

POLICY ISSUE INFORMATION

March 23, 2001

SECY-01-0051

FOR: The Commissioners

FROM: William D. Travers
Executive Director for Operations

SUBJECT: STATUS REPORT ON INTERAGENCY JURISDICTIONAL WORKING GROUP
EVALUATING THE REGULATION OF LOW CONCENTRATIONS OF URANIUM
AND THORIUM

PURPOSE:

To provide the Commission with the status of the 10 CFR Part 40 Interagency Jurisdictional Working Group.

BACKGROUND:

Section 40.13(a) of 10 CFR Part 40 exempts any person who receives, possesses, uses, transfers, or delivers source material in any chemical mixture, compound, solution, or alloy in which the source material is by weight less than 0.05 percent of the mixture, compound, solution, or alloy from the regulations in 10 CFR Part 40 and from the requirements for a license set forth in section 62 of the Atomic Energy Act (Act) of 1954. This exemption involves complex issues related to the history of Part 40. The origin of the definition of source material in the Act relates to its significance as a source for the production of special nuclear material. The original definition of source material in Part 40 (1947) excluded all forms of uranium and thorium below this concentration limit, i.e. 0.05 per cent by weight. In 1961, the definition was revised to its present form to be consistent with the definition in the 1954 Act. Since that time, only ore below the 0.05 percent by weight concentration has been excluded from the definition of source material.

CONTACT: Torre Taylor, NMSS/IMNS
(301) 415-7900

At that time, the exemption under 10 CFR 40.13(a) was added to the regulations. The concentration appears to have been chosen on the basis of the concentrations of source material necessary to be a useful source of fissionable material. The Commission has since determined that wastes containing unimportant quantities of source material, as specified in § 40.13(a), derived from U.S. Nuclear Regulatory Commission (NRC) licensed operations could be transferred (including for disposal) with NRC staff preapproval, pending completion and approval of a proposed rule that is currently before the Commission (SECY-00-0201).

Based on conservative exposure scenarios and model assumptions, there is some evidence that estimates of possible doses from uranium and thorium suggest that the exempt concentration limit of 0.05 percent (500 parts per million) may not be adequately protective of public health and safety and the environment. However, lowering the concentration limit could lead NRC to become involved with the regulation of many activities unrelated to the nuclear fuel cycle, such as almost all mineral processing. Such regulation was not envisioned in the 1946 and 1954 Acts. Additionally, many materials containing uranium and thorium also contain radium, which the NRC does not regulate, in concentrations that pose health and safety impacts that are more significant than those from the uranium and thorium.

The staff submitted SECY-99-259, "Exemption in 10 CFR Part 40 for Materials Less Than 0.05 Percent Source Material - Options and Other Issues Concerning the Control of Source Material" to the Commission in November 1999. The paper provides an extensive discussion of these issues. The Commission issued a Staff Requirements Memorandum (SRM) dated March 9, 2000, in response to SECY-99-259. In this SRM, the Commission directed the staff to initiate interactions and work with the U.S. Environmental Protection Agency (EPA), the Occupational Safety and Health Agency (OSHA), and the States to explore the best approach to delineate the responsibilities of the NRC and these agencies with regard to low-level source material (as defined in 10 CFR Part 40) or materials containing less than 0.05 percent uranium and/or thorium. The Commission directed the staff to undertake this activity as part of the overall effort to rationally address the risks from naturally occurring radioactive material (NORM), technologically enhanced naturally occurring radioactive material (TENORM), low-level source material, and, specifically, materials containing less than 0.05 percent uranium and/or thorium, while ensuring adequate protection of public health and safety.

