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DEPARTMENT OF ENVIRONMENTAL PROTECTION



Office of Waste, Air, Radiation & Remediation

Proposed Rulemaking: Radiation Safety Requirements for Non-Healing Arts Radiation Generating Devices

(25 Pa. Code Chapters 225, 227, 227a and 228)

Environmental Quality Board Meeting

May 19, 2021

Tom Wolf, Governor

Patrick McDonnell, Secretary

Statutory Requirements

- Radiation Protection Act of July 10, 1984 (P.L. 688, No. 147), 35 P.S. §§ 7110.101, et seq.
- Section 302(a) of the Act authorizes the Board to “adopt the rules and regulations of the department to accomplish the purposes and carry out the provisions of [the] act.”
- Section 1920-A of the Administrative Code, April 9, 1929 (P.L. 177, No. 175), as amended, 71 P.S. § 510-20.

Background

- Radiological regulations in Chapter 227 for non-medical radiation-producing devices have not been updated since 2009, immediately after the Commonwealth became a NRC Agreement State.
- The Program believed a complete revision of Chapter 227 was needed.
- A re-write of Chapter 227a is presented here.

Purpose

The proposed amendments:

- Create a concise Chapter 227a for non-medical X-ray operations by separating out field radiography into Chapter 225
- Incorporate current Conference of Radiation Control Program Directors (CRCPD) Suggested State Regulation (SSR) Part H and Part E into this new Chapter.

Purpose

The proposed amendments:

- Revise the definition of “accelerator or particle accelerator” in Chapter 228 to exactly match the U.S. NRC’s definition.

Chapter 225

The proposed amendments to Chapter 225:

- Remove definitions that will be added to the proposed Chapter 227a.
- Add new definitions from CRCPD Part H and training requirements from Part E.
- Revise records retention requirements to 5 years to maintain consistency with other current regulatory provisions.

Chapters 227

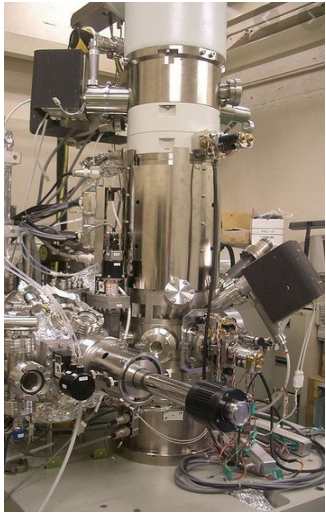
The current Chapter 227 is proposed to be rescinded and reserved. All regulations from this chapter are proposed to be moved to the new Chapter 227a for non-healing arts radiation-producing devices.

Chapter 227a

The new Chapter 227a is being proposed to include all non-healing arts radiation-producing devices except field radiography.

Some examples of these devices are Analytical X-ray Gauging Equipment, Electron Microscopes, and X-ray Calibration Systems.

Radiation Generating Machines



**Electron
Microscope**



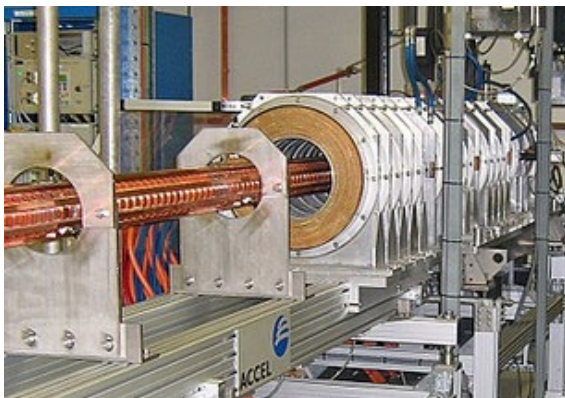
X-ray Analyzer



Radiography Unit



**X-ray Security
Scanner**



Accelerator



Diffraction Unit



X-ray Gauge

Chapter 227a

Other revisions include:

- Incorporating regulations for new human-use individual X-ray security screening devices.
- These are used to control contraband, drugs, and other illegal items from entering correctional facilities.

Chapter 228

- Revised the definition of accelerator to match the federal definition.

Costs and Compliance

- There are approximately 1,400 current radiation-producing device Registrants affected by this proposed rulemaking.
- A small number have an added initial training cost for the individual X-ray security screening devices.
- DEP regional inspectors will provide support to these registrants.

Summary

With continuous advancements in non-medical X-ray technology in industrial and academic settings, required controls and user education will strengthen and ensure that public health and safety are protected.

Updating the radiological health regulations is vital for protection of workers and the public.

Outreach

DEP and the Radiation Protection Advisory Committee (RPAC) have worked together since early 2019 to develop the proposed amendments.

A subcommittee was also organized and met numerous times to help further develop regulations.

Requested Action

DEP respectfully requests that the Board adopt this proposed rulemaking for publication in the *Pennsylvania Bulletin* with a 30-day public comment period.



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