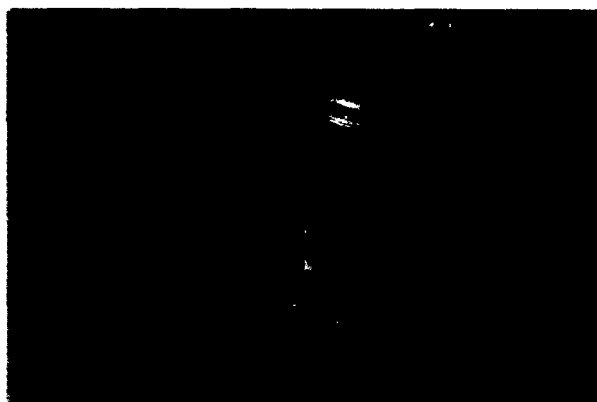


What is Low-Level Radioactive Waste?



Source: *Appalachian Compact Users of Radioactive Isotopes.*

Low-level radioactive wastes include ordinary materials that have become contaminated with radioactivity. Gloves, clothing, and trash can be contaminated. Resin beads, like those used in water softeners, remove radioactive contamination from cooling water at nuclear power plants. Nuclear reactor components, mechanical parts, tools, and equipment become contaminated during routine use. These materials must be disposed of as low-level waste.

Low-level radioactive wastes come from the generation of electrical energy, from industries that use radioactive materials to make their products, and from medical treatment and research. **Low-level radioactive waste does not include high-level radioactive wastes such as fuel rods from nuclear power plants or highly radioactive wastes from weapons production. High-level radioactive wastes are a federal responsibility and will not be accepted at Pennsylvania's facility.**

All radioactive materials "decay" or lose their radioactivity over time. Low-level radioactive wastes are classified according to the amounts of radioactive materials they contain and the length of time those materials remain radioactive.

Low-level wastes may potentially remain radioactive for hundreds of years and must be properly managed and disposed of in secure disposal facilities. According to federal and state regulations, the disposal facility in Pennsylvania must be designed to keep radioactive materials isolated from people and the environment for 500 years.

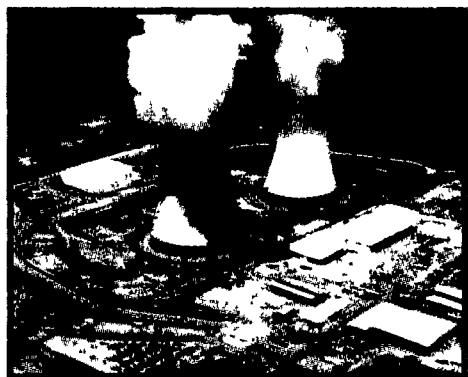
AVERAGE ANNUAL LOW-LEVEL WASTE SHIPPED FOR DISPOSAL BY PENNSYLVANIA FROM 1987-1992

GENERATOR CATEGORY	VOLUME		ACTIVITY	
	CUBIC FEET	%	CURIES	%
Power Plant	101,356.3	70.4	98,220.4	90.7
Medical	3,358.8	2.3	5.6	<0.01
Academic	1,558.3	1.1	10.2	<0.01
Government	880.1	0.6	5,456.8	5.1
Industrial	36,945.9	25.6	4,575.0	4.2
TOTAL	144,099.4	100%	108,268.0	100%

Source: *PA Department of Environmental Resources.*

Where Does Radioactive Waste Come From?

There are more than 1,000 licensed users of radioactive materials in Pennsylvania. Each year, about 120 of them generate radioactive waste requiring disposal.



Source: *Pennsylvania Power & Light Co.*

Power Production

Nuclear power plants generate electricity for homes, schools, offices, and factories. Nuclear power plants generate between 35% and 37% of the electricity consumed in the state each year. As a result of frequent power exchange among utilities, most Pennsylvania citizens use electricity generated by nuclear power during the course of the year. Pennsylvania has 10 existing (nine operating) commercial nuclear reactors in five locations.

Medicine

Doctors routinely use radioactive materials to diagnose and treat disease. Radioactive materials are used to scan organs and follow blood flow through the body (images of the blood vessels of the heart muscle are illustrated in the photo to the right). Radioactive materials also contribute to the healing process, particularly in the treatment of cancer.



Source: *American College of Nuclear Physicians.*



Source: *PA Department of Environmental Resources.*

Consumer Products

Radioactive materials are used to produce a variety of consumer goods, ranging from smoke detectors to luminous exit signs. Radioactive materials are also used to check for cracks in metal pipes, bridges, and jet engines.

Research

Research laboratories involved in the study of disease and the development and testing of new medicines use radioactive materials, as do industries that manufacture radiopharmaceuticals and radiochemicals. In the field of environmental science, radioactive tracers are used to determine the effect of pollutants on plant life.



Source: *Appalachian Compact Users of Radioactive Isotopes.*

