



Environmental Health

Guide for the Preparation of
Radioactive Material License
Applications for Industrial Radiography

3/29/2018

*Kansas Department of Health and Environment
Radiation Control Program
1000 SW Jackson, Suite 330
Topeka, Kansas 66612-1365*

INTRODUCTION

A. Licensing Process

The Nuclear Energy Development and Radiation Control Act of 1963 charges the Kansas State Department of Health and Environment with, among other things, responsibility for regulating the receipt, possession, and use of radioactive materials. The Department authorizes the possession and use of radioactive material as it may deem necessary or desirable to protect health or to minimize danger to life or property. The Department issues such authorization as a license. A license indicates what type, quantity, form, and use of radioactive material is authorized and any special conditions under which the radioactive material shall be used.

B. Purpose

This guide describes the process for application for a license and for the amendment, renewal, and termination of the license.

C. Contact

Kansas Radiation Control Program can be contacted via telephone, email, mail, fax or in person. In addition most information can be found on the Department's website:

Phone: (785) 296-1560

Email: kdhe.ram@ks.gov

Fax: (785) 296-0984

Address: 1000 SW Jackson St., Suite 330; Topeka KS, 66612

APPLICABLE REGULATIONS

The requirements of the following sections of Title 28, Kansas Administrative Regulations, Article 35, apply to the use of radioactive material in Industrial Radiological Exposure Device operations. General requirements for issuance of a specific license are contained in 28-35-180a of Part 3. Also use the following sections as they apply

Part 1, "Definitions"

Part 3, "Licensing of Sources of Radiation."

Part 4, "Standards for Protection Against Radiation."

Part 7, "Special Requirements for Industrial Radiographic Operations."

Part 10, "Notices, Instructions and Reports to Workers: Inspections."

Part 11 "Wireline and Subsurface Tracer Studies."

All regulations can be found at the Department's website:

<http://kdheks.gov/radiation/regs.html>

FILING AN APPLICATION

A. General

The regulations, this guide, application forms and other guidance are available at the Department website: www.kdhe.gov/radiation. Each applicant must submit the following when filing an application for a Radioactive Materials license:

1. Form RH-1 Application for Radioactive Materials License
2. Supporting documents as required
3. Appropriate license fee

B. Submission

Completed applications should be submitted to the Department. License fees may be submitted separately but the license application will not be processed until the fee is received. State licensees are required to comply with all rules, regulations, license conditions and the content of their submitted applications. Licensees should retain a copy of all information submitted to the Department with the license application, as well as with any amendment, renewal or termination request.

CONTENTS OF AN APPLICATION

The following comments apply to the indicated items of Kansas Form RH- 1:

Item 1a. - Name and Street Address Of Applicant

You the applicant, should be the corporation or other legal entity applying for the license. If you are an individual, you should be designated as the applicant only if you are acting in a private capacity and the use of the radioactive material is not connected with your employment with a corporation or other legal entity.

The address specified here should be your mailing address for correspondence. This may or may not be the same as the address at which the material will be used, as specified in Item 1b.

Item 1b. - Locations of Use

You should specify all locations of storage or use by the street address, city, and state or other descriptive address (such as 5 miles east on Highway 10, Any town, Kansas). A Post Office Box address is not acceptable. Also, clearly specify whether a location is one at which radiography and associated operations will be conducted or whether the location is only for storage of sources and devices. If you will conduct radiography at temporary job sites, you may state "temporary job sites in Kansas subject to the Kansas Department of Health and Environment's regulatory authority." If radiography will be conducted in a permanent facility or facilities, you should give the specific address of each facility. Licenses will not be issued to radiographers who have no permanent facility in Kansas unless special conditions exist.

Item 2. - Department to Use Radioactive Material

State the department requested, if applicable.

Item 3. - Previous License Number(s)

State according to directions on application form.

Item 4. - Individual Users

List individuals who will use or directly supervise use of radioactive material. Individuals are no longer listed on the license. The RSO is responsible to ensure all Radiographers and Radiographer Assistants are properly trained. The required documentation of that training will be reviewed during an inspection.

Item 5. – Radiation Protection (safety) Officer

Indicate the person responsible for the overall radiation safety program as indicated in the directions.

