 10: NOTICE, INSTRUCTIONS AND REPORTS TO WORKERS; INSPECTIONS**  
**Proposed Amendment of Radiation Protection Regulations:**  
**K.A.R. 28-35-334**

**PART 11: WIRELINE AND SUBSURFACE TRACER STUDIES**  
**Proposed Amendment of Radiation Protection Regulations:**  
**K.A.R. 28-35-346**

**PART 13: CONTINGENCY PLANNING FOR RESPONSE TO RADIOACTIVE**  
**MATERIAL EMERGENCIES**  
**Proposed Amendment of Radiation Protection Regulations:**  
**K.A.R. 28-35-411**

**Background of Proposed Amendments**

The Nuclear Energy Development and Radiation Control Act, (K.S.A. 48-1601, et seq.) requires the State to develop rules and regulations for the use of all radiation, radiation machines, and radioactive materials to ensure the maximum protection of the public health and the maximum safety to all persons at, or in the vicinity of, the place of use, storage, or disposal of sources of radiation. These regulations are intended to be consistent with the best use of radiation machines and radioactive materials, and to encourage the constructive uses of radiation.

These regulations shall apply to all persons who receive, possess, use, transfer, own or acquire any source of radiation, except as otherwise specified. The provisions of these regulations shall not limit the exposure of patients to radiation for the purpose of diagnosis or therapy, by persons licensed to practice one or more of the healing arts, dentistry or podiatry.

Under KSA 48-1601 and related statutes, the State of Kansas entered into an agreement with the Nuclear Regulatory Commission (NRC) in 1965 to regulate byproduct and certain special nuclear materials under the provisions of the federal Atomic Energy Act as amended by the Energy Policy Act of 2005. Kansas has operated as an *agreement state* since January 1, 1965. The regulated community in Kansas includes over 300 facilities licensed to use radioactive materials and 2,500 facilities registered to use x-ray equipment. These facilities include industrial operations, research labs, medical and dental facilities, and security screening operations. In order to assure appropriate protection of the public and operators, radiation exposures must be kept as low as reasonably achievable (ALARA). The role of the Radiation Control Program is to provide the appropriate oversight and regulation. K.S.A. 48-1601 requires that the state provide for compatibility with the standards and regulatory programs of the federal government.

The amendments, revocations and new regulations included in the package fall into two broad categories. The first category encompasses regulations that need to be updated

to maintain compatibility with the corresponding Nuclear Regulatory Commission(NRC) regulation. The second category includes regulations that are being updated to meet internal or external stakeholder requests to clarify or improve the structure of the existing regulations. A detailed listing of each regulation follows that indicates the necessity for change.

### Summary of Regulation Changes

#### **Part 1: GENERAL**

Amended regulations: K.A.R. 28-35-135l, 28-35-135t and 28-35-135w

Regulations 28-35-135l, 28-35-135t and 28-35-135w were changed to meet compatibility requirements with the NRC regulations and to correct an error. The terms impacted for NRC compatibility were Total Effective Dose Equivalent (TEDE) and Waste. The corrected definition was for the Low dose-rate remote afterloader.

#### **PART 3: LICENSING OF SOURCES OF RADIATION**

Amended regulations: K.A.R 28-35-175a, 28-35-178b, 28-35-178e, 28-35-178j, 28-35-180b, 28-35-181a, 28-35-181j, 28-35-181m, 28-35-181o, 28-35-192b, 28-35-192c, 28-35-192e, 28-35-192g, 28-35-194a

Revoked regulations: 28-35-181e, 28-35-192d

Regulation 28-35-175a was changed to clarify the requirement for licensing as it applies to persons who own or acquire radioactive material to maintain compatibility with the NRC.

Regulation 28-35-178b was changed to add requirements for the element Radium and additional requirements for transfer for specific licensees as required to maintain compatibility with the NRC.

Regulation 28-35-178e was changed to add requirements for the element Radium as required to maintain compatibility with the NRC.

Regulation 28-35-178j was changed to replace the word by-product with the word radioactive to maintain the same meaning as the NRC definition of by-product has changed. This change was required to maintain compatibility with the NRC.

Regulation 28-35-180b was changed to correct an error in value represented in a table. The amount in the text of the regulation was correct. The table was changed to correspond with the text.

Regulation 28-35-181a was changed to clarify a reference to another part of the regulations. The reference was to the radiation safety committee.

Regulation 28-35-181e was revoked to reflect outdated uses of radioactive materials as required to maintain compatibility with the NRC.

Regulation 28-35-181j was changed to add requirements for the element Radium as required to maintain compatibility with the NRC.

Regulation 28-35-181m was changed to add the positron emission tomography (PET) facility and update the definition of authorized nuclear pharmacist to maintain compatibility with the NRC.

Regulation 28-35-181o was changed to add the word transmission as required to maintain compatibility with the NRC.

Regulation 28-35-192b was changed to add criteria for exemptions for manufacturers, processors or producers as required to maintain compatibility with the NRC.

Regulation 28-35-192c was changed to remove exemptions for certain items that are no longer manufactured as required to maintain compatibility with the NRC.

Regulation 28-35-192d was revoked to remove references to discontinued practices as required to maintain compatibility with the NRC.

Regulation 28-35-192e was changed to add a requirement for license to manufacture, process or produce gas and aerosol detectors containing radioactive material as required to maintain compatibility with the NRC.

Regulation 28-35-192g was changed to add a clarifying statement about the aggregation of radioactive material sources to exceed exempt quantities as required to maintain compatibility with the NRC.

Regulation 28-35-194a was changed to require a specific license with the department if activities are performed within the state in excess of 180 days in a calendar year.

#### **PART 4: STANDARDS FOR PROTECTION AGAINST RADIATION**

Amended regulation: K.A.R. 28-35-212a, 28-35-216a, 28-35-231c

New regulation: K.A.R. 28-35-225b

Regulation 28-35-212a was changed to add clarification to calculation methods for determining external exposure as required to maintain compatibility with the NRC.

Regulation 28-35-216a was changed to require radioactive sources in storage to be tested for leakage at least every 10 years.

Regulation 28-35-225b was added to adopt by reference the NRC regulation related to disposal of certain radioactive material as required to maintain compatibility with the NRC.

Regulation 28-35-231c was changed to update the dates for the adoption by reference to maintain compatibility with the NRC.

#### **PART 5: USE OF X-RAYS IN THE HEALING ARTS**

Amended Regulation:  
K.A.R 28-35-242

Regulation 28-35-242 was changed to clarify the description of who can order X-rays as requested by the Board of Healing Arts.

#### **PART 6: USE OF SEALED RADIOACTIVE SOURCES IN THE HEALING ARTS**

Amended Regulation:  
K.A.R 28-35-264

Regulation 28-35-264 was changed to update the adoption by reference date as required to maintain compatibility with the NRC.

#### **PART 10: NOTICE, INSTRUCTIONS AND REPORTS TO WORKERS; INSPECTIONS**

Amended Regulation:  
K.A.R. 28-35-334

Regulation 28-35-334 was changed to add additional requirements for providing dose information to individual workers as required to maintain compatibility with the NRC.

#### **PART 11: WIRELINE AND SUBSURFACE TRACER STUDIES**

Amended Regulation:  
K.A.R 28-35-346

Regulation 28-35-346 was changed to correct minor errors in the text.

#### **PART 13: CONTINGENCY PLANNING FOR RESPONSE TO RADIOACTIVE MATERIAL EMERGENCIES**

Amended Regulation:  
K.A.R. 28-35-411

Regulation 28-35-411 was changed to add requirements for the element Radium as required to maintain compatibility with the NRC.

## **ENVIRONMENTAL AND ECONOMIC IMPACT:**

### **I. Environmental Benefit Statement**

#### **1) Need for proposed amendments and environmental benefit likely to accrue.**

##### **a) Need**

The amendments, revocations and new regulations included in the package fall into two broad categories. The first category encompasses regulations that need to be updated to maintain compatibility with the corresponding Nuclear Regulatory Commission(NRC) regulation. The second category includes regulations that are being updated to meet internal or external stakeholder requests to clarify or improve the structure of the existing regulations.

##### **b) Environmental benefit**

The purpose of the regulations is to assure that all whom may operate and own radioactive materials or radiation devices, are current and up to date with the current best practices and consistent with other states' safety regulations, with the overall purpose of ensuring the maximum protection of the environment, public health and the maximum safety to all persons at, or in the vicinity of, the place of use, of radiation.

#### **2) When applicable, a summary of the research indicating the level of risk to the public health or the environment being removed or controlled by the proposed rules and regulations or amendment.**

The risks associated with the radiation exposure to be controlled utilizing these revisions have already been determined within the federal rule-making process and through a consensus process of state radiation control programs.

#### **3) If specific contaminants are to be controlled by the amendment, a description indicating the level at which the contaminants are considered harmful according to current available research.**

As noted above, these determinations have been made at the federal level; the state rules with respect to contaminants are no more stringent than the federal rules.

### **II. Economic Impact Statement**

#### **1) Are the amendments mandated by federal law as a requirement for participating in or implementing a federally subsidized or assisted program?**

The following applies to Parts 1, 3, 4, 6, 10, 11 and 13 with respect to radioactive material:

Yes, under the NRC-Kansas delegation agreements, the state of Kansas is required to adopt state-enforceable rules compatible with federal rules in order to gain the authority for the administration and enforcement of these standards in the state.

The following applies to Part 5, with respect to use of X-rays in the Healing Arts:

No, however, the largest source of radiation exposure from man-made sources is from radiation producing devices. These regulations fill a gap in the federal regulations with respect protecting the public and environment from the harmful effects of radiation from radiation producing devices while encouraging the constructive use of radiation.

**2) Do the proposed amendments exceed the requirements of applicable federal law?**

No.

**3) Description of costs to agencies, to the general public and to persons who are affected by, or are subject to, the regulations:**

**a) Capital and annual costs of compliance with the proposed amendments and the persons who will bear those costs.**

Part 1- No economic impact, this change updates the adoption by reference to the current federal regulation.

Part 3 Most of the changes in this part are minor in nature and will have no impact on the costs to licensees.

K.A.R. 28-35-180b includes an increase in financial assurance amount necessary to ensure adequate funding for decommissioning. Currently no licensees utilize the financial assurance option which will be affected by this change. The value of financial assurance in the text of the regulation 28-35-180b(c)(1) was changed from \$750,000.00 to \$1,125,000.000 to match the value that was listed in the Table I in the regulation as indicated below.

Table I

Financial assurance for decommissioning by quantity of material

If the possession limit is greater than  $10^4$  but less than or equal to

$10^5$  times the applicable quantities specified in K.A.R. 28-35-201,

in unsealed form . . . . . \$1,125,000.00

Kansas Department of Health and Environment, Bureau of Environmental Health

For a combination of isotopes, <u>in unsealed form</u> , if R, as defined in subsection (a), divided by $10^4$ is greater than one, but R divided by $10^5$ is equal to or less than one . . . . .	\$1,125,000.00
If the possession limit is greater than $10^3$ but less than or equal to $10^4$ times the applicable quantities specified in K.A.R. 28-35-201, in unsealed form . . . . .	\$225,000.00
For a combination of isotopes, <u>in unsealed form</u> , if R, as defined in subsection (a), divided by $10^3$ is greater than one, but R divided by $10^4$ is less than or equal to one . . . . .	\$225,000.00
If the possession limit is greater than $10^{10}$ times the applicable quantities specified in K.A.R. 28-35-201, in sealed sources or foils . . . . .	\$113,000.00
For a combination of isotopes, <u>in sealed sources or foils</u> , if R, as defined in subsection (a), divided by $10^{10}$ is greater than one . . . . .	\$113,000.00

K.A.R. 28-35-194a limits the amount of time a licensee may be in the state under reciprocity to 180 days. This is not expected to impact licensees since to date none have utilized reciprocity for greater than 180 days.

Part 4 The changes in this part ensure compatibility with federal regulations and do not have an economic impact on existing licensees. K.A.R. 28-35-216a limits the time a sealed source may be in storage without a leak test to 10 years. This will result in a minor cost impact at 10 year intervals.

Part 5 The changes in this part clarify who may order x-rays without changing the original intent.

Part 6 No economic impact, this change updates the adoption by reference to the current federal regulation.

Part 10 None, the changes clarify the intent of the existing regulations

Part 11 None K.A.R. 28-35-346 was changed to correct minor errors in the text.

Part 13 None. These regulations are not applicable to any current licensees or registrants.

- b) Initial and annual costs of implementing and enforcing the proposed amendments, including the estimated amount of paperwork, and the state agencies, other governmental agencies or other persons or entities who will bear the costs.**

There should be no increase in costs for the department or other state agencies as a result of the proposed amendments.

- c) Costs which would likely accrue if the proposed regulations are not adopted, the persons who will bear the costs and those who will be affected by the failure to adopt the regulations.**

If failure to adopt the regulations results in the Nuclear Regulatory Commission (NRC) reasserting its authority over the control of radioactive sources in Kansas, the state radiation control program could continue to have responsibility for radioactive materials which are not NRC regulated and x-ray devices. The program would be doing the same work with a smaller group of licensees. The radioactive materials licensees would find their costs increased on an annual basis by a factor of two in terms of license, inspection and annual fees charged by NRC. The current Kansas fees are included in a single annual fee paid by each licensee or registrant.

- d) A detailed statement of the data and methodology used in estimating the costs used in the statement.**

Costs were estimated using comparisons of NRC versus Kansas license and registration fees as well as data provided by NRC regulatory analyses.

- e) Description of any less costly or less intrusive methods that were considered by the agency and why such methods were rejected in favor of the proposed regulations.**

There are no alternative methods of implementing the federal requirements that would be less costly or less intrusive.

