

**RADIATION PROTECTION PROGRAM
THREE-YEAR REGULATORY FEE AND PROGRAM COST ANALYSIS REPORT
TO THE ENVIRONMENTAL QUALITY BOARD**

The Department of Environmental Protection (DEP or Department) Radiation Protection Program (RPP) was established to carry out the comprehensive program of radiation protection in the Commonwealth of Pennsylvania (Commonwealth) as required by the Radiation Protection Act, 35 P.S. §§ 7110.101—7110.703 (RPA). Section 401 of the RPA (35 P.S. § 7110.401) and Section 8 of the Radon Certification Act, 63 P.S. § 2008, require that fees be established to cover DEP's RPP costs. The RPP includes the functions of both the Central Office Bureau of Radiation Protection (BRP) and the Regional Offices.

As required by 25 Pa. Code § 218.11(i) and Chapter 240, Appendix A, DEP prepared an updated Three-Year Regulatory Fee and Program Cost Analysis Report (Report) for the period of 2018-2021 to present to the Environmental Quality Board. The three RPP areas this cost analysis addresses are: Accelerator, Radiation-Producing Machines, and Vendors/Service Providers; Radioactive Materials and Decommissioning; and Radon. The last fee increase for Accelerator, Radiation-Producing Machines and Vendors/Service Providers was proposed in 2006 and effective in 2009. The last fee increase for Radioactive Materials, Decommissioning and Radon was proposed in 2015 and effective in 2018.

The purpose of this report is to review the adequacy of fees based on projected RPP costs through FY2027-2028. Following is a summary of the RPP fee collections and program costs by functional area.

ACCELERATOR, X-RAY AND VENDORS/SERVICE PROVIDERS

BACKGROUND

Through a staff of 71 located in the central and regional offices, the RPP's Radiation Control Division administers the radiation-producing machine registration and inspection program, the Mammography Quality Standards Act program, the particle accelerator licensing and inspection program, and the vendor/service provider registration program.

Radiation-Producing Machine Registration and Inspection Program

The Radiation Control Division is responsible for the registration and inspection of over 11,000 facilities possessing about 33,000 X-ray units. These facilities include hospitals, clinics, and medical and dental offices.

In order to ensure that patients, personnel, and the environment are protected and that operators are properly trained, quality control is performed, and radiation equipment and facilities meet current protection standards, the Department has a goal to routinely inspect all facilities at least once every four years or as necessary to ascertain compliance or non-compliance with applicable regulations. Major facilities may be inspected every two to three years. Approximately 2,800 site inspections are conducted each year.

Users of radiation-producing machines are required to register with the Division, indicate the number and type of units possessed, and designate an individual responsible for radiation safety. Users pay registration fees based on the type of facility and the number of X-ray units they have. The fee amounts

are listed in 25 Pa. Code § 218.11(a) (relating to registration, renewal of registration, and license fees) and are provided in Appendix A of this report. The Division oversees the production and issuance of associated registration certificates, renewal letters, and invoices and the collection of initial and annual fees.

Mammography Quality Standards Act Activities

The federal Mammography Quality Standards Act (MQSA) was signed into law on Oct. 27, 1992. The MQSA ensures that women and men receive high-quality mammography services for early breast cancer detection through the establishment of a federal certification and inspection program. The Act authorizes the U.S. Food and Drug Administration (USFDA) to obtain state and local assistance in enforcing the MQSA requirements, including annual inspections of all certified mammography facilities. DEP, under a \$588,000 reimbursement contract with the USFDA, conducts inspections of each of the Commonwealth's more than 300 facilities which perform mammographic X-ray procedures. This contract is modified most years due to the changing number of facilities. The average amount is \$575,000. These inspections are conducted on a schedule prescribed by the USFDA. This schedule calls for a facility to be inspected once every 12 months.