Regulation 28-35-181 g (4) requires submission of a description of the overall organization pertaining to the radiography program, including specific delegations of authority and responsibility for operation of the program.

Regulation 28-35-181 (d) requires that each licensee or registrant conduct an internal audit to ensure that the agency's radioactive material license conditions and the licensee's or registrant's operating and emergency procedures are followed. These audits shall be performed at least quarterly, and each radiographer shall be audited at least quarterly.

Include the following information to comply with the regulatory requirements:

1. A chart or description of the organization as it pertains to the radiography program specifying the name and title of everyone who has responsibility for management or supervision of the program.
2. The specific training and experience of each individual responsible for the day-to-day conduct of the program. Include the specific dates of training in radiation and radiation safety and where and by whom the training was conducted. Also, include the specifics of on-the job training, including dates, name and address of the firm, equipment used, and the date on which each individual was initially designated a radiographer.

Any individual who is responsible for the day-to-day management or supervision of the radiography program should have had a minimum of 1 year of actual experience as a radiographer.

Item 6a. - Radioactive Material

List the radioisotopes you wish to possess.

Item 6b. - Chemical and/or Physical Form and Maximum Quantity of Each Chemical and/or Physical Form That You Wish to Possess at Any One Time

Identify each sealed source by isotope, manufacturer, and model number. Also include the activity (quantity) of radioactive materials to be possessed at any one time for each isotope. Either a total possession limit may be used or a total limit per source may be used.

Item 7. - Describe Purpose for Which Radioactive Material Will Be Used

Specify the purpose for which the licensed material will be used, e.g., industrial radiography, source exchange, or instrument calibration.

1. Identify the radiographic exposure device in which each sealed source will be used.
2. Identify any source changers by manufacturer and model number.

Confirm the sealed source/exposure device/source changer combinations are compatible with one another. You may designate sealed sources and source changers from more than one manufacturer if they are compatible with the particular exposure device. This information is available from the manufacturers.

Specify the maximum amount of radioactive material that will be in each named source and the number of sources you want to possess at any one time.

Identify other sealed sources (i.e., any source that will not be used for performing radiography such as calibration sources) you may wish to possess by radioisotope, manufacturer, model number, maximum amount of radioactive material in the source, and the device, if any, in which it will be used.

Because of the large area that requires surveillance, sources that exceed 200 curies of iridium-192 and 100 curies of cobalt-60 will not be routinely approved for temporary job site use. Sources that exceed these amounts should be used in shielded permanent facilities. If you wish to use sources in excess of 100 curies of cobalt-60 or 200 curies of iridium-192 at temporary job sites, you should provide specific information concerning where the sources will be used, the conditions of use, and how you will conduct surveillance to prevent entry into the controlled area. Your operating and emergency procedures (see section 14.2 of this guide) should provide special instructions governing the use of such sources with particular emphasis on area surveillance.

Item 8. - Type of Training - Training and Experience of Individuals Named In Item 4.

Specify the types of training each individual who will utilize radioactive material has received according to subsections a, b, c, and d of the application form.

Except as noted in paragraph below, an applicant a radiography license must have an adequate program for the training of radiographers and radiographers' trainees.

Subsection 28-35-181

(e) (1) of part 3 by references to regulation 28-35-282 and 28-35-

289 of part 7 lists six major categories of subjects which must be included in the training program. These categories must be separately identified and the scope of training in each category fully explained in the license application.

Item 9. - Experience with Radiation (Actual Use of Radioisotopes or Equivalent Experience)

This section should be filled out to indicate the experience of all personnel directly using or supervising the use of radioactive materials. Information supplied should include when material was used, for what time periods, types of isotopes used, strength of isotopes, etc.

Items 10. And 11. - Radiation Detection Instruments and Method. Frequency And Standards Used In Calibrating Instruments

Regulation 28-35-278 requires that a licensee maintain sufficient calibrated and operable survey meters to make physical radiation surveys as required by parts 4 and 7, that the instruments have a range sufficient to measure 2 milliroentgens per hour through 1 roentgen per hour, and that the instruments be calibrated at intervals not to exceed 3 months and after each instrument repair.

