

Because of their potentially hazardous properties, the use of certain radioactive materials must be closely regulated to protect the health and safety of the public and the environment. Toward that end, the responsibility for licensing and regulating the use and handling of these materials is shared by the following governmental organizations:

- The U.S. Environmental Protection Agency (EPA)
- The Food and Drug Administration (FDA)
- The U.S. Nuclear Regulatory Commission (NRC)
- State Governments

### **The U.S. Environmental Protection Agency**

Among other things, the EPA is responsible for setting air emission and drinking water standards for radioisotopes.

### **The Food and Drug Administration**

The FDA regulates the manufacture and use of specialized devices (known as linear accelerators) that are used to create radioisotopes for use in some nuclear medicine procedures. However, the States regulate the operation of such devices.

### **The U.S. Nuclear Regulatory Commission**

The NRC is the Federal agency responsible for protecting the health and safety of the public and the environment by licensing and regulating the civilian uses of the following radioactive materials:

- Source material (uranium and thorium)
- Special nuclear material (enriched uranium and plutonium)
- Byproduct material (material that is made radioactive in a reactor, and residue from the milling of uranium and thorium)

The NRC regulates the use of these radioactive materials through Title 10, Part 20, of the Code of Federal Regulations (10 CFR Part 20), "Standards for Protection Against Radiation," which spells out the agency's requirements for the following aspects of radiation protection:

- Dose limits for radiation workers and members of the public
- Exposure limits for individual radionuclides
- Monitoring and radioactive labeling materials
- Posting signs in and around radiation areas
- Reporting the theft or loss of radioactive material
- Penalties for not complying with NRC regulations

Of more than 20,000 active source, byproduct, and special nuclear materials licenses in place in the United States, about a quarter are administered by the NRC, while the rest are administered by 37 Agreement States.

### **Non-Agreement States and Areas of Exclusive Federal Jurisdiction within the Agreement States**

The NRC exercises regulatory authority over radioactive materials in States that do not have Agreements. Also, the NRC retains regulatory authority over radioactive materials in certain portions of the Agreement States that are subject to "exclusive Federal jurisdiction." In particular, these portions may include protected areas of nuclear reactors, most American Indian reservations, and certain areas of military bases.

### **NRC Interaction with State Regulatory Programs**

The NRC and the States coordinate the regulation of radioactive materials through the National Materials Program. Toward that end, the NRC retains a leadership and oversight role in the program through the Integrated Materials Performance Evaluation Process (IMPEP). In particular, IMPEP ensures uniform nationwide regulation by reviewing the regulatory performance of both the NRC and the States using a common set of performance criteria.

The NRC also cooperates with State regulatory programs by providing technical support and maintaining databases of regulatory information. To facilitate that cooperation, the NRC's regional offices have designated staff, known as Regional State Agreement Officers, who serve as the primary point-of-contact with the Agreement States. Similarly, the Regional State Liaison Officers serve as the contacts for non-Agreement States, and all States in matters involving reactors or other Federal jurisdiction.

At NRC headquarters, the Office of Federal and State Materials and Environmental Management Programs (FSME) provides backup to the regions. Each FSME technical staff member serves as an Agreement State Project Officer with responsibility for specific States. See the FSME pages for links to the State regulatory programs, many of the regulatory information databases, and other sources of useful information.

### **Conference of Radiation Control Program Directors (CRCPD) and the Organization of Agreement States (OAS)**

The CRCPD is a professional organization that includes the directors and staffs of regulatory programs from both Agreement and non-Agreement States. As such, the CRCPD provides a forum for the States to interact with the NRC and coordinate the regulation of radioactive materials that are not governed by the Atomic Energy Act.

Similarly, the OAS is a professional organization that includes the directors and staffs of Agreement State programs. Initially, the OAS was established to facilitate communication between the NRC and the Agreement States when most States did not have agreements with the agency.

Both the CRCPD and the OAS participate in the National Materials Program. Also, each organization hosts an annual meeting to consider specific issues related to the regulation of radioactive materials.

### State Governments

Under certain conditions (as allowed by the Atomic Energy Act), the NRC enters into agreements with State governors. Those agreements authorize individual States to regulate the use of specific radioactive materials within their borders. This includes radioisotopes used in medicine and industry.

States that meet these conditions and agree to regulate materials using the same standards as the NRC are called the Agreement States. Typically, Agreement States regulate the sources of radiation that the NRC does not. This generally includes all naturally occurring radioactive materials (such as Radium and Radon) within their borders. Also, the States regulate radiation-producing machines, such as X-ray machines (both medical and industrial) and particle accelerators, as well as the radioisotopes (such as Cobalt-57) that they produce. By contrast, Agreement States generally do not regulate nuclear power plants, large quantities of certain nuclear materials, and storage of high-level radioactive waste. Currently, 37 States have such agreements with the NRC.

### The U.S. Nuclear Regulatory Commission (NRC)

Created as an independent agency by Congress in 1974 to ensure the safe use of radioactive materials for beneficial civilian purposes while protecting people and the environment. The NRC regulates commercial nuclear power plants and other uses of nuclear materials, such as in nuclear medicine, through licensing, inspection and enforcement of its requirements.

The NRC licenses and regulates the Nation's civilian use of radioactive materials to provide reasonable assurance of adequate protection of public health and safety and to promote the common defense and security and to protect the environment.

NRC's regulatory mission covers three main areas:

Reactors – Commercial reactors for generating electric power and research and test reactors used for research, testing, and training

Materials – Uses of nuclear materials in medical, industrial, and academic settings and facilities that produce nuclear fuel

Waste – Transportation, storage, and disposal of nuclear materials and waste, and decommissioning of nuclear facilities from service

**Alabama Department of Public Health Office of Radiation Control (ADPH-ORC) – One of 37 Agreement States (NRC)**

## Regulation and Oversight of Radioactive Materials

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Ensures the protection of the public from excess exposure to ionizing radiation through a variety of activities, including the registering, licensing and inspection of uses of ionizing radiation, performing environmental monitoring, providing emergency training and preparedness and through public and professional education.

Duties of the Office of Radiation Control are divided into four branches:

Licensing and Registration

Radioactive Materials Compliance

X-Ray Compliance, and

Emergency Planning & Environmental Monitoring

### **The University of Alabama at Birmingham Broad Scope Radioactive Materials License**

The University of Alabama at Birmingham (UAB) possesses a **Type A** specific license of **Broad Scope**", which is a specific license authorizing receipt, acquisition, ownership, possession, use, disposal and transfer of any chemical or physical form of the byproduct material specified in the license, but not exceeding quantities specified in the license, for purposes authorized by the "Act". The quantities specified are usually in the multicurie range.

The UAB Broad Scope Radioactive Materials License (RML), number 266, is issued and inspected by the Alabama Department of Public Health Office of Radiation Control (ADPH – ORC). The possession of a Broad cope RML affords UAB the ability, authority and privilege to manage its radiation safety program in similar fashion to that of the ADHP – ORC.

## **Radioactive Materials Regulatory Oversight Program**