DISCUSSION:

In response to the SRM dated March 9, 2000, the Jurisdictional Working Group (hereafter referred to as the Working Group) was established. As directed by the Commission, the Working Group includes representatives from the States [representing the Organization of Agreement States (OAS) and the Conference of Radiation Control Program Directors], EPA, and OSHA. Other Federal agencies with responsibilities for similar materials are also members of the Working Group, and include the U.S. Department of Energy (DOE), the Army Corps of Engineers, the U.S. Department of Interior, and the U.S. Department of Transportation. The Working Group has held three meetings to date, which were open to the public, at NRC Headquarters, during which it has begun discussing and evaluating the jurisdictional issues involved with low concentrations of uranium and thorium and their decay products. The Charter for the Working Group is provided in Attachment 1.

The Working Group has identified several steps necessary for developing "best approaches" recommendations for regulatory responsibilities. The Working Group needs to: (a) better understand the uses and quantities of source material which are being used/processed that would fit into the scope of the Working Group's review; (b) identify concentration ranges and their potential doses; (c) determine where there are any potential issues or risks related to public health and safety regarding public or occupational doses, or environmental impacts; and (d) evaluate current regulatory controls of these materials. The Working Group believes it must also develop criteria for making decisions and recommendations regarding the issues. It has already begun gathering information on the materials that are being used/processed that fall within the scope of its evaluation. Once this is complete, the Working Group will focus on the issues and, in light of current regulatory controls, develop options and recommendations for the future regulation of these materials. As the Working Group progresses in this endeavor, it will consider how the options and recommendations address the Agency's performance goals: (1) maintain safety; (2) increase public confidence; (3) increase effectiveness, efficiency, and realism; and (4) reduce unnecessary regulatory burden.

The Working Group has identified several reports and sources of information that it plans to utilize, including a 1999 report by the National Research Council on its evaluation of guidelines for exposures to TENORM; EPA'S report to Congress, dated June 2000, on the Council's report; and Draft NUREG-1717, "Systematic Radiological Assessment of Exemptions for Source and Byproduct Materials." Additionally, the Working Group has reviewed SECY-99-259 and has begun exploring the issues and options addressed in that paper. Each working group member representing an agency that has regulations which address some use of radiation/radioactive material has also prepared a "citation of authority" (Attachment 2). These citations of authorities were developed for the purpose of discussion and support of the Working Group activities and do not represent Agency-endorsed positions or statements. At this time, the DOE citation is not included. The staff is in the process of contacting DOE for that information. The Working Group has requested that the Mining Safety and Health Administration also provide a citation of authority because of its regulation of mining processes.

Currently, there are several ongoing related activities in which NRC is involved, such as the National Materials Program Task Force; response to SRM, dated December 5, 2000, "COMEXM-00-0002 - Expansion of NRC Statutory Authority over Medical Use of Naturally Occurring and Accelerator-Produced Radioactive Material (NARM)"; and a grant to the National Academy of Sciences for "Improving Practices for Regulating and Managing Low-Activity Radioactive Wastes." The Working Group will remain cognizant of these activities for any impacts or influences on its work, and will interact with the groups responsible for these activities as needed. If the Commission issues directives on other related activities, the Working Group will also consider the impact of such directives as it continues its work.

The Working Group plans to meet again by May 25, 2001. The staff expects that the Working Group will meet in the early stages of this project at least every 2 months. The staff estimates that it will take 9 months to complete steps (a)-(d) listed above. When steps (a)-(d) are complete, the staff expects to provide the Commission with options and recommendations within 6 months. However, this schedule may vary, based on several factors, including the schedules of the representatives of the other Federal agencies and the State representative, and the importance of this project to these organizations and their willingness to continue to support it. Based on OAS

and State commitments to the working group process, we believe that the State representative will be able to meet his commitments. The staff will inform the Commission if there appears to be any delay in the proposed schedule.

RESOURCES:

The staff estimates that the work for this project will take approximately 1.5 FTE each year for FY 2001 and for FY 2002. These resources are included in the current FY 2001 and FY 2002 budgets. This estimate is for NRC staff time only, and does not include the resources for the other Federal representatives on the Working Group. The other Federal representatives fund their own time and travel using their own resources. The staff estimates approximately 0.2 FTE for the State representative participation. The travel for the State representative is funded by NRC, and is already included within the FY 2001 and FY 2002 budgets.

