
5. APPLICABLE LAWS, REGULATIONS, AND OTHER REQUIREMENTS

Chapter 5 presents the laws, regulations, and other requirements that apply to the proposed action and alternatives. Federal, State, and departmental statutes, regulations, and orders are identified in Section 5.1. Regulations for hazardous and radioactive material packaging, transportation, and certification are discussed in Section 5.2. Emergency Management response laws and other requirements are addressed in Section 5.3.

5.1 LAWS AND OTHER REQUIREMENTS

This section describes laws, regulations, and Executive Orders that apply to the proposed action and alternatives. During the course of its activities, the Department of Energy (DOE) implements its responsibility for the protection of public health, safety, and the environment through compliance with laws, statutes, regulations, orders, and other requirements.

5.1.1 Federal Environmental Statutes and Regulations

Figure 5–1 illustrates the Federal regulations that are applicable. These statutes are summarized below.

- **National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 et seq.)**—This Act establishes a national policy to protect and preserve the environment. It requires consideration of environmental impacts during the planning and decision-making stages of Federal projects. It also requires Federal agencies to prepare a detailed statement on the environmental effects of proposed Federal actions that may significantly affect the quality of the human environment.

Applicable implementing regulations for the NEPA include the Council on Environmental Quality Implementing Regulations (40 CFR 1500 et seq.) and DOE Implementing Regulations (10 CFR 1021).

- **Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.)**—This Act provides the underlying legal authority (originally vested in the Atomic Energy Commission, and now transferred to DOE) for government ownership and operation of nuclear facilities. As part of that authority, it authorizes the DOE to establish standards to protect health or minimize dangers to life or property with respect to activities under its jurisdiction. Under this authority, DOE has established a comprehensive system of safety standards and requirements.

In addition, the Act provides the underlying authority for Nuclear Regulatory Commission regulations, and (through Reorganization Plan Number 3 of 1970) for Environmental Protection Agency (EPA) regulations to protect the general environment.

- **Pollution Prevention Act of 1990 (42 U.S.C. 13101 et seq.)**—This Act establishes a national policy for waste management and pollution control. Source reduction is given first preference, followed by environmentally safe recycling, with disposal or releases to the environment as a last resort. In response to the policies established by this act, the DOE committed to participation in the Superfund Amendments and Reauthorization Act, Section 313, EPA 33/50 Pollution Prevention Program. The goal for facilities involved in compliance with Section 313 is to achieve a 33 percent reduction (from a 1993 baseline) in the release of 17 priority chemicals by 1997.

