



REGULATORY GUIDE 6.4

GUIDE FOR THE PREPARATION OF A RADIATION PROTECTION PROGRAM FOR INDUSTRIAL USE OF RADIATION MACHINES

INTRODUCTION

The purpose of this document is to provide guidance to registrants in preparing a Radiation Protection Program. "Control of Radiation" 180 NAC 4-004.01 requires that each registrant "develop, document, and implement a radiation program sufficient to ensure compliance with the provisions of 180 NAC 4".

The information in this guide may be used as a "checklist" or as a basis on which to formulate a documented Radiation Protection Program for the industrial use of radiation machines. All of the following information may not be applicable to each registrant and therefore, may not be necessary to include it in the Radiation Protection Program. Also, the information listed in this guide may not be all-inclusive for a particular registrant authorized for industrial use of x-ray machines and therefore, must be expanded upon so that the Radiation Protection Program is in accordance with 180 NAC 4-004.01.

All components of a Radiation Protection Program do not have to be contained in one consolidated document. However, all components do have to be documented and identified as being part of the Radiation Protection Program. Records of audits and other reviews of the Radiation Protection Program content and implementation must also be maintained for inspection by the Agency in accordance with 180 NAC 4-047.

RADIATION PROTECTION PROGRAM CONTENTS

All registrants should designate a Radiation safety officer. "Radiation safety officer" means an individual who has the knowledge and responsibility to apply appropriate radiation protection regulations. This individual should be in charge of implementing the Radiation Protection Program. This program must be reviewed annually in accordance to 180 NAC 4-004.03.

The following items are specific documents, records, procedures, and/or instructions that may be part of a Radiation Protection Program.

NEBRASKA DEPARTMENT OF HEALTH & HUMAN SERVICES (DHHS), REGULATORY GUIDES

Regulatory Guides are issued to describe and make available to the public acceptable methods of implementing specific parts of Title 180 NAC Nebraska regulations, "Control of Radiation," to delineate techniques used by the staff in evaluating specific problems or postulated accidents, or to provide guidance to applicants, licensees, or registrants. Regulatory Guides are not substitutes for regulations, and compliance with them is not required. Methods and solutions different from those set out in the guides will be acceptable if they provide a basis for the DHHS, Division of Public Health, Office of Radiological Health, to make necessary determination to issue or continue a license or certificate of registration.

Comments and suggestions for improvements in these Regulatory Guides are encouraged at all times and they will be revised, as appropriate, to accommodate comments and to reflect new information or experience. Comments should be sent to the DHHS, Division of Public Health, Office of Radiological Health, 301 Centennial Mall South, P.O. Box 95026, Lincoln, NE 68509-5026. OR radiation.programs@dhhs.ne.gov

Requests for single copies of issued guides (which may be reproduced) should be made in writing to the address above.

(Rev. 7)7-2009

A. Personnel Monitoring

1. Types of individual monitoring devices used and exchange frequency (e.g. film badges) [180 NAC 4-022.01]
2. Use of "control badge"
3. Instructions to employees on proper use of individual monitoring devices, including consequences of deceptive exposure of the device
4. Procedures for ensuring that the combined occupational Total Effective Dose Equivalent (TEDE) to any employee receiving occupational exposure at your facility and at other facilities does not exceed 5 rem per year [180 NAC 4-005.01, item 1]
5. Procedures for obtaining and maintaining employees' occupational dose histories [180 NAC 4-009 and 4-052]
6. Procedures for ensuring that if minors are employed, their occupational Total Effective Dose Equivalent (TEDE) does not exceed 500 millirem per year [180 NAC 4-011]
7. Documentation that employees are not likely to exceed 10% of the dose limits in 180 NAC 4-005.01, 4-011 and 4-012 if personnel monitoring is not provided
8. Procedures for addressing a declaration of a pregnancy [180 NAC 4-052.04] "declared pregnant woman" means a woman who has voluntarily informed her employer, in writing, of her pregnancy and the estimated date of conception
9. Procedures for maintaining documentation of dose to the embryo/fetus and associated documentation for the declared pregnant woman [180 NAC 4-012] The records of the dose to an embryo/fetus must be kept with those of the declared pregnant woman

B. Training

1. Documentation of the training your employees are required to have in order to use radiation machines [180 NAC 5-016]

C. Posting/Labeling

1. Identification of areas that are required to be posted as required by 180 NAC 4-034
2. Procedures for ensuring that such areas are properly posted and that signs have the additional information required by 180 NAC 4-033.03
3. Procedures for ensuring that x-ray machines are labeled as required by 180 NAC 4-036.03
4. Identification of who is responsible for maintaining signs and labels [180 NAC 4-036.03]

D. Compliance with Dose Limits to the Public

1. Procedures for calculating dose to a member of the public [180 NAC 4-013]
2. Assumptions used in calculating doses, such as sources of radiation present, occupancy and workload factors
3. Documentation of surveys or monitoring conducted in order to determine dose to a member of the public [180 NAC 4-021]

E. Inspections/Audits [180 NAC 4-047.01]

1. Identification of types of inspections and/or program audits conducted; may include radiation machines, personnel and procedures
2. Identification of who is responsible for performing inspections and/or audits
3. Identification of the interval between inspections and/or audits
4. Instructions on identification and proper use of instrumentation if machine maintenance or calibrations are performed by staff
5. Documentation of all inspection and/or audit results

F. Recordkeeping [180 NAC 4-056]

1. Identification of who is responsible for maintaining all records required by the Agency
2. Identification of where records will be maintained
3. Identification of the format in which records and documentation are kept
4. Procedures for record keeping at additional authorized sites

G. Instrumentation

1. Identification of the types of radiation detection instrumentation and electronic equipment used in radiation machine servicing and calibration available at your facility interlocks, etc.
2. Description of what the instrumentation is used for
3. Procedures for calibrating the instrumentation, including who performs the calibrations and at what interval
4. Identification of who is responsible for conducting inspection/maintenance of such equipment and at what interval it's conducted

H. Notices, Instructions and Reports to Workers

1. Procedures for ensuring that the notices to workers required by 180 NAC 10-002 are appropriately posted
2. Identification of who is responsible for ensuring that such notices are properly posted
3. Procedures for ensuring that workers who are likely to receive in excess of 100 mRem/year are provided the instructions listed in 180 NAC 10-003
4. Identification of who is responsible for providing such instruction [180 NAC 10-003.03]