COORDINATION:

The Office of the General Counsel has no legal objections to the paper. The Office of the Chief Financial Officer has reviewed this paper for resource implications and has no objections.

/RA/

William D. Travers
Executive Director
for Operations

- Attachments: 1. Charter
2. Citations of Authority

JURISDICTIONAL WORKING GROUP CHARTER

The Working Group will identify regulatory options to assure protection of public health and safety from risk associated with materials containing low concentration of uranium and/or thorium and their decay products.

Purpose

To explore the best approach to delineating the responsibilities of the NRC and other Federal agencies and States with regard to low concentrations of uranium and/or thorium and their decay products.

Working Group

Torre Taylor, NRC, NMSS, Group Leader

Maria Schwartz, NRC, OGC

Dennis Sollenberger, NRC, OSTP

Jean-Claude Dehmel, NRC, NMSS

Loren Setlow, EPA

Chia Chen, OSHA

Rex Tingle, OSHA

Ken Weaver, State of Colorado, representing the Organization of Agreement States
and the Conference of Radiation Control Program Directors

Hal Peterson, DOE, EH

Andrea McLaughlin, DOI, BLM

Brian Hearty, USACE

Fred Ferate, DOT

Alternates

Betsy Forinash, EPA

Alexander Williams, DOE, EM

Richard Wright, USACE

Background

Section 40.13(a) of 10 CFR Part 40 exempts any person who receives, possesses, uses, transfers, or delivers source material in any chemical mixture, compound, solution, or alloy in which the source material is by weight less than 0.05 percent of the mixture, compound, solution or alloy from the regulations in 10 CFR Part 40 and from the requirements for a license set forth in section 62 of the Atomic Energy Act of 1954 (AEA). This exemption involves complex issues related to the history of Part 40. The origin of the definition of source material in the AEA relates to its significance as a source of uranium or thorium for the production of special nuclear material. The original definition of source material in Part 40 (1947) excluded all forms of uranium and thorium below this concentration limit, i.e., 0.05% by weight. In 1961, the definition was revised to its present form to be consistent with the definition in the 1954 Act. Since that time, only ore below the 0.05 percent concentration limit has been excluded from the definition of source material. The exemption was added at that time and is a remnant of this

Revised February 27, 2001

history. The 0.05% concentration appears to have been chosen on the basis of the concentrations of source material necessary to be a useful source of fissionable material. The Commission has since determined that wastes containing unimportant quantities of source material derived from licensed operations should be transferred (including for disposal) only with NRC staff pre-approval.

Estimates of possible doses from uranium and thorium suggest that the concentration limit of 0.05 % (500 ppm) may not be adequately protective of public health and safety and the environment. However, lowering the concentration limit below this level could lead NRC to regulate many activities (including almost all mineral processing and product manufacturing) unrelated to the nuclear fuel cycle. This was not intended in the 1946 and 1954 Acts.

Additionally, many naturally-occurring materials containing uranium and thorium also contain radium at elevated concentrations that could pose health and safety impacts that may be more significant than the uranium and thorium that are present in the materials. The Jurisdictional Working Group will review and evaluate potentially relevant and applicable regulations and explore ways to regulate those materials containing uranium and/or thorium which could pose a risk to humans and the environment. The Jurisdictional Working Group will also consider possible regulatory approaches, including shared roles among Federal and State agencies, to address such concerns and minimize the associated risks.