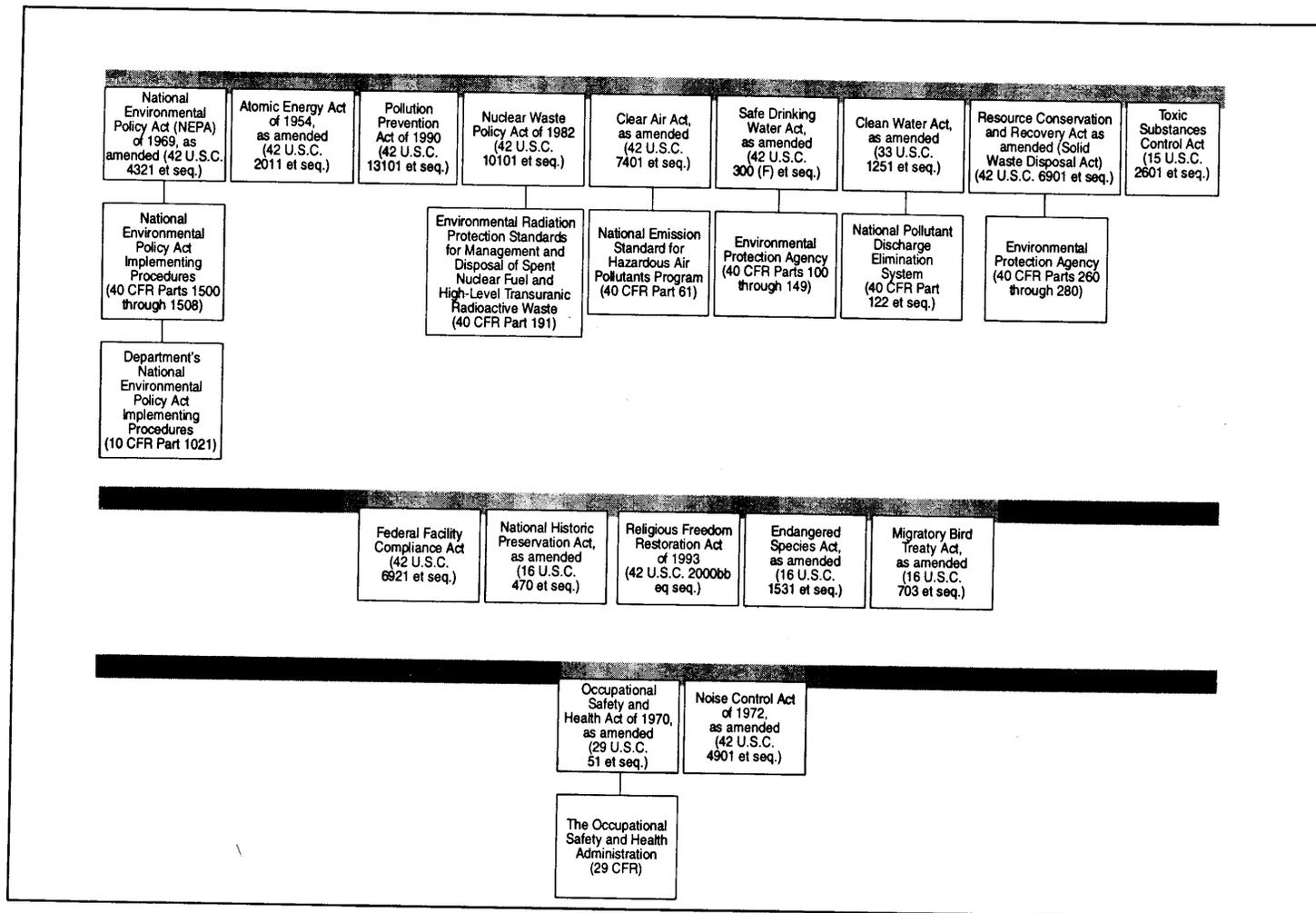


Figure 5-1 Federal Environmental Statutes and Regulations

On August 3, 1993, the President issued Executive Order 12856 requiring the DOE to achieve a 50 percent reduction in total releases of all toxic chemicals by December 31, 1999.

- ❑ **Nuclear Waste Policy Act of 1982 (42 U.S.C. 10101 et seq.)**—This Act provides for research, development, and demonstration activities regarding disposal of high-level radioactive waste and spent nuclear fuel not resulting from defense activities. As originally enacted it called for the Secretary of Energy to recommend candidate repository sites; but in 1987 it was amended to require DOE to proceed with characterization of the Yucca Mountain Site only (42 U.S.C. 10133, 10172). The Act also established the Office of Civilian Radioactive Waste Management (OCRWM, 42 U.S.C. 10224), the Office of Nuclear Waste Negotiator (42 U.S.C. 10242), and the Nuclear Waste Fund (42 U.S.C. 10222); and it provides (along with the Atomic Energy Act) authority for the EPA standards for protection of the general environment from the management and disposal of spent nuclear fuel, high-level, and transuranic radioactive wastes (40 CFR 191).
- ❑ **Low Level Radioactive Waste Policy Act (42 U.S.C. 2021 et seq.)**—This Act (originally enacted in 1980, and subsequently amended) amended the Atomic Energy Act to specify that the Federal Government is responsible for disposal of low-level waste generated by its activities, and the States are responsible for disposal of other low-level waste. It provides for and encourages interstate compacts to carry out the State responsibilities.
- ❑ **Hazardous Material Transportation Act of 1975 (49 U.S.C. 5105 et seq.)**—This Act requires the Department of Transportation to prescribe uniform national regulations for transportation of hazardous materials (including radioactive materials). Most State and local regulations regarding such transportation that are not substantively the same as the Department of Transportation regulations are preempted (i.e., rendered void) (49 U.S.C. 5125). This, in effect, allows State and local governments only to enforce the Federal regulations—not to change or enlarge on them.

This program is administered by the Research and Special Programs Administration of the Department of Transportation, which coordinates its regulations with those of the Nuclear Regulatory Commission (under the Atomic Energy Act) and with EPA (under the Resource Conservation and Recovery Act), when covering the same activities.

- ❑ **Clean Air Act (42 U.S.C. 7401 et seq.)**—This Act is intended to “protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population.” Section 118 of the Clean Air Act (42 U.S.C. 7418) requires that each Federal agency with jurisdiction over any property or facility that might result in the discharge of air pollutants, comply with “all Federal, State, interstate, and local requirements” with regard to the control and abatement of air pollution.

The Act requires the EPA to establish National Ambient Air Quality Standards as necessary to protect public health, with an adequate margin of safety, from any known or anticipated adverse effects of a regulated pollutant (42 U.S.C. 7409); requires establishment of national standards of performance for new or modified stationary sources of atmospheric pollutants (42 U.S.C. 7411); requires specific emission increases to be evaluated so as to prevent a significant deterioration in air quality (42 U.S.C. 7470); and requires specific standards for releases of hazardous air pollutants (including radionuclides) (42 U.S.C. 7412). These standards are implemented through State implementation plans developed by each State with EPA approval. On July 18, 1997, the EPA issued its final rules establishing new ambient air standards for ozone and particulate matter. The new standards are described in Chapter 3 of this Environmental Impact Statement (EIS). These new rules became effective on September 16, 1997.

Air emissions are regulated by the EPA in 40 CFR Parts 50 through 99. Radionuclide emissions are regulated under the National Emission Standards for Hazardous Air Pollutants Program (40 CFR Part 61).

- **Safe Drinking Water Act of 1974 (42 U.S.C. 300 (F) et seq.)**—The primary objective of this Act is to protect the quality of the public drinking water systems and sources of drinking water. Implementing regulations, administered by the EPA unless delegated to the States, establish standards applicable to public water systems. These regulations include maximum contaminant levels (including those for radioactivity) in public water systems, which are defined as water systems that have at least 15 service connections or regularly serve at least 25 residents. Safe Drinking Water Act requirements have been published by the EPA in 40 CFR Parts 141 through 149.

For radioactive material, the regulations specify that the average annual concentration of manmade radionuclides in drinking water as delivered to the user by such a system shall not produce a dose equivalent to the total body or an internal organ greater than four mrem/yr beta activity (40 CFR 141.16 (a)). Other programs established by the Safe Drinking Water Act include the Sole Source Aquifer Program, the Wellhead Protection Program, and the Underground Injection Control Program.

- **Clean Water Act of 1972 (33 U.S.C. 1251 et seq.)**—This Act, which amended the Federal Water Pollution Control Act, was enacted to “restore and maintain the chemical, physical and biological integrity of the Nation's water.” The Act prohibits the “discharge of toxic pollutants in toxic amounts” to navigable waters of the United States. Section 313 of the Clean Water Act requires all branches of the Federal Government engaged in any activity that might result in a discharge or runoff of pollutants to surface waters to comply with Federal, State, interstate, and local requirements.