State that you will have operable and calibrated survey meters with a range from 2 milliroentgens per hour through 1 roentgen per hour. Include a statement that the meters will (1) be calibrated so that the readings are plus or minus 20% of the actual values of the range of the instrument, (2) have a calibration chart or graph showing the results of the calibration, the date of the last calibration, and the due date of the next calibration affixed to the survey meter, and (3) be calibrated at least every 3 months or after each servicing. Also state that calibration records will be kept for a minimum of two years after each calibration and identify by whom the instruments will be calibrated. If calibration is performed by a person or firm outside your organization, identify each person or firm by name and/or agreement state/NRC license number.

Regulation 28-35-284 (c) states that pocket dosimeters must be verified yearly. The results of these tests must be such that the dosimeters are within plus or minus 30% of the indicated responses. This is only a method which allows you to determine if the dosimeters function properly. Records should be kept indicating that these yearly checks have taken place.

For detailed information about survey instrument calibration, refer to ANSI n323-1978, "radiation protection instrumentation test and calibration."

Item 12. - Film Badges. Dosimeters and Bioassay Procedures Used

Regulation 28-35-284 of Part 7 requires that radiographers and radiographer trainees wear direct reading pocket dosimeters and permanent record dosimeters, such as thermoluminescent dosimeters (tlds), during radiographic operations. The pocket dosimeters with a range greater than 200 milliroentgens is acceptable only if more than one dosimeter is worn and at least one of the dosimeters has a range of 0 to 200 milliroentgens.

The only information needed in your application is a statement that the required personnel monitoring equipment, including 0- to 200 milliroentgen dosimeters, will be used by radiographic personnel. State your maximum time period for exchange of the film badges or tlds. The maximum time recommended for the exchange is monthly for film badges and tlds.

Item 13. - Facilities and Equipment

Regulation 28-35-180a states that an application will be approved if, among other things, the applicant's proposed equipment and facilities are adequate to protect health and minimize danger to life or property.

A permanent radiographic installation is at a fixed location, is shielded so that the area outside the facility is an unrestricted area and is not under continuous surveillance. The facility may be used only occasionally for performance of radiography, but it should be considered a permanent facility because it is the nature of the facility rather than the frequency of use that determines whether the facility is a permanent radiographic facility.

If you intend to perform radiography in a permanent radiography facility or facilities, provide the following information for each facility:

1. An annotated sketch or drawing of the facility and its surroundings that shows:
 - a. The scale to which the sketch or drawing is made (the same scale should be used for all Sketches and drawings).
 - b. The type, thickness, and density of shielding materials on all sides, including the floor and roof.
 - c. The locations of entranceways and other points of access into the facility.
 - d. A description of the nature of the areas adjacent to the facility and the distance to these areas. Include information on areas adjacent to, above, and below the facility
2. A description of the visible-audible signal system, its location, and how it meets the requirements in 28-35-288(d). The visible signal must be activated by radiation whenever the source is exposed, and the audible signal must be activated when an attempt is made to enter the facility when the source is exposed. The requirement for the visible-audible signal system is in addition to such other measures that may be taken to prevent access into the facility as locked doors.

Regulation 28-35-220a provides an alternative to the visible-audible alarm system required by 28-35-288(d). It is acceptable to use a system that will reduce the radiation level if the entrance to a high radiation area is opened while a source is out of its safe storage condition. The system must be automatic and may not depend on action by radiography personnel. If you intend to use this alternative, provide a description of your system.

3. The results of radiation level calculations or actual radiation measurements adjacent to, above, and below the facility. The radiation level in all directions around the facility, including the roof, should not exceed 2 milliroentgens in any hour. Clearly identify the type of source (isotope), the amount of radioactive material in the source, and the position of the source within the facility for the calculations or measurements.