Function

- Bring together Federal and State agencies to explore the best approach for delineating their responsibilities with regard to materials containing low concentrations of uranium and/or thorium.
- To ensure no undue risks, and adequate protection of public and occupational health and safety and the environment, from materials containing low concentrations of uranium and thorium and their decay products, the Federal agencies and the States will evaluate existing and proposed regulations for such materials. This process will include assessing the willingness and ability of Federal and/or State agencies to assume responsibilities for certain levels of source material and related radioactive materials, i.e., decay products of the uranium and thorium series.
- Identify issues that the rulemaking working group should consider in the development of the rulemaking plan described in SECY-99-259.

Desired Products

- Document the activities of the Jurisdictional Working Group.
- Identify and prioritize options for regulating materials containing low concentrations of uranium and/or thorium.
- Submit a status report to the Commission by March 9, 2001, of its activities.

- Ultimately, the Jurisdictional Working Group will recommend preferred regulatory approach(s) to address risks from currently exempt material under 10 CFR 40.13(a).

CITATIONS OF AUTHORITIES

CITATION OF AUTHORITY - DEPARTMENT OF TRANSPORTATION

DOT's regulatory authority is derived from the Transportation Safety Act of 1974 and subsequent amendments and re-authorizations. The most recent re-authorization was the Hazardous Materials Transportation Authorization Act of 1994 (Public Law 103-311, August 26, 1994), as Amended by Sections 6 and 7 of Public Law 103-429 of October 31, 1994, and as codified in Chapter 51 of Title 49 of the U. S. Code, Sections 5101 through 5127. Some additional provisions of the former (Public Law 103-311) contain instructions from Congress to the Secretary for certain actions to be carried out in conjunction with the regulation of hazardous materials transport.

In Section 5103, "General regulatory authority," 5103(a) states that "The Secretary of Transportation shall designate material (including an explosive, radioactive material, or a group or class of material as hazardous when the Secretary decides that transporting the material in commerce in a particular amount and form may pose an unreasonable risk to health and safety or property."

5103(b)(1) reads: "The Secretary shall prescribe regulations for the safe transportation of hazardous material in intrastate, interstate, and foreign commerce. The regulations --

- (A) apply to a person --
 - (i) transporting hazardous material in commerce;
 - (ii) causing hazardous material to be transported in commerce; or
 - (iii) manufacturing, fabricating, marking, maintaining, reconditioning, repairing, or testing a packaging or container that is represented, marked, certified, or sold by that person as qualified for use in transporting hazardous material in commerce; and
- (B) shall govern safety aspects of the transportation of hazardous material the Secretary considers appropriate."

Radioactive material is addressed explicitly in several other sections of Chapter 51, including Sections 5105, "Transporting certain highly radioactive material" and 5114, "Air transportation of ionizing radiation material." However, since radioactive material forms one of the nine classes of hazardous materials, for the most part any requirements or restrictions on the transport of hazardous materials found in the remaining sections of Chapter 51 also apply to the transport of radioactive materials.

CITATION OF AUTHORITY
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

The Occupational Safety and Health Administration (OSHA) in the U. S. Department of Labor was created by the U. S. Congress under the Occupational Safety and Health Act of 1970. Its purpose is "to assure so far as possible every working man and woman in the Nation safe and healthful working conditions and to preserve our human resources." To achieve these objectives, OSHA uses: strong enforcement to target workplaces with the highest injury and illness rates; creative partnership to develop new ways of working with employers, employees, and other stakeholders; improved rulemaking to meet the challenges of the 21st century; and expanded outreach and training to create safe and healthful working environments. OSHA's standard to protect employees from exposure to ionizing radiation is 29 CFR § 1910.1096. It has provisions on: the exposure levels; definitions of terms; precautionary procedures and personal monitoring: caution signs, labels, and signals; immediate evacuation warning signal; exceptions from posting requirements; exemptions for radioactive materials packaged for shipment; instruction of personnel, posting; storage of radioactive materials; waste disposal; notification of incidents; reports of overexposure and excessive levels and concentrations; and records. The Occupational Safety and Health Act (OSH Act) of 1970 removes from OSHA's coverage those working conditions for which another Federal agency (or a State agency acting under the Atomic Energy Act of 1954) has prescribed or enforced occupational safety and health regulations. The Federal Agencies responsible for implementing the Atomic Energy Act of 1954 are Nuclear Regulatory Commission and Department of Energy.