The Clean Water Act provides for water quality standards for the Nation’s waterways, guidelines and limitations for effluent discharges from point-source discharges, and the National Pollutant Discharge Elimination System permit program. The National Pollutant Discharge Elimination System program is administered by the Water Management Division of the EPA pursuant to regulations in 40 CFR Part 122 et seq.

Sections 401 through 405 of the Water Quality Act of 1987 added Section 402(p) to the Clean Water Act, requiring that the EPA establish regulations for permits for storm water discharges associated with industrial activity. Stormwater provisions of the National Pollutant Discharge Elimination System program are set forth at 40 CFR 122.26.

- **Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.)**—The transportation, treatment, storage, or disposal of hazardous and nonhazardous waste is regulated under the Solid Waste Disposal Act of 1965, as amended by the Resource Conservation and Recovery Act in 1976 and the Hazardous and Solid Waste Amendments of 1984. Under Resource Conservation and Recovery Act, EPA defines and identifies hazardous wastes, establishes standards for its transportation, treatment, storage, and disposal, and requires permits for persons engaged in hazardous waste activities. Section 3006 of the Act (42 U.S.C. 6926) allows States to establish and administer those permit programs with EPA approval. The EPA regulations implementing the Resource Conservation and Recovery Act are found in 40 CFR Parts 260 through 283.

Regulations imposed on a generator or a treatment, storage, and/or disposal facility vary according to the type and quantity of material or waste generated, treated, stored, and/or disposed of. The method of treatment, storage, and/or disposal also impacts the extent and complexity of the requirements.

- ❑ **Federal Facility Compliance Act of 1992 (42 U.S.C. 6961 et seq.)**—This Act made all Resource Conservation and Recovery Act provisions, including fines and penalties for violations, applicable to Federal facilities by waiving sovereign immunity for such violations. However, Section 102© of the Act delayed that waiver (and therefore the liability for Resource Conservation and Recovery Act penalties) for three years for storage of mixed waste at Federal facilities, and continued that delay indefinitely for mixed waste storage at DOE facilities so long as DOE submits a plan for that storage for State or EPA approval and complies with a Consent Order incorporating the approved plan.
- ❑ **National Historic Preservation Act of 1996, as amended (16 U.S.C. 470 et seq.)**—This Act provides that sites with significant national historic value be placed on the *National Register of Historic Places* maintained by the Secretary of the Interior. No permits or certifications are required under the Act. However, if a particular Federal activity may impact a historic property resource, consultation with the Advisory Council on Historic Preservation is required by 16 U.S.C. 470 f. Such consultation usually generates a Memorandum of Agreement, including stipulations that must be followed to minimize adverse impacts. Coordination with the State Historic Preservation Officer is also undertaken to ensure that potentially significant sites are properly identified and appropriate mitigative actions are implemented.
- ❑ **Endangered Species Act (16 U.S.C. 1531 et seq.)**—This Act, enacted in 1973, is intended to prevent the further decline of endangered and threatened species and to restore these species and their habitats. Section 7 of the Act requires Federal agencies having reason to believe that a prospective action may affect an endangered or threatened species or its habitat to consult with the Department of the Interior to ensure that the action does not jeopardize the species or destroy its habitat. If, despite reasonable and prudent measures to avoid or minimize such impacts, the species or its habitat would be jeopardized by the action, a review process is specified to determine whether the action may proceed.
- ❑ **Occupational Safety and Health Act of 1970 (29 U.S.C. 651 et seq.)**—This Act establishes standards for safe and healthful working conditions in places of employment throughout the United States. The Act is administered and enforced by the Occupational Safety and Health Administration, a U.S. Department of Labor agency. Although the Occupational Safety and Health Administration and the EPA both have a mandate to reduce exposures to toxic substances, the Occupational Safety and Health Administration’s jurisdiction is limited to safety and health conditions that exist in the workplace environment.

Under the Act, it is the duty of each employer to furnish employees a place of employment free of recognized hazards likely to cause death or serious physical harm. Employees have a duty to comply with the occupational safety and health standards and all rules, regulations, and orders issued under the Act. The Occupational Safety and Health Administration regulations (29 CFR) establish specific standards telling employers what must be done to achieve a safe and healthful working environment. Government agencies, including DOE, are not technically subject to the Occupational Safety and Health Administration regulations; but are required (by 29 U.S.C. 668) to establish their own occupational safety and health programs for their places of employment which are consistent with the Occupational Safety and Health Administration standards. DOE does so through DOE Orders, standards that contractors must meet as applicable to their work at Government-owned, contractor-operated facilities (DOE Order 5480.1B, 5483.1A). DOE keeps and makes available the various records of minor illnesses, injuries, and work-related deaths as required by the Occupational Safety and Health Administration regulations.

- ❑ **Toxic Substances Control Act of 1976 (15 USC 2601 et seq.)**—The Toxic Substances Control Act provides the U.S. EPA with the authority to require testing of chemical substances entering the environment and to regulate them as necessary. The law complements and expands existing toxic substance laws, such as §112 of the Clean Air Act and §307 of the Clean Water Act. The Toxic Substances Control Act also

regulates the treatment, storage, and disposal of polychlorinated biphenyls, chlorofluorocarbons, asbestos, dioxins, certain metal-working fluids, and hexavalent chromium. Asbestos regulations under the Toxic Substances Control Act were ultimately overturned. However, regulations pertaining to asbestos removal, storage, and disposal are promulgated through the National Emission Standard for Hazardous Air Pollutants Program (40 CFR 61, Subpart M). For chlorofluorocarbons, Title VI of the Clean Air Act Amendments of 1990 requires a reduction of chlorofluorocarbons beginning in 1991, and prohibits production after the year 2000.