Variations will be considered if construction requirements preclude shielding the

roof to meet the 2milliroentgen in any hour radiation level. Provide the following information to obtain approval for a variance:

- a. Means of access to the roof.
 - b. Procedures for ensuring that no individual is on the roof or could gain access to the roof during the performance of radiography.
 - c. A commitment that the roof will be posted with "caution (or danger) radiation area" signs.
 - d. The steps taken to minimize radiation on the roof. Radiation levels in excess of a high radiation area (100 mrem in any hour whole body exposure) require special access controls (see 28-35-220a).
4. Limitations (if needed) on positioning or sources or type (isotope) and amount of radioactive material that may be used in the facility to ensure that areas adjacent to, above, and below the facility will be uncontrolled areas during the performance of radiography.

Item 14. - Radiation Protection Program

The Internal Inspection System or Other Management Control

An applicant for a radiography license must have an established system for maintaining active control over receipt, possession and use of radioactive material procured under the license. The system must assure that the license provisions, department regulations, and operating and emergency procedures are followed by radiographers and radiographer's trainees. Subsection 28-35-181g (3) of part 3 requires that the applicant for a radiography license include with his application a description of the internal inspection system or other management control to be followed for maintaining such active control.

The type and extent of the radiography program to be conducted will establish the frequency and scope of the system to be followed. Periodic inspections of radiographic operations should be made by a person of authority in management on both an announced and unannounced basis. Management should exercise a continued review of records or receipt and disposal of licensed material, and such records as personnel monitoring results, instrument calibrations, leak test results, quarterly inventories, utilization logs, and surveys. The department will review adequacy of the system to be followed by the applicant against the proposed radiography program as described in the application.

Operating and Emergency Procedures

Regulation 28-35-181g requires that operating and emergency procedures be established and submitted to the radiation control program, as part of your application. In addition, if radiographers will perform other operations such as source exchange, leak-testing, and quarterly inspection and maintenance of equipment, appropriate procedures and instructions for these operations should be included in your operating and emergency procedures.

The purpose of operating and emergency procedures is to provide radiography

personnel with clear and specific guidance and instruction for all operations they will perform. The topics that should be included in the operating and emergency procedures are not in any specific order of importance. A sequential set of procedures and instructions from the beginning to the end of the workday is an acceptable format. Instructions for nonroutine operations, for example, quarterly inspection and maintenance, may be included as appendices.

Regulation 28-35-283 lists the topics that need to be covered in your operating and emergency procedures.

Handling and Use of Sealed Sources and Radiography Exposure Devices

Provide step-by-step instructions for using each type of radiographic device. Instructions for "crankout" devices should be separate from those for "pipelines" devices. Manufacturers' manuals and similar documents should not be incorporated into the procedures; rather, information should be extracted from them.

Methods and Occasions for Conducting Radiation Surveys

The following are examples of surveys you will need to make during radiography and associated operations:

1. Determining the boundary of the controlled area.
2. Determining that the source has returned to the safe storage position after each radiographic exposure.
3. Determining the radiation levels at external surfaces of storage facilities, including vehicle used for storage.
4. Determining the radiation levels in and around vehicles used for transporting sources devices.
5. Determining that radiation levels around containers prepared for shipment comply with department of transportation regulations.
6. Determining the radiation levels in and around vehicles used for transporting sources and devices.
7. Determining that radiation levels around containers prepared for shipment comply with department of transportation regulations.
8. Determining that radiation levels around radiographic exposure devices comply with the requirements in 28-35-275.
9. Determining that sources are in a safe storage position following source exchange and that radiation levels around source changers meet regulatory requirements.

These surveys will be discussed in more detail under the appropriate topics. In general, surveys need to be made whenever a source is manipulated or moved.

Methods for Controlling Access to Radiographic Areas

Regulation 28-35-219(a) of part 4 requires posting of radiation areas and high radiation areas, respectively.

For temporary job site radiography, it is acceptable to post the perimeter of the controlled area rather than the perimeter of the radiation area. Instruct personnel to post "caution (or danger) radiation area" signs at the calculated 2 milliroentgens in any one-hour radiation level and to make a confirming survey after the source has been exposed.

The perimeter of the high radiation area must be posted with "caution (or danger) high radiation area" signs at the calculated 100 milliroentgens per hour radiation level. Do not include instructions for a confirming survey of the high radiation area perimeter, since such a survey could lead to unnecessary exposure of personnel.

For permanent radiographic installations, provide instructions to personnel about posting the entrance to the facility with "caution (or danger) high radiation area" signs and provide procedures to ensure that the visible-audible signal system is operable.

