

**\*\*GUIDANCE FOR NON-HEALING ARTS SAFETY PROGRAMS ONLY!**

**CANNOT BE USED FOR HEALING ARTS SAFETY PROGRAMS**

This guide may be used to help construct a Radiation Protection Program specific for each facility, but cannot be used to substitute the registrants Radiation Protection Program.

\*\*Do not use this title → **MODEL GUIDE FOR THE PREPARATION OF  
OPERATING AND SAFETY PROCEDURES  
FOR INDUSTRIAL FACILITIES**

**Insert the facility title here**

(Instruction: Do not use these two paragraphs as part of the safety program)

**I. Introduction**

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**The model procedures in this guide are \*\*generalized and must be made specific for each facility. By taking the sections of this guide that apply to the facility and \*\*setting them forth in a separate document, a set of operating and safety procedures unique to each registrant's equipment and facility will be created,** as required by the North Carolina Regulations for Protection Against Radiation (NCRFPAR) Section .0500 "Safety Requirements For Industrial Radiography Operations" and .1603 "Radiation Protection Programs." The procedures must be posted at a location where employees may view them on their way to and from any particular work location to which the document applies. They may be posted by reference with a notice indicating where they are kept. *{Rule .1002(a) & (b)}*

**This sample set of procedures may be used to guide and assist the registrant in establishing a safe radiation workplace and in complying with the NCRFPAR.** Alternate references, such as National Council on Radiation Protection (NCRP) documents, are noted in cases where the suggested procedures are not regulatory requirements, but are generally accepted practice.

**II. Operating and Safety Procedures**

These instructions are provided to you so that we can comply with the state rules for radiation control. The North Carolina Division of Radiation Protection, enforces the radiation rules in North Carolina. These rules require that our radiation machines meet specific requirements. The rules also require that certain procedures be followed and that certain records be kept.

The intent of this document is to establish procedures to minimize radiation exposure of personnel. You, as an operator, are required to know the procedures and requirements in this document and be able to demonstrate that you can use them properly.

**List each individual record you are required to maintain and describe where they are located.** ↓

The following records are kept :

- The Notification on of Registration
- current operating and emergency procedures
- records of calibrations of radiation detection instrumentation
- records of utilization logs
- records of inspection and maintenance
- records of alarm system test for permanent radiographic installations
- records of training
- certification of each radiographer and radiographer assistant
- records of pocket dosimeters (including daily exposure readings and yearly operability checks)
- records of reports of film badge or TLD processor
- records of area surveys
- records of the latest calibrations of alarm ratemeters and operability checks of electronic personal dosimeters
- current copy of NC regulation book
- Notice To Employees

All operators of x-ray machines are responsible for following the radiation safety procedures. \_\_\_\_\_(insert name) is the radiation safety officer (RSO) and has the responsibility and authority for overseeing matters relating to radiation protection. The RSO also confirms all training and serves as the contact person with the North Carolina Department of Environment and Natural Resources, who is responsible for regulating radiation safety. Employees should submit all radiation questions or concerns about radiation safety to the RSO.

There shall be posting of the state's "Standards for Protection Against Radiation, Instruction and Reports to Workers, Notices and Inspections" located in areas where the x-ray unit operators and adjacent employees may read it. All areas where radiation may be emitted are to be posted as such, according to the NCRFPAR section .1000.

The general requirements for radiation safety and your rights and obligations as a radiation worker are found in NCRFPAR Section .1600.

**A. Emergency Procedures**

If there is a need to turn off the unit in an emergency:  
(see attached emergency procedures for each unit)

**B. Personnel Monitoring**

Always wear the personnel monitoring badge and finger badge when you are working and make sure it is the badge assigned to you.

When not in use, store badges in a low radiation area. The control badge shall be stored in a radiation free area. The RSO is responsible for evaluating the exposure records and exchanging the badges on a monthly basis.

### C. Excessive Exposure

If you suspect that there has been an excessive exposure or a radiation incident, immediately notify \_\_\_\_\_, (*insert name*) the RSO. The RSO will then notify the Division of Radiation Protection. The address is:

DENR/DEH  
Radiation Protection Section  
1645 Mail Service Center  
Raleigh, North Carolina 27699-1645  
(919) 571-4141

### D. Operation of the X-ray unit

Try to keep radiation exposure as low as possible. The lead shielding or lead panels should not be removed when operating the x-ray unit, except by trained personnel.

The x-ray equipment in this facility was installed following the manufacturer's specifications. DO NOT alter, tamper with, or remove any of the shielding, fail-safes, warning systems or in any way cause needless radiation exposure.

### E. Irradiation Procedures

Every activity involving the use of the x-ray unit will be logged in the activity log book for the x-ray unit. The log will include the date, time, operators initials and system parameters.

The x-ray beam shall be disabled when changing samples. The use of forceps or any sample holding device to change the sample while the beam is on is not permitted.

### F. System Security

\_\_\_\_\_. (*List the procedures to ensure the safety of the x-ray unit*)

### G. Inspections

Surveys are to be performed after each radiographic exposure to determine that the radiation machine is off. {Section .0515(b)}. Area surveys are to be performed of the perimeter with the radiation machine on before or during the initial radiographic exposure on each shift or after any change that could change the amount of radiation to the unrestricted area. {Section .0515(e)}. Survey meters must be calibrated at intervals not to exceed six (6) months and after each instrument servicing except for battery change. {Section .0506.(b)(1)}.

{Insert any other instructions to employees, manufacturer's recommendations, or additional facility procedures concerning your radiation machine(s).} \_\_\_\_\_