Accelerator Licensing and Inspection

The Commonwealth requires licensing of all particle accelerators within the Commonwealth for industrial use, research, or medical purposes. A person who intends to purchase, construct, or acquire an accelerator must notify the Department of this intent by filing the appropriate application for a specific license within 30 days after the initial order is issued to obtain any or all parts of the accelerator. Annual fees for licensed particle accelerators are listed in 25 Pa. Code § 218.11(d) and are provided in Appendix A of this report. About 150 facilities have approximately 250 licensed accelerators within the Commonwealth.

Vendor/Service Provider Registration

The Commonwealth administers a registration program for vendors/service providers who sell, lease, install and/or service radiation-producing machines. Commonwealth regulations require that each vendor/service provider doing business within the Commonwealth must be registered prior to providing such services. To register, each vendor/service provider must complete a registration application and return that application with the associated fee to BRP. The registration is renewable for 12-month periods following submission of the applicable fee as listed in 25 Pa. Code § 218.11(k) and provided in Appendix A of this report. Registration of machine vendors ensures the Department will be notified of the location and owner of new X-ray equipment installations.

REVENUE TREND AND PROJECTION

The combined revenue from these RPP areas has been relatively stable. However, implementation costs are expected to continue to increase. This analysis assumes the purchase of new X-ray testing equipment, and a 3% increase in all operational costs annually for future years, and a 4.75% increase in personnel costs per the contract agreement.

COMMENT

The RPP has conducted a detailed fiscal analysis of these program areas. Based on current fee collections and existing available funds in these program areas, this analysis indicates with existing reserve funds and current fees, the fund balance will be negative in FY 2023-24 for radiation-producing machine and vendor registrations and accelerator license categories.

Accelerator, X-ray and Vendors/Service Providers*

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
Beginning Balance	\$2,302	\$2,338	**\$2,848	\$2,445	\$1,915	\$1,284	-\$588	-\$1,742	-\$3,160	-\$4,854
Fee Collection	\$4,449	\$4,200	\$4,208	\$4,200	\$4,200	\$4,200	\$4,200	\$4,200	\$4,200	\$4,200
Fines and Penalties	\$89	\$69	\$68	\$0	\$0	\$0	\$0	\$0	\$0	\$0
MQSA Contract	\$530	\$575	\$229	\$588	\$575	\$575	\$575	\$575	\$575	\$575
Total Revenue	\$5,068	\$4,844	\$4,505	\$4,788	\$4,775	\$4,775	\$4,775	\$4,775	\$4,775	\$4,775
Program Costs	\$5,033	\$5,142	\$4,908	\$5,318	\$5,406	\$5,568	\$5,735	\$5,907	\$6,095	\$6,267
Ending Balance	\$2,338	\$2,040	\$2,445	\$1,915	\$1,284	-\$588	-\$1,742	-\$3,160	-\$4,854	-\$6,837

*All figures in thousands of dollars.

**Funds were moved from Radioactive Materials and Decommissioning to help support the Radiation-Producing Machines area due to its decreasing revenue.

RADIOACTIVE MATERIALS & DECOMMISSIONING

BACKGROUND

DEP’s Radiation Control Division is also responsible for the regulation, licensing, and inspection of radioactive material user operations and, along with the Decommissioning Section of the Decommissioning and Surveillance Division, is responsible for termination of radioactive material licenses (e.g., for by-product, source, and special nuclear material).

Radioactive Material Licensing and Inspection

Users of all by-product, source, and special nuclear material are required to obtain a license from DEP prior to obtaining those radioactive materials. This material is used in hospitals, colleges, and industries for medical, research, and industrial purposes. The Department issues specific, general, and reciprocity licenses for the use of radioactive material in the Commonwealth. The objective of the licensing program is to ensure radioactive material is used safely, disposed of properly, and facilities are free from contamination when licensed operations are terminated. Annual license fees for radioactive material are

listed in 25 Pa. Code Chapter 218, Appendix A (relating to fees for radioactive material licenses) and provided in Appendix A of this report.

