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## INSTRUCTIONS FOR THE PREPARATION OF AN APPLICATION FOR PERSONS PROVIDING SERVICES FOR OTHER LICENSEES

Form OR-RH-12.3N is to be completed by persons who perform services for other licensees involving radiation and/or radioactive materials. These services include activities such as the handling, use, storage, transport, or characterization of radioactive materials, radiation surveys, wipe tests, leak testing of sealed sources, the preparation of shipping documents and package labeling, and packaging of radioactive materials for transport. For new applications, a fee payment in the amount specified in Part 12 of the *Colorado Rules and Regulations Pertaining to Radiation Control* must accompany the application. No application fee is charged for the timely renewal of an existing license.

Applications to amend an existing radioactive materials license do not require the completion of the application form. To amend a license, submit a letter to the Department specifying the requested changes and provide any necessary supporting information. No fee is required for processing routine amendment requests. If you have any question concerning fees please call the Department at (303) 692-3300 prior to submitting your application.

The submission of an incomplete application may delay the issuance of the license because of the correspondence necessary to obtain complete information. Pursuant to Section-12.2.1 of the Regulations, the Department will consider any application abandoned if the Department does not receive a reply within forty-five (45) days to its most recent request for additional information.

The original copy of the completed Form OR-RH-12.3N with signature and attachments must be emailed to [CDPHE\\_hmradmat@state.co.us](mailto:CDPHE_hmradmat@state.co.us). Mail the application fee (and, if electronic copies cannot be submitted, the form and attachments) to the Colorado Department of Public Health and Environment, Radiation Management Unit, HMWMD-B2, 4300 Cherry Creek Drive South, Denver, Colorado 80246-1530. One copy must be retained by the applicant.

Throughout the application and these instructions, there are numerous references to the State of Colorado *Rules and Regulations Pertaining to Radiation Control* (the Regulations).

- Item 1.** Indicate whether the application is for a new license or the renewal of an existing license. For renewals, provide the license number and expiration date for your current license, which is to be renewed.
- Item 2.** The "Applicant" is the person or company legally responsible for possession, handling, storage, use, etc. of the radioactive material specified in the application.
- Item 3.** Indicate the applicant's mailing address. A post office box address is acceptable.
- Item 4.** Provide the name, daytime telephone number, telefax number, and e-mail address for the person at the applicant's facility who should be contacted if there are questions regarding the application. This individual should be the designated radiation safety officer for most applications.

**Item 5.** Indicate the physical address from where licensed activities will be conducted. This address would include the location where radioactive materials will be received, possessed, processed, stored or used. If this address is the same as the applicant's mailing address you may simply indicate "SAME" in the space provided. However, a post office box number is **NOT** acceptable as a facility address in Item 5. If the applicant desires authorization for multiple locations, then attach separate sheets listing the physical address for each location.

If **no** radioactive materials will be received, possessed, processed, or stored at the applicant's facility, then initial in the space provided.

Attach a diagram for each facility identified in Item 5. The diagram must be 8" x 11", or folded to that size. The diagram can be hand drawn and need not be drawn to scale. The diagram must be sufficiently detailed to give a clear picture of your facility in relation to radioactive material storage or use. The diagram must identify the following items:

- A. radioactive material storage and use locations,
- B. how adjacent areas are used and occupied, and
- C. the areas near radioactive material storage and use locations where a member of the public could have unescorted access.

**NOTE:** If no radioactive materials will be received, possessed, processed, or stored at any facility identified in Item 5, then a diagram of that facility need not be submitted as part of the application.

**Item 6.** Provide the name, daytime telephone number, address, and e-mail address for the person at the applicant's facility who should be contacted for billing inquiries.

**Item 7.** Designate the individual to be the Radiation Safety Officer (RSO). If the application is for multiple facility locations, identify the name of the individual to be designated as the on-site RSO for each location. The individual designated as the RSO has the responsibility for assuring the implementation of the radiation safety program. This individual also provides assistance to other radiation workers when needed to assure radiation safety. For these reasons, the RSO is typically an individual who has more extensive training and experience than other authorized users to be listed on the license.

