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## **RADIOACTIVE MATERIALS PROGRAM**

### **APPLICATION GUIDE FOR NATURALLY-OCCURRING RADIOACTIVE MATERIAL (NORM)**

State of Georgia

Radioactive Materials Program

Rev. 1, 8/22/13

Department Of Natural Resources

4244 International Parkway, Suite 120

Telephone (404) 362-2675

Environmental Protection Division

Atlanta, GA. 30354

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## **1. INTRODUCTION**

- (a) This guide describes the type of information needed to evaluate an application for a specific license for possession, use, transfer, disposal and storage of naturally-occurring radioactive materials (NORM).
- (b) The following Georgia Regulations apply and should be used in conjunction with this guide. The applicant should carefully read the Regulations. This guide does not substitute for an understanding of the Regulations.
  - 1. Rule 391-3-17-.08, "Regulation and Licensing of Naturally-Occurring Radioactive Materials (NORM)";
  - 2. Rule 391-3-17-.02, "Licensing of Radioactive Materials";
  - 3. Rule 391-3-17-.03, "Standards for Protection Against Radiation";
  - 4. Rule 391-3-17-.06, "Transportation of Radioactive Material"; and
  - 5. Rule 391-3-17-.07, "Notices, Instructions and report to Workers; Inspection".

## **2. FILING AN APPLICATION**

- (a) An application for a license should be filed on Department Forms "Application for Radioactive Materials License" and "Radiological Qualifications and Training." and should contain all the information specified in the application forms. The space provided on the forms is limited; therefore, the contents of the application should be submitted on additional sheets, as necessary.
- (b) The application should be completed in duplicate. The original should be mailed to: Radioactive Materials Program, 4244 International Parkway, Suite 120, Atlanta, Georgia, 30354. One copy should be retained by the applicant.

## **3. CONTENTS OF AN APPLICATION - DEPARTMENT FORM "APPLICATION FOR RADIOACTIVE MATERIALS LICENSE"**

- (a) Items 1 through 4 - Self-Explanatory
- (b) Item 5. - Radioactive Materials

List the type of radioactive materials for which the application is intended; such as naturally-occurring radioactive material with Atomic Numbers 81-92. The principal

radioactive materials will be Radium 226 and Radium 228.

(c) Item 6. - Self-Explanatory

(d) Item 7 - Radiation Program Personnel

Indicate the training and experience of the Radiation Protection Officer, or Radiation Safety Officer, whose responsibilities will include coordination of the company's radiation safety program. The responsibilities and duties shall include but not be limited to the following:

1. Annually review and audit the company's Radiation Safety Program for compliance with the license and the Regulations;
2. Supervise workers involved in decontamination, cutting, grinding, welding, or other operations on contaminated equipment to ensure they are properly protected;
3. Ensure that all contaminated material shall be stored in an isolated, secure, and posted area; and
4. Ensure that on a timely basis all accumulated materials are decontaminated or properly packaged and transported to a licensed low-level radioactive waste processing or disposal facility.

(e) Item 8 - Training for Individuals Working or Frequenting Restricted Areas

On an attachment, describe the training and experience for each person who will be working with radioactive materials. This description should include the type of training (on-the-job or formal course work), location, and duration of the training. The training should cover (a) principles and practices of radiation protection, (b) radioactivity measurements, standardization, and monitoring techniques and instruments, (c) mathematics and calculations basic to the use and measurement of radioactivity, and (d) biological effects of radiation. The description of the use of radioactive materials should include the specific isotopes handled, the maximum quantities of materials handled, where the experience was gained, the duration of experience of each person should be commensurate with the material and its use as proposed in the application.

The amount and type of training and experience with radiation and radioactive material required to support a determination of adequacy by the Department will vary markedly with certain factors.

(f) Item 9 - Physical Facilities

Submit a sketch of the physical facilities showing the area(s) within the plant that will contain the contaminated equipment and show where the contaminated equipment will be stored pending decontamination or disposal.

