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# **REGULATORY GUIDE 6.3**

## **GUIDE FOR THE PREPARATION OF OPERATING AND SAFETY PROCEDURES FOR VETERINARY MEDICINE FACILITIES**

### **Introduction**

Operating and safety procedures are required by 180 NAC 4-004.01. The model procedures in this regulatory guide are generalized. You must write procedures that are specific for your facility. By using the sections of this guide that apply, you may create your unique set of operating and safety procedures. This guide may also be used to develop operating and safety procedures for facilities with mobile services. Individuals who are sole practitioners and sole operators and who are the only occupationally exposed individual are exempt from 180 NAC 4-004.01, item 1.d. and do not have to maintain operating and safety procedures.

### **Sample Operating and Safety Procedures**

#### **OPERATING AND SAFETY PROCEDURES FOR**

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**(name of facility)**

This manual establishes procedures that will minimize radiation exposure to employees. They are provided to comply with rules enforced by the Nebraska Department of Health and Human Services (DHHS), Office of Radiological Health. The rules require that each x-ray facility be registered with the DHHS, Office of Radiological Health. The certificate of registration contains conditions and restrictions that apply to the operation of the x-ray machines in this facility as well as a listing of the sections of the rules that apply. These rules are available for your review in/at \_\_\_\_\_ (specify location) [180 NAC 6)].

The rules require that a Radiation Safety Officer (RSO) be designated. The RSO has the responsibility and authority for assuring safe radiation practices and serves as the contact person between this facility and DHHS, Office of Radiological Health. Direct all your questions or concerns on radiation safety to the RSO for this facility, (specify name)[See 180 NAC 2-004.02].

#### **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 DHHS.RadiationPrograms@nebraska.gov

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## A. Operator Safety

### 1. Individual Monitoring Requirements.

Any adult who is likely to receive a dose from occupational exposure to radiation in excess of 500 millirem in a year must use an individual monitoring device such as a film badge or thermoluminescent dosimeter. Declared pregnant women who are likely to receive a dose from occupational exposure to radiation in excess of 100 millirem during the entire pregnancy must also use an individual monitoring device [See 180 NAC 4-012.01].

- a. Individual monitoring devices must be worn at the unshielded location of the whole body likely to receive the highest exposure. When a protective apron is worn, the location of the individual monitoring device is typically at the neck (collar) [See 180 NAC 6-003.01, item 1.j.].
- b. Additional individual monitoring devices used for monitoring the dose to the embryo/fetus of a declared pregnant woman must be located at the waist under any protective apron being worn by the woman.
- c. The individual monitoring device shall be assigned to and must be worn only by one individual.
- d. Individual monitoring devices that are not being worn and the control monitoring device will be stored in an area that is away from rooms where radiation machines are in use. This is in/at (specify location).
- e. (specify name) is responsible for the occupational dose records and exchanging the individual monitoring devices on (specify exchange dates). The individual monitoring device readings (film badge reports) are located in/at (specify posting or records location)
- f. If you are working for another employer and receive an occupational dose, you should report that dose to the RSO so that it can be included in your annual record of occupational dose.

### 2. Use of Protective Devices

- a. Use protective devices, such as lead aprons, gloves, and shields, to reduce exposure to radiation and keep radiation exposure as low as reasonably achievable (ALARA).
- b. If fluoroscopic procedures are being performed, protective devices (lead drapes, hinged sliding panels) shall be in place. If sterile fields or special procedures prohibit the use of protective devices, all individuals in the fluoroscopic room must wear protective aprons of 0.5 mm lead equivalent.
- c. Protective device(s) is/are stored in/at (specify location).
- d. Protective devices shall be checked annually for defects, such as holes, cracks, or tears. This check can be done by visually inspecting or feeling the protective devices or may also be done by x-raying these items. A record will be kept of this check [See Appendix C]. If a defect is found at the time of the annual check or on any other occasion, notify the RSO and remove the device from service until it can be repaired or replaced.

### 3. Holding of Animals, X-ray Tubes, and Films

- a. When an animal must be held in position during the x-ray exam, mechanical supporting or restraining devices shall be used when the procedure permits [See 180 NAC 6-007.03 item 3]
- b. If it becomes necessary for an individual to hold an animal or film during the x-ray exam, the individual must wear protective devices [See 180 NAC 6-007.03 item 3]

### 4. Posting Notices, Instructions, and Reports to Workers; and Posting a Radiation Area

- a. Read the "Notice to Employees " sign posted in/at (specify location).