5.1.2 Executive Orders

Figure 5–2 illustrates the applicable Executive Orders. These orders are summarized as follows:

- **Executive Order 11514 (Protection and Enhancement of Environmental Quality)**—Executive Order 11514 requires Federal agencies to continually monitor and control their activities to protect and enhance the quality of the environment and to develop procedures to ensure the fullest practicable provision of timely public information and understanding of the Federal plans and programs with environmental impact into obtain the views of interested parties. DOE issued regulations (10 CFR Part 1021) and DOE Order 5440.1E for compliance with this Executive Order.
- **Executive Order 11593 (National Historic Preservation) (May 13, 1971)**— Executive Order 11593 directs Federal agencies to locate, inventory, and nominate properties under their jurisdiction or control to the *National Register of Historic Places* if those properties qualify. This process requires DOE to provide the Advisory Council on Historic Preservation the opportunity to comment on the possible impacts of the proposed activity on any potential eligible or listed resources.

Executive Order 11514 Protection and Enhancement of Environmental Quality	Executive Order 11593 National Historic Preservation	Executive Order 12088 Federal Compliance with Pollution Control Standardements
Executive Order 12580 Superfund Implementation	Executive Order 12856 Right-to-Know Laws and Pollution Prevention Requirements	Executive Order 12898 Environmental Justice

Figure 5–2 Executive Orders

- **Executive Order 12088 (Federal Compliance with Pollution Control Standards) (October 13, 1978), as amended by Executive Order 12580 (January 23, 1987) Federal Compliance with Pollution Control Standards**—Executive Order 12088 directs Federal agencies to comply with applicable administrative and procedural pollution control standards established by, but not limited to, the Clean Air Act, the Noise Control Act, the Clean Water Act, the Safe Drinking Water Act, the Toxic Substances Control Act (15 USC 2061 et seq.), and the Resource Conservation and Recovery Act.

- ❑ **Executive Order 12580 (Superfund Implementation)**—Executive Order 12580 delegates to the heads of executive departments and agencies the responsibility for undertaking remedial actions for releases, or threatened releases that are not on the National Priority List and removal actions other than emergencies where the release is from any facility under the jurisdiction or control of executive departments and agencies.
- ❑ **Executive Order 12856 (Right-to-Know Laws and Pollution Prevention Requirements)**—Executive Order 12856 requires all Federal agencies to reduce the toxic chemicals entering any waste stream. This Order also requires Federal agencies to report toxic chemicals entering waste streams; improve emergency planning, response, and accident notification; and encourage clean technologies and testing of innovative prevention technologies.
- ❑ **Executive Order 12898 (Environmental Justice)**—Executive Order 12898 requires Federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.

5.1.3 DOE Regulations and Orders

Through the authority of the Atomic Energy Act, DOE is responsible for establishing a comprehensive health, safety, and environmental program for its facilities. DOE Orders are issued in support of health, safety, and environmental programs. The major DOE Orders, notices, and standards pertaining to the proposed action and alternatives are listed in **Table 5-1**.

Table 5-1 Relevant DOE Orders, Notices, and Standards (as of February 4, 1997)

<i>DOE Order/ Notice/Standard^a</i>	<i>Subject</i>
Orders	
Leadership/Management Planning	
O 151.1	Comprehensive Emergency Management System (9-25-95; Chg. 2, 8-21-96)
Information and Analysis	
O 231.1	Environment, Safety, and Health Reporting (9-30-95; Chg. 2, 11-07-96)
O 232.1	Occurrence Reporting and Processing of Operations Information (9-25-95; Chg. 2, 8-12-96)
Work Processes	
O 420.1	Facility Safety (10-3-95; Chg. 2, 10-24-96)
O 425.1	Startup and Restart of Nuclear Facilities (09-29-95); Chg. 1, 10-26-95
O 440.1	Worker Protection Management for DOE Federal and Contractor Employees (9-30-95; Chg. 1, 10-21-96)
O 451.1A	National Environmental Policy Act Compliance Program
O 460.1A	Packaging and Transportation Safety (10-2-96)
O 460.2	Departmental Materials Transportation and Packaging Management (9-27-95; Chg. 1, 10-26-95)
O 470.1	Safeguards and Security Program (9-28-95; Chg. 1, 6-21-96)
Management Systems and Standards	
1300.2A	DOE Technical Standards Program (5-19-92)
1360.2B	Unclassified Computer Security Program (5-18-92)
Personnel Relations and Services	
3790.1B	Federal Employee Occupation Safety and Health Program (1-7-93) [Canceled except for Chapter 8]
Real Property Management	
4330.4B	Maintenance Management Program (2-10-94)
Project Management	