Decommissioning

The Decommissioning Section performs technical reviews of decontamination and decommissioning (D&D) activities for radioactive materials licensees and non-licensed radiologically contaminated sites in accordance with appropriate Commonwealth regulations. Typical reviews include site characterization plans, health and safety plans, decommissioning plans, survey reports, and the evaluation of decommissioning funding plans and financial assurance mechanisms. The Decommissioning Section also performs on-site reviews and inspections of D&D activities for occupational, public, and environmental radiation protection concerns. These activities include performing confirmatory surveys and sampling to ensure the cleanup levels established for the site have been met. This Section would also perform independent oversight and sampling at decommissioning nuclear power plant sites (e.g., TMI Unit 2). This work is performed at full cost recovery.

REVENUE TREND AND PROJECTION

Fee collections for radioactive material licensing have been trending down since the national economic recession of 2008. BRP expects the COVID-19 pandemic will also impact this RPP area. Universities and industries that use radioactive material have been consolidating or finding other operational methods that do not require a license, and many licensees have opted to be licensed under a small business fee category at a lower cost, which is specified in 25 Pa. Code Chapter 218, Appendix A.

Actual RPP personnel costs (salaries and benefits) have increased approximately 14% since the last fee increase in 2018, while fees have remained fixed. This analysis assumes a 3% increase in all operational costs annually for future years, and a 4.75% increase in personnel costs per Pennsylvania's union-covered employee contract agreement.

Work in the Decommissioning Program is driven by industry trends, federal funding, and ongoing discovery of contaminated sites. Most work performed by the Decommissioning Program is subject to full cost recovery from the facility owner. Currently, the DEP hourly rate charge for these activities is \$225. Costs of decommissioning activities at sites where no responsible party exists are paid from the Radiation Protection Fund.

COMMENT

The RPP has conducted a detailed fiscal analysis of these program areas. This analysis indicates with existing reserve funds and current fees, the fund balance will be negative in FY 2024-25 in the Radioactive Materials and Decommissioning area.

Radioactive Materials Licensing*

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
Beginning Balance	\$3,285	\$3,904	**\$2,848	\$2,918	\$2,295	\$1,646	\$824	-\$180	-\$1,373	-\$2,765
Fee Collection	\$4,413	\$3,877	\$3,204	\$3,200	\$3,200	\$3,200	\$3,200	\$3,200	\$3,200	\$3,200
Fines and Penalties	\$133	\$73	\$37	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Revenue	\$4,546	\$3,950	\$3,241	\$3,200	\$3,200	\$3,200	\$3,200	\$3,200	\$3,200	\$3,200
Program Costs	\$3,928	\$3,910	\$3,171	\$3,823	\$3,849	\$3,964	\$4,083	\$4,206	\$4,332	\$4,462
Ending Balance	\$3,904	\$3,944	\$2,918	\$2,295	\$1,646	\$824	-\$180	-\$1,373	-\$2,765	-\$4,364

*All figures in thousands of dollars.

**Funds were moved from Radioactive Materials and Decommissioning to help support the Radiation-producing Machines and Radon areas due to their decreasing revenue.

RADON

BACKGROUND

Pennsylvania has some of the highest indoor air radon levels in the country, and perhaps the world. According to the National Academy of Sciences and US Environmental Protection Agency (EPA), radon is the second leading cause of lung cancer. The Department's Radon Program is one of the most robust in the nation and provides a variety of regulatory and public service activities. These activities include:

- Implementing the EPA State Indoor Radon Grant (SIRG) (e.g., education and outreach through public service announcements (PSA); grants to universities; outreach to builders, realtors, and the medical community; and, free test kits to mothers of newborns).
- Certifying radon laboratories, mitigators, and testers.
- Performing routine inspections of mitigation installations, mitigation offices, testing, and laboratory facilities.
- Performing blind testing on radon-detection devices.
- Providing diagnostic services to homeowners and mitigators on difficult-to-remediate houses.
- Performing "targeted" surveys in areas of high radon activity through the American Lung Association.
- Assisting homeowners and mitigators with difficult to remediate buildings.
- Providing free confirmatory testing to homeowners who have installed active mitigation systems and to homes with radon levels greater than 100 pCi/L.