- f) Consultation with League of Kansas Municipalities, Kansas Association of Counties, and Kansas Association of School Boards.**

The department does not anticipate that the proposed amendments will have a fiscal impact on the constituencies of these organizations. When the proposed amendments are issued for public comment, a copy of the Regulatory Impact Statement will be sent to each of the organizations.

## REGULATORY IMPACT STATEMENT UPDATE

January 14, 2011

KDHE Article 35 – Radiation Protection

Revoked KAR 28-35-181e and 28-35-192d

Amended KAR 28-35-135l, 28-35-135t, 28-35-135w, 28-35-175a, 28-35-178b, 28-35-178e, 28-35-178j, 28-35-180b, 28-35-181a, 28-35-181j, 28-35-181m, 28-35-181o, 28-35-192b, 28-35-192c, 28-35-192e, 28-35-192g, 28-35-194a, 28-35-212a, 28-35-216a, 28-35-231c, 28-35-242, 28-35-264, 28-35-334, 28-35-346, and 28-35-411

New KAR 28-35-225b

The notice of hearing and public comment period of at least 60 days regarding the above-referenced Kansas Department of Health and Environment (KDHE) radiation protection regulations was published in the *Kansas Register* on July 22, 2010. The notice is included in the official record of the proceedings for adoption of these regulations as Attachment 1 to the Report of the Hearing Officer. During the portion of the public comment period preceding the hearing, KDHE received no written comment by letter or electronic mail from the general public or regulated community. KDHE received a comment letter from Raney L. Gilliland, Kansas Legislative Research Department, on behalf of the Joint Committee on Administrative Rules and Regulations (Joint Committee). The Joint Committee had reviewed these regulations at its meeting on August 16, 2010.

The public hearing was conducted at 1:00 pm, Thursday, October 7, 2010, in the Prairie Conference Rm., Curtis State Office Bldg., 1000 SW Jackson, Topeka. In addition to the hearing officer, two individuals from the regulated community with an interest in the proposed regulations, as well as five KDHE staff members, attended the hearing. The sign-in sheet listing persons attending the hearing is included in the Report of the Hearing Officer as attachment 2. One of the individuals from the public representing a professional organization submitted a comment letter in support of proposed amendments to KAR 28-35-242. No oral comment from the public regarding the proposed regulations was presented at the hearing. During the portion of the public comment period following the hearing, KDHE received a comment letter from the Nuclear Regulatory Commission. No other comment was received during the public comment period which concluded November 1, 2010.

Pursuant to KSA 2009 Supp. 77-416, as amended by L. 2010, ch. 95, KDHE determined that the above-listed regulations were appropriate for consultation as to the economic impact with the League of Kansas Municipalities, Kansas Association of Counties and Kansas Association of School Boards. KDHE mailed copies of the regulations and regulatory impact statement to these organizations for review at the time the notice of public hearing was published in the *Kansas Register*. KDHE requested comment that the agency should consider regarding the impact of the proposed regulations. No comment was received from any of these organizations.

All public comment was fully reviewed and considered. The agency determined that post hearing changes were needed to address the comment. The regulations with post hearing changes were re-submitted to the Department of Administration and the Attorney General for

review and were approved and re-stamped. KDHE prepared a responsiveness summary to address the comment. The responsiveness summary lists each comment received, provides a detailed explanation of the agency's response and action to address each comment and gives the text of any changes made in the regulations. The hearing officer entered both the public comment and the responsiveness summary into the official record of the proceedings and these documents were attached to and made a part of the report of the hearing officer as Attachment 3 and Attachment 4, respectively.

Based on the administrative record, the hearing officer found that the agency met the requirements of KSA 2009 Supp. 77-415, *et seq.*, as amended by L. 2010, ch. 95, for adopting and filing regulations with the Secretary of State and determined that the Secretary of KDHE has authority pursuant to KSA 48-1607 to promulgate the above-listed permanent radiation protection regulations. These regulations have been adopted by the Secretary of KDHE and filed with the Secretary of State for final publication in the *Kansas Register*.

(4) Each individual who meets the criteria for being a "student," as specified in this subsection, at the time of application for coverage under the student health insurance program shall remain eligible for coverage throughout the coverage period.

(g) "Student employee" means a student who meets one of the following conditions:

(1) Is appointed for the current semester to a graduate assistant, graduate teaching assistant, or graduate research assistant position that is at least a 50% appointment; or

(2) holds concurrent appointments to more than one graduate assistant, graduate teaching assistant, or graduate research assistant position that total at least a 50% appointment.

(h) "Student health insurance program" means the health and accident insurance coverage or health care services of a health maintenance organization for which the state board has contracted pursuant to K.S.A. 75-4101, and amendments thereto.

This regulation shall be effective on and after August 1, 2011. (Authorized by and implementing K.S.A. 2009 Supp. 75-4101; effective, T-88-6-14-07, June 14, 2007; effective Oct. 12, 2007; amended Aug. 1, 2011.)

Andy Tompkins  
President and CEO

Doc. No. 039173

#### State of Kansas

### Kansas Insurance Department Committee on Surety Bonds and Insurance

#### Permanent Administrative Regulations

#### Article 1.—DEFINITIONS

**131-1-1. Definition of purchase.** (a) "Purchase," as used in K.S.A. 75-4101 and amendments thereto, shall not include the purchase of insurance through a lease of real property that meets all of the following conditions:

(1) The state agency is the lessee.

(2) (A) The cost to insure the property is included as a part of the lease payment; or

(B) the lessee is required to reimburse the lessor for the cost of the insurance.

(3) The secretary of administration has approved the lease in accordance with K.S.A. 75-3739, and amendments thereto.

(b) "Purchase," as used in K.S.A. 75-4101 and amendments thereto, shall include the purchase of insurance through a lease of real property if all of the following conditions are met:

(1) The state agency is the lessee.

(2) The lease requires that the property be insured.

(3) The lease requires the lessee to pay the insurance premium to the insurance company. (Authorized by K.S.A. 75-4111; implementing K.S.A. 2010 Supp. 75-4101 and K.S.A. 2010 Supp. 75-4109; effective March 18, 2011.)

Sandy Praeger  
Kansas Insurance Commissioner

Doc. No. 039181

#### State of Kansas

### Department of Health and Environment

#### Permanent Administrative Regulations

#### Article 35.—RADIATION

**28-35-135l. Definitions.** As used in these regulations, each of the following terms shall have the meaning assigned in this regulation: (a) "Lead equivalent" means the thickness of lead affording the same attenuation, under specified conditions, as the material in question.

(b) "Leakage radiation" means radiation emanating from the device source assembly, except for the following:

(1) The useful beam; and

(2) radiation produced when the exposure switch or timer is not activated for diagnosis or therapy.

(c) "Leakage technique factors" means the technique factors associated with the tube housing assembly that are used in measuring leakage radiation. The leakage technique factors shall be defined as follows:

(1) For diagnostic source assemblies intended for capacitor energy storage equipment, the maximum rated number of exposures in an hour for operation at the maximum rated peak tube potential, with the quantity of charge per exposure being 10 millicoulombs or the minimum obtainable from the unit, whichever is larger;

(2) for diagnostic source assemblies intended for field emission equipment rated for pulsed operation, the maximum rated number of X-ray pulses in an hour for operation at the maximum rated peak tube potential; and

(3) for all other diagnostic or therapeutic source assemblies, the maximum rated peak tube potential and the maximum rated continuous tube current for the maximum rated peak tube potential.

(d) "License" means a document issued in accordance with these regulations specifying the conditions of use of radioactive material.

(e) "Licensed or registered material" means radioactive material received, possessed, used, transferred, or disposed of under a general or specific license or registration issued by the department.

(f) "Licensee" means any person who is licensed in accordance with these regulations.

(g) "Licensing state" means any state that has been granted final designation by the conference of radiation control program directors, inc., for the regulatory control of NARM, as defined in K.A.R. 28-35-135n.

(h) "Light field" means that area of the intersection of the light beam from the beam-limiting device and one plane in the set of planes parallel to and including the plane of the image receptor, whose perimeter is the locus of points at which the illumination is one-fourth of the maximum in the intersection.

(i) "Line-voltage regulation" means the difference between the no-load and the load line potentials, expressed as a percent of the load line potential, using the following equation:

$$\text{Percent line-voltage regulation} = 100 (V_n - V_l) / V_l$$

*(continued)*

where

$V_n$  = No-load line potential and

$V_l$  = Load line potential.

(j) "Local component" means any part of an analytical X-ray system. This term shall include components that are struck by X-rays, including radiation source housings, port and shutter assemblies, collimators, sample holders, cameras, goniometers, detectors, and shielding. This term shall not include power supplies, transformers, amplifiers, readout devices, and control panels.

(k) "Logging supervisor" means the individual who uses sources of radiation or provides personal supervision of the utilization of sources of radiation at a well site.

(l) "Logging tool" means a device used subsurface to perform well logging.

(m) "Lost or missing licensed or registered source of radiation" means a licensed or registered source of radiation whose location is unknown. This term shall include licensed or registered material that has been shipped but has not reached its planned destination and whose location cannot be readily traced in the transportation system.

(n) "Lot tolerance percent defective" means the poorest quality, expressed as the percentage of defective units, in an individual inspection lot that may be accepted.

(o) "Low dose-rate remote afterloader" means a brachytherapy device that remotely delivers a dose rate of less than or equal to two grays per hour at the point or surface where the dose is prescribed. (Authorized by K.S.A. 48-1607; implementing K.S.A. 48-1603 and 48-1607; effective Dec. 30, 2005; amended March 18, 2011.)

**28-35-135t. Definitions.** As used in these regulations, each of the following terms shall have the meaning assigned in this regulation: (a) "Target" means the part of a radiation head that by design intercepts a beam of accelerated particles, with the subsequent emission of other radiation.

(b) "Target-to-skin distance (TSD)" means the distance measured along the beam axis from the center of the front surface of the X-ray target or electron virtual source to the irradiated object or patient.

(c) "Technique factors" means the conditions of operation specified as follows:

(1) For capacitor energy storage equipment, peak tube potential in kV and quantity of charge in mAs;

(2) for field emission equipment rated for pulsed operation, peak tube potential in kV and number of X-ray pulses; and

(3) for all equipment not specified in paragraphs (c)(1) and (2), peak tube potential in kV and either the tube current in mA and the exposure time in seconds or the product of the tube current and the exposure time in mAs.

(d) "Teletherapy" means therapeutic irradiation in which the source of radiation is located at a distance from the body.

(e) "Teletherapy physicist" means an individual identified as the qualified teletherapy physicist on a department license.

(f) "Temporary job site" means a location where operations are performed and where sources of radiation may be stored, other than the location or locations of use authorized on the license or registration.

(g) "Tenth-value layer (TVL)" means the thickness of a specified material that attenuates X-radiation or gamma radiation to the extent that the air kerma rate, exposure rate, or absorbed dose rate is reduced to one-tenth of the value measured without the material at the same point.

(h) "Termination of irradiation" means the stopping of irradiation in a fashion not permitting the continuance of irradiation without the resetting of operating conditions at the control panel.

(i) "Test" means the process of verifying compliance with an applicable regulation.

(j) "Therapeutic dosage" means a dosage of unsealed by-product material that is intended to deliver a radiation dose to a patient or human research subject for palliative or curative treatment.

(k) "Therapeutic dose" means a radiation dose delivered from a source containing by-product material to a patient or human research subject for palliative or curative treatment.

(l) "Therapeutic-type tube housing" means the following:

(1) For X-ray equipment not capable of operating at 500 kVp or above, an X-ray tube housing constructed so that the leakage radiation, at a distance of one meter from the source, does not exceed one roentgen in an hour when the tube is operated at its maximum rated continuous current for the maximum rated tube potential; and

(2) for X-ray equipment capable of operating at 500 kVp or above, an X-ray tube housing constructed so that the leakage radiation, at a distance of one meter from the source, does not exceed 0.1 percent of the useful beam dose rate at one meter from the source for any of the tube's operating conditions.

Areas of reduced protection shall be acceptable if the average reading over any area of 100 cm<sup>2</sup>, at a distance of one meter from the source, does not exceed any of the values specified in this subsection.

(m) "These regulations" means article 35 in its entirety.

(n) "Tomogram" means the depiction of the X-ray attenuation properties of a section through the body.

(o) "Total effective dose equivalent" and "TEDE" mean the sum of the effective dose equivalent for external exposures and the committed effective dose equivalent for internal exposures.

(p) "Total organ dose equivalent" and "TODE" mean the sum of the deep dose equivalent and the committed dose equivalent delivered to the organ receiving the highest dose.

(q) "Traceable to a national standard" means that a quantity or a measurement has been compared to a national standard directly or indirectly through one or more intermediate steps and that all comparisons are documented.

(r) "Transport index" means the dimensionless number, rounded up to the first decimal place, placed on the label of a package to designate the degree of control to be exercised by the carrier during transportation. The transport index is the maximum radiation level in millirems per hour at one meter from the external surface of the package.

(s) "Tritium neutron-generator-target source" means a tritium source used within a neutron generator tube to produce neutrons for use in well-logging applications.

(t) "Tube" means an X-ray tube, unless otherwise specified.

(u) "Tube housing assembly" means the tube housing with a tube installed, including high-voltage transformers or filament transformers, or both, and other appropriate elements when contained within the tube housing.

(v) "Treatment site" means the anatomical description of the tissue intended to receive a radiation dose, as specified in a written directive.

(w) "Tube rating chart" means the set of curves that describes the rated limits of operation of the tube in terms of the technique factors.