<i>DOE Order/ Notice/Standard^a</i>	<i>Subject</i>
4700.1	Project Management System (3-6-87; Chg. 1, 6-2-92)
<i>Environmental Quality and Impact</i>	
5400.1	General Environmental Protection Program (11-9-88; Chg. 1, 6-29-90)
5400.5	Radiation Protection of the Public and the Environment (2-8-90; Chg. 2, 1-7-93)
5480.1B	Environmental, Safety and Health Program for DOE Operations (9-23-86; Chg. 4, 3-27-90)
5480.18B	Nuclear Facility Training Accreditation Program (08-31-94)
5480.19	Conduct of Operations Requirements for DOE Facilities (7-9-90; Chg.1, 5-18-92)
5480.20A	Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities (11-15-94)
5480.21	Unreviewed Safety Questions (12-24-91)
5480.22	Technical Safety Requirements (2-25-92; Chg. 2, 1-23-96)
5480.23	Nuclear Safety Analysis Reports (4-10-92; Chg. 1, 3-10-94)
5480.27	Equipment Qualification for Reactor and Nonreactor Nuclear Facilities (1-15-93)
5480.4	Environmental Protection, Safety, and Health Protection Standards (5-15-84; Chg. 4, 1-7-93)
5480.6	Safety of Department of Energy-Owned Nuclear Reactors (9-23-86)
5482.1B	Environment, Safety, and Health Appraisal Program (9-23-86; Chg. 1, 11-18-91)
<i>Emergency Preparedness</i>	
5530.3	Radiological Assistance Program (1-14-92; Chg. 1, 4-10-92)
5530.5	Federal Radiological Monitoring and Assessment Center (7-10-92; Chg. 1, 12-2-92)
<i>Defense Programs</i>	
5610.14	Transportation Safeguards System Program Operations (5-12-93)
5633.3B	Control and Accountability of Nuclear Materials (9-7-1994)
5660.1B	Management of Nuclear Materials (5-26-1994)
<i>Energy Programs and Policies—General</i>	
5700.6C	Quality Assurance (8-21-91; Chg. 1, 5-10-96)
<i>Energy Research and Technology</i>	
5820.2A	Radioactive Waste Management (9-26-88)
<i>Design</i>	
6430.1A	General Design Criteria (4-6-89)
Notices	
N 251.4	Site Safety Representatives (09-29-95)
N 251.4	Safety Analysis and Review System (9-29-95)
N 251.6	Comprehensive Environmental Response, Compensation, and Liability Act Requirements (09-29-95)
N 441.1	Department of Energy Laboratory Accreditation Program for Personnel Dosimetry (09-30-95)
N 441.1	Radiation Protection for Occupational Workers (09-30-95)
Standards	
STD-3013-96	Criteria for Preparing and Packaging Plutonium Metals and Oxides for Long-Term Storage (09-96; supersedes DOE-STD-3013-94)

^a New DOE numbering system, by functional area; within 2 years, the numbering system for these orders will be converted to the new DOE numbering system (3 digit).

DOE regulations are found in 10 CFR. These regulations address areas such as energy conservation, administrative requirements and procedures, nuclear safety, and classified information. For the purposes of this EIS, relevant regulations and draft regulations include 10 CFR Part 834, Radiation Protection of the Public and the Environment; 10 CFR Part 835, Occupational Radiation Protection; 10 CFR Part 1021, Compliance with NEPA; and 10 CFR Part 1022, Compliance with Floodplains/Wetlands Environmental Review

Requirements. DOE has enacted occupational radiation protection standards to protect government and contractor employees. These standards are set forth in 10 CFR Part 835, Occupational Radiation Protection, which establishes radiation protection standards, limits, and program requirements for protecting individuals from ionizing radiation resulting from the activities conducted by DOE and its contractors. Activities may include, but are not limited to, design, construction, or operation of facilities. DOE Orders set forth policy and the programs and internal procedures for implementing those policies.

5.1.4 State Environmental Statutes and Regulations

Figure 5-3 illustrates agreements between the States and DOE relevant to the proposed action and alternatives. These agreements and compliance orders are summarized below.

Residues	Environmental Restoration	Transuranic Waste	Water Quality	Mixed Waste
Mixed Residue Settlement Agreement and Compliance Order on Consent No. 89-10-30-01	Rocky Flats Cleanup Agreement Savannah River Site Federal Facility Compliance Agreement	The Agreement for Consultation and Cooperation for Transuranic Waste	Federal Facility Agreement	Federal Facility Agreement

5.1.4.1 The State of Colorado

Before 1989, management of plutonium residues and scrub alloy at the Rocky Flats Environmental Technology Site (Rocky Flats) was governed by the Atomic Energy Act. However, in 1989 the State of Colorado determined that a portion of the residues were mixed with hazardous waste and therefore subject to the Colorado Hazardous Waste Act (CRS 25-15-101 et seq.). The Colorado Department of Health and Environment has been delegated primary Resource Conservation and Recovery Act authority by the EPA, including permitting requirements. Activities associated with the mixed residues must comply with Colorado’s hazardous and mixed waste generator, treatment, storage, disposal, and transportation requirements found in 6 Colorado Code of Regulations Chapter 1007, Article 3, Parts 99, 100, and 260-268. Currently, all of the mixed residues are in compliance with the Colorado Resource Conservation Act regulations. Along with the delegation of authority for Resource Conservation and Recovery, the EPA has delegated Clean Air Act and Clean Water Act authority to the State of Colorado.

The Colorado Air Quality Control Board has authority for air pollutants other than radioactive materials. Colorado submitted a State Implementation Plan that was approved by the EPA, that gives them primary permitting and enforcement authority. The governing regulations are found in the Colorado Air Pollution Prevention and Control Act implementing regulations, 5 Colorado Code of Regulations 1001. Of particular relevance to this EIS are Regulations No. 3 and No. 8. Regulation No. 3 requires Rocky Flats to file Air Pollutant Emission Notices to summarize nonradiological air emissions. Air Pollutant Emission Notices include an estimate of quantity and composition of air emissions generated from source operations. In addition to Air Pollutant Emission Notices, operating and construction air permits are required. Regulation No. 8 implements the Federal National Emission Standards for Hazardous Air Pollutants program for nonradioactive hazardous air pollutants in the State of Colorado. The Colorado Air Quality Control Board sets work standards, emission limitations, and ambient air standards for hazardous air pollutants. Colorado is in the process of gaining EPA approval of a radionuclide National Emission Standards for Hazardous Air Pollutants

program. The current EPA requirement limits the radiation dose to the public from airborne radionuclide emissions to 10 mrem/yr effective dose equivalent. Once Colorado obtains approval of its program, this standard could be more stringent for Rocky Flats.