The documentation of training and experience provided for each RSO must clearly demonstrate that these individuals have successfully completed formal training in the fundamentals of radiation and radiation safety and have had experience in the use/handling of radioactive material.

(A) The duration and content of formal training must be commensurate with the complexity of the radioactive materials program, radiation hazards associated with authorized activities, and the radiation detection/measurement equipment to be operated. For simple radioactive materials programs which involve minimal radiation hazards, the RSO must have successfully completed a minimum of 40 hours of formal training. In documenting the training of the RSO, provide course outlines, dates, duration, and location of training, the name of the individual or organization providing the training, and a description of the trainer's qualifications. Also provide a copy of course certificates or other documentation to demonstrate successful completion of the training.

(B) The duration and type of experience in the use of radioactive materials must be adequate and appropriate for the types of authorizations to be granted on the radioactive materials license. In documenting the prior experience of the RSO, describe in detail the radionuclides used, the form of the materials (sealed sources, unsealed liquids, gases, etc.), maximum activity used at any one time, and how the materials were used. Also include the dates, location, company name and phone number where the experience was gained.

(C) The RSO must also be familiar with the written operating procedures of the applicant and the requirements of the State of Colorado *Rules and Regulations Pertaining to Radiation Control*. Include a signed statement from the designated RSO indicating that this individual has read and understands the written operating procedures of the applicant and the applicable requirements of the Regulations with the documentation of training and experience.

- Item 8.** Designate one or more individuals to serve as the alternate Radiation Safety Officer and attach documentation of training and experience as described in Item 7 above.
- Item 9.** Attach a list of all persons who will be authorized to perform services for other licensees. Specify which specific functions each person will be performing. Include documentation of the training and experience for each person listed. The training and experience of each individual must be adequate and applicable to that individual's assigned duties. See Item 7 above for a description of the types of information to be provided.
- Item 10.** Attach a list of radioactive sources to be possessed and used for reference and/or calibration. Specify the manufacturer, model number, radionuclide, maximum activity of each source and the total number of sources of each type. If a specific source is to be used within a device or as part of a piece of equipment also provide the manufacturer and model number of the device or equipment.
- Item 11.** Attach a comprehensive list and written description of the radioactive material which may be used, handled, packaged, shipped, stored, transported, or disposed as part of the services provided to other licensees. This description must include the specific radionuclides, physical forms, and the maximum activity.

If the license authorization for services provided must cover a broad range of potential radioactive materials, then a generalized description can be submitted. For example, your request for authorization could include one or more statements like the following:

- (A) Cesium-137, sealed sources only, no single source to exceed 10 Ci, 10 sources total;
- (B) Hydrogen-3, any form, total activity not to exceed 100 mCi;
- (C) Uranium (Natural), any solid chemical reagent, total quantity not to exceed 10 kg;
- (D) Depleted Uranium, solid metal, total quantity not to exceed 100 kg;
- (E) Any radioactive material having atomic numbers 1 through 95, only in sealed sources, no single radionuclide to exceed 100 mCi and the total activity of all sources not to exceed 1 Ci;
- (F) Any radioactive material having atomic numbers 1 through 92, in any form, as a contaminant in soil, or on building debris and equipment; no single radionuclide to exceed 100  $\mu$ Ci and the total activity of all sources not to exceed 10 mCi.

**Item 12.** Check to the right of each applicable activity listed in Item 12 for which authorization for use is to be provided on the license. Attach written operating procedures which describe in detail how the applicant will perform each of these activities/services for other licensees.

It must be made clear in the application which radioactive materials may be involved for each type of activity to be authorized on the license. Equipment and written procedures must be appropriate for the activity being performed; the radioactive materials (quantity, form, and radionuclides); and the level of training and experience of the persons performing the activity.

The example below provides one possible outline of the procedures for conducting radiation surveys. The level of detail needed in each subsection of the procedures must be commensurate with the training and experience of the person performing the task.