(x) "Type A package" means packaging that, together with the radioactive contents limited to A<sub>1</sub> or A<sub>2</sub>, as appropriate, is designed to retain the integrity of containment and shielding under normal conditions of transport as demonstrated by the tests specified in 49 CFR 173.465 or 49 CFR 173.466, as appropriate.

(y) "Type B package" and "type B transport container" mean packaging that meets the applicable requirements specified in 10 CFR 71.51. (Authorized by K.S.A. 48-1607; implementing K.S.A. 48-1603 and 48-1607; effective Dec. 30, 2005; amended March 18, 2011.)

**28-35-135w. Definitions.** As used in these regulations, each of the following terms shall have the meaning assigned in this regulation: (a) "Waste" means any low-level radioactive waste that is acceptable for disposal in a land disposal facility. Low-level radioactive waste shall mean radioactive waste that meets both of the following conditions:

- (1) Is not classified as any of the following:
  - (A) High-level radioactive waste;
  - (B) spent nuclear fuel;
  - (C) "byproduct material," as defined in paragraphs (2), (3), and (4) in the definition of "byproduct material" in 10 CFR 20.1003, dated December 1, 2009;
  - (D) uranium or thorium tailings; and
  - (E) transuranic waste; and
- (2) is classified as low-level radioactive waste consistent with existing law and in accordance with paragraph (a)(1) by the nuclear regulatory commission.

(b) "Waste-handling licensee" means any person licensed to receive and store radioactive wastes before disposal, any person licensed to dispose of radioactive waste, or any person licensed to both receive and dispose of radioactive waste.

(c) "Wedge filter" means an added filter effecting continuous, progressive attenuation of all or part of the useful beam.

(d) "Week" means seven consecutive days, starting on Sunday.

(e) "Weighting factor (w<sub>T</sub>) for an organ or tissue (T)" means the proportion of the risk of stochastic effects resulting from irradiation of that organ or tissue to the total risk of stochastic effects when the whole body is irradiated uniformly. For calculating the effective dose equivalent, the values of w<sub>T</sub> shall be as follows:

ORGAN OR TISSUE DOSE WEIGHTING FACTORS

Organ or Tissue (T)	w <sub>T</sub>
---------------------	----------------

Gonads	0.25
Breast	0.15
Red bone marrow	0.12
Lung	0.12
Thyroid	0.03
Bone surfaces	0.03
Remainder organs	0.30 <sup>a</sup>

Whole body	1.00 <sup>b</sup>
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<sup>a</sup> 0.30 results from 0.06 for each of the five remainder organs that receive the highest doses, excluding the skin and the lens of the eye.

<sup>b</sup> For the purpose of weighting the external whole body dose in determining the total effective dose equivalent, a single weighting factor, w<sub>T</sub> = 1.0, is specified. The use of other weighting factors for external exposure may be approved by the secretary if the licensee or registrant demonstrates that the effective dose to be received is within the limits specified in these regulations.

(f) "Well bore" means a drilled hole in which wireline service operations and subsurface tracer studies are performed.

(g) "Well logging" means the lowering and raising of measuring devices or tools that could contain sources of radiation into well bores or cavities for the purpose of obtaining information about the well or adjacent formations.

(h) "Wet-source-change irradiator" means an irradiator whose sources are replaced underwater.

(i) "Wet-source-storage irradiator" means an irradiator whose sources are stored underwater.

(j) "Whole body," for purposes of external exposure, means the head and trunk, including the male gonads, and shall include the arms above the elbow and the legs above the knee.

(k) "Wireline" means a cable containing one or more electrical conductors that is used to raise and lower logging tools in the well bore.

(l) "Wireline service operation" means any evaluation or mechanical service that is performed in the well bore using devices on a wireline.

(m) "Worker" means an individual, contractor, or subcontractor engaged in work that is performed under a license or registration, or both, issued by the department and that is controlled by a licensee or registrant, or both. This term shall not include a specific licensee or registrant.

(n) "Working level (WL)" means any combination of short-lived radon daughters in one liter of air that will result in the ultimate emission of 1.3E+5 MeV of potential alpha particle energy. The short-lived radon daughters are the following:

- (1) For radon-222, the following:
  - (A) Polonium-218;
  - (B) lead-214;
  - (C) bismuth-214; and
  - (D) polonium-214; and
- (2) for radon-220, the following:
  - (A) Polonium-216;
  - (B) lead-212;

(continued)

(C) bismuth-212; and

(D) polonium-212.

(o) "Working-level month (WLM)" means an exposure to one working level for 170 hours.

(p) "Written directive" means a written order for a specific patient that is dated and signed by an authorized user before the administration of a radiopharmaceutical or radiation and that contains any of the following sets of information:

(1) For any administration of quantities greater than 1.11 megabecquerels (30  $\mu$ Ci) of sodium iodide I-125 or I-131, the radionuclide and dosage;

(2) for a therapeutic administration of a radiopharmaceutical other than sodium iodide I-125 or I-131, the radiopharmaceutical, dosage, and route of administration;

(3) for gamma stereotactic radiosurgery, the target coordinates, collimator size, plug pattern, and total dose;

(4) for teletherapy, the total dose, dose per fraction, treatment site, and overall treatment period;

(5) for high dose-rate remote afterloading brachytherapy, the radionuclide, treatment site, and total dose; or

(6) for all other brachytherapy, the following information:

(A) Before implantation, the radionuclide, number of sources, and source strengths; and

(B) after implantation but before completion of the procedure, the radionuclide, treatment site, and either the total source strength and exposure time or the total dose. (Authorized by K.S.A. 48-1607; implementing K.S.A. 48-1603 and 48-1607; effective Dec. 30, 2005; amended March 18, 2011.)

**28-35-175a. Persons licensed.** (a) A licensed person shall not manufacture, produce, receive, use, possess, acquire, own, transfer, or dispose of radioactive material, except as authorized in a specific or general license issued pursuant to these regulations. Each manufacturer, producer, or processor of any equipment, device, commodity, or other product containing source or "byproduct material," as defined in 10 CFR 20.1003, dated December 1, 2009, for which subsequent receipt, use, possession, acquisition, ownership, transfer, and disposal by any other person is exempted from these regulations shall obtain authority to transfer possession or control to the other person from the nuclear regulatory commission.

(b) In addition to the requirements of this part, each licensee shall be subject to the requirements of part 1, part 4, and part 10 of these regulations. In addition to being subject to part 1, part 4, and part 10, specific licensees shall be subject to all of the following requirements:

(1) Licensees using radioactive material in the healing arts shall be subject to the requirements of part 6.

(2) Licensees using radioactive material in industrial radiography shall be subject to the requirements of part 7.

(3) Licensees using radioactive material in wireline and subsurface tracer studies shall be subject to the requirements of part 11 of these regulations. (Authorized by and implementing K.S.A. 48-1607; effective, T-86-37, Dec. 11, 1985; effective May 1, 1986; amended Dec. 30, 2005; amended March 18, 2011.)

**28-35-178b. General license; certain detecting, measuring, gauging, or controlling devices and certain devices for producing light or an ionized atmosphere.**

(a)(1) Subject to the provisions of subsections (b) and (c), each commercial and industrial firm, research, educational, and medical institution, individual in the conduct of the individual's business, and federal, state, or local government agency shall be deemed to have been issued a general license to acquire, receive, possess, use, or transfer radioactive material that is contained in any device designed, manufactured, and used for one or more of the following purposes:

(A) Detecting, measuring, gauging, or controlling thickness, density, level interface location, radiation leakage, or qualitative or quantitative chemical composition; or

(B) producing light or an ionized atmosphere.

(2) The general license specified in paragraph (1) of this subsection shall apply only to radioactive material contained in any device that has been manufactured and labeled by a manufacturer in accordance with the specifications of a specific license issued to that manufacturer by the secretary, the nuclear regulatory commission, or an agreement state.

(3) The general license specified in paragraph (1) of this subsection shall not apply to radioactive material in any device containing at least 370 MBq (10 mCi) of cesium-137, 3.7 MBq (0.1 mCi) of strontium-90, 37 MBq (1 mCi) of cobalt-60, 3.7 MBq (0.1 mCi) of radium-226, or 37 MBq (1 mCi) of americium-241 or any other transuranic element, based on the activity indicated on the label.

(4) Each device shall have been received from one of the specific licensees described in paragraph (a)(2) or through a transfer made under paragraph (b)(9).

(b) Each person who acquires, receives, possesses, uses, or transfers radioactive material in a device pursuant to the general license specified in subsection (a) shall comply with all of the following requirements:

(1) Each person subject to this subsection shall ensure that all labels affixed to the device at the time of receipt and bearing a statement that removal of the label is prohibited are maintained and shall comply with all instructions and precautions provided by these labels.

(2) Each person subject to this subsection shall ensure that the device is tested for leakage of radioactive material and proper operation of the on-off mechanism and indicator, if any, at no longer than six-month intervals or at any other intervals specified in any manufacturer's label affixed to the device, except as follows:

(A) The person shall not be required to test devices containing only krypton for leakage of radioactive material.

(B) The person shall not be required to test, for any purpose, any device containing only tritium, not more than 100 microcuries of other beta-emitting or gamma-emitting material, or 10 microcuries of alpha-emitting material or any device held in storage in the original shipping container before initial installation.

(3) Each person subject to this subsection shall ensure that the tests required by paragraph (b)(2) and other operations involving testing, installation, servicing, and removal from installation of the radioactive material, its

shielding, or containment, are performed in compliance with one of the following:

(A) In accordance with instructions provided on labels affixed to the device; or

(B) by a person holding a specific license issued under this part or equivalent regulations of NRC or an agreement state to perform the tests and other operations.

(4)(A) Each person subject to this subsection shall maintain records showing compliance with the requirements of paragraphs (b)(2) and (b)(3). The records shall show the results of each test. The records also shall show the dates of the testing, installation, servicing, or removal from installation of the radioactive material, its shielding, or containment and the name of each person performing one or more of these tests and other operations.

(B) Each person shall maintain records of tests for leakage of radioactive material required by paragraph (b)(2) for three years after the next required leak test is performed or until the sealed source is transferred or disposed of. Each person shall maintain records of tests of the on-off mechanism and indicator, as required by paragraph (b)(2), for three years after the next required test of the on-off mechanism and indicator is performed or until the sealed source is transferred or disposed of. Each person shall maintain the records required by paragraph (b)(3) for three years from the date of the recorded event or until the device is transferred or disposed of.

(5) Upon a failure of or damage to, or any indication of a possible failure of or damage to, the shielding of the radioactive material or the on-off mechanism or indicator, or upon the detection of 0.005 microcurie or more removable radioactive material, each person subject to this subsection shall take the following actions:

(A) Immediately suspend operation of the device until either of the following conditions is met:

(i) The device has been repaired by the manufacturer or other person holding a specific license issued under this part or equivalent regulations of NRC or an agreement state to repair the device; or

(ii) the device is transferred to a person authorized by a specific license to receive the radioactive material contained in the device;

(B) within 30 days, furnish to the secretary a report containing a brief description of the event and the remedial action taken; and

(C) within 30 days, if contamination of the premises or the environs is likely, furnish to the secretary a plan for ensuring that the premises and environs are acceptable for unrestricted use. The criteria for unrestricted use specified in K.A.R. 28-35-205 may be applicable, as determined by the secretary.

(6) A person subject to this subsection shall not abandon the device.

(7) A person shall not export any device containing radioactive material except in accordance with 10 CFR part 110.

(8) (A) Each person shall transfer or dispose of any device containing radioactive material only by export as provided in paragraph (b)(7), by transfer to another general licensee as authorized in paragraph (b)(9), or to a person authorized to receive the device by a specific li-

cence issued under this part or equivalent regulations of NRC or an agreement state.

(B) Each person shall furnish a report to the department within 30 days after the export of the device or the transfer of the device to a specific licensee. The report shall contain the following information:

(i) The identification of the device by manufacturer's name, model number, and serial number;

(ii) the name, address, and license number of the person receiving the device; and

(iii) the date of the transfer.

(C) Each person shall obtain written department approval before transferring the device to any other specific licensee not specifically identified in paragraph (b)(8)(A). The holder of a specific license may transfer a device for possession and use under its own specific license without approval, if the holder performs the following:

(i) Either verifies that the specific license authorizes the possession and use or applies for and obtains an amendment to the license authorizing the possession and use;

(ii) ensures that the device is labeled in compliance with these regulations. The label shall retain the name of the manufacturer, the model number, and the serial number;

(iii) obtains the manufacturer's or initial transferor's information concerning maintenance, including leak testing procedures that are applicable under the specific license; and

(iv) reports the transfer as required by paragraph (b)(8)(B).

(9) Any person subject to this subsection may transfer the device to another general licensee only if either of the following conditions is met:

(A) The device remains in use at a particular location. In this case, the transferor shall give the transferee a copy of this regulation and any safety documents identified in any label affixed to the device and, within 30 days of the transfer, provide a written report to the secretary containing identification of the device by manufacturer's name, model number, and serial number; the name and address of the transferee; and the name, telephone number, and position of an individual who can be contacted by the secretary concerning the device.

(B) The device is held in storage in the original shipping container at its intended location of use before initial use by a general licensee.

(10) Each person subject to this subsection shall comply with the provisions of K.A.R. 28-35-228a and K.A.R. 28-35-229a relating to reports of radiation incidents, theft, or loss of licensed material, but shall be exempt from the other requirements of parts 4 and 10 of these regulations.

(11) Each person shall respond to all written requests from the department to provide information relating to the general license within 30 calendar days of the date of the request or on or before any other deadline specified in the request. If the person cannot provide the requested information within the allotted time, the person, within that same time period, shall request a longer period to supply the information by submitting a letter to the department and shall provide written justification as to why the person cannot comply.

