

APPLICATION GUIDE FOR SELF-SHIELDED IRRADIATOR

A review of the North Carolina Regulations for Protection Against Radiation must be done with particular consideration to the section that is applicable to the license you are applying for and section .1600, Standards for Protection Against Radiation. Items that need to be addressed in section .1600 include:

- a) .1603 Radiation Protection Program and Annual Review of the Program
- b) .1604 Occupational Dose Limits for Adults
- c) .1610 Dose to an Embryo/fetus
- d) .1611 Dose Limits for Individual Members of the Public
- e) .1612 Compliance with Dose Limits for Members of Public

All of these items need to be addressed in the form of a policy or procedure. These policies and procedures must be written according to the regulations, so you must review each area before you write your policy or procedure.

1. Fill out the enclosed Application for Radioactive Material License form completely. Use attachments when necessary. ***This form must be signed and dated by highest ranking company officer.*** Please state who may sign for future amendments in the form of a memorandum from the president.

- Item 1 a- State name and mailing address. This is the mailing address and should include the nine digit Zip Code.
- Item 1 b- Provide telephone number and extension if applicable.
- Item 1 c- Provide facsimile number.
- Item 1 d- This is the physical address at which radioactive materials will be used (DO NOT LIST A P.O. BOX HERE).
- Item 2- State which department of the company will use and be responsible for the irradiator(s).
- Item 3- Indicate current license number or if you are applying for a new license, please state.
- Item 4- All individual users (people who are authorized to use the gauge) must be listed.
- Item 5- Indicate who will serve as the Radiation Safety Officer. Provide his/her training also.

NOTE: The information referenced in Items 6 through 15 should be included as attachments to the application

- Item 6 a- State the isotope that is contained in the irradiator.
- Item 6 b- The isotope is in the form of a sealed source. Indicate the source model number. Also, state the maximum amount of radioactive material you plan to possess for each isotope.
- Item 7- Describe what the irradiator will be used for along with the manufacturer, model and/or series number.
- Item 8&9- Please submit documented training for each user listed in Item 4. If the manufacturer who will be installing the irradiator(s) will be doing the training, send an outline of the training course and the personnel attending. If the Radiation Safety Officer or consultant will be providing the training, submit the training program, including all tests.
- Item 10- Provide a list of all radiation detection instruments which you have available for use. List should be by manufacturer, model and the range of each instrument.
- Item 11- Indicate who will be performing calibrations of the instruments and at what frequency.
- Item 12- Indicate which dosimetry service you will be using and the frequency of change, or why monitoring is not required. The dosimetry service must be NVLAP certified.

- Item 13- Attach a facility diagram indicating the location of the irradiator. For large facilities, the drawing may be of the area where the irradiator will be used and stored. Indicate all points of entrance and egress on the diagram.
- Item 14- This is very important and should be included in attachments. Ideally, the radiation protection program should be in "manual" form. At a minimum, provide discussion on the following areas (NOTE: some areas may be discussed in greater detail elsewhere in this guide.): (1) ALARA, (2) RSO duties and responsibilities, (3) review of personnel dosimetry, (4) demonstration of compliance with 15A NCAC 11 .1611, (5) leak testing procedures and frequency, (6) physical inventory and frequency, (7) operating and emergency procedures, (8) annual review of the radiation protection program. This should include a checklist or other forms which will be used to document the review, (9) disposal of the irradiator, (10) security of the device/area, (11) maintenance procedures, etc.
- Item 15- Indicate how gauge will be disposed of if no longer needed.
- Item 16- ***The application must be dated and signed by the highest representative of company management (e.g., President, Vice President, etc.). Mail the entire application packet to Chief, Radioactive Materials Section, Division of Radiation Protection, 1645 Mail Service Center, Raleigh, NC 27699-1645. Be sure to retain a copy for your records. If the form is not signed, the application will be mailed back to you.***

2. Provide written emergency procedures of how you would handle an accident in which the irradiator was damaged. Give area roped off, whom you would call, telephone numbers and what would be done with the damaged device.
3. Describe the semi-annual physical inventory kept of the irradiator which must include date of inventory, type and amount of isotope, individual making the inventory, and where the physical location of the gauge is.
4. Submit procedures for security of the irradiator.
5. Address training of ancillary personnel.
6. Review 15A NCAC 11 .0353 & .0354 concerning financial assurance for decommissioning. If the calculations demonstrate that no financial assurance is necessary, simply state in the application that it is not required. If some form of surety is necessary, contact the Radioactive Materials Section and ask to speak with a health physicist. They will be able to assist you in this process. Additional guidance has now been placed on our website (www.drp.enr.state.nc.us).
7. If you do not own the building or property listed in Section 1(d). of the application form, you must supply a notarized letter from the landlord stating that he/she is aware of the storage and/or use of radioactive materials at the facility.
8. Discuss any interlocks and alarms (visual and audio) which are associated with the irradiator.
9. All applicants for a Radioactive Materials License must provide documentation from the N.C. Secretary of State which indicates their legal business name in North Carolina. Other forms of this documentation may be acceptable to the agency. If you have questions, call the Radioactive Materials Branch for assistance.

Additional information is being compiled for inclusion in our website. Please visit the site often to check for the most up-to-date information (www.drp.enr.state.nc.us).