Regulation 28-35-285 requires direct surveillance to protect against unauthorized entry into a high radiation area except where the high radiation area is equipped with a control device or alarm system or where the high radiation area is locked to protect against unauthorized or accidental entry.

For radiography in nonpermanent facilities, instruct personnel to keep the perimeter of the controlled area under continuous surveillance. Specify steps to take in the event that unauthorized personnel enter the controlled area, for example, immediate termination of the radiographic exposure. Surveillance of the perimeter of the controlled area will protect against entry into the high radiation area and prevent unnecessary exposure of individuals.

Methods and Occasions for Locking and Securing Radiographic Exposure Devices, Storage Containers, and Sealed Sources

Regulation 28-35-276 requires that locked radiographic exposure devices and storage containers be physically secured to prevent tampering or removal by unauthorized personnel. Unless a radiographer or radiographer's trainee is physically present to maintain surveillance, a device containing a source should be placed in storage so that it is not accessible to unauthorized persons.

There may be situations in which radiography is performed in such a location that it would take extraordinary effort to gain access to the device, e.g., at the top of a building under construction. In anticipation of such situations, provide specific procedures for an alternative method of securing the device and the circumstances for the alternative method. Keep in mind that roping an area and posting signs do not constitute an acceptable alternative.

The storage facility should be such that the area around it is an uncontrolled area (no more than 2 milliroentgens in any hour at 12 inches (30 cm) from any surface); the facility should be posted with "caution (or danger) radioactive material" signs. A physical survey should be performed to confirm that the area around the storage facility is an uncontrolled area.

Regulation 28-35-276 requires that devices be secured in the shielded position each time the source is returned to that position. The procedures for using the devices must require locking the device at the end of each exposure. A radiation survey must be

performed to confirm that the source is in the safe shielded position. For crank out devices, the survey must include the guide tube and the device itself.

Personnel Monitoring and the Use of Personnel Monitoring Equipment

Regulation 28-35-284 states that no individual may act as a radiographer or radiographer's trainee unless, at all times during radiographic operations, that persons wears a direct-reading pocket dosimeter and either a film badge or thermoluminescent dosimeter (tld). Personnel should be instructed that they are required to wear direct-reading pocket dosimeters and film badges or tlds when they are engaged in radiographic operations. Personnel should be instructed to charge their pocket dosimeters at the start of each workday so that the dosimeters are capable of reading full scale.

The dosimeter reading must be recorded at the beginning and end of each workday.

Include instructions about how and where dosimetry devices are to be stored when not in use. The storage place should be dry, radiation free, and cool so that the devices will not be affected by adverse environmental conditions.

Transporting Sealed Sources to Field Locations, Securing Exposure Devices and Storage Containers in Vehicles, Posting of Vehicles, And Control of Sealed Sources during Transportation

Regulation 28-35-195a and 28-35-196a of part 3 requires that transport of licensed material be carried out in accordance with the applicable requirements of the department of transportation. Consult the department of transportation's (dot's) regulations for detailed information about transportation requirements. Instructions to personnel should not reference dot requirements. Information should be extracted and placed into the instructions so that personnel know exactly what they are expected to do. The following items should be covered in instructions to personnel:

1. Labeling containers with the appropriate label as specified in sec.172.403 of 49 CFR Part 172 of the dot's regulations, i.e., instruction on how to determine which label (radioactive white I, radioactive yellow ii, or radioactive yellow iii) must be used.
2. Securing the exposure device or storage container within the transporting vehicle. The instructions should specify how the package is to be secured in the vehicle so that it cannot move during transport.
3. Placarding both sides, the front, and the back of the vehicle with "radioactive" placards if the package being transported requires a radioactive yellow iii label. Sections 172.519 of 49 CFR part 172 of the dot's regulations contain the specifications for the placards.
4. Surveying the exterior surfaces and passenger compartment of the vehicle to ensure that the radiation levels do not exceed 2 milliroentgens per hour at 18 inches (45 cm) from any exterior surface and 2 milliroentgens per hour in the passenger compartment. Include instructions to personnel on the measures that should be taken if the radiation level exceeds 2 milliroentgens per hour in the passenger compartment. For example, instruct them to add more shielding or

reposition the device within the vehicle.