*(continued)*

(12) Each general licensee shall appoint an individual responsible for having knowledge of the appropriate regulations and requirements and the authority for taking required actions to comply with appropriate regulations and requirements. The general licensee, through this individual, shall ensure day-to-day compliance with the appropriate regulations and requirements. This appointment shall not relieve the general licensee of any of the licensee's responsibility in this regard.

(13)(A) Each person shall register, in accordance with paragraph (b)(13)(B), each device generally licensed as required by this regulation. Each address for a location of use, as described in paragraph (b)(13)(B)(iv), shall represent a separate general licensee and shall require a separate registration and fee.

(B) In registering each device, the general licensee shall furnish the following information and any other information specifically requested by the department:

(i) The name and mailing address of the general licensee;

(ii) information about each device as indicated on the label, including the manufacturer's name, the model number, the serial number, and the radioisotope and activity;

(iii) the name, title, and telephone number of the responsible person appointed as a representative of the general licensee under paragraph (b)(12);

(iv) the address or location at which each device is used or stored, or both. For each portable device, the general licensee shall provide the address of the primary place of storage;

(v) certification by the responsible representative of the general licensee that the information concerning each device has been verified through a physical inventory and a check of the label information; and

(vi) certification by the responsible representative of the general licensee that the person is aware of the requirements of the general license.

(14) Each person shall report any change in the mailing address for the location of use, including any change in the name of the general licensee, to the department within 30 days of the effective date of the change. For a portable device, a report of address change shall be required only for a change in the primary place of storage of the device.

(15) No person may store a device that is not in use for longer than two years. If any device with shutters is not being used, the shutters shall be locked in the closed position. The testing required by paragraph (b)(2) shall not be required to be performed during the period of storage only. If the device is put back into service or transferred to another person and was not tested at the required test interval, the device shall be tested for leakage before use or transfer, and all shutters shall be tested before use. Each device kept in storage for future use shall be excluded from the two-year time limit if the general licensee performs quarterly physical inventories of the device while the device is in storage.

(c) Nothing in this regulation shall be deemed to authorize the manufacture or import of any device containing radioactive material.

(d) The general license specified in subsection (a) shall be subject to the provisions of K.A.R. 28-35-184a and

K.A.R. 28-35-184b. (Authorized by and implementing K.S.A. 48-1607; effective, T-86-37, Dec. 11, 1985; effective May 1, 1986; amended Nov. 1, 1996; amended March 24, 2006; amended July 27, 2007; amended March 18, 2011.)

**28-35-178e. Americium-241 or radium-226 in the form of calibration or reference sources.** (a) A general license to acquire, possess, use and transfer, in accordance with the provisions of subsections (b) and (c), americium-241 or radium-226 in the form of calibration or reference sources is hereby issued to any person who holds a specific license issued by the nuclear regulatory commission that authorizes the agency to acquire, possess, use, and transfer by-product material, source material, or special nuclear material.

(b) The general license issued in subsection (a) shall apply only to calibration or reference sources that have been manufactured or initially transferred in accordance with the specifications contained in a specific license issued by the secretary, the nuclear regulatory commission, or an agreement state.

(c) The general license issued in subsection (a) shall be subject to the provisions of K.A.R. 28-35-184a, and to all of the provisions of parts 4 and 10 of these regulations. In addition, persons who acquire, possess, use, and transfer one or more calibration or reference sources pursuant to this general license shall meet the following requirements:

(1) Not possess, at any one time, at any one location of storage or use, more than 5 microcuries of either americium-241 or radium-226 in such sources;

(2) not receive, possess, use, or transfer such a source unless the source, or the storage container, bears a label that includes the following statement or a substantially similar statement that contains the information called for in the following statement:

"The receipt, possession, use and transfer of this source, Model \_\_\_\_\_, Serial No. \_\_\_\_\_, are subject to a general license and the regulations of the United States Nuclear Regulatory Commission or of a State with which the commission has entered into an agreement for the exercise of regulatory authority. Do not remove this label.

**CAUTION—RADIOACTIVE MATERIAL—THIS SOURCE CONTAINS AMERICIUM-241 (or RADIUM-226). DO NOT TOUCH RADIOACTIVE PORTION OF THIS SOURCE.**

(Name of manufacturer or initial transferor)";

(3) not transfer, abandon, or dispose of such source except by transfer to a person authorized by a license issued by the secretary, the nuclear regulatory commission, or an agreement state to receive the source;

(4) store such source, except when the source is being used, in a closed container designed and constructed to contain either americium-241 or radium-226 that might otherwise escape during storage; and

(5) not use the source for any purpose other than the calibration of radiation detectors or the standardization of other sources.

(d) The general license issued in this regulation shall not authorize the manufacture, or the importation or exportation, of calibration or reference sources containing either americium-241 or radium-226. (Authorized by and

implementing K.S.A. 48-1607; effective, T-86-37, Dec. 11, 1985; effective May 1, 1986; amended March 18, 2011.)

**28-35-178j.** General license for use of radioactive material for certain in vivo clinical or laboratory testing. (a) Except as provided in subsections (b) and (c), each person shall be exempt from the license requirements in part 3 and part 6 of these regulations if the person receives, possesses, uses, transfers, owns, or acquires any capsules containing 37 kBq (1  $\mu$ Ci) of carbon-14 urea, allowing for nominal variation that may occur during the manufacturing process for in vivo diagnostic use for humans.

(b) Before using the capsules specified in subsection (a) for research involving human subjects, each person shall apply and shall be considered for approval for a specific license. Each person shall be required to have a specific license before engaging in the research specified in this subsection.

(c) Before manufacturing, preparing, processing, producing, packaging, repackaging, or transferring the capsules specified in subsection (a) for commercial distribution, each person shall apply and shall be considered for approval for a specific license. Each person shall be required to have a specific license before performing any of the actions specified in this subsection.

(d) Nothing in this regulation shall exempt any person from applicable FDA requirements, other federal requirements, and state requirements governing receipt, administration, and use of drugs. (Authorized by and implementing K.S.A. 48-1607; effective Dec. 30, 2005; amended March 18, 2011.)

**28-35-180b.** Financial assurance for decommissioning. (a) Each applicant for a specific license authorizing the possession and use of unsealed radioactive material with a half-life greater than 120 days and in quantities exceeding  $10^5$  times the applicable quantities specified in K.A.R. 28-35-201 shall submit a decommissioning funding plan as described in K.A.R. 28-35-180b(e). Each applicant shall also submit the decommissioning funding plan if a combination of isotopes is involved and if R divided by  $10^5$  is greater than one, where R is defined here as the sum of the ratios of the quantity of each isotope to the applicable value specified in K.A.R. 28-35-201.

(b) Each applicant for a specific license authorizing the possession and use of radioactive material with a half-life greater than 120 days and in quantities specified in table I shall submit either of the following:

(1) A decommissioning funding plan as described in subsection (e); or

(2) a certification that financial assurance for decommissioning has been provided in the amount prescribed by table I, using one of the methods described in subsection (f). The certification may state that the appropriate assurance is to be obtained after the application has been approved and the license has been issued, but before the receipt of licensed material. If the applicant defers execution of the financial instrument required under subsection (f) until after the license has been issued, a signed original of the financial instrument shall be submitted to the department before the applicant receives the licensed

material. If the applicant does not defer execution of the financial instrument required under subsection (f), the applicant shall submit to the department, as part of the certification, a signed original of the financial instrument.

(c) Each holder of a specific license that is a type specified in subsection (a) or (b) shall provide financial assurance for decommissioning in accordance with the following requirements:

(1) Each holder of a specific license that is a type specified in subsection (a) shall submit a decommissioning funding plan as specified in subsection (e) or a certification of financial assurance for decommissioning in an amount equal to at least \$1,125,000.00. Each licensee shall submit the plan or certification to the department in accordance with the criteria specified in this regulation. If the licensee submits a certification of financial assurance rather than a decommissioning funding plan, the licensee shall include a decommissioning funding plan in any application for license renewal.

(2) Each holder of a specific license that is a type specified in subsection (b) shall submit a decommissioning funding plan as specified in subsection (e) or a certification of financial assurance for decommissioning. Each licensee shall submit the plan or certification to the department, in accordance with the requirements specified in this regulation.

(d) The amounts of financial assurance required for decommissioning, by quantity of material, shall be those specified in table I.

**Table I**  
Financial assurance for decommissioning by quantity of material

If the possession limit is greater than $10^4$ but less than or equal to $10^5$ times the applicable quantities specified in K.A.R. 28-35-201, in unsealed form .....	\$1,125,000.00
For a combination of isotopes, in unsealed form, if R, as defined in subsection (a), divided by $10^4$ is greater than one, but R divided by $10^5$ is equal to or less than one .....	\$1,125,000.00
If the possession limit is greater than $10^5$ but less than or equal to $10^6$ times the applicable quantities specified in K.A.R. 28-35-201, in unsealed form .....	\$225,000.00
For a combination of isotopes, in unsealed form, if R, as defined in subsection (a), divided by $10^5$ is greater than one, but R divided by $10^6$ is less than or equal to one .....	\$225,000.00
If the possession limit is greater than $10^{10}$ times the applicable quantities specified in K.A.R. 28-35-201, in sealed sources or foils .....	\$113,000.00
For a combination of isotopes, in sealed sources or foils, if R, as defined in subsection (a), divided by $10^{10}$ is greater than one .....	\$113,000.00

(e) Each decommissioning funding plan shall contain the following:

(1) A cost estimate for decommissioning;

(2) a description of the method of ensuring funds for decommissioning, selected from the methods specified in subsection (f);

(3) a description of the means for periodically adjusting cost estimates and associated funding levels over the life of the facility;

(4) a certification by the licensee that financial assurance for decommissioning has been provided in the amount of the cost estimate for decommissioning; and

(continued)

(5) a signed original of the financial instrument obtained to satisfy the requirements specified in subsection (f).

(f) Each licensee shall provide financial assurance for decommissioning by one or more of the following methods.

(1) Prepayment. "Prepayment" shall mean cash or liquid assets that meet the following criteria:

(A) Before the start of operation, are deposited into an account that is segregated from the licensee's assets and outside of the licensee's administrative control; and

(B) consist of an amount that is sufficient to pay decommissioning costs.

The prepayment may be in the form of a trust, escrow account, government fund, certificate of deposit, or deposit of government securities.

(2) A surety instrument, insurance policy, or other guarantee method. The licensee may use a surety instrument, insurance policy, or other similar means to guarantee that decommissioning costs will be paid. A surety instrument may be in the form of a surety bond, letter of credit, or line of credit. A parent company's guarantee of funds for decommissioning costs based on a financial test may be used if the guarantee and test meet the requirements of K.A.R. 28-35-203. A parent company's guarantee shall not be used in combination with other financial methods to meet the requirements in this regulation. A guarantee of funds by the applicant or licensee for decommissioning costs based on a financial test may be used if the guarantee and test meet the requirements of K.A.R. 28-35-203. A guarantee by the applicant or licensee shall not be used in combination with any other financial methods to meet the requirements in this regulation or in any situation in which a parent company of the applicant or licensee holds majority control of the voting stock of the company. Each surety instrument or insurance policy used to provide financial assurance for decommissioning shall contain the following requirements:

(A) The surety instrument or insurance policy shall be open-ended or, if written for a specified term, shall be renewed automatically, unless 90 days or more before the renewal date, the insurer notifies the department, the beneficiary, and the licensee of the insurer's intention not to renew. The surety instrument or insurance policy shall also provide that the full face amount will be paid to the beneficiary automatically before the expiration without proof of forfeiture if the licensee fails to provide a replacement that meets the requirements of this regulation within 30 days after receipt of notification of cancellation.

(B) The surety instrument or insurance policy shall be payable to an approved trust established for decommissioning costs. The trustee may include an appropriate state or federal agency or an entity that has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

(C) The surety instrument or insurance policy shall remain in effect until the license is terminated by the department.

(3) External sinking fund. A licensee may provide financial assurance for decommissioning through an external sinking fund in which deposits are made at least annually, coupled with a surety instrument or insurance

policy. The value of the surety instrument or insurance policy may decrease by the amount accumulated in the sinking fund. "External sinking fund" shall mean a fund that meets both of the following conditions:

(A) Is established and maintained by setting aside funds periodically in an account segregated from the licensee's assets and outside the licensee's administrative control; and

(B) contains a total amount of funds sufficient to pay the decommissioning costs when termination of the operation is expected. An external sinking fund may be in the form of a trust, escrow account, government fund, certificate of deposit, or deposit of government securities. The surety or insurance provisions shall meet the requirements specified in this subsection.

(4) Statement of intent. Any federal, state, or local government licensee may submit a statement of intent containing a cost estimate for decommissioning or an amount based on table I of this regulation and indicating that funds for decommissioning will be obtained when necessary.

(g) Each person licensed under subsections (a) through (g) shall keep records of all information that is relevant to the safe and effective decommissioning of the facility. The records shall be kept in an identified location until the license is terminated by the department. If records of relevant information are kept for other purposes, the licensee may refer to these records and the location of these records within the records kept pursuant to this subsection.