(g) Item 10 - Radiation Protection Program

The licensee shall establish a Radiation Protection Program that is sufficient to protect the workers and public from unnecessary radiation exposure. Written procedures shall be

prepared to minimize worker exposure from airborne radioactive material and external contamination and should include but not be limited to the following:

1. Procedures for removal, storage, and disposal of filter cloths or other radioactively contaminated materials.
2. Procedures, as appropriate, for repair and replacement of equipment with internal/external buildup of radioactive scale.
3. Procedures for decontamination of equipment or items.
4. Procedures for cleaning and flushing equipment in place.
5. Description of security provided to preclude unauthorized removal of contaminated equipment from the plant site.
6. Emergency procedures to be followed in the event of an accident involving internal/external contamination.

Other areas that may be required in your Radiation Protection Program include; personnel monitoring, area monitoring, leak testing and health physics instrumentation.,

#### Personnel Monitoring

Individuals likely to receive a dose in excess of 10% of the applicable limits set forth in Rule .03(5), and individuals entering a high or a very high radiation area must be monitored. The applicant shall evaluate the need for personnel monitoring, including bioassay and whole body counting, and shall submit his rationale in the application. If personnel monitoring devices are required, specify the type of device that is film badges or thermo luminescence dosimeters (TLD), the frequency of change and the name and address of the supplier of the personnel monitoring service. If bioassay and whole body counting services are anticipated specify the vendor and frequency of tests.

#### Area Monitoring

1. Describe procedures for evaluation and detection of removable contamination.
2. Describe frequency of and procedures for evaluation of changes in radiation levels in close proximity to process equipment to determine if there is an increase in the rate of scale deposition.
3. Describe the environmental surveys that will be performed in connection with cutting, grinding, welding, etc.

#### Leak Tests

This is applicable when sources will be used to perform daily operational checks of the survey instruments. If the sources are of sufficient activity to warrant leak testing then submit the name of the company that will provide the leak test kit, the kit model number, and the name of the company that will perform the analysis of the leak test. If the

applicant intends to perform the analysis of leak test samples, submit the procedures and description of analytical equipment (manufacturer and model).

#### Health Physics Instrumentation

1. Survey instruments shall be appropriate for their intended use. An instrument capable of measuring 1 microrentgen per hour through at least 500 microrentgens per hour for evaluating the presence of radioactive material and if necessary an instrument capable of measuring from 0.1 milliroentgen to 50 milliroentgens for radiation safety surveys and transportation surveys. Also, include the manufacturer and model of each detector/probe if not an integral part of the instrumentation.
2. Each radiation survey instrument shall be calibrated at intervals not to exceed twelve (12) months and after each instrument servicing. The instrument shall be calibrated at energies and radiation levels appropriate for use. The accuracy of the calibration shall be within plus or minus 20 percent of the true radiation level on each scale. The name, address and license number of the calibration firm should be submitted. Records of these calibrations must be kept for 5 years.

#### (h) Item 11 - Waste Management

Waste may only be disposed of by transfer to an authorized waste disposal company. If waste will be stored on-site for a period of time pending disposal then describe the storage area. Submit a sketch of the waste storage area showing its proximity to occupied areas. If waste is to be stored longer than one (1) year then a permit must be obtained from the Department of Natural Resources.

#### (l) Item 12. License Fees

The applicant should refer to the DNR Radioactive Materials License Fee Schedule (Appendix B) to determine the appropriate licensing fee and category. Note that, in addition to licensing fees licensees are required to pay inspection fees and annual fees. No action will be taken on applications filed without the proper fee. Checks for the fees should be made payable to the **Department of Natural Resources, Radioactive Materials Program**, and mailed to the following address:

Radioactive Materials Fees  
P.O. Box 101161  
Atlanta, Georgia 30392

**Note: Prior approval from the Department must be obtained before Small Entity classification can be used.**

Mail license applications, amendment, renewal requests, and terminations of license to the following address:

(j) Item 13 - Certification

If you are an individual applicant acting in a private capacity, you must sign the completed application form. Otherwise, the application should be dated and signed by a representative of the applicant corporation or legal entity; the representative must be authorized to make binding commitments and to sign official documents on behalf of the applicant and must certify that the application contains information that is true and correct to the best of the signer's knowledge and belief. Unsigned applications will not be reviewed and will be returned for proper signature.