- b. The certificate of registration, operating and safety procedures, and any notices of violations involving radiological working conditions are located in/at (specify location(s)) [See 180 NAC 10-002.01]
- c. Your rights and obligations as a radiation worker are found in 180 NAC10-003m 10-004, 10-005, 10-007, and 10-008.

B. Dose to Operators

- 1. Occupational dose limits are found in 180 NAC 4-005.
- 2. If any employee is pregnant or becomes pregnant, she may voluntarily inform the RSO in writing of the pregnancy. If the RSO is informed of the pregnancy, the facility must ensure that the dose to the embryo/fetus does not exceed 0.5 rem (500 mrem) during the entire pregnancy [180 NAC 4-012.01].
- 3. Radiation Incident or Overexposure  
If you suspect there has been an excessive exposure or a radiation incident, immediately notify the RSO.

C. Operation of the X-ray Machine and Film Processing

1. Ordering of X-ray Exams

No x-ray exams shall be taken unless ordered by a licensed veterinarian [See 180 NAC 6-001.03].

2. Operator Position During Exposure

During the exposure, the operator must be positioned so that the operator exposure is as low as reasonably achievable (ALARA) and/or protected by a lead apron, gloves, or other shielding [See 180 NAC 6-007.03 item 3].

3. Use of a Technique Chart

Use of a technique chart aids in reducing the exposure to the operator. It must be used for all exposures. Our technique charts are displayed in the vicinity of the control panel of each x-ray machine and may be (choose one or both of the following: written; or electronically displayed) [See 180 NAC 6-003.01, item 1.c.].

4. Restriction and Alignment of the Beam [See 180 NAC 6-006.01, item 1].

- a. The useful x-ray beam shall be restricted to the area of clinical interest.
- b. Use the beam limiting devices (collimator/cones) provided on the x-ray machine.
- c. The primary beam must be centered with the film. Our method of centering the primary beam is (describe method).

5. Use of Portable Machines

Portable x-ray equipment is mounted on a permanent base with wheels and/or casters for moving while completely assembled or is equipment designed to be hand-carried.

During the exposure the operator:

- a. must be positioned so that his/her exposure is as low as reasonably achievable (ALARA) [See 180 NAC 4-004.02] (e.g. 6 feet or more away), and/or
- b. must wear lead apron, gloves if necessary, or be protected by other shielding [See 180 NAC 6-003.01, item 1]; and



**APPENDIX A**

**SAMPLE RECORD FOR INSTRUCTION OF INDIVIDUALS  
IN OPERATING AND SAFETY PROCEDURES FOR**

\_\_\_\_\_ (name of facility)

These procedures have been made available to each individual who operates the x-ray equipment on the date(s) indicated [See 180 NAC 6-003.01, item 1.d. and 10-002.01, item 3].

\_\_\_\_\_  
(Signature of RSO) (Date)

**Equipment Operator Statement:**

I have read these procedures and agree to follow them.

\_\_\_\_\_  
(Signature of Equipment Operator) (Date)

APPENDIX B

SAMPLE DARKROOM REQUIREMENTS LOG  
FOR CALENDER YEAR \_\_\_\_\_

Automatic processor (Model #, Serial #) \_\_\_\_\_

OR

Manual processing \_\_\_\_\_

Developer temperature \_\_\_\_\_

**Chemicals replaced**

(manufacturer's or chemical \_\_\_\_\_ (initials)(date) \_\_\_\_\_ (initials)(date)  
supplier's recommendations  
or every 3 months) \_\_\_\_\_ (initials)(date) \_\_\_\_\_ (initials)(date)

**Darkroom light leak tests performed** \_\_\_\_\_ (initials)(date) \_\_\_\_\_ (initials)(date)  
(every 6 months)

**Lighting checked in film processing/loading area:**

filter type \_\_\_\_\_  
bulb wattage \_\_\_\_\_  
distance from work surfaces \_\_\_\_\_

\_\_\_\_\_ (initials)(date) \_\_\_\_\_ (initials)(date)

**Light leaks or related deficiencies noted** \_\_\_\_\_ (initials)(date)

\_\_\_\_\_ (initials)(date)

**Corrections of light leaks or related deficiencies (or attach service/work orders)**

\_\_\_\_\_ (initials)(date)

\_\_\_\_\_ (initials)(date)