(h) Each licensee shall maintain decommissioning records, which shall consist of the following information:

(1) Records of spills or other unusual occurrences involving the spread of contamination in and around the facility, equipment, or site. These records may be limited to records of instances in which contamination remains after any cleanup procedures or when there is reasonable likelihood that contaminants could have spread to inaccessible areas. These records shall include any known information identifying the nuclides, quantities, forms, and concentrations involved in the spill or occurrence;

(2) drawings of the following, both as originally built and, if applicable, as modified:

(A) The structures and equipment in restricted areas where radioactive materials are used or stored, or both; and

(B) the locations of possible inaccessible contamination. If the licensee refers to required drawings other than those kept pursuant to this regulation, the licensee shall not be required to index each relevant document individually. If drawings are not available, the licensee shall substitute available information concerning these areas and locations;

(3) a list of the following information, which shall be contained in a single document and updated every two years:

(A) All areas designated and formerly designated as restricted areas;

(B) all areas outside of restricted areas that require the documentation specified in this subsection;

(C) all areas outside of restricted areas where current and previous wastes have been buried and documented as specified in K.A.R. 28-35-227j; and

(D) all areas outside of restricted areas that contain material so that, if the license expired, the licensee would be required either to decontaminate the area to unrestricted release levels or to apply for approval for disposal as specified in K.A.R. 28-35-225a.

Those areas containing sealed sources only shall not be included in the list if the sources have not leaked, no contamination remains in the area after any leak, or the area contains only radioactive materials having half-lives of less than 65 days; and

(4) the following records:

(A) Records of the cost estimate performed for the decommissioning funding plan or records of the amount certified for decommissioning; and

(B) if either a funding plan or certification is used, records of the funding method used for assuring funds.

(i) Each applicant for a specific license shall make arrangements for a long-term care fund pursuant to K.S.A. 48-1623, and amendments thereto. Each applicant for any of the following types of specific licenses shall establish the long-term care fund before the issuance of the license or before the termination of the license if the applicant chooses, at the time of licensure, to provide a surety instrument in lieu of a long-term care fund:

(1) Waste-handling licenses;

(2) source material milling licenses; and

(3) licenses for any facilities formerly licensed by the U.S. atomic energy commission or the nuclear regulatory commission, if required.

(j)(1) Each applicant shall agree to notify the department, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy under any chapter of title 11, bankruptcy, of the United States code by or against any of the following:

(A) The licensee;

(B) any person controlling the licensee or listing the license or licensee as property of the estate; or

(C) any affiliate of the licensee.

(2) The bankruptcy notification shall indicate the following:

(A) The name of the bankruptcy court in which the petition for bankruptcy was filed; and

(B) the date on which the petition was filed. (Authorized by and implementing K.S.A. 48-1607; effective Dec. 30, 2005; amended March 18, 2011.)

**28-35-181a.** Specific licenses for human use of radioactive material in medical institutions. An application for a specific license for human use of radioactive material in institutions shall not be approved unless all of the following conditions are met:

(a) The applicant has appointed a radiation safety committee as specified in 10 CFR 35.24(f), which is adopted by reference in K.A.R. 28-35-264.

(b) The applicant possesses adequate facilities for the clinical care of patients.

(c) The physician or physicians designated on the application as the user or users have substantial experience in handling and administering radioactive materials and, if applicable, clinical management of radioactive patients.

(d) If the application is for a license to use unspecified quantities or multiple types of radioactive material, the

applicant or applicant's staff has substantial experience in the use of a variety of radioactive materials for a variety of human uses. (Authorized by and implementing K.S.A. 48-1607; effective, T-86-37, Dec. 11, 1985; effective May 1, 1986; amended March 18, 2011.)

**28-35-181c.** (Authorized by and implementing K.S.A. 48-1607; effective, T-86-37, Dec. 11, 1985; effective May 1, 1986; amended Dec. 30, 2005; revoked March 18, 2011.)

**28-35-181j.** Specific licenses to manufacture and distribute calibration sources containing americium-241 or radium-226. (a) An application for a specific license to manufacture or initially transfer calibration or reference sources containing americium-241 or radium-226 for distribution to persons generally licensed under K.A.R. 28-35-178e shall not be approved unless the following requirements are met:

(1) The applicant shall satisfy the general requirements of part 3 of these regulations.

(2) The applicant shall submit sufficient information regarding each type of calibration or reference source pertinent to evaluation of the potential radiation exposure, including the following:

(A) Chemical and physical form and maximum quantity of americium-241 or radium-226 in the source;

(B) details of construction and design;

(C) details of the method of incorporation and binding of the americium-241 or radium-226 in the source;

(D) procedures for and results of prototype testing of sources that are designed to contain more than 0.005 microcurie of americium-241 or radium-226, to demonstrate that the americium-241 or radium-226 contained in each source will not be released or be removed from the source under normal conditions of use;

(E) details of quality control procedures to be followed in manufacture of the source;

(F) description of labeling to be affixed to the source or the storage container for the source; and

(G) any additional information, including experimental studies and tests, required by the department to facilitate a determination of the safety of the source.

(3) Each source shall contain no more than 5  $\mu$ Ci of americium-241 or radium-226.

(4) The method of incorporation and binding of more than 0.005  $\mu$ Ci of the americium-241 or radium-226 in the source shall prevent the release or removal of americium-241 or radium-226 from the source under normal conditions of use and handling of the source.

(5) The applicant shall conduct prototype tests, in the order listed, on each of five prototypes of the source containing more than 0.185 kilobecquerel (0.005 microcurie) of americium-241 or radium-226, and the five prototype sources shall have passed the prototype test, as follows:

(A) Initial measurement. The quantity of radioactive material deposited on the source shall be measured by direct counting of the source.

(B) Dry wipe test. The entire radioactive surface of the source shall be wiped with filter paper with the application of moderate finger pressure. Removal of radioactive material from the source shall be determined by meas-

(continued)

uring the radioactivity on the filter paper or by direct measurement of the radioactivity on the source following the dry wipe.

(C) Wet wipe test. The entire radioactive surface of the source shall be wiped with filter paper, moistened with water, with the application of moderate finger pressure. Removal of radioactive material from the source shall be determined by measuring the radioactivity on the filter paper after the paper has dried or by direct measurement of the radioactivity on the source following the wet wipe.

(D) Water soak test. The source shall be immersed in water at room temperature for 24 consecutive hours. The source shall then be removed from the water. Removal of radioactive material from the source shall be determined by direct measurement of the radioactivity on the source after the source has dried or by measuring the radioactivity in the residue obtained by evaporation of the water in which the source was immersed.

(E) Dry wipe test. On completion of the water soak test, the dry wipe test described in paragraph (a)(5)(B) shall be repeated.

(F) Observations. Removal of more than 0.005 microcurie of radioactivity in any test prescribed by paragraph (a)(5) shall be cause for rejection of the source design. Results of prototype tests submitted to the nuclear regulatory commission shall be given in terms of radioactivity in microcuries and percent of removal from the total amount of radioactive material deposited on the source.

(6) Each source or storage container for the source shall have a label affixed that contains sufficient information about safe use and storage of the source and includes the following or an equivalent statement:

"The receipt, possession, use and transfer of this source, Model \_\_\_\_\_, Serial No. \_\_\_\_\_, are subject to a general license and the regulations of the United States Nuclear Regulatory Commission or of a State with which the commission has entered into an agreement for the exercise of regulatory authority. Do not remove this label.

**CAUTION—RADIOACTIVE MATERIAL—THIS SOURCE CONTAINS AMERICIUM-241 (or RADIUM-226). DO NOT TOUCH RADIOACTIVE PORTION OF THIS SOURCE.**

(Name of manufacturer or initial transferor)."

(b) Each person licensed under this regulation shall perform a dry wipe test upon each source containing more than 3.7 kilobecquerels (0.1 microcurie) of americium-241 or radium-226 before transferring the source to a general licensee in accordance with K.A.R. 28-35-178e or equivalent regulations of an agreement state or the nuclear regulatory commission. This test shall be performed by wiping the entire radioactive surface of the source with a filter paper with the application of moderate finger pressure.

The radioactivity on the paper shall be measured by using radiation detection instrumentation capable of detecting 0.185 kilobecquerel (0.005 microcurie) of americium-241 or radium-226. If this test discloses more than 0.185 kilobecquerel (0.005 microcurie) of radioactive material, the source shall be deemed to be leaking or losing americium-241 or radium-226 and shall not be transferred to a general licensee in accordance with K.A.R. 28-35-178e

or equivalent regulations of an agreement state or the nuclear regulatory commission. (Authorized by and implementing K.S.A. 48-1607; effective, T-86-37, Dec. 11, 1985; effective May 1, 1986; amended March 18, 2011.)

**28-35-181m. Specific licenses to manufacture, prepare, or distribute radiopharmaceuticals containing radioactive material for medical use.** An application for a specific license to manufacture, prepare, or distribute radiopharmaceuticals containing radioactive material and used by persons as specified in part 6 of these regulations shall not be approved unless the applicant meets the requirements of this regulation and all other applicable requirements of these regulations.

(a) Each applicant shall meet the requirements specified in K.A.R. 28-35-180a.

(b) Each applicant shall submit evidence of either of the following:

(1) The radiopharmaceutical containing radioactive material is subject to the federal food, drug and cosmetic act or the public health service act and will be manufactured, labeled, and packaged in accordance with a new drug application (NDA) approved by the food and drug administration (FDA), a biologic product license issued by the FDA, or a "notice of claimed investigational exemption for a new drug" (IND) accepted by the FDA.

(2) The manufacture and distribution of the radiopharmaceutical containing radioactive material is not subject to the federal food, drug, and cosmetic act or the public health service act.

(c) Each applicant shall submit evidence of at least one of the following:

(1) The applicant is registered or licensed with the U.S. food and drug administration as a drug manufacturer.

(2) The applicant is registered or licensed with a state agency as a drug manufacturer.

(3) The applicant is licensed as a pharmacy by the state board of pharmacy.

(4) The applicant is operating as a nuclear pharmacy within a federal medical institution.

(5) The applicant is operating a positron emission tomography (PET) drug production facility.

(d) Each applicant shall submit the following information on the radionuclide:

(1) The chemical and physical form of the material;

(2) the packaging in which the radionuclide is shipped, including the maximum activity per package; and

(3) evidence that the shielding provided by the packaging of the radioactive material is appropriate for the safe handling and storage of radiopharmaceuticals by group licensees.

(e)(1) Each applicant shall submit a description of the following:

(A) A label that shall be affixed to each transport radiation shield, whether the shield is constructed of lead, glass, plastic, or other material, of a radioactive drug to be transferred for commercial distribution. The label shall include the following:

(i) The radiation symbol and the words "CAUTION — RADIOACTIVE MATERIAL" or "DANGER — RADIOACTIVE MATERIAL";

(ii) the name of the radioactive drug and the abbreviation; and

(iii) the quantity of radioactivity at a specified date and time. For radioactive drugs with a half-life greater than 100 days, the time may be omitted; and

(B) a label that shall be affixed to each syringe, vial, or other container used to hold a radioactive drug to be transferred for commercial distribution. The label shall include the radiation symbol and the words "CAUTION — RADIOACTIVE MATERIAL" or "DANGER — RADIOACTIVE MATERIAL" and an identifier that ensures that the syringe, vial, or other container can be correlated with the information on the transport radiation shield label.

(2) The labels, leaflets, or brochures required by this regulation shall be made in addition to the labeling required by the FDA. The labels, leaflets, or brochures may be separate from the FDA labeling, or with the approval of the FDA, the labeling may be combined with the labeling required by the FDA.

(f) All of the following shall apply to each licensee described in paragraph (c)(3) or (c)(4), or both:

(1) The licensee may prepare radioactive drugs for medical use, if each radioactive drug is prepared by either an authorized nuclear pharmacist, as specified in paragraphs (2) and (4) of this subsection, or an individual under the supervision of an authorized nuclear pharmacist.

(2) The licensee may allow a pharmacist to work as an authorized nuclear pharmacist if at least one of the following conditions is met:

(A) The pharmacist qualifies as an authorized nuclear pharmacist.

(B) The pharmacist meets the requirements specified in 10 CFR 35.55 (b) and 35.59, and the licensee has received an approved license amendment identifying this individual as an authorized nuclear pharmacist.

(C) The pharmacist is designated as an authorized nuclear pharmacist in accordance with paragraph (4) of this subsection.

(3) The actions authorized in paragraphs (1) and (2) of this subsection shall be permitted in spite of more restrictive language in license conditions.

(4) The licensee may designate a pharmacist as an authorized nuclear pharmacist if the individual is a nuclear pharmacist preparing radioactive drugs and identified as an "authorized user" on a nuclear pharmacy license issued under this part.

(5) Each licensee shall provide the following to the department no later than 30 days after the date that the licensee allows, pursuant to paragraphs (2)(A) and (2)(C) of this subsection, the individual to work as an authorized nuclear pharmacist:

(A) A copy of each individual's certification by a specialty board whose certification process has been recognized as specified in 10 CFR 35.55(a), as adopted by reference in K.A.R. 28-35-264, the department or agreement state license, or the permit issued by a licensee of broad scope, or nuclear regulatory commission master materials permittee; and

(B) a copy of the state pharmacy license or registration.

(g) Each licensee shall possess and use instrumentation to measure the radioactivity of radioactive drugs. Each licensee shall have procedures for using the instrumentation. Each licensee shall measure, by direct measure-

ment or by combination of measurements and calculations, the amount of radioactivity in dosages of alpha-, beta-, or photon-emitting radioactive drugs before transfer for commercial distribution. Each licensee shall meet the following requirements:

(1) Perform tests before initial use, periodically, and following repair on each instrument for accuracy, linearity, and geometry dependence, as appropriate for the use of the instrument, and make adjustments if necessary; and

(2) check each instrument for constancy and proper operation at the beginning of each day of use.

(h) Nothing in these regulations shall exempt the licensee from the requirement to comply with applicable FDA requirements and other federal and state requirements governing radioactive drugs. (Authorized by and implementing K.S.A. 48-1607; effective, T-86-37, Dec. 11, 1985; effective May 1, 1986; amended Dec. 30, 2005; amended July 27, 2007; amended March 18, 2011.)