- Developing and maintaining databases for calculations, tracking data, and surveys; maintaining and configuring DEP databases with the Bureau of Information Technology for certification tracking.
- Providing a wide variety of public information services to increase awareness of the radon issue and encouraging testing and mitigation.
- Providing unbiased and expert advice on all aspects of radon to the general public.
- Performing radon-related research projects and contributing technical information to the radon industry.
- Serving on radon-related national committees.

REVENUE TREND AND PROJECTION

The Department performs significant outreach and PSAs that encourage homeowners to test and mitigate. This creates interdependency between outreach and revenue, allowing the program to maintain stability in certification fee revenue from radon laboratories, mitigators and testers. Historically, certification fee revenue has not covered Radon Program costs. Current certification fee amounts are listed in 25 Pa. Code Chapter 240, Appendix A (relating to radon certification fee schedule) and are provided in Appendix A of this report. Grant funding from the EPA SIRG provides a small percentage of revenue to offset administrative costs, but the Radon Program has always been barely self-sustaining.

SIRG funds have been about \$429,000 annually in recent years, which is utilized mainly for staff training, PSAs, equipment and supplies, home shows, and some support of salaries and benefits. It also provides funds to the American Lung Association for radon outreach. With tight federal budgets, the SIRG funding cannot be relied upon as a stable funding source and it can cease at any time; therefore, only the current contract is depicted in the table below.

RECOMMENDATION AND COMMENT

The RPP has conducted a detailed fiscal analysis of this program area. This analysis indicates with existing reserves fund and fees, the Radon program area is sufficiently funded.

The table below provides revenue and program cost projections:

Radon Program*

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
Beginning Balance	\$2,388	\$2,505	\$2,849+	\$2,845	\$2,643	\$2,452	\$2,201	\$1,889	\$1,524	\$1,106
Fee Collection	\$360	\$241	\$370	\$300	\$300	\$300	\$300	\$300	\$300	\$300
Installation Fee#	\$592	\$671	\$609	\$600	\$600	\$600	\$600	\$600	\$600	\$600
Fines and Penalties	\$14	\$12	\$19	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SIRG^	\$353	\$385	\$468	\$429	\$429	\$429	\$0	\$0	\$0	\$0
Total Revenue	\$1,319	\$1,309	\$1,466	\$1,329	\$1,329	\$1,329	\$1,329	\$1,329	\$1,329	\$1,329
Program Costs	\$1,152	\$1,252	\$1,470	\$1,531	\$1,520	\$1,566	\$1,613	\$1,661	\$1,711	\$1,762
Ending Balance	\$2,505	\$2,562	\$2,845	\$2,643	\$2,452	\$2,201	\$1,889	\$1,524	\$1,106	\$631

*All figures in thousands of dollars.

#\$50 fee for each mitigation installation

^State Indoor Radon Grant (SIRG)

+Funds were moved from Radioactive Materials and Decommissioning to help support the Radon area due to its decreasing revenue.

SUMMARY OF RECOMMENDATIONS

Accelerator, Radiation-Producing Machines, and Vendors/Service Providers

Based on current fee collections and existing available funds in these program areas, this analysis indicates that in FY 2023-24 there will not be sufficient revenue for the radiation-producing machine and vendor registrations and accelerator license categories. The program also determined the chiropractor category should be moved from the category of “Other” to the same category of “Dentists, Podiatrists, and Veterinarians” as their equipment is more in-line with that category. The RPP recommends proposing a future rulemaking to increase fees to adequately fund this program area and correct the fee category for chiropractors.

Radioactive Materials and Decommissioning

This analysis indicates that in FY 2024-25 there will not be sufficient revenue for license categories in the Radioactive Materials area and the Decommissioning hourly rate. The RPP recommends proposing a future rulemaking to increase fees to adequately fund this program area.

Radon

This analysis indicates that after FY 2027-28 there will be sufficient revenue to maintain the current Radon Program and no rulemaking to adjust fees for Radon will be necessary at this time.