CITATION OF AUTHORITY - ENVIRONMENTAL PROTECTION AGENCY

EPA Legislation and Regulations Providing Radiation Protection Authorities Subject to Revision by EPA General Counsel Review

More than a dozen major statutes or laws form the legal basis for the programs of the Environmental Protection Agency. EPA authority to develop radiation protection standards and to regulate radioactive materials, including TENORM, is derived from a number of those Federal laws, plus Executive Orders.

The authority to develop Federal guidance for radiation protection was originally given to the Federal Radiation Council (FRC) by Executive Order in 1959 as an offshoot of authorities of the Atomic Energy Act (42 U.S.C. 2011 et seq.)(1954). Over the next decade, the FRC developed Federal guidance ranging from guidance for exposure of the general public to estimates of fallout from nuclear weapons testing. Federal guidance developed by the FRC provided the basis for most regulation of radiation exposure by Federal and State agencies, prior to the establishment of the EPA.

In 1970, the responsibility for developing Federal guidance for radiation protection was transferred from the FRC to the newly formed EPA under Executive Order 10831 and Reorganization Plan No. 3. Federal Guidance Documents are signed by the President and issued by EPA. By signing these, the President provides a framework for Federal and State agencies to develop regulations that ensure the public is protected from the harmful effects of ionizing radiation. Federal Guidance is also an opportunity for the President to promote national consistency in radiation protection regulations. For example, the guidance document Radiation Protection Guidance to Federal Agencies for Occupational Exposure, issued by EPA in 52 CFR 2822 January 27, 1987, established general principles, and specifies the numerical primary guides for limiting worker exposure to radiation.

EPA regulates radon and radioisotope emissions through its authority under the Clean Air Act (42 USC 7401 et seq.) (1970). Regulations promulgated by the Agency which control radioactive facilities and sites include 40 CFR 61:

- Subpart B, Underground Uranium Mines
- Subpart H, Department of Energy Facilities
- Subpart I, Certain non-DOE Facilities
- Subpart K, Elemental Phosphorous Plants
- Subpart Q, DOE Facilities Radon Emissions
- Subpart R, Radon from Phosphogypsum Stacks

Under the Radon Gas and Indoor Air Quality Research Act (USC 42 et seq.)(1986) and Indoor Radon Abatement Act (1988), as well as authorities of the CAA, EPA has developed guidance for control of radon in buildings and schools.

The Clean Water Act's (33 USC 121 et seq.) (1977) primary objective is to restore and maintain the integrity of the nation's waters. This objective translates into two fundamental national goals: eliminate the discharge of pollutants into the nation's waters, and achieve water quality levels that are fishable and swimmable. Under this law, EPA is given the authority to establish water quality standards and regulate the discharge of pollutants into waters of the United

States. Section 502(6) of the CWA includes “radioactive materials” in the definition of pollutants. EPA’s implementing regulations at 40 CFR 122.2, which defines the term “pollutant” includes radioactive materials except those regulated under the Atomic Energy Act. Thus EPA currently regulates radionuclides and radiation in discharges and establishes water quality standards. This includes TENORM radionuclides with the exception of uranium and thorium.

The Safe Drinking Water Act (SDWA)(42 USC 300f et seq.)(1974), is the main federal law that ensures the quality of Americans’ drinking water. Under SDWA, EPA sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards. Implementing regulations for 40 CFR 141 include the establishment of national primary drinking water standards which currently include maximum contaminant limit goals and maximum contaminant limits for radiation and radionuclides; current standards include Radium-226 and Radium-228, Uranium, combined alpha, beta and photon emitters. Draft proposed MCL’s are in preparation for Radon.