**28-35-1810. Specific licenses to manufacture and distribute sources and devices for use as a calibration, transmission, or reference source or for certain medical uses.** (a) Each application for a specific license to manufacture and distribute sources and devices containing radioactive material to persons licensed as specified in K.A.R. 28-35-181d for use as a calibration, transmission, or reference source or for one or more of the uses listed in 10 CFR 35.400, 35.500, 35.600, and 35.1000, as adopted by reference in K.A.R. 28-35-264, shall include the following information regarding each type of source or device:

(1) The radioactive material contained, its chemical and physical form, and amount;

(2) details of design and construction of the source or device;

(3) procedures for, and results of, prototype tests to demonstrate that the source or device will maintain its integrity under stresses likely to be encountered in normal use and in accidents;

(4) for devices containing radioactive material, the radiation profile for a prototype device;

(5) details of quality control procedures to ensure that the production sources and devices meet the standards of the design and prototype tests;

(6) procedures and standards for calibrating sources and devices;

(7) legend and methods for labeling sources and devices as to their radioactive content;

(8) radiation safety instructions for handling and storing the source or device. These instructions shall be included on a durable label attached to the source or device. However, instructions that are too lengthy for the label may be summarized on the label and printed in detail on a brochure that is referenced on the label; and

(9) the label that is to be affixed to the source or device or to the permanent storage container for the source or device. The label shall contain information on the radionuclide, quantity, and date of assay, and a statement that the source or device is licensed by the department for distribution to persons licensed under K.A.R. 28-35-181d or under an equivalent license of the U.S. nuclear regu-

(continued)

latory commission or an agreement state. Labeling for sources that do not require long-term storage may be on a leaflet or brochure that is to accompany the source.

(b) (1) If the applicant wants to have the source or device required to be tested for leakage of radioactive material at intervals longer than six months, the applicant shall include in the application sufficient information to demonstrate that the longer interval is justified by performance characteristics of the source or device, or similar sources or devices, and by design features that have a significant bearing on the probability or consequences of leakage of radioactive material from the source.

(2) In determining the acceptable interval between tests for leakage of radioactive material, information that includes the following shall be considered by the secretary:

- (A) The nature of the primary containment;
- (B) the method for protection of the primary containment;
- (C) the method of sealing the containment;
- (D) containment construction materials;
- (E) the form of the contained radioactive material;
- (F) the maximum temperature withstood during prototype tests;
- (G) the maximum pressure withstood during prototype tests;
- (H) the maximum quantity of contained radioactive material;
- (I) the radiotoxicity of contained radioactive material; and
- (J) the applicant's operating experience with identical sources or devices or with similarly designed and constructed sources or devices. (Authorized by and implementing K.S.A. 48-1607; effective, T-86-37, Dec. 11, 1985; effective May 1, 1986; amended July 27, 2007; amended March 18, 2011.)

**28-35-192b. Exemptions; exempt concentrations of radioactive materials.** (a) Except as provided in K.A.R. 28-35-184a(e), a person shall be exempt from these regulations to the extent that the person acquires, possesses, uses, transfers, or owns products or materials containing radioactive material in concentrations not exceeding those specified in K.A.R. 28-35-198a.

(b) A person shall be exempt from these regulations to the extent that the person acquires, possesses, uses, or transfers products containing naturally occurring radionuclides of elements with an atomic number less than 82, in isotopic concentrations not in excess of those that occur naturally.

(c) This regulation shall not be deemed to authorize the import of radioactive material or products containing radioactive material.

(d) A person who manufactures, processes, or produces a product or material shall be exempt from the requirements for a license as set forth in these regulations to the extent that the transfer of the radioactive material contained in the product or material is in concentrations not in excess of the amounts specified in K.A.R. 28-35-198a and is introduced into the product or material by a licensee holding a specific license issued by the department expressly authorizing such introduction. This ex-

emption shall not apply to the transfer of radioactive material contained in any food, beverage, cosmetic, drug, or other commodity or product designed for ingestion or inhalation by, or application to, a human being.

(e) No person shall introduce radioactive material into a product or material knowing, or having reason to believe, that the product or material will be transferred to a person exempt from these regulations under subsection (a) or under an equivalent regulation of the nuclear regulatory commission or an agreement state, except in accordance with a specific license issued under K.A.R. 28-35-181e or the general license issued in K.A.R. 28-35-194a. (Authorized by and implementing K.S.A. 48-1607; effective, T-86-37, Dec. 11, 1985; effective May 1, 1986; amended March 18, 2011.)

**28-35-192c. Exceptions; other radioactive material.** Except for persons who apply tritium, promethium-147, or radium to, or persons who incorporate tritium, promethium-147, or radium into, the products listed in this regulation, any person shall be exempt from these regulations to the extent that the person acquires, possesses, uses, or transfers any of the following products:

(a) Timepieces or hands or dials containing radium, or timepieces, hands, or dials containing not more than the following specified quantities of other radioactive materials:

- (1) 25 millicuries of tritium per timepiece;
- (2) 5 millicuries of tritium per hand;
- (3) 15 millicuries of tritium per dial. Bezels, when used, shall be considered as part of the dial;
- (4) 100 microcuries of promethium-147 per watch or 200 microcuries of promethium-147 per any other timepiece;
- (5) 20 microcuries of promethium-147 per watch hand or 40 microcuries of promethium-147 per hand on other timepieces;
- (6) 60 microcuries of promethium-147 per watch dial or 120 microcuries of promethium-147 per dial on other timepieces. Bezels, when used, shall be considered as part of the dial. The levels of radiation from hands and dials containing promethium-147 shall not exceed the following, when measured through 50 milligrams per square centimeter of absorber:

(A) For wrist watches, 0.1 millirad per hour at 10 centimeters from any surface;

(B) for pocket watches, 0.1 millirad per hour at one centimeter from any surface; and

(C) for any other timepiece, 0.2 millirad per hour at 10 centimeters from any surface; and

(7) for intact timepieces manufactured before November 30, 2007, 0.037 megabecquerel (1 microcurie) of radium-226 per timepiece;

(b) balances of precision containing not more than one millicurie of tritium per balance or not more than 0.5 millicurie of tritium per balance part manufactured before December 17, 2007;

(c) marine compasses containing not more than 750 millicuries of tritium gas and other marine navigational instruments containing not more than 250 millicuries of tritium gas manufactured before December 17, 2007;

(d) ionization chamber smoke detectors containing not more than one microcurie (Ci) of americium-241 per de-

tector in the form of a foil and designed to protect life and property from fires;

(e) electron tubes. The levels of radiation from each electron tube containing radioactive material shall not exceed one millirad per hour at one centimeter from any surface when measured through seven milligrams per square centimeter of absorber. For purposes of this subsection, "electron tubes" shall include spark gap tubes, power tubes, gas tubes including glow lamps, receiving tubes, microwave tubes, indicator tubes, pickup tubes, radiation detection tubes, and any other completely sealed tube that is designed to conduct or control electrical currents. An electron tube shall not contain more than one of the following specified quantities of radioactive material:

(1) 150 millicuries of tritium per microwave receiver protector tube or 10 millicuries of tritium per any other electron tube;

(2) 1 microcurie cobalt-60;

(3) 5 microcuries nickel-63;

(4) 30 microcuries krypton-85;

(5) 5 microcuries cesium-137; or

(6) 30 microcuries promethium-147; and

(f) ionizing radiation measuring instruments containing, for purposes of internal calibration or standardization, sources of radioactive material. No source shall exceed the applicable quantity set forth in K.A.R. 28-35-197a. No single instrument shall contain more than 10 sources. For the purposes of this subsection, 0.05  $\mu$ Ci of Am-241 shall be considered an exempt quantity. (Authorized by and implementing K.S.A. 48-1607; effective, T-86-37, Dec. 11, 1985; effective May 1, 1986; amended March 18, 2011.)

**28-35-192d.** (Authorized by and implementing K.S.A. 1984 Supp. 48-1607; effective, T-86-37, Dec. 11, 1985; effective May 1, 1986; revoked March 18, 2011.)

**28-35-192e. Exemptions; gas and aerosol detectors containing radioactive material.** (a) Except for persons who manufacture, process, or produce gas and aerosol detectors containing radioactive material or who initially transfer these products for sale or distribution, each person who acquires, receives, owns, possesses, uses, or transfers radioactive material in gas and aerosol detectors designed to protect life or property from fires and airborne hazards shall be exempt from these regulations. Each detector shall have been manufactured, processed, produced, imported, or initially transferred in accordance with a specific license issued by the secretary pursuant to K.A.R. 28-35-181q or a license issued by the nuclear regulatory commission or by an agreement state pursuant to an equivalent regulation of the nuclear regulatory commission or the agreement state.

(b) Gas and aerosol detectors previously manufactured and distributed before November 30, 2007 to general licensees in accordance with a specific license issued by an agreement state shall be exempt under subsection (a) if the device is labeled in accordance with the specific license authorizing distribution of the general licensed device and if the detectors meet the requirements of K.A.R. 28-35-181r.

(c) Each person who desires to manufacture, process, or produce gas and aerosol detectors containing radioactive material, or to initially transfer these products for use pursuant to this regulation, shall apply for a license pursuant to K.A.R. 28-35-181q. (Authorized by and implementing K.S.A. 48-1607; effective, T-86-37, Dec. 11, 1985; effective May 1, 1986; amended March 18, 2011.)

**28-35-192g. Exemptions; exempt quantities.** (a) Except as provided in subsections (c) through (e), each person who acquires, possesses, uses, owns, receives, or transfers radioactive material in individual quantities that do not exceed the applicable quantity specified in K.A.R. 28-35-197a shall be exempt from these regulations.

(b) Each person who possesses radioactive material received or acquired before January 1, 1972 under the general license then provided in K.A.R. 28-35-178a shall be exempt from these regulations to the extent that the person possesses, uses, or transfers that radioactive material. This exemption shall not apply to radium-226.

(c) This regulation shall not authorize the production, packaging, repackaging, or transfer of radioactive material for purposes of commercial distribution, or the incorporation of radioactive material into products intended for commercial distribution.

(d) No person shall, for purposes of commercial distribution, transfer radioactive material in the individual quantities specified in K.A.R. 28-35-197a knowing, or having reason to believe, that those quantities of radioactive material will be transferred to a person exempt under this regulation or an equivalent regulation of the nuclear regulatory commission or an agreement state, except in accordance with a specific license issued by the secretary under K.A.R. 28-35-181r, an equivalent regulation of the nuclear regulatory commission, or an equivalent regulation of an agreement state.

(e) No person shall, for purposes of producing an increased radiation level, combine quantities of radioactive material covered by this exemption so that the aggregate quantity exceeds the individual quantities specified in K.A.R. 28-35-197a. (Authorized by and implementing K.S.A. 48-1607; effective, T-86-37, Dec. 11, 1985; effective May 1, 1986; amended March 18, 2011.)

**28-35-194a. Reciprocal recognition of licenses.** (a) Subject to other provisions in this regulation, any person may apply for a general license to conduct activities within this state without obtaining a specific license from the secretary, if all of the following conditions are met:

(1) The person possesses a specific license issued by the nuclear regulatory commission or an agreement state, other than this state, that authorizes the proposed activities.

(2) The person does not conduct any activities authorized by any general license issued under this regulation for a period totalling more than 180 days in a calendar year.

(3) The specific license does not limit the activity authorized to a specified installation or location.

(4) The person notifies the department in writing at least five days before engaging in the activity. The notification shall indicate the location, period, and type of

(continued)

proposed possession and use within the state and shall be accompanied by a copy of the specific license. If, for a specific case, the five-day period would impose an undue hardship, the person may, upon application to the department, obtain permission by letter, facsimile, or electronic communication to proceed.

(5) The person complies with all applicable regulations of the secretary and with all the terms and conditions of the specific license, except any term or condition of the license that is inconsistent with these regulations.

(6) The person supplies any information requested by the department.

(7) The person does not transfer or dispose of radioactive material possessed or used under the general license provided in this regulation except by transfer to a person who meets either of the following conditions:

(A) Is specifically licensed by the department or the nuclear regulatory commission to receive the material; or

(B) is exempt from the requirements for a license for that material under K.A.R. 28-35-192a, 28-35-192b, 28-35-192c, 28-35-192d, 28-35-192e, 28-35-192f, or 28-35-192g.

(b) Any person who holds a specific license issued by the nuclear regulatory commission, or an agreement state that authorizes the person to manufacture, transfer, install, or service a device described in K.A.R. 28-35-178b within areas subject to the jurisdiction of the licensing body is issued a general license to manufacture, install, transfer, or service those devices in this state subject to the following requirements:

(1) The person shall satisfy the requirements of K.A.R. 28-35-184a(e)(1) and (2).

(2) The device shall be manufactured, labeled, installed, and serviced in accordance with the provisions of the specific license issued to the person by the nuclear regulatory commission or the agreement state.

(3) The person shall ensure that any labels required to be affixed to the device, under regulations of the authority that licensed the manufacture of the device, and that bear the statement "Removal of this label is prohibited" are affixed to the device.

(4) The person shall furnish to each general licensee to whom the person transfers the device, or on whose premises the person installs the device, a copy of the general license issued in K.A.R. 28-35-178b.

(c) Acceptance of any specific license recognized under this regulation or any product distributed pursuant to such a license may be withdrawn, limited, or qualified by the secretary, upon determining that the action is necessary in order to protect health or minimize danger to life or property. (Authorized by and implementing K.S.A. 48-1607; effective, T-86-37, Dec. 11, 1985; effective May 1, 1986; amended March 18, 2011.)

