

SUNY Cortland – Environmental Health and Safety Office

Radiation Safety Program

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Radiation Safety Program

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I. Introduction

This program outlines requirements and guidelines for use of radioactive substances and radiation equipment. Employees are required to observe the requirements and guidelines outlined in this policy. SUNY Cortland's Radiation Safety Officer should be contacted at envirohlth@cortland.edu or extension 2508 for questions or assistance with implementing this program.

II. References

- [New York State Industrial Code Rule 38 – Ionizing Radiation Protection](#)
- [New York State Department of Health, Sanitary Code, Chapter I, Part 16 – Ionizing Radiation](#)
- [SUNY Cortland's Chemical Hygiene Plan](#)

III. Definitions

Radiation Equipment – Any equipment or device that can emit radiation (e.g., X-ray equipment, scanning electron microscopes).

Radioactive Material – An unstable isotope of an element that decays or disintegrates spontaneously, thereby emitting radiation.

Radiation Safety Officer (RSO) – The person designated to administer the radiation safety program. Program administration includes procurement, inventory control, inspection, testing, and disposal of radioactive substances or radiation equipment.

Sealed Source – Any radioactive material that is permanently bonded or fixed in a capsule or matrix designed to prevent the release or dispersal of such material under the most severe conditions which may be encountered in normal use and handling.

IV. Responsibilities

Department Supervisors or Chairs – Department supervisors or chairs are responsible for ensuring the safe use or operation of radioactive substances or radiation equipment. Unsafe conditions or situations must be brought to the attention of the RSO immediately. Department supervisors or chairs must also notify the RSO prior to: 1) obtaining new radioactive substances or equipment; 2) moving, transferring, modifying, decommissioning or disposing of radioactive substances or equipment; or 3) new employees using radioactive substances or equipment.

Radiation Safety Officer – Responsibilities involving the RSO include: procurement; inventory control; inspection; testing; and disposal of radioactive substances or radiation equipment. The RSO will also contact the New York State Department of Health, Bureau of Environmental Radiation Protection, for regulatory matters involving use of radioactive substances and equipment.

Employees – Employees must receive radiation safety training prior to using radioactive substances or equipment. Employees must also receive refresher training: 1) annually; 2) when circumstances involving use and exposure change; and 3) when it is demonstrated that additional training is necessary. Employees must observe safety work practices when using radioactive substances or equipment. Unsafe situations must be reported to department supervisors or chairs and the RSO. Moreover, employees must complete a SUNY Cortland Employee Injury, Illness, Medical Emergency form (Form WC-1) for injuries or illnesses associated with use of radioactive substances or radiation equipment.

V. Procurement and Control

Radioactive substances and radiation equipment are not to be introduced into the work environment prior to contacting the RSO. In instances where registration is required, the RSO will contact the New York State Department of Health, Bureau of Environmental Radiation Protection to obtain a Certificate of Registration. Once regulatory documentation is in place and training is conducted, radioactive substances and equipment may be used. It is important to note that radioactive substances or radiation equipment are not to be moved, transferred, modified, decommissioned or disposed of prior to contacting the RSO.

VI. Training

Users of radioactive substances and radiation equipment receive radiation safety training prior to use. Refresher training is also provided: 1) annually; 2) when

circumstances involving use and exposure change; and 3) when it is demonstrated that additional training is necessary. This training is provided by the RSO.

VII. Use and Disposal of Radioactive Substances and Equipment

Exposures to sources of radiation are maintained at levels as low as reasonably achievable (ALARA). Methods used to control radiation exposures are:

- Engineering controls – Includes shielding and safety interlocks;
- Administrative controls – Includes limiting exposure time and maintaining a safe distance; and
- Personal protective equipment – Not used for current exposures.

Interlocks are installed on equipment that is currently used on campus. These interlocks are effective for controlling potential exposures; therefore, film badges are not used to monitor employees' exposures. However, if employees would like to obtain a film badge, they should contact the Radiation Safety Officer. The Radiation Safety Officer will subsequently evaluate exposures for a six-month period. If radiation exposures are not detected after six months, film badges will be returned to the Radiation Safety Officer.

Any new installation of radiation equipment must be surveyed by the RSO during the initial operation of the equipment and whenever any change is made to the installation, the source, or use. Routine surveys must be made by the RSO at least yearly. Additionally, the RSO must be contacted prior to: 1) moving, transferring, modifying, decommissioning, or disposing of radioactive substances or equipment; or 2) new employees using radioactive substances or equipment.

Users of radioactive substances and radiation equipment must observe safe work practices at all times. This includes: 1) adhering to requirements and guidelines outlined in manufacturer's use manuals; and 2) storing radioactive substances and equipment securely to prevent unauthorized use and access. If a radioactive substance or radiation equipment is found that is not approved for use, employees should contact the Radiation Safety Officer immediately. Moreover, pregnant women and women intending to become pregnant should confer with their physician before working with radioactive substances or radiation equipment.

For regulatory purposes, the following documents or signs must be posted or made available in areas where radioactive substances or radiation equipment are used:

1. New York State Department of Health, Bureau of Environmental Radiation Protection Certificates of Registration;
2. New York State radiation protection "Notice to Employees";
3. New York State Industrial Code Rule 38 – Ionizing Radiation Protection;

4. New York State Department of Health, Sanitary Code, Chapter I, Part 16 – Ionizing Radiation; and
5. Radiation signs (whenever applicable).

VIII. Radiation Surveys, Checks and Tests

The RSO will periodically inspect locations where radioactive substances and radiation equipment are used. Deficiencies and issues that are cited during inspections will be brought to the attention of department supervisors or chairs, and corrective action will be implemented promptly. Additionally, radiation levels will be determined at least yearly by the RSO.