The State of Colorado established the Colorado Water Quality Control Commission to implement the Federal National Pollutant Discharge Elimination System permit program, except for Federal facilities such as Rocky Flats. Consequently, although the Colorado Water Quality Control Commission sets the applicable effluent limitations for surface water quality that Rocky Flats must comply with, the EPA issues and administers National Pollutant Discharge Elimination System permitting. The State does ratify issuance of Federal permits and has the ability to veto the permit if it does not contain sufficient terms to protect all ambient segment water quality standards.

The Site was issued its original National Pollutant Discharge Elimination System permit in 1974 (#CO-0001333). The permit was reissued by the EPA in 1984, expired in 1989, and was modified and extended administratively by the National Pollutant Discharge Elimination System Federal Facility Compliance Agreement in March 1991. Key modifications included (1) eliminating two inactive discharge points and establishing new monitoring parameters for the other discharge locations, (2) changing one “point of compliance” location from Pond B-3 to the wastewater treatment plant, and (3) adding monitoring requirements for total chromium and whole effluent toxicity at terminal ponds A-4, B-5, and C-2 (the only ponds capable of discharging water offsite).

A revised, draft National Pollutant Discharge Elimination System permit (still in the draft stage as of 1996) was issued to the Site in February 1994. When finalized, this permit is expected to change the Site’s discharge points to the wastewater treatment plant, Building 374 product water, and six storm water monitoring stations. Until the new permit is in effect, the terms and conditions of the existing National Pollutant Discharge Elimination System permit remain in effect. The draft National Pollutant Discharge Elimination System permit’s monitoring requirements, sampling locations, analytical parameters, and sampling frequency details are not yet finalized.

The final permit is expected to apply numeric standards to wastewater treatment plant discharges. It is also expected to require implementation of “best management practices” for storm water. Storm water quality has a direct influence on Site pond water quality because storm water generally has high sediment loads that can carry contaminants into the ponds. Although the National Pollutant Discharge Elimination System permit has historically regulated discharges *from* the Site’s detention ponds rather than *to* the ponds, the draft permit regulates wastewater treatment plant and storm water discharges from the developed portion of the Site *prior* to entering the A-, B-, and C-Series ponds. Storm water discharges would be regulated from six locations within the developed portion of the Site. The draft permit requires that existing best management practices for storm water continue to be implemented until the EPA approves the Site’s *Stormwater Pollution Prevention Plan*.

The draft National Pollutant Discharge Elimination System permit is also expected to require that footing drain (e.g., building drain) discharges be monitored. Footing drain systems for buildings and structures in the Industrial Area are potential sources of contaminants for surface water at the Site. Water collected in the footing drains is discharged to storm sewers, sanitary sewers, building sumps, or surface outfalls and may reach Site ponds either through exfiltration of water from the sewers or through direct discharge to surface outfalls. Specific examples of footing drain flows that may affect Site ponds include outfalls for Buildings 317/374, 707, and 774. While the volume of water in the footing drains is not large compared to storm runoff, substantial concentrations of chemical contaminants could occur.

Water quality is tested at various discharge points and is compared against site-specific stream standards set by the Colorado Water Quality Control Commission. This dual compliance responsibility is based on the Site's status as a Federal facility. While the EPA has authorized the State of Colorado to implement the Federal National Pollutant Discharge Elimination System permit program for Colorado waters, the State's authority does not extend to Federal facilities such as the Site. Therefore, the EPA retains authority for issuing National Pollutant Discharge Elimination System permits for the Site. The State's authority derives primarily from the stipulation in the Clean Water Act that each State must certify that National Pollutant Discharge Elimination System permit conditions are consistent with its own water quality standards.

The respective roles and responsibilities of the EPA and the State of Colorado in regulating the quality of water onsite and offsite are clarified in the National Pollutant Discharge Elimination System Federal Facility Compliance Agreement (Section 6.5.11).

In March 1990, the Colorado Water Quality Control Commission adopted site-specific water quality standards in lieu of statewide standards for Woman Creek, Walnut Creek, Standley Lake, and Great Western Reservoir. The Commission determined that the site-specific standards were appropriate to establish extra protection for Great Western Reservoir and Standley Lake. As a result, specific stream standards for Woman Creek and Walnut Creek were adopted for organic and inorganic chemicals, metals, radionuclides, and certain physical and biological parameters. "Segment 4" standards adopted for tributaries downstream of the Site's detention ponds were more stringent than "Segment 5" standards adopted for tributaries upstream of these ponds.

In January and April 1995, the Commission issued additional revisions to the standards for Walnut Creek and Woman Creek drainages (e.g., resegmenting portions of Walnut Creek and eliminating the unionized ammonia standards for those segments). The EPA has not yet issued the National Pollutant Discharge Elimination System permit reflecting the Commission's water quality standards; however, the Site is abiding by them. Water is discharged from the Site only with the concurrence of the Colorado Department of Public Health and Environment.

The Colorado Water Quality Control Commission has established radionuclide standards for gross alpha, gross beta, plutonium, americium, tritium, and uranium that were not health-based but based, on existing ambient quality. DOE consistently claimed that the standards were too stringent and inconsistent with the statewide standard. As part of the Rocky Flats Cleanup Agreement (see Agreements), DOE, the EPA, and the Colorado Department of Health and Environment agreed to multiple action levels that will be proposed for approval to the Colorado Water Quality Control Commission, including a health-based standard for radionuclides.