#### **28-35-212a. Occupational dose limits for adults.**

(a) Each licensee or registrant shall control the occupational dose to individual adults, except for planned special exposures to the following dose limits:

(1) The annual limit shall be the more limiting of either of the following:

(A) The total effective dose equivalent being equal to 0.05 Sv (5 rem); or

(B) the sum of the deep dose equivalent and the committed dose equivalent to any individual organ or tissue

other than the lens of the eye being equal to 0.50 Sv (50 rem).

(2) The annual limits to the lens of the eye, to the skin, and to the extremities shall be the following:

(A) An eye dose equivalent of 0.15 Sv (15 rem); and

(B) a shallow dose equivalent of 0.50 Sv (50 rem) to the skin or to any extremity.

(b) Doses received in excess of the annual limits, including doses received during accidents, emergencies, and planned special exposures, shall be subtracted from the limits for planned special exposures that the individual could receive during the current year and during the individual's lifetime.

(c) When the external exposure is determined by measurement with an external personal monitoring device, the deep dose equivalent shall be used in place of the effective dose equivalent, unless the effective dose equivalent is determined by a dosimetry method approved by the secretary. The assigned deep dose equivalent shall be for the portion of the body receiving the highest exposure. The assigned shallow dose equivalent shall be the dose averaged over the contiguous 10 square centimeters of skin receiving the highest exposure.

(1) The deep dose equivalent, eye dose equivalent, and shallow dose equivalent may be assessed from surveys or other radiation measurements for the purpose of demonstrating compliance with the occupational dose limits, if the individual monitoring device was not in the region of highest potential exposure or the results of individual monitoring are unavailable.

(2) If a protective apron is worn by medical fluoroscopists performing special and interventional fluoroscopic procedures and monitoring is conducted as specified in K.A.R. 28-35-217a, the use of weighting factors in determining the effective dose equivalent for external radiation may be approved by the secretary upon receipt of a written request. In no case shall the use of weighting factors be approved unless the request is accompanied by a list of the procedures to be used to ensure that exposures are maintained ALARA and the effective dose equivalent is determined as follows:

(A) If only one individual monitoring device is used and the device is located at the neck outside the protective apron, the reported deep dose equivalent shall be the effective dose equivalent for external radiation.

(B) If only one individual monitoring device is used, the device is located at the neck outside the protective apron, and the reported dose exceeds 25 percent of the limit specified in this regulation, then the reported deep dose equivalent value multiplied by 0.3 shall be the effective dose equivalent for external radiation.

(C) If individual monitoring devices are worn, both under the protective apron at the waist and outside the protective apron at the neck, the effective dose equivalent for external radiation shall be assigned the value of the sum of the deep dose equivalent reported for the individual monitoring device located at the waist under the protective apron multiplied by 1.5 and the deep dose equivalent reported for the individual monitoring device located at the neck outside the protective apron multiplied by 0.04.

(3) All individuals who are associated with the operation of an X-ray system shall be subject to the occupational exposure limits and the requirements for the determination of the doses that are specified in this regulation. In addition, each individual shall meet the following requirements:

(A) When protective clothing or devices are worn on portions of the body and one or more monitoring devices are required, at least one monitoring device shall be utilized as follows:

(i) When an apron is worn, the monitoring device shall be worn at the collar outside of the apron;

(ii) the dose to the device, if one is used, shall be recorded as the whole-body dose based on the maximum dose attributed to any one critical organ, including the gonads, the blood-forming organs, the head and trunk, and the lens of the eye. If more than one device is used and a record is made of the data, each dose shall be identified with the area where the device was worn on the body;

(4) Exposure of a personnel-monitoring device to deceptively indicate a dose delivered to an individual shall be prohibited.

(5) If the individual is exposed during procedures not specifically approved, weighting factors shall not be applied.

(d) Derived air concentration (DAC) and annual limit on intake (ALI) values, in appendix B, table I, published in "appendices to part 4: standards for protection against radiation," which is adopted in K.A.R. 28-35-135a, shall be used to determine the individual's dose and to demonstrate compliance with the occupational dose limits.

(e) Notwithstanding the annual dose limits, the licensee shall limit the soluble uranium intake by an individual to 10 milligrams in a week in consideration of chemical toxicity, in accordance with footnote 3 of appendix B published in "appendices to part 4: standards for protection against radiation," which is adopted in K.A.R. 28-35-135a.

(f) Each licensee or registrant shall reduce the dose that an individual may be allowed to receive in the current year by the amount of occupational dose received while employed by any other person. (Authorized by and implementing K.S.A. 48-1607; effective, T-85-43, Dec. 19, 1984; effective May 1, 1985; amended Sept. 20, 1993; amended Oct. 17, 1994; amended Dec. 30, 2005; amended March 18, 2011.)

**28-35-216a. Testing for leakage or contamination of sealed sources.** (a) Each licensee in possession of any sealed source shall ensure that all of the following requirements are met:

(1) Each sealed source, except as specified in subsection (b), shall be tested for leakage or contamination, and the test results shall be received before the sealed source is put into use, unless the licensee has a certificate from the transferor indicating that the sealed source was tested within six months before transfer to the licensee.

(2) Each sealed source that is not designed to emit alpha particles shall be tested for leakage or contamination at intervals not to exceed six months or at alternative intervals approved by the secretary, an agreement state, a licensing state, or the nuclear regulatory commission.

(3) Each sealed source designed to emit alpha particles shall be tested for leakage or contamination at intervals not to exceed three months or at alternative intervals approved by the secretary, an agreement state, a licensing state, or the nuclear regulatory commission.

(4) For each sealed source required to be tested for leakage or contamination, whenever there is reason to suspect that the sealed source might have been damaged or might be leaking, the licensee shall ensure that the sealed source is tested for leakage or contamination before further use.

(5) Tests for leakage for all sealed sources shall be capable of detecting the presence at 185 Bq (0.005  $\mu$ Ci) of radioactive material on a test sample. Test samples shall be taken from the sealed source or from the surfaces of the container in which the sealed source is stored or mounted and on which one might expect contamination to accumulate. For a sealed source contained in a device, test samples shall be obtained when the source is in the "off" position.

(b) The following sealed sources shall be exempt from testing for leakage and contamination:

(1) Sealed sources containing only radioactive material with a half-life of fewer than 30 days;

(2) sealed sources containing only radioactive material as a gas;

(3) sealed sources containing 3.7 Mbq (100  $\mu$ Ci) or less of beta-emitting or photon-emitting material or 370 kBq (10  $\mu$ Ci) or less of alpha-emitting material;

(4) sealed sources containing only hydrogen-3;

(5) seeds of iridium-192 encased in nylon ribbon; and

(6) sealed sources, except sources used in radiation therapy, that are stored, are not being used, and are identified as being in storage. The sources exempted from this test shall be tested for leakage before any use or transfer to another person, unless the source has been leak-tested within six months before the date of the use or transfer. The sources in storage shall be physically inventoried every six months and listed in the radioactive materials inventory. Each source in storage shall be tested for leakage at least every 10 years.

(c) Each test for leakage or contamination from sealed sources shall be performed by a person specifically authorized by the secretary, an agreement state, a licensing state, or the nuclear regulatory commission to perform these services.

(d) All test results shall be recorded in units of becquerel or microcurie and maintained for inspection by the department.

(e) If any test reveals the presence of 0.005 microcurie or more of removable contamination, the licensee shall immediately withdraw the sealed source from use and shall cause the source to be decontaminated and repaired or to be disposed of in accordance with these regulations. The licensee shall file a report within five days of the test with the radiation control program, Kansas department of health and environment, describing the equipment involved, the test results, and the corrective action taken. (Authorized by and implementing K.S.A. 48-1607; effective, T-85-43, Dec. 19, 1984; effective May 1, 1985;

*(continued)*

amended Dec. 30, 2005; amended July 27, 2007; amended March 18, 2011.)

**28-35-225b.** Disposal of certain radioactive material. The provisions of 10 CFR 20.2008, as in effect on October 1, 2007, are hereby adopted by reference. (Authorized by and implementing K.S.A. 48-1607; effective March 18, 2011.)

**28-35-231c.** Transfer for disposal; manifests. The provisions of 10 CFR 20.2006 as in effect on October 1, 2007, including appendix G to 10 CFR part 20 as in effect on November 16, 2005, are hereby adopted by reference. (Authorized by and implementing K.S.A. 48-1607; effective Dec. 30, 2005; amended March 18, 2011.)

**28-35-242.** General requirements. (a) Waiver of requirements. Compliance with the specific requirements of these regulations relative to an existing machine or installation may be waived by the secretary if the registrant provides an alternative to the requirement that provides radiation protection equal to that prescribed in part 4 of these regulations.

(b) Responsibility to meet requirements. A person shall not make, sell, lease, transfer, lend, or install X-ray or fluoroscopic equipment, or the supplies used in connection with this equipment, unless both of the following conditions are met:

(1) Those supplies and equipment, when properly placed in operation and properly used, will meet the requirements of parts 1, 4, and 5 and the applicable regulations under parts 7, 8, and 10 of these regulations.

(2) The person delivers, if applicable, cones or collimators, filters, appropriate timers, and fluoroscopic shutters.

(c) Limitations on human use. An individual shall not be exposed to the useful beam, unless the exposure is for healing arts purposes and each exposure has been authorized by one of the following:

(1) A licensed practitioner of the healing arts;

(2) a physician assistant licensed by the state board of healing arts, when working under the supervision and direction of a person licensed to practice medicine or surgery;

(3) an advanced registered nurse practitioner who holds a certificate of qualification from the state board of nursing, when working under the supervision and direction of a person licensed to practice medicine or surgery; or

(4) an individual licensed to practice dentistry or podiatry within the authority granted to the individual by Kansas licensing laws applying to dentists and podiatrists.

(d) Prohibited uses. Deliberate exposure for the following purposes shall be specifically prohibited:

(1) Exposure of an individual for patient positioning, training, demonstration, or other purposes, unless a healing arts purpose exists and a proper prescription has been provided; and

(2) exposure of an individual for the purpose of healing arts screening without the prior written approval of the department, except mammography screening, if the facility is certified to perform mammography by the food

and drug administration. Each person requesting approval for healing arts screening shall submit the information outlined in K.A.R. 28-35-255. Each person requesting approval for a healing arts screening shall notify the department within 30 days if any of the information submitted becomes invalid or outdated. (Authorized by and implementing K.S.A. 48-1607; effective Jan. 1, 1970; amended Jan. 1, 1972; amended May 1, 1976; amended Sept. 20, 1993; amended Dec. 30, 2005; amended March 18, 2011.)

**28-35-264.** General requirements. The provisions of 10 CFR part 35, as in effect on January 15, 2010, are hereby adopted by reference, with the changes specified in this regulation.

(a) For the purposes of part 6, "byproduct material" shall mean all radioactive material regulated by the department.

(b) All reports required by this regulation shall be submitted to the department.

(c) The following sections shall be deleted:

(1) 10 CFR 35.1, "purpose and scope";

(2) 10 CFR 35.2, "definitions," except that the definitions of the following terms shall be retained:

(A) "Authorized medical physicist";

(B) "authorized nuclear pharmacist";

(C) "authorized user";

(D) "medical event";

(E) "prescribed dose"; and

(F) "radiation safety officer";

(3) 10 CFR 35.8, "information collection requirements: OMB approval";

(4) 10 CFR 35.18, "license issuance";

(5) 10 CFR 35.19, "specific exemptions";

(6) 10 CFR 35.26 (a)(1), "radiation protection program changes";

(7) 10 CFR 35.4001, "violations"; and

(8) 10 CFR 35.4002, "criminal penalties."

(d) Wherever the following CFR references occur within 10 CFR part 35, these references shall be replaced with the specified references to regulations and parts in this article:

(1) "10 CFR 19.12" shall be replaced with "K.A.R. 28-35-333, 'instructions to workers.'"

(2) "10 CFR part 20" shall be replaced with "part 4, 'standards for protection against radiation.'"

(3) "10 CFR 20.1101" shall be replaced with "K.A.R. 28-35-211d, 'radiation protection programs.'"

(4) "10 CFR 20.1301(a)(1) and 20.1301(c)" shall be replaced with "K.A.R. 28-35-214a."

(5) "10 CFR 20.1501" shall be replaced with "K.A.R. 28-35-217b."

(6) "10 CFR part 30" shall be replaced with "part 3, 'licensing of sources of radiation.'"

(7) "10 CFR 32.72" shall be replaced with "K.A.R. 28-35-181m, 'specific licenses to manufacture and distribute radiopharmaceuticals containing radioactive material for medical use under group licenses,' and K.A.R. 28-35-181n, 'specific licenses to manufacture and distribute generators or reagent kits for preparation of radiopharmaceuticals containing radioactive material.'"

(8) "10 CFR 32.74" shall be replaced with "K.A.R. 28-35-181o, 'specific licenses to manufacture and distribute sources and devices for use as a calibration or reference source, or for certain medical uses.'"

(9) "10 CFR 33.13" shall be replaced with "K.A.R. 28-35-182b, 'qualifications for a type A specific license of broad scope.'"

(e) Wherever the following terms occur within 10 CFR part 35, these terms shall be replaced with "department":

- (1) "Commission";
- (2) "NRC operation center"; and
- (3) "NRC regional office."

(f) The following changes shall be made to the sections specified:

(1) 10 CFR 35.6(b)(1) and (c)(1) shall be replaced with the following text:

"Obtain review and approval of the research as specified in 45 CFR 46.111, 'criteria for IRB approval of research'; and"

(2) 10 CFR 35.6(b)(2) and (c)(2) shall be replaced with the following text:

"Obtain informed consent from the human research subject as specified in 45 CFR 46.116, 'general requirements for informed consent.'"

(3) 10 CFR 35.10, subsection (a) shall be deleted.

