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## 9. Who Is Responsible for Regulating Ionizing Radiation ?

Several federal agencies and the State of New Jersey regulate the use and disposal of radioactive materials. The federal agencies governing these materials are the Nuclear Regulatory Commission (NRC), Department of Transportation, (DOT) and the Environmental Protection Agency (EPA). The State of New Jersey regulates certain radioactive materials through the Department of Environmental Protection (DEP). NRC and DOT issue regulations designed to protect the environment and the human population from radiation, including radiation from low-level radioactive waste. Regulations established by federal agencies can be found in the Code of Federal Regulations (CFR). The State of New Jersey publishes its regulations in the New Jersey Administrative Code (NJAC Title 7 Chapter 28).

This Fact Sheet describes the role of these regulatory bodies in regulating low-level radioactive waste.

### ► Department of Transportation

The U.S. DOT's regulations concerning transportation requirements for hazardous materials include low-level radioactive waste. These regulations govern, for example, the types of containers that must be used for various materials, labeling and packaging of containers and vehicles, and papers (manifests) that must accompany each shipment (see Table 1).

### ► Nuclear Regulatory Commission

The NRC's regulations establish licensing requirements for low-level radioactive waste disposal facilities and standards for packaging and shipping low-level radioactive waste (see Table 2). A commercial low-level radioactive waste disposal facility must obtain a license from the NRC before it can begin operations. Part 61 of Title 10 of the Code of Federal

Regulations (usually denoted 10 CFR 61) establishes the standards for issuing a license to a low-level waste disposal facility. The regulation includes limits on the annual radiation dose allowed to a member of the general public.

A transporter of low-level radioactive waste must comply with both the NRC's regulations and those of the DOT.

Part 20 of Title 10 of the CFR (10CFR20), is entitled Standards for Protection Against Radiation. This regulation pertains to activities licensed by the NRC. It sets limits on radiation doses for workers in the nuclear industry and for the public. In addition, the regulation contains tables of the allowable concentrations of various radioactive material released into the air and water. It also states that licensees must keep all radiation doses and releases of radioactive material "as low as reasonably achievable" below the allowable limits.

### ► Environmental Protection Agency

An existing EPA regulation (40CFR190) sets limits on radiation doses received by individuals and on the amount of radioactive materials nuclear facilities may introduce into the environment. Another regulation (40CFR141) sets limits on maximum contaminant levels in community water supplies. The EPA is currently working on 40CFR193 which is expected to be titled "Environmental Radiation Protection Standards for Low-Level Radioactive Waste Disposal" (see Table 3).

Other EPA regulations specify treatment methods and allowable concentrations for non-radioactive hazardous materials. These regulations can be important to low-level radioactive waste generators if low-level radioactive waste contains hazardous chemicals. Any mixture of low-level waste and hazardous waste, called **mixed waste**, must be

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**Table 1. U. S. Department of Transportation Regulations**

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<b>49 CFR 171</b>	General information, regulations, and definitions
<b>49 CFR 172</b>	Hazardous materials table, special provisions, hazardous materials communications requirements, and emergency response information requirements
<b>49 CFR 173</b>	General requirements for shipment and packaging
<b>49 CFR 174-179</b>	Requirements for shipments by various means (truck, rail, ship, etc.)

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**Table 2. Nuclear Regulatory Commission Regulations**

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<b>10 CFR 19</b>	Requirements for training of radiation workers and inspections of licensed facilities
<b>10 CFR 20</b>	Limits on radiation doses and concentrations of radioactive materials
<b>10 CFR 51</b>	Environmental protection regulations applicable to facilities licensed by the NRC
<b>10 CFR 61</b>	Requirements for low-level radioactive waste disposal facilities
<b>10 CFR 71</b>	Requirements for packaging and transportation of radioactive materials; standards for NRC approval of packaging and shipping procedures

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**Table 3. Environmental Protection Agency Regulations**

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<b>40 CFR 190</b>	Limits on radiation doses to the public
<b>40 CFR 193</b>	Radiation protection standards for low-level radioactive waste disposal (under development)
<b>40 CFR 141</b>	National Primary Drinking Water Regulation

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handled and disposed of in accordance with both NRC and EPA regulations. New Jersey's planned low-level radioactive waste disposal facility will not accept mixed waste.

► **State Regulations**

State legislatures can pass laws that establish regulations on low-level radioactive waste. State agencies enforce these regulations. There are some limits on the scope of state regulation, however, because the federal government has preempted the regulation of most radioactive materials and reserved such power to itself. New Jersey has developed regulations that are similar to those of the NRC and include some radioactive materials which are not covered under federal regulations.

For regulation of nuclear material, a state may apply to then become an **agreement state**. Under this arrangement, the state develops and enforces its own regulations, but those regulations are similar to and must first be approved by the NRC. New Jersey has opted not to become an agreement state. This means that the NRC, and not the New Jersey DEP, will have primary regulatory authority over New Jersey's low-level radioactive waste disposal facility.

Among the existing New Jersey statutes pertaining to radioactive materials are:

- New Jersey's Radiation Protection Act (1958). This requires that all sources of radiation be shielded, transported, handled, used and kept in such a manner as to prevent unnecessary radiation exposure to people. The Act is administered by DEP, which also investigates and responds to all accidents involving radioactive materials, including radioactive waste.
- The New Jersey Turnpike Authority Act (1951). This prohibits transportation of radioactive materials at such time or place or in such a manner as to unreasonably endanger people or property.

- The New Jersey Department of Labor motor carrier regulations prescribe marking and placarding requirements for the motor vehicle shipment of radioactive and other hazardous materials.

► **Waste Acceptance Criteria**

Waste acceptance criteria are written by the operator of a commercial low-level radioactive waste disposal facility. The criteria are based on requirements in the waste disposal facility's operating license. They set forth specific requirements which shipments of low-level radioactive waste must meet in order to be accepted for disposal. Shipments that do not meet waste acceptance criteria are usually returned to the waste generator, and if any federal or state regulations have been violated, the proper regulatory agency is notified.

► **For More Information**

If you would like to read more about radiation protection and regulations, some of the references listed below may be helpful.

- Code of Federal Regulations, Title 10, Part 20, Standards for Protection Against Radiation, 1996. (Nuclear Regulatory Commission)
- Code of Federal Regulations, Title 10, Part 61, Licensing Requirements for Land Disposal of Radioactive Waste, 1996. (Nuclear Regulatory Commission)
- Code of Federal Regulations, Title 49, Part 173, Shippers General Requirements for Shipments and Packagings, 1995. (U.S. Department of Transportation)
- New Jersey Administrative Code, Title 7, Department of Environmental Protection, Chapter 28, Radiation Protection Programs.

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