The Colorado Water Quality Control Commission made the following rulings at its December 1996 rulemaking on water quality regulations affecting Rocky Flats: (1) repealed the site-specific radionuclide standard of 0.05 pCi/L and adopted a statewide standard of 0.15 pCi/L and (2) granted Rocky Flats a temporary modification of the nitrate standard to 100 mg/L (an increase from the existing 10 mg/L).

☐ **Agreements**—On November 3, 1989, DOE, the Colorado Department of Public Health and Environment, and the EPA signed the Mixed Residue Settlement Agreement and Compliance Order on Consent No. 89-10-30-01 to address the issue of alleged violations of the Resource Conservation and Recovery Act pertaining to proper waste management of mixed residues. The Sierra Club civil lawsuit was decided on August 13, 1991, whereby DOE was directed to either obtain a Resource Conservation and Recovery Act permit within two years for the existing inventory of mixed residues or suspend all Site operations generating mixed waste. As of February 7, 1995, the mixed residues are fully permitted and in compliance with the Colorado hazardous waste regulations. Although several subsequent judicial and administrative orders occurred, currently only one governs the residues. Consent No. 93-04-23-01 requires the

preparation of the Mixed Residue Reduction Report and that DOE process the backlog of mixed residues into shippable or disposable form as expeditiously as possible.

The Rocky Flats Cleanup Agreement, issued on July 19, 1996, is the legal document that identifies the relationship between DOE, the EPA, and the Colorado Department of Public Health and Environment during cleanup of the Site. The goal of the Agreement is to create a coordinated approach, using one set of consistent environmental requirements and a process for reaching specific decisions within targeted time frames. The document provides a legal framework for guiding individual cleanup and waste management decisions for environmental restoration without predetermining those decisions. The Rocky Flats Cleanup Agreement does not govern the management of special nuclear materials or residues, nor does it govern the management of building deactivation and decontamination as long as DOE has a mission for those facilities.

5.1.4.2 The State of South Carolina

Materials shipped from Rocky Flats to the Savannah River Site for treatment, storage, or disposal are required to comply with State of South Carolina laws and regulations. The hazardous waste component of mixed residues are regulated by the South Carolina Department of Health and Environmental Control Resource Conservation and Recovery Act implementing regulations R.61-79.260 through 270. The South Carolina Department of Health and Environmental Control currently does not have land disposal restriction waste authority; therefore, Federal standards would apply. In addition to hazardous waste requirements, South Carolina air and water standards would apply. The South Carolina Department of Health and Environmental Control has been delegated primary enforcement authority. Under the South Carolina Pollution Control Act, the South Carolina Department of Health and Environmental Control operates a permitting program for both air and water. Air permits include operating and construction permits. Furthermore, for facilities within South Carolina, the EPA has maintained authority over radionuclide emissions. The South Carolina Department of Health and Environmental Control has lead authority for regulating all other Clean Air Act hazardous air pollutants.

- **Agreements**—DOE, the EPA, and the South Carolina Department of Health and Environmental Control signed a Federal Facility Compliance Agreement to coordinate cleanup at the Savannah River Site. In addition, DOE and the EPA signed a Federal Facility Agreement regarding land disposal restriction of mixed waste at Savannah River Site. Among other things, the agreement requires Savannah River Site to provide status reports on construction and operation of various waste management facilities and to obtain permits for the construction and operation of additional facilities to meet DOE's needs for treatment of mixed waste.

5.1.4.3 The State of New Mexico

Management of residues and scrub alloy within the State of New Mexico is governed by the New Mexico Health and Environmental Department, Environmental Improvement Division. The New Mexico Environmental Improvement Division has responsibility for enforcement of compliance with the New Mexico Hazardous Waste Act, the New Mexico Water Quality Act, and the New Mexico Air Quality Control Act.

- **Agreements**—The Agreement for Consultation and Cooperation for Transuranic Waste was signed by the State of New Mexico and DOE on April 18, 1988. The agreement specifies the requirements for the packaging, labeling, and transportation of transuranic waste to the Waste Isolation Pilot Plant (WIPP). WIPP is one of the potential disposal sites for Rocky Flats transuranic and transuranic-mixed wastes.

5.2 REGULATIONS FOR RADIOACTIVE MATERIAL PACKAGING AND TRANSPORTATION

5.2.1 Nuclear Regulatory Commission Packaging Certification

Nuclear Regulatory Commission regulations applicable to the transportation of radioactive materials are found in 10 CFR Part 71, which includes detailed packaging design requirements and package certification testing requirements. Complete documentation of design and safety analysis and results of the required testing are submitted to the Nuclear Regulatory Commission to certify the package for use. Certification tests include: heat, physical drop onto an unyielding surface, water submersion, puncture by dropping package onto a steel bar, and gas tightness.

5.2.2 Hazardous and Radioactive Materials Transportation Regulations

Transportation of hazardous and radioactive materials, substances, and wastes is governed by Department of Transportation, Nuclear Regulatory Commission, and the EPA regulations. These regulations may be found in 49 CFR Parts 171 through 178, 49 CFR Parts 383 through 397, 10 CFR Part 71, and 40 CFR Parts 262 and 265, respectively.

Department of Transportation regulations contain requirements for identifying a material as hazardous or radioactive. These regulations interface with the Nuclear Regulatory Commission or the EPA regulations for identifying material, but the Department of Transportation hazardous material regulations govern the hazard communication (such as marking, hazard labeling, vehicle placarding, and emergency response telephone number) and shipping requirements (such as required entries on shipping papers or the EPA waste manifests).