(4) In 10 CFR 35.10(d), the date "October 24, 2002" shall be replaced with "the effective date of these regulations," and in 10 CFR 35.10(b) and (c), the date "October 25, 2005" shall be replaced with "two years from the effective date of these regulations."

(5) 10 CFR 35.12(b)(1) and (c)(1)(i) shall be replaced with the following text: "submitting a form specified by the department that includes the facility diagram, equipment, and training and experience qualifications of the radiation safety officer, authorized users, authorized physicists, and authorized pharmacists."

(6) In 10 CFR 35.57(a)(1) and (b)(1), the date "October 24, 2002" shall be replaced with "the effective date of these regulations."

(7) In 10 CFR 35.57(a)(2) and (b)(2), the date "April 29, 2005" shall be replaced with "the effective date of these regulations."

(8) In 10 CFR 35.432(a), the date "October 24, 2002" shall be replaced with "the effective date of these regulations."

(9) In 10 CFR 35.3045, the footnote shall be deleted, and in subsection (a) the words "or any radiation-producing device" shall be added before the words "results in."

(10) 10 CFR 35.3047(d) shall be replaced with the following text: "The licensee shall submit a written report to the department within 15 days after discovery of a dose to the embryo or fetus, or nursing child that requires a report in paragraphs (a) or (b) in this section."

(11) In 10 CFR 35.3067, the phrase "with the department" shall be inserted after the word "report" in the first sentence, and the second sentence shall be deleted. (Authorized by and implementing K.S.A. 48-1607; effective Dec. 30, 2005; amended March 18, 2011.)

**28-35-334. Reports to individuals.** Radiation exposure data for an individual and the results of any measurements, analyses, and calculations of radioactive ma-

terial deposited or retained in the body of an individual shall be reported to the individual as specified in this regulation.

(a) The information reported shall include data and results obtained pursuant to the requirements of these regulations or any order of the secretary or license condition, as shown in records maintained by the licensee or registrant pursuant to K.A.R. 28-35-227h. Each report shall meet the following requirements:

(1) Be in writing;

(2) include appropriate identifying data, including the name of the licensee or registrant, the name of the individual, and the individual's identification number, preferably social security number;

(3) include the individual's exposure information; and

(4) contain the following statement:

"This report is furnished to you under the provisions of Kansas Administrative Regulation 28-35-334. You should preserve this report for further reference."

(b) Each licensee or registrant shall make dose information available to individual workers shown in records maintained by the licensee or registrant pursuant to K.A.R. 28-35-227h. Each licensee or registrant shall provide an annual report to each individual worker monitored pursuant to K.A.R. 28-35-217a of the dose received in that monitoring year if either of the following situations occurs:

(1) The individual's dose exceeds 1 mSv (100 mrem) TEDE or 1 mSv (100 mrem) to any individual organ or tissue.

(2) The individual requests an annual dose report.

(c) Each licensee or registrant shall furnish a written report of a worker's exposure to sources of radiation or radioactive material at the request of the worker if the worker was formerly engaged in activities controlled by the licensee or registrant. The report shall be furnished within 30 days from the date of the request, or within 30 days after the dose of the individual has been determined by the licensee or registrant, whichever is later. The report shall cover, within the period of time specified in the request, the dose record for each year the worker was required to be monitored pursuant to K.A.R. 28-35-217a. The report shall also include the period of time in which the worker's activities involved exposure to sources of radiation and shall include the dates and locations of work under the license or registration in which the worker participated during this period.

(d) When a licensee or registrant is required pursuant to K.A.R. 28-35-229a(a)(1) and (b)(1) to report to the department any exposure of an individual to sources of radiation, the licensee or the registrant shall also provide to the individual a written report of the individual's exposure data included in the report. This report shall be transmitted to the individual at a time not later than the transmittal of the report to the department.

(e) At the request of a worker who is terminating employment with the licensee or registrant that involves exposure to radiation or radioactive material or at the request of a worker who, while employed by another person, is terminating an assignment to work involving radiation dose in the licensee's facility, each licensee or

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registrant shall provide to the worker, or the worker's designee, a written report regarding the radiation dose received by that worker from operations of the licensee or registrant during the current year. The report shall be provided at the worker's termination. The licensee or registrant may provide a written estimate of that dose if the finally determined personnel monitoring results are not available at that time. Estimated doses shall be clearly indicated as such. (Authorized by K.S.A. 48-1607; implementing K.S.A. 48-1607 and 48-1609; effective May 1, 1976; amended, T-85-43, Dec. 19, 1984; amended May 1, 1985; amended Oct. 17, 1994; amended March 18, 2011.)

**28-35-346. Leak testing of sealed sources.** (a) Requirements. Each licensee using any sealed source of radioactive material shall have the source tested for leakage as specified in subsection (c). A record of leak test results shall be kept in units of microcuries and maintained for inspection by the department. The licensee shall keep the records of the results for three years after the leak test is performed.

(b) Method of testing. Each test for leakage shall be performed only by a person specifically authorized to perform such a test by the department, the nuclear regulatory commission, an agreement state, or a licensing state. The test sample shall be taken from the surface of the source, the source holder, or the surface of the device in which the source is stored or mounted and on which one could expect contamination to accumulate. The test sample shall be analyzed for radioactive contamination. The analysis shall be capable of detecting the presence of 0.005 microcurie (185 Bq) of radioactive material on the test sample and shall be performed by a person specifically authorized to perform such a test by the department, the nuclear regulatory commission, an agreement state, or a licensing state.

(c) Interval of testing. Each sealed source of radioactive material, except an energy compensation source (ECS), shall be tested at intervals not to exceed six months. In the absence of a certificate from a transferor indicating that a test has been made within the six months before the transfer, the sealed source shall not be put into use until tested. If, for any reason, it is suspected that a sealed source could be leaking, the sealed source shall be removed from service immediately and tested for leakage as soon as practical. Each ECS that is not exempt from testing in accordance with subsection (e) shall be tested at intervals not to exceed three years. In the absence of a certificate from a transferor that a test has been made within the three years before the transfer, the ECS shall not be used until tested.

(d) Leaking or contaminated sources. If the test reveals the presence of 0.005 microcurie (185 Bq) or more of leakage or contamination, the licensee shall immediately withdraw the source from use and shall cause it to be decontaminated, repaired, or disposed of in accordance with these regulations. Each licensee shall check the equipment associated with the leaking source for radioactive contamination and, if contaminated, shall have the equipment decontaminated or disposed of by a nuclear regulatory commission licensee or an agreement state licensee that is authorized to perform these functions. A

report describing the equipment involved, the test result, and the corrective action taken shall be filed with the department within five days after receiving the test results.

(e) Exemptions. The following sources shall be exempt from the periodic leak test requirements of this regulation:

- (1) Hydrogen-3 (tritium) sources;
- (2) sources of radioactive material with a half-life of 30 days or less;
- (3) sealed sources of radioactive material in gaseous form;
- (4) sources of radioactive material emitting beta, beta-gamma, or gamma radiation, with an activity of not more than 100 microcuries (3.7 Mbq); and
- (5) sources of alpha-emitting radioactive material with an activity of not more than 10 micro-curies (0.370 MBq). (Authorized by and implementing K.S.A. 48-1607; effective Sept. 20, 1993; amended Dec. 30, 2005; amended March 18, 2011.)

**28-35-411. Table of quantities of radioactive material; need for contingency plan.**

Quantities of Radioactive Materials Requiring Consideration of the Need for a Contingency Plan for Responding to a Release

Radioactive Material <sup>1</sup>	Release Fraction	Quantity (GBq)	Quantity (Ci)
Actinium-228	0.001	148,000	4,000
Americium-241	0.001	74	2
Americium-242	0.001	74	2
Americium-243	0.001	74	2
Antimony-124	0.01	148,000	4,000
Antimony-126	0.01	222,000	6,000
Barium-133	0.01	370,000	10,000
Barium-140	0.01	1,110,000	30,000
Bismuth-207	0.01	185,000	5,000
Bismuth-210	0.01	22,200	600
Cadmium-109	0.01	37,000	1,000
Cadmium-113	0.01	2,960	80
Calcium-45	0.01	740,000	20,000
Californium-252	0.001	333	9 (20 mg)
Carbon-14 (Non-CO)	0.01	1,850,000	50,000
Cerium-141	0.01	370,000	10,000
Cerium-144	0.01	11,100	300
Cesium-134	0.01	74,000	2,000
Cesium-137	0.01	111,000	3,000
Chlorine-36	0.5	3,700	100
Chromium-51	0.01	11,100,000	300,000
Cobalt-60	0.001	185,000	5,000
Copper-64	0.01	7,400,000	200,000
Curium-242	0.001	2,220	60
Curium-243	0.001	110	3
Curium-244	0.001	148	4
Curium-245	0.001	74	2
Europium-152	0.01	18,500	500
Europium-154	0.01	14,800	400
Europium-155	0.01	111,000	3,000
Gadolinium-153	0.01	185,000	5,000
Gold-198	0.01	1,110,000	30,000
Hafnium-172	0.01	14,800	400
Hafnium-181	0.01	259,000	7,000
Holmium-166m	0.01	3,700	100
Hydrogen-3	0.5	740,000	20,000
Indium-114m	0.01	37,000	1,000
Iodine-124	0.5	370	10

Iodine-125	0.5	370	10	Titanium-44	0.01	3,700	100
Iodine-131	0.5	370	10	Vanadium-48	0.01	259,000	7,000
Indium-114m	0.01	37,000	1,000	Xenon-133	1.0	33,300,000	900,000
Iridium-192	0.001	1,480,000	40,000	Yttrium-91	0.01	74,000	2,000
Iron-55	0.01	1,480,000	40,000	Zinc-65	0.01	185,000	5,000
Iron-59	0.01	259,000	7,000	Zirconium-93	0.01	14,800	400
Krypton-85	1.0	222,000,000	6,000,000	Zirconium-95	0.01	185,000	5,000
Lead-210	0.01	296	8	Any other beta-gamma emitter	0.01	370,000	10,000
Manganese-56	0.01	2,220,000	60,000	Mixed fission products	0.01	37,000	1,000
Mercury-203	0.01	370,000	10,000	Contaminated equipment:			
Molybdenum-99	0.01	1,110,000	30,000	beta-gamma emitters	0.001	370,000	10,000
Neptunium-237	0.001	74	2	Irradiated material, in any form other than solid noncombustible	0.01	370,000	10,000
Nickel-63	0.01	740,000	20,000	Irradiated material that is solid and noncombustible	0.001	370,000	10,000
Niobium-94	0.01	11,100	300	Mixed radioactive waste:			
Phosphorus-32	0.5	3,700	100	beta-gamma emitters	0.01	37,000	1,000
Phosphorus-33	0.5	37,000	1,000	Packaged mixed waste <sup>2</sup> :			
Polonium-210	0.01	370	10	beta-gamma emitters	0.001	370,000	10,000
Potassium-42	0.01	333,000	9,000	Any other alpha emitter	0.001	74	2
Promethium-145	0.01	148,000	4,000	Contaminated equipment:			
Promethium-147	0.01	148,000	4,000	alpha emitters	0.0001	740	20
Radium-226	0.001	3,700	100	Packaged waste <sup>2</sup> :			
Ruthenium-106	0.01	7,400	200	alpha emitters	0.0001	740	20
Samarium-151	0.01	148,000	4,000				
Scandium-46	0.01	111,000	3,000				
Selenium-75	0.01	370,000	10,000				
Silver-110m	0.01	37,000	1,000				
Sodium-22	0.01	333,000	9,000				
Sodium-24	0.01	370,000	10,000				
Strontium-89	0.01	111,000	3,000				
Strontium-90	0.01	3,330	90				
Sulfur-35	0.5	3,330	900				
Technetium-99	0.01	370,000	10,000				
Technetium-99m	0.01	14,800,000	400,000				
Tellurium-127m	0.01	185,000	5,000				
Tellurium-129m	0.01	185,000	5,000				
Terbium-160	0.01	148,000	4,000				
Thulium-170	0.01	148,000	4,000				
Tin-113	0.01	370,000	10,000				
Tin-123	0.01	111,000	3,000				
Tin-126	0.01	37,000	1,000				

<sup>1</sup> For combinations of radioactive materials, the licensee shall be required to consider whether a contingency plan is needed if the sum of the ratios of the quantity of each radioactive material authorized to the quantity listed in this table for that material exceeds one.

<sup>2</sup> Waste packaged in type B containers shall not require a contingency plan.

(Authorized by K.S.A. 48-1607; implementing K.S.A. 48-1602; effective Dec. 30, 2005; amended March 18, 2011.)

Robert P. Moser, M.D.  
Acting Secretary of Health and Environment

Doc. No. 013936

INDEX TO ADMINISTRATIVE REGULATIONS

This index lists in numerical order the new, amended and revoked administrative regulations and the volume and page number of the *Kansas Register* issue in which more information can be found. Temporary regulations are designated with a (T) in the Action column. This cumulative index supplements the 2009 Volumes of the *Kansas Administrative Regulations*.

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1-7-4	Amended	V. 28, p. 1338
1-7-6	Amended	V. 28, p. 1339
1-7-7	Amended	V. 28, p. 1339
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1-7-12	Amended	V. 28, p. 1340
1-14-8	Amended	V. 28, p. 1341
1-16-8	Amended	V. 29, p. 676
1-16-15	Amended	V. 29, p. 677

1-16-18	Amended	V. 29, p. 677
1-16-18a	Amended	V. 29, p. 678
1-16-20	Amended	V. 29, p. 680
1-65-1	New	V. 30, p. 44
1-66-1	New	V. 30, p. 44
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AGENCY 3: KANSAS STATE TREASURER

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4-10-4a through 4-10-4f	New	V. 29, p. 256-258
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