APPENDIX A
Current Radiation Protection Program Fee Amounts

Radiation-Producing Machine Registration and Inspection Program:

Fee Type	Fee Amount	Regulatory Citation
Dentists, podiatrists, veterinarians	Annual Administrative Fee: \$100 Annual Fee per Device: \$50	25 Pa. Code § 218.11(a)
Hospitals	Annual Administrative Fee: \$725 Annual Fee per Device: \$50	25 Pa. Code § 218.11(a)
Other Facilities	Annual Administrative Fee: \$350 Annual Fee per Device: \$50	25 Pa. Code § 218.11(a)

Accelerator Licensing and Inspection:

Fee Type	Fee Amount	Regulatory Citation
Accelerators, below 50 MeV, other than for ion implantation	\$2,100 for the first accelerator at a facility \$700 for each additional unit at the same facility	25 Pa. Code § 218.11(d)(1)
Accelerators used for ion implantation	\$700 for the first accelerator at a facility \$70 for each additional unit at the same facility	25 Pa. Code § 218.11(d)(2)
Accelerators 50 MeV and above	Minimum annual fee of \$2,100 for the first accelerator at the facility \$700 for each additional unit at the same facility Additional invoices will be issued by the Department at regular intervals at least quarterly when net costs are incurred above the minimum annual fee.	25 Pa. Code § 218.11(d)(3)

Vendor/Service Provider Registration:

Fee Type	Fee Amount	Regulatory Citation
Annual registration fee	\$140	25 Pa. Code § 218.11(k)

Radioactive Material Licensing and Inspection:

Fee Type	Fee Amount	Regulatory Citation
Special Nuclear Material Sealed Source Gauges (X-Ray Fluorescence)	Annual Fee: \$3,150	25 Pa. Code Chapter 218, Appendix A
Special Nuclear Material—Other	Annual Fee: \$8,700	25 Pa. Code Chapter 218, Appendix A
Source Material—Metal Extraction	Annual Fee: \$45,100	25 Pa. Code Chapter 218, Appendix A
Removal of Radioactive Contaminants from Drinking Water	Annual Fee: \$16,800	25 Pa. Code Chapter 218, Appendix A
Source Material as Shielding	Annual Fee: \$1,125	25 Pa. Code Chapter 218, Appendix A
Source Material—Other (not 11e2)	Annual Fee: \$20,100	25 Pa. Code Chapter 218, Appendix A
Manufacturing & Distribution Commercial Broad Scope—10 CFR 30, 33	Annual Fee: \$43,650	25 Pa. Code Chapter 218, Appendix A
Manufacturing, Refurbishing & Distribution Commercial Specific License—10 CFR 30	Annual Fee: \$12,450	25 Pa. Code Chapter 218, Appendix A
Manufacturing & Distribution Pharmaceuticals—10 CFR 32.72—32.74	Annual Fee: \$17,850	25 Pa. Code Chapter 218, Appendix A
Pharmaceuticals—Distribution Only—10 CFR 32.7x	Annual Fee: \$10,200	25 Pa. Code Chapter 218, Appendix A
Irradiator—Shielded Source	Annual Fee: \$6,300	25 Pa. Code Chapter 218, Appendix A
Irradiator—Unshielded <10kCi	Annual Fee: \$11,700	25 Pa. Code Chapter 218, Appendix A
Irradiator—Unshielded ≥10kCi	Annual Fee: \$46,800	25 Pa. Code Chapter 218, Appendix A
Distribution As Exempt—No Review of Device	Annual Fee: \$16,050	25 Pa. Code Chapter 218, Appendix A
Distribution—SSD Devices to Part 31 GLs	Annual Fee: \$3,750	25 Pa. Code Chapter 218, Appendix A
Distribution—No Review-Exempt Sealed Source	Annual Fee: \$2,850	25 Pa. Code Chapter 218, Appendix A
Research & Development Broad Scope	Annual Fee: \$22,650	25 Pa. Code Chapter 218, Appendix A
Research & Development	Annual Fee: \$8,400	25 Pa. Code Chapter 218, Appendix A
Services other than Leak Testing, Waste Disposal or Calibration	Annual Fee: \$12,750	25 Pa. Code Chapter 218, Appendix A
Radiography	Annual Fee: \$21,150	25 Pa. Code Chapter 218, Appendix A

