
MEDICAL FACILITY COMPLIANCE CHECKLIST

The Nebraska Department of Health and Human Services, Division of Public Health, Office of Radiological Health conducts routine inspections of facilities possessing x-ray generating equipment. The equipment and facility are reviewed to assure their compliance with Title 180 regulations for the "Control of Radiation."

Chapter of the regulations to pay particular attention to are 180 NAC 4, "Standards for Protection Against Radiation", 180 NAC 6, "X-Rays in the Healing Arts", and 180 NAC 10, "Notices, Instructions and Reports to Workers: Inspections". Though not exclusive, these chapters contain a large portion of the regulations that a medical office should be concerned with as an owner of x-ray generating equipment.

Below are highlights of some of the items that will be checked during an inspection.

FACILITY ITEMS

Documentation Needed

- ◆ Current copy of the Nebraska regulations for "Control of Radiation" (180 NAC 10-002.01).

Note: A web browser having the website of www.dhhs.ne.gov/rad bookmarked or added to favorites is acceptable.

- ◆ Current "Certification of Registration for Radiation Generating Equipment" must be available.

Note: The Registrant shall notify the Agency in writing within thirty (30) days of any change which would render the information contained in the "Certification of Registration" no longer accurate (180 NAC 2-008)

Radiation Protection Program

- ◆ Facilities must develop, document, and implement a radiation protection program based on ALARA principles. The radiation protection program content and implementation must be reviewed at least annually (180 NAC 4-004).

Note: Regulatory guide 6.2 has been developed to aid in the development of a facility's radiation protection program.

- ◆ Written safety procedures need to be provided to each x-ray operator outlining techniques for the safe operation of each x-ray system (180 NAC 6-003.01, item 1.d.). **Documentation necessary.**

Note: Regulatory guide 6.0 has been developed to aid in the development of the facility's safety procedures.

Personnel Monitoring

- ◆ Facilities must be able to demonstrate that they comply with the dose limits for occupational workers. This can be accomplished by the use of personnel monitoring such as film badges for a period of time that is long enough to incorporate normal variations in workload (not less than 6 months). Monitoring can be discontinued if exposures do not exceed 500 mrem per year and medical fluoroscopic equipment is not being used. Records of any personnel monitoring must be retained and will be reviewed during an inspection (180 NAC 4-022).

- ◆ On an annual basis, film badged personnel must be informed of their exposure to radiation, if personnel monitoring is required by 180 NAC 4-022 (180 NAC 10-004.02). **Documentation necessary.**

- ◆ Reports of an employee's exposure to radiation must be provided within 30 days of the request of an employee formerly engaged in activities controlled by the registrant, or within 30 days after the dose of the individual has been determined by the registrant, whichever is later (180 NAC 10-004.06). **Documentation necessary.**
- ◆ Annually, the instructions of 180 NAC 10-003 must be provided to all individuals likely to receive an occupational dose in excess of 100 mrem (1 mSv). **Documentation necessary.**

Training

- ◆ Documentation of personnel qualifications and Nebraska certification for each employee (180 NAC 15 and 16).

Posting/Labeling

- ◆ NRH-3 form, "Notice to Employees", posted in restricted areas that individuals work in or frequent any portion of a restricted area (180 NAC 10-002.03).
- ◆ Posted notice of location of documents (180 NAC 10-002.02).
- ◆ Technique charts need to be provided in the vicinity of the x-ray system's control panel, including the information outlined in 180 NAC 6-003.01, item 1.c.
- ◆ Doors that are an integral part of room shielding must be posted "Close door during x-ray procedures" (180 NAC 6-003.01, item 1.d. (2)).

Compliance With Dose Limits To The Public

- ◆ A scale drawing of the x-ray room(s) needs to be available at the facility. The drawing must indicate room dimensions and the adjacent areas and extent of their occupancy. It must also include the results of a survey for radiation levels present at the operator's position and at pertinent points outside the room at specified test conditions OR the type and thickness of materials of each protective barrier (180 NAC 6-003.01, item 2.c.).
- ◆ The floor plan and equipment arrangement must be reviewed by a qualified expert (new or modified installations) (180 NAC 6-003.03, item 1). [180 NAC 6-003.03, item 1 went into effect on June 27, 1983. Therefore facilities that have equipment installed prior to that date and have not made modifications, do not need to have a qualified expert review the floor plan.]

MACHINE ITEMS

- ◆ The control panel must include a warning label (180 NAC 6-004.01).
- ◆ Technique factors (kVp, mA, time, and/or mAs) need to be indicated prior to the exposure (180 NAC 6-004.08).
- ◆ Means must be provided to allow stepless adjustment of the x-ray field size, **NO CONES** (180 NAC 6-006.01, item 1.a.).

- ◆ The x-ray field/light field must be aligned to within 2% of the SID (Source to image receptor distance) (180 NAC 6-006.01, item 1.b.).
- ◆ The center of the x-ray field must be aligned with the center of the image receptor to within 2% of the SID (180 NAC 6-006.01, item 2.a.).
- ◆ If PBL (positive beam limitation) is present, the x-ray field in the plane of the image receptor must correspond to the image receptor dimensions to within the limits outlined in 180 NAC 6-006.08, item 2.
- ◆ The illuminance of the light field localizer must be 15 fc at 100 cm (180 NAC 6-006.08, item 1.b.).
- ◆ The SID must be indicated and accurate to within 2% (180 NAC 6-006.01, item 2.a.).
- ◆ The registrant must perform or cause to be performed, tests necessary to insure proper function of equipment and a measurement of the in air exposure(s) at the technique factor(s) for an average adult thickness for routine procedures performed at the facility. At a minimum these tests must be performed every three years (180 NAC 6-004.11).
- ◆ Facilities possessing fluoroscopic equipment must follow the requirements of 180 NAC 6-005.
- ◆ Facilities possessing computed tomography (CT) equipment must follow the requirements of 180 NAC 6-008.

Film Processing

- ◆ Each installation using a radiographic x-ray system and using analog image receptors (e.g. radiographic film) must have available suitable equipment for handling and processing radiographic film (180 NAC 6-003.04)
- ◆ The specified developer temperature and development time must be posted (180 NAC 6-003.04, item 1.b. (2)).
- ◆ The darkroom must be light tight and have proper safe lighting (180 NAC 6-003.04, item 2.a.).

This check list is by no means inclusive. However, it should provide useful information necessary to assure compliance with Title 180.

It is essential to the inspector to have a person from upper management, ultimately the Radiation Safety Officer or their designate, present during the exit interview. At this time results of the inspection can be outlined, questions can be clarified, and a course of action necessary to resolve any item(s) of noncompliance can be reviewed.

If there are any questions regarding x-ray inspections or this document, please direct them to:

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