Example: Radiation surveys using portable radiation detection equipment:

- (1) selecting the correct instrument and detector/probe
- (2) operation check of the instrument
- (3) determining background
- (4) determining detection efficiencies and Lower Limits of Detection
- (5) technique for performing surveys
- (6) data recording and reporting in appropriate units, dpm/100cm<sup>2</sup> or mR/hr not "cpm"

**Item 13.** Dose limits for members of the public are specified in Section 4.15 of the Regulations. Submit calculations and/or survey results to demonstrate that with the maximum authorized quantity of radioactive materials in use /or storage, the applicant will be able to comply with public dose limits (see Section 4.15). If radioactive materials may be released into the sewer or into gaseous effluents, provide calculations to demonstrate that the effluent levels are within the limits specified in Part 4, Tables II and III, and the constraint levels specified in Section 4.5.4. Also, provide written procedures for assuring that public dose limits are not exceeded during activities at temporary job sites.

**Item 14.** Attach a listing of the survey instruments and probes, and other radiation detection and measurement equipment which are possessed and operated by the applicant. In Item 14, identify the licensed person or company who will be calibrating these instruments. If the applicant will perform the calibration of its own instruments, submit written procedures for performing the calibrations. Information needed for survey instruments typically includes information as provided in the following example:

Instrument manufacturer & model:	Ludlum model XXX
Meter readout:	analog scale, 0 to 500 cpm
Scale multipliers:	0.1x, 1x, 10x, 100x, and 1000x
Probe manufacturer & model:	Ludlum model YYY, GM pancake
Radiation Detected:	$\alpha, \beta, \gamma$
Surface area of probe:	15 cm <sup>2</sup>
efficiency (4 $\pi$ geometry):	5% <sup>14</sup> C, 32% <sup>32</sup> P, 15% <sup>239</sup> Pu , etc.
Background at/near storage location:	30-50 cpm

- Item 15.** Radiation Protection Program: Attached is a written description of the applicant's radiation protection program including provisions for an annual audit of the program. The goal of the program audit is to identify deficiencies in the program and/or to identify areas where improvements can be made to lower doses to workers and the public. The audit typically includes a review of the following aspects of the program (as applicable): RSO and worker responsibilities; worker and public dose assessment and ALARA considerations; training; operating and emergency procedures; the maintenance, adequacy, and use of personnel protective equipment; worker physicals and respirator fit tests for the respiratory protection program; and the implementation and results of a bioassay program.
- Item 16.** Identify the NVLAP approved dosimetry supplier and the account number for your facility. Also, attach written procedures for worker dose assessment, monitoring, and record keeping. Please review the requirements of Section 4.6 through Section 4.13 of the Regulations.
- Item 17.** Attach your written procedures for the disposal of radioactive waste. Identify the licensee(s) who are currently used to provide radioactive material disposal services.
- Item 18.** A financial assurance warranty may be required pursuant to the provisions of Section 3.9.5. A warranty is explicitly required for those licensees who are authorized to possess radioactive materials exceeding the quantity and form limitations set forth in Section 3.9.5.3.5.

### **Commitments C.1 through C.7**

Commitments C.1 through C.7 paraphrase specific requirements from the State of Colorado *Rules and Regulations Pertaining to Radiation Control* which will apply to licensed activities. All applicable requirements of the Regulations have not been specifically incorporated into the application. However, Commitment C.1. does reference the entire Regulation as well as specific applicable Parts. Many of the commitments require that written procedures and/or other documents be maintained by the licensee. During license inspections, Department inspectors will review required records, written procedures, annual audit results, and documentation of worker training and experience.

### **Requesting Alternative Authorization**

The applicant may request authorization to conduct activities not specifically provided for in the application, or request authorization to conduct activities by an alternate method. To do so, the licensee must submit written procedures and appropriate supporting documentation.

### **CERTIFICATE**

The individuals signing the application must have the authority to make commitments on behalf of the applicant. A signature indicates that the application and attachments contain true and correct information and that the applicant will abide by the commitments identified in the application and the State of Colorado *Rules and Regulations Pertaining to Radiation Control*. The application is to be signed by both the designated Radiation Safety Officer and a management representative.

If you have specific questions, Ms. Cheri Hall, Licensing Lead, may be reached by phone at 303-692-3444, by fax at 303-691-7841, or by email at [cheri.hall@state.co.us](mailto:cheri.hall@state.co.us).