The EPA regulations pertaining to hazardous waste transportation are found in 40 CFR Parts 262 and 265. These regulations address labeling and record keeping requirements, including the use of the EPA waste manifest, which is the required shipping paper for transporting Resource Conservation and Recovery Act regulated hazardous waste.

Transportation casks are subject to numerous inspections and tests (10 CFR 71.87). These tests are designed to ensure that the cask components are properly assembled and meet applicable safety requirements. Tests and inspections are clearly identified in the Safety Analysis Report for Packaging and/or the Certificate of Compliance for each cask. Casks are loaded and inspected by registered users in compliance with approved quality assurance programs. Operations involving the casks are conducted in compliance with 10 CFR 71.91. Reports of defects or accidental mishandling are submitted to the Nuclear Regulatory Commission.

☐ **Communications**—Proper communication, provided by labels, markings, placarding, and shipping papers or other documents, assists in ensuring safe preparation and handling of transportation casks. Labels (49 CFR 172.403) applied to the cask document the contents and the amount of radiation emanating from the cask exterior (transport index). The transport index lists the ionizing radiation level (in mrem/hr) at a distance of 1 m (3.3 ft) from the cask surface.

In addition to the label requirements, markings (49 CFR Subpart D and 173.471) should be placed on the exterior of the cask to show the proper shipping name and the consignor and consignee in case the cask is separated from its original shipping documents (40 CFR 172.203). Transportation casks are required to be permanently marked with the designation “Type B,” the owner’s (or fabricator’s) name and address, the Certificate of Compliance number, and the gross weight (10 CFR 71.83).

Placards (49 CFR 172.500), which indicate the radioactive nature of the contents, are applied to the transport vehicle or freight container holding the transportation cask. In the United States, spent nuclear

fuel is a Highway Route Controlled Quantity that must be placarded according to 49 CFR 172.507. Each freight container must be placarded as required by 49 CFR Part 172 Subpart F of the Hazardous Materials Regulations [49 CFR 176.76(f)]. Placards provide the first responders to a traffic or transportation accident with initial information about the nature of the contents.

Shipping papers should have entries identifying the following: the name of the shipper, emergency response telephone number, description of the spent nuclear fuel, and the shipper's certificate as described in 49 CFR Part 172 Subpart C.

In addition, drivers of motor vehicles transporting spent nuclear fuel must have training in accordance with the requirements of 49 CFR 172.700. The training requirements include: familiarization with the regulations, emergency response information, and the spent nuclear fuel communication programs required by the Occupational Safety and Health Administration. Drivers are also required to have training on the procedures necessary for safe operation of the vehicle.

- **Ground Transport**—Overland shipments (by rail car or by truck) are regulated by a variety of the Department of Transportation and Nuclear Regulatory Commission regulations dealing with packaging, notification, escorts and communication. In addition, there are specific regulations for carriage by truck and carriage by rail.

A package shipped over land in exclusive-use closed transport vehicles may not exceed the following radiation levels as provided in 49 CFR 173.441(b):

200 mrem/hr on the external surface of the package unless the following conditions are met, in which case the limit is 1,000 mrem/hr:

- The shipment is made in a closed transport vehicle
- The package is secured within the vehicle so that its position remains fixed during transportation
- There are no loading or unloading operations between the beginning and the end of the transportation

200 mrem/hr at any point on the outer surface of the vehicle, including the top and underside of the vehicle; or in the case of a flat-bed style vehicle, at any point on the vertical planes projected from the outer edges of the vehicle, on the upper surface of the load (or enclosure if used), and on the lower external surface of the vehicle

10 mrem/hr at any point 2 m (6.6 ft) from the outer lateral surfaces of the vehicle (excluding the top and underside of the vehicle); or in the case of a flat-bed style vehicle, at any point 2 m (6.6 ft) from the vertical planes projected by the outer edges of the vehicle (excluding the top and underside of the vehicle)

2 mrem/hr in any normally occupied space.

The shipper of record must comply with the requirements of 10 CFR 71.5 and 73.37. Section 71.5 provides that all overland shipments must be in compliance with Department of Transportation and Nuclear Regulatory Commission regulations, which provide for security of irradiated reactor fuel.

5.3 EMERGENCY MANAGEMENT AND RESPONSE LAWS AND OTHER REQUIREMENTS

This section discusses laws and other requirements related to emergency management and response. Figures 5-4 through 5-6 in the following subsections illustrate statutes, regulations, and Executive Orders applicable to emergency management and response for the proposed action and alternatives.

5.3.1 Federal Statutes

Figure 5-4 illustrates Federal statutes applicable to emergency planning and response. Summaries of these documents follow the figure.

- **Emergency Planning and Community Right-to-Know Act of 1986 (42 U.S.C. 11001 et seq.) (also known as SARA Title III)** This Act requires emergency planning and notice to communities and government agencies of the presence and release of specific chemicals. The EPA implements this Act under regulations found at 40 CFR Parts 355, 370, and 372. Under Subtitle A of this Act, Federal facilities provide various information (such as inventories of specific chemicals used or stored and releases that occur from these sites) to the State Emergency Response Commission and to the Local Emergency Planning Committee to ensure that emergency plans are sufficient to respond to unplanned releases of hazardous substances. Implementation of the provisions of this Act began voluntarily in 1987, and inventory and annual emissions reporting began in 1988. In addition, DOE requires compliance with Title III as a matter of DOE policy. The requirements for this Act were promulgated by the EPA in 40 CFR Parts 350 through 372.