**4. AMENDMENTS TO LICENSES**

Licensees are required to conduct their programs in accordance with statements, representations, and procedures contained in the license application and supportive documents and in the conditions of the license. The license must therefore be amended if the licensee plans to make any changes in facilities, equipment, procedures, personnel, or radioactive material to be used. Applications for license amendments may be filed either on the application form or in letter form. The application should identify the license by number and should clearly describe the exact nature of the requested changes, additions, or deletions. References to previously submitted information and documents should be clear and specific and should identify the pertinent information by date, page, and paragraph.

**5. RENEWAL OF LICENSES**

- (a) An application filed for renewal thirty (30) days or more before the expiration date assures that the existing license will not expire until the renewal application has been finally acted upon by the Department. Renewal applications should contain complete and up-to-date information concerning the applicant's current program.
- (b) To facilitate the review process, the application for renewal should be submitted without reference to previously submitted documents and information. If such references cannot be avoided, they should be clear and specific and should identify the pertinent information by date, page, and paragraph.

**Georgia Department of Natural Resources**  
**Environmental Protection Division**  
**Radioactive Materials Program**

**APPLICATION FOR RADIOACTIVE MATERIALS LICENSE**

**INSTRUCTIONS** - Complete Items 1 through 13 if this is an initial application or renewal of a license. Use supplemental sheets where necessary. Item 13 on the application must be completed and signed. Retain one copy for your records. Submit original application to: Georgia Department of Natural Resources, Radioactive Materials Program, 4244 International Parkway, Suite 114, Atlanta, Georgia, 30354. Upon approval of this application, the applicant will receive a Georgia Radioactive Materials License. Georgia Radioactive Materials Licenses are issued in accordance with the general requirements contained in the Georgia Department of Natural Resources Rules and Regulations, Chapter 391-3-17. **The Department can be reached via the Internet. The address is rad\_materials @ mail.dnr.state.ga.us.**

1.This is an Application for: (Check appropriate item)    A. <input type="checkbox"/> New License    B. <input type="checkbox"/> Amendment to License    C. <input type="checkbox"/> Renewal of License If B or C , Please indicate GA. License Number _____		
2.a. Name and Mailing Address of Applicant  Name: Address: City, State, Zip Code: County: Telephone Number ( ) _____ - _____ Internet Address:		2.b. Address where licensed material will be stored and/or used (Street Address)  A. Permanent    B. Coordinates 1. Latitude: 2. Longitude:  C. Temporary sites throughout Georgia? Yes _____ No _____
3. Person to Contact Regarding this Application Name: Title: Telephone Number ( ) _____ - _____ Email:	4. Locations where records will be kept:	
SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION NEEDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.		
5. RADIOACTIVE MATERIAL a. Element and mass number; b. Chemical and/or physical form; and c. maximum amount which will be possessed at any one time.	6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED	
7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING/EXPERIENCE	8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS	
9. FACILITIES AND EQUIPMENT	10. RADIATION SAFETY PROGRAM	
11. WASTE MANAGEMENT	12. LICENSEE FEES (SEE DEPARTMENT'S FEE SCHEDULE) FEE CATEGORY :                          AMOUNT ENCLOSURE \$ CHECK MAILED <input type="checkbox"/> PLEASE INVOICE <input type="checkbox"/>	
<b>MAKE CHECKS PAYABLE TO: DEPARTMENT OF NATURAL RESOURCES RADIOACTIVE MATERIALS PROGRAM</b>	<b>MAIL FEES TO:</b> <b>RADIOACTIVE MATERIALS PROGRAM</b> <b>P.O. BOX 101161 ATLANTA, GEORGIA 30392</b>	
13. CERTIFICATION (Must be completed by the applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.  THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATE ON BEHALF OF THE APPLICANT NAMED IN ITEM 1, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH GEORGIA DEPARTMENT OF NATURAL RESOURCES RULES AND REGULATIONS, DESIGNATED CHAPTER 391-3-17 AND THAT ALL INFORMATION CONTAINED HEREIN, INCLUDING ANY SUPPLEMENTS ATTACHED HERETO, IS TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE AND BELIEF.		
CERTIFYING OFFICER -- TYPED PRINTED NAME AND TITLE	SIGNATURE	DATE

License Category	Fee Category	New License Application Fee	Annual Fee, Nominal	Annual Fee, Small Entity	Annual Fee, Lower Tier
Industrial (other) (NORM)(Gauge Service)	C.13.b	\$2,368.00	\$5,513.00	\$1,750.00	\$1,111.25