



State of New Hampshire
Department of Health and Human Services
Division of Public Health Services
Radiological Health Section

Cabinet X-Ray Machine Inspection Guide

Administrative items:

- Registration is available and current
- Radiation Protection Program must include:
 - Name of Radiation Safety Officer (RSO), and RSO responsibilities
 - Annual review of Radiation Protection Program (RPP) - documentation for 3 years of reviews conducted by RSO or management/ownership
 - Training requirements for users of x-ray machines
 - Safe operating procedures
 - Personnel monitoring and annual dose limits
 - Dose limits to the public
 - Declared pregnant women and Exposure policy
 - Self-inspections/audits
- Instructions to Occupational Workers:
 - Information about devices in facility
 - Operating and emergency procedures provided
 - Precautions to minimize exposure
 - Functions of protective devices
 - Reporting any safety violations
 - Reporting for malfunctioning device
 - Annual safety refresher training documented
- Dosimetry Records – Entire dosimetry history must be maintained
 - Prior occupational dose record(s)
 - Dosimetry reports provided by request to employees upon termination
- Posting of:
 - RHS-5: Notice to Employees
 - CAUTION X-Ray EQUIPMENT sign nearby
 - Employees have access to the current version of the New Hampshire Rules for the Control of Radiation (NHRCR) either online or printed out
- Service records from a registered service provider – e.g. Maintenance, installation paperwork, calibration, annual radiation safety surveys etc.

Machine Requirements:

Cabinet X-ray Machine Requirements:

- Machine labels and indicators:
 - Control panel label: “Caution: X-Rays Produced When Energized
 - Label at any port: “Caution: Do Not Insert any Part of the Body When System is Energized: X-Ray Hazard
 - 2 independent “On/Off” indicators
 - On/Off indicator must be visible at all access points
- Machine is operable only with a key
- 2 interlocks on each door
- Interlock Tests in 6-Month intervals
- Annual Radiation Safety Survey
 - Surveys may be done by either a service provider or the registrant
- Manufacturer User Manual available

Radiological Health Section (RHS) Survey

- An RHS inspector’s machine survey will focus on:
 - General operability
 - Function of Interlocks
 - Operator exposure rate measurements
- **NOTE:** An RHS inspector conducts a survey of your machine to verify that it is operating in compliance with the NHRCR. An inspection should not be considered as a routine survey of your machine. If there are any performance issues noted during the inspection, contact your service provider.



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References:

- *New Hampshire Rules for the Control of Radiation (NHRCR):*
 - *He-P 4019 - Notices, Instructions, and Reports to Workers; Inspections*
 - *He-P 4020 - Standards for Protection Against Radiation*
 - *He-P 4021 - Records, Reports, and Additional Requirements*
 - *He-P 4022 - Surveys and Monitoring*
 - *He-P 4034.04 - Exemptions*
 - *He-P 4034.17(d) - Training – Annual refresher training requirements*
 - *He-P 4034.33 - Copies of Operating and Emergency Procedures*
 - *He-P 4040 - Registration of Radiation Machines, Magnetic Resonance Imaging Machines and Providers of Services*
- *NHRCR can be found here:*
<https://www.dhhs.nh.gov/programs-services/environmental-health-and-you/radiological-health/new-hampshire-radiation-machines>
- *Title 21 Code of Federal Regulations (Subchapter J, Radiological Health)*
 - *21CFR1020.40: Cabinet X-Ray Systems*

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