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 USC 9601 et seq.)(1980) and the Superfund Amendments and Reauthorization Act (SARA) (42 USC 9601 et seq.)(1986) created a tax on the chemical and petroleum industries and provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites; provided for liability of persons responsible for releases of hazardous waste at these sites; and established a trust fund to provide for cleanup when no responsible party could be identified. EPA has determined that radiation is a carcinogen and thus a hazardous substance. Under the National Oil and Hazardous Substances Contingency Plan, EPA has issued guidance on removals and clean up of radioactively contaminated sites. Implementing regulations for the NCP are found at 40 CFR 300.

The Toxic Substances Control Act (TSCA) (15 USC 2601 et seq.)(1976) was enacted by Congress to give EPA the ability to track the 75,000 industrial chemicals currently produced or imported into the United States. EPA repeatedly screens these chemicals and can require reporting or testing of those that may pose an environmental or human-health hazard. EPA can ban the manufacture and import of those chemicals that pose an unreasonable risk. While radionuclides are considered toxic substances under the act, source material, special nuclear material, or byproduct material (as such terms are defined in the Atomic Energy Act of 1954 (42 USC. 2011 et seq.) and regulations issued under such Act) are excluded from coverage. Consequently, TENORM radionuclides may be subject to this law.

The Resource Conservation and Recovery Act (RCRA) (42 USC 321 et seq.) (1976) gave EPA the authority to control hazardous waste. This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. RCRA focuses only on active and future facilities and does not address abandoned or historical sites (see CERCLA). HSWA —The Federal Hazardous and Solid Waste Amendments are the 1984 amendments to RCRA that required phasing out land disposal of hazardous waste. Some of the other mandates of this strict law include

increased enforcement authority for EPA, more stringent hazardous waste management standards, and a comprehensive underground storage tank program. EPA's implementing regulations for RCRA do not allow for disposal of radioactively contaminated substances in landfills, however Nuclear Accelerator wastes—a form of waste previously classified as part of the TENORM waste class, can be disposed of in such facilities.

Additional radiation protection authorities provided to the EPA by Congress include responsibilities for setting protective standards for radioactive waste disposal. Under the Waste Isolation Pilot Plant Land (WIPP) Withdrawal Act, as amended (P.L. 102-579, 106 Stat. 4777), Congress gave EPA the authority to regulate many of the Department of Energy's activities concerning this radioactive waste disposal site in New Mexico. EPA was required to finalize regulations which apply to all sites -- except Yucca Mountain -- for the disposal of spent nuclear fuel, transuranic and high level radioactive waste. In 2000, EPA granted a certification of compliance indicating that the WIPP complied with EPA's radioactive waste disposal regulations and could open to received these materials. The compliance criteria regulations were established by EPA in 40 CFR 194 and the disposal regulations set by EPA in 40 CFR 191.

The Energy Policy Act of 1992 (42 USC 10141 n.), Section 801, required the EPA, based upon and consistent with the findings and recommendations of the National Academy of Sciences, to develop regulations on health and safety standards for protection of the public from releases from radioactive materials stored or disposed of in the proposed Yucca Mountain radioactive waste disposal site. The standards to be developed were required to prescribe the maximum annual effective dose equivalent to individual members of the public from releases to the accessible environment from radioactive materials stored or disposed of in the repository. In 2000, EPA proposed draft standards and held public hearings; final regulations are expected to be published in 2001 for use by the Nuclear Regulatory Commission and Department of Energy.

Current regulations applicable to remediation of both inactive uranium mill tailings sites, including vicinity properties, and active uranium and thorium mills have been issued by the EPA under the Uranium Mill Tailings Radiation Control Act (UMTRCA) (42 USC 2022 et seq.) of 1978, as amended. EPA's regulations in 40 CFR 192 apply to remediation of such properties and address emissions of radon, as well as radionuclides, metals, and other contaminants into surface and groundwater.