A vehicle used for transport could also be used for storage at a temporary job site. If the vehicle will be used for storage, there should be instructions to personnel about proper posting of the vehicle. The radioactive placards that would be on the vehicle if a package with radioactive yellow iii label were transported should be removed and "caution - radioactive material" signs should be substituted. The radiation level may not exceed 2 milliroentgens per hour at 18 inches (45 cm) from any external surface of the vehicle. The vehicle should, of course be locked when it is used for storage.

Minimizing Exposure of Persons in The Event of an Accident-Emergency Procedures

An emergency situation is considered to exist whenever an abnormal event occurs, e.g., failure of a source to return to the safe storage position. Since it is not possible to list or specify all possible situations that would constitute an emergency, a general instruction is acceptable.

Radiography personnel should not attempt to perform operations involving retrieval or recovery of a source not in the shielded position unless they have had specific instruction and actual practice in retrieval operations with a dummy source. If you intend that radiographic personnel perform source retrieval or recovery, include in your training program a description of the instruction they will receive, including practice with a dummy source. In addition, include specific instructions for source retrieval in your operating and emergency procedures.

Unless personnel have had instruction and training in source retrieval or recovery, include the following instructions to personnel:

1. Establish and post the controlled area at the 2 milliroentgens per hour radiation level.
2. Maintain continuous surveillance of the controlled area until the situation is corrected.
3. Notify management or other appropriate persons. In addition, describe the action to be taken by management.

Notification of Proper Persons in The Event of an Accident

In the emergency procedures, clearly identify the names and telephone numbers of management or supervisory personnel to be notified in the event of an accident. The individuals to be notified should be those persons who are in a position to take appropriate action in an emergency or accident. Such persons could also include those in police and fire departments, depending on the emergency or the bureau of environmental health services, radiation control program.

Maintenance of Records

When you are granted a license, you must generate and maintain certain records. Among these are records generated by radiography personnel during the performance of radiography, including:

1. Utilization logs as required by 28-35-281. The instructions to personnel should clearly specify the need for the utilization log. The elements required are:

- a. The make and model number of the device used.
 - b. Identification of the radiographer.
 - c. Where the device is used and the date.
2. Records of daily inspection of equipment as required by regulation 28-35-287. Instructions to personnel should specify that a record be made of the daily inspection.
 3. Pocket dosimeter readings as required by 28-35-284. These readings should be made at the beginning and end of a work shift. Instructions to personnel must specify that the readings be recorded.
 4. Instructions to personnel should specify that a record of the final survey be made. Results of the physical survey following the final exposure of the day or operation as required by 28-35-287.

There may be other operations performed by radiography personnel for which records should be generated. These operations may include quarterly inspection and maintenance, instrument calibration, shipment of packages, etc. If management requires radiographers to perform operations associated with the performance of radiography, the instructions dealing with these operations should include instruction for an appropriate record of the performance of the operation.

Daily Inspection and Maintenance of Exposure Devices and Storage Containers

Regulation 28-35-287 requires that radiographic exposure devices, storage containers, and source changers be checked for obvious defects prior to use each day the equipment is used.

The instructions to personnel must clearly reflect the regulatory requirement that the daily inspection be performed each day before the equipment is used. If equipment is used on more than one shift during a day, the equipment should be checked at the start of each shift.

Specify in the instructions to personnel the items that must be checked and the steps to be taken if any defects are found in the equipment. Manufacturers of the equipment can provide a list of items that should be checked in the daily inspection. A record of the performance of the daily inspection should be made.

Appendix 1 provides examples of instructions for daily inspection of radiographic devices. Your instructions should be tailored to your program and to the devices you wish to possess and use.

Off-Scale Pocket Dosimeter Readings

Regulation 28-35-284 requires that an individual's film badge or tld be immediately sent for processing if the self-reading pocket dosimeter is found to be off scale. There are no exceptions to this requirement. Regardless of the circumstances, the film badge or tld must be sent for processing if the pocket dosimeter is found to be off scale during or at the end of the work shift of the person who was wearing the dosimeter.

Instructions to personnel for action to be taken if a dosimeter is found to be off scale

should, as a minimum, include the following:

1. Stop work immediately and place the source in the safe storage position in the exposure device.
2. Notify the individual specified in the emergency procedures.
3. Do not return to work until results are received.

Procedure for Identifying and Reporting Defects and Noncompliance

If radiography personnel discover any malfunction or defect in radiography equipment, management should be notified so that it can take appropriate action. Instructions to personnel should require management notification if equipment malfunctions or defects are found.

Other Tasks

As indicated earlier in this guide, radiography personnel may be assigned responsibility for carrying out other operations such as source exchange, quarterly inspection and maintenance of equipment, and leak- testing. If radiography personnel are assigned such tasks, specific instructions for performance of the tasks should be included in the operating and emergency procedures.

Leak-Testing

Regulation 28-35-279 contains the requirements for leak-testing sealed sources. The options for leak testing are:

1. Engage the services of a consultant or commercial facility to take samples, evaluate the samples, and report the results to you. Specify the name, address, and license number of the consultant or commercial organization.
2. Use a commercial leak-test kit. You take the smear and sent the smear to the kit supplier, who reports the results to you. Specify the kit model number and the name, address, and license number of the kit supplier. If the sample will be taken by individuals in your organization who have management or supervisory responsibilities, the names of the individuals should be specified. If radiographers will take the test sample, include instructions for taking the sample in your operating and emergency procedures. Include in the instructions a requirement that any indication of possible source leakage should be reported to management for appropriate action.
3. You perform the entire leak-test sequence, including taking the smears and measurement. Specify how and by whom the test sample will be taken, the instrumentation that will be used for measurement, and the individual who will make the measurement and his or her qualifications. An instrument capable of making quantitative measures should be used. Hand-held survey meters will not normally be considered adequate for measurements. A sample calculation for conversion of the measurement data to microcuries should be included.

Item 15. - Waste Management

The disposal of licensed material must satisfy the general requirements stated in part 4.

Regulation 28-3 5- 223a requires the licensed material contained in radiographic devices be disposed of by transfer to an authorized recipient. Authorized recipients are the original supplier, a commercial firm licensed by the NRC or an agreement state to accept radioactive waste from other persons, or another specific licensee authorized to possess the licensed material. Specify how you will dispose of licensed material.

Item 16. - Certificate

Your application should be dated and signed by a representative of the corporation or legal entity who is authorized to sign official documents and to certify that the application contains information that is true and correct to the best of your knowledge and belief. Unsigned applications will be returned for proper signature.

AMENDMENTS TO A LICENSE

After you are issued a license, you must conduct your program in accordance with

1. The statements, representations, and procedures contained in your application
2. The terms and conditions of the license.
3. The Kansas Radiation Protection Regulations.

It is your obligation to keep your license current. You should anticipate the need for a license amendment insofar as possible. If any of the information provided in your application is to be modified or changed, submit an application for license amendment. In the meantime, you must comply with the terms and conditions of the license until it is actually amended; you may not implement changes on the basis of a submission requesting an amendment to your license.

Examples of the more common amendments to licenses include:

1. Addition of a new source/exposure device/source changer combination.
2. Change in your organizational structure, e.g., persons responsible for the conduct of the radiography program.
3. Addition of a new location of use or storage.

Similarly, in your application for a license amendment, you should consider the impact that the change will have on other documents. Any necessary modification of documents or procedures should be submitted so that additional correspondence will not be necessary.

An application for a license amendment may be submitted either on the application form (RH- 1) or in letter form and sent to the address specified on the front of this guide. Your application or letter should identify your license by number and should clearly describe the exact nature of the changes, additions, or deletions. You should make clear and specific references to previously submitted information and documents, and you should identify the pertinent information by date, page, and paragraph. For example, if you wish to make a change in the individual responsible for your radiation safety program, your application for a license amendment should include his or her training and experience.

RENEWAL OF A LICENSE

Licenses are issued for a period of up to 5 years. You should send an application for renewal to the address specified in this guide. The renewal will be an entirely new application as if it were an application for a new license without referring to previously submitted information.