Other Byproduct Material	Annual Fee: \$4,050	25 Pa. Code Chapter 218, Appendix A
Generally licensed devices under § 217.143 (relating to certain measuring, gauging or controlling devices)	Annual Fee: \$480	25 Pa. Code Chapter 218, Appendix A
Greater than the General License Limits in 10 CFR 31.12(a)(3), (4) or (5) but not more than ten times those Limits	Annual Fee: \$3,150	25 Pa. Code Chapter 218, Appendix A
Greater than ten times the General License Limits in 10 CFR 31.12(a)(3), (4) or (5)	Annual Fee: \$4,050	25 Pa. Code Chapter 218, Appendix A
Manufacturing & Distribution Pharmaceuticals—Accelerator Produced Only	Annual Fee: \$17,700	25 Pa. Code Chapter 218, Appendix A
Waste Storage, Processing or Disposal	Annual Fee: Full Cost	25 Pa. Code Chapter 218, Appendix A
Waste Packaging or Repackaging	Annual Fee: \$18,000	25 Pa. Code Chapter 218, Appendix A
Waste Receipt of Prepackaged for Disposal	Annual Fee: \$13,800	25 Pa. Code Chapter 218, Appendix A
Well Logging & Non Field Flood Tracers	Annual Fee: \$6,600	25 Pa. Code Chapter 218, Appendix A
Well Logging Field Flood Tracer Studies	Annual Fee: Full Cost	25 Pa. Code Chapter 218, Appendix A
Nuclear Laundry	Annual Fee: \$43,200	25 Pa. Code Chapter 218, Appendix A
Human Use—Teletherapy	Annual Fee: \$20,550	25 Pa. Code Chapter 218, Appendix A
Human Use—Broad Scope (except Teletherapy)	Annual Fee: \$36,250	25 Pa. Code Chapter 218, Appendix A
Human Use (except Teletherapy)	Annual Fee: \$7,350	25 Pa. Code Chapter 218, Appendix A
Specifically licensed sources used in static eliminators, nonexempt smoke detectors, fixed gauges, dew pointers, calibration sources, civil defense uses or in temporary (2 years or less) storage	Annual Fee: \$3,150	25 Pa. Code Chapter 218, Appendix A
Decontamination, Decommissioning, Reclamation or Site Restoration	Annual Fee: Full Cost	25 Pa. Code Chapter 218, Appendix A
Reciprocity (180 days/year)	Annual Fee: \$2,250	25 Pa. Code Chapter 218, Appendix A
Small Business—Category 1	Annual Fee: \$3,450	25 Pa. Code Chapter 218, Appendix A
Small Business—Category 2	Annual Fee: \$750	25 Pa. Code Chapter 218, Appendix A

Radon Certification:

Fee Type	Fee Amount	Regulatory Citation
Testing Individual	\$525 every 2 years	25 Pa. Code Chapter 240, Appendix A
Testing Employee	\$150 every 2 years	25 Pa. Code Chapter 240, Appendix A
Testing Firm	\$1,050 every 2 years	25 Pa. Code Chapter 240, Appendix A
Mitigation Individual	\$450 every 2 years	25 Pa. Code Chapter 240, Appendix A
Mitigation Firm	\$1,050 every 2 years	25 Pa. Code Chapter 240, Appendix A
Laboratory Individual	\$600 every 2 years	25 Pa. Code Chapter 240, Appendix A
Laboratory Firm	\$1,125 every 2 years	25 Pa. Code Chapter 240, Appendix A
Primary Testing Device Listing	\$150 every 2 years	25 Pa. Code Chapter 240, Appendix A
Course Provider	\$565 every 2 years	25 Pa. Code Chapter 240, Appendix A
Late Application Renewal	\$150	25 Pa. Code Chapter 240, Appendix A
Late 45-Day Reporting	\$150	25 Pa. Code Chapter 240, Appendix A
Radon Mitigation System Fee	\$50 for each radon mitigation system installed or activated	25 Pa. Code Chapter 240, Appendix A