CITATION OF AUTHORITY - STATE AUTHORITY AND RESPONSIBILITY

State authority to regulate radioactive materials is based on the Constitutional law tenet that any authority or responsibility not specifically assigned to the federal government may be exercised by the States.

Many states actively regulate radioactive material through radiation control and other state programs. Control under state law includes naturally occurring and accelerator-produced radioactive materials and other sources of ionizing radiation. Thirty-two states have entered into agreements with the U.S. Nuclear Regulatory Commission, under which the Commission has relinquished regulatory authority over most radioactive materials used in non-Federal facilities. Most states also control radioactivity through programs implementing the federal clean air, clean water and other environmental laws authorized by the U.S. Environmental Protection Agency.

A model state radiation control statute, last amended in 1983, has been developed by the Council of State Governments. A comprehensive model state code for all types of radioactivity-containing material and radiation-producing machines has been developed by the Conference of Radiation Control Program Directors (CRCPD). For example, Part N of the Suggested State Regulations for Control of Radiation (SSRCR) is specific to technologically-enhanced naturally occurring radioactive material (TENORM).

As an example from one of the 32 members of the Organization of Agreement States, the Colorado Radiation Control Act designates a state radiation control agency and grants broad authority to evaluate and control *...hazards associated with the use of any and all radioactive materials and other sources of ionizing radiation*. In the Colorado Act radioactive material means *any material, solid, liquid or gas, which emits ionizing radiation spontaneously*. Ionizing radiation means *gamma rays and x-ray and alpha particles, beta particles, high-speed electrons, neutrons, protons, and other high-speed nuclear particles*. The Colorado Act requires the Colorado Board of Health to promulgate regulations (for licenses and for exemption from licensing), which are modeled after those proposed by the Conference of Radiation Control Program Directors.

Whether or not an individual state has assumed regulatory authority from the NRC under an Agreement, each state has explicit statutory authority for regulating sources of ionizing radiation not otherwise regulated by the federal government. Several non-agreement states (for example, Michigan and New Jersey) have asserted specific authority over TENORM, especially cleanup approaches and disposal. Ten have developed regulations specifically for TENORM. Most states regulate TENORM under general rules for radiation protection.

State laws and the exercise of State authorities are reasonably consistent nationwide, but do vary in some respects. For example, Colorado's statute requires Colorado's rules to be neither more nor less stringent than the CRCPD SSRCR and also authorizes TENORM rules only after their promulgation by the U.S. Environmental Protection Agency. The Illinois Department of Nuclear Safety has no such constraints. Agreement State regulation of Atomic Energy Act materials is to be uniform, consistent, and compatible with that of the U.S. Nuclear Regulatory Commission.

CITATION OF AUTHORITY - DEPARTMENT OF DEFENSE, ARMY CORPS OF ENGINEERS

The U.S. Army Corps of Engineers performs environmental restoration and compliance activities for the Department of Army, Department of Defense, U.S. Environmental Protection Agency, Department of Energy and other Federal Agencies. The Army Corps of Engineers conducts environmental restoration activities under the authority of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended, and the implementing regulations, known as the National Contingency Plan (NCP), found in 40 Code of Federal Regulations (CFR) 300. The Army Corps of Engineers also follows the CERCLA framework when executing two specifically authorized programs. The statute creating the Defense Environmental Restoration Program, Section 10 U.S.C. 2701, authorized the Department of Defense (DOD) to administer and execute the Formerly Used Defense Sites (FUDS) Program, and DOD delegated the program to the Army for execution by the Corps of Engineers. In October 1997, Congress transferred responsibility for the administration and execution of Formerly Utilized Sites Remedial Action Program (FUSRAP) to the Army Corps of Engineers with the Energy and Water Development Appropriations Act for fiscal year 1998 (P.L. 105-62).

The Army Corps of Engineers is responsible for ensuring compliance with all safety and environmental requirements for the Army's deactivated nuclear reactors. The Army Reactor Program, as outlined in Army Regulation 50-7, is authorized under the Atomic Energy Act, Section 42 U.S.C. 2121(b), enacted as Section 91b of the Atomic Energy Act of 1954.

The U.S. Army, under its Executive Branch authority, issues Army radiation authorizations (ARA) to control specific Army ionizing radiation sources that the Nuclear Regulatory Commission does not license. U.S. Army radiation safety policies and procedures are established in Army Regulation 11-9, The Army Radiation Safety Program.

CITATION OF AUTHORITY - U.S. NUCLEAR REGULATORY COMMISSION

The mission of the U.S. Nuclear Regulatory Commission (NRC) is to ensure adequate protection of the public health and safety, the common defense and security, and the environment in the use of nuclear materials in the United States. The NRC's scope of responsibility includes regulation of commercial nuclear power reactors; non-power research, test, and training reactors; fuel cycle facilities; medical, academic, and industrial uses of nuclear materials; and the transport, storage, and disposal of nuclear materials and waste.

The NRC was created as an independent agency by the Energy Reorganization Act of 1974, which abolished the Atomic Energy Commission (AEC) and moved the AEC's regulatory function to NRC. This act, along with the Atomic Energy Act of 1954, as amended, provides the foundation for regulation of the nation's commercial nuclear power industry.

NRC regulations are issued under the United States Code of Federal Regulations (CFR) Title 10, Chapter 1. Principal statutory authorities that govern NRC's work are:

- Atomic Energy Act of 1954, as amended
- Energy Reorganization Act of 1974, as amended
- Uranium Mill Tailings Radiation Control Act of 1978, as amended
- Nuclear Non-Proliferation Act of 1978
- Low-Level Radioactive Waste Policy Act of 1980
- West Valley Demonstration Project Act of 1980
- Nuclear Waste Policy Act of 1982
- Low-Level Radioactive Waste Policy Amendments Act of 1985
- Diplomatic Security and Anti-Terrorism Act of 1986
- Nuclear Waste Policy Amendments Act of 1987
- Solar, Wind, Waste and Geothermal Power Production Incentives Act of 1990
- Energy Policy Act of 1992

The NRC and its licensees share a common responsibility to protect the public health and safety. Federal regulations and the NRC regulatory program are important elements in the protection of the public. NRC licensees, however, have the primary responsibility for the safe use of nuclear materials.

The NRC fulfills its responsibilities through a system of licensing and regulatory activities that include:

- 1) Licensing the construction and operation of nuclear reactors and other nuclear facilities, such as nuclear fuel cycle facilities and non-power test and research reactors, and overseeing their decommissioning;
- 2) Licensing the possession, use, processing, handling, and export of nuclear material;
- 3) Licensing the siting, design, construction, operation, and closure of low-level radioactive waste disposal sites under NRC jurisdiction and the construction, operation, and closure of the geologic repository for high-level radioactive waste;
- 4) Licensing the operators of nuclear power and non-power test and research reactors
Inspecting licensed facilities and activities;

- 5) Conducting the principal U.S. Government research program on light-water reactor safety;
- 6) Conducting research to provide independent expertise and information for making timely regulatory judgments and for anticipating problems of potential safety significance;
- 7) Developing and implementing rules and regulations that govern licensed nuclear activities;
- 8) Investigating nuclear incidents and allegations concerning any matter regulated by the NRC;
- 9) Enforcing NRC regulations and the conditions of NRC licenses;
- 10) Conducting public hearings on matters of nuclear and radiological safety, environmental concern, common defense and security, and antitrust matters;
- 11) Developing effective working relationships with the States regarding reactor operations and the regulation of nuclear material;
- 12) Maintaining the NRC Incident Response Program, including the NRC Operations Center;
and
- 13) Collecting, analyzing, and disseminating information about the operational safety of commercial nuclear power reactors and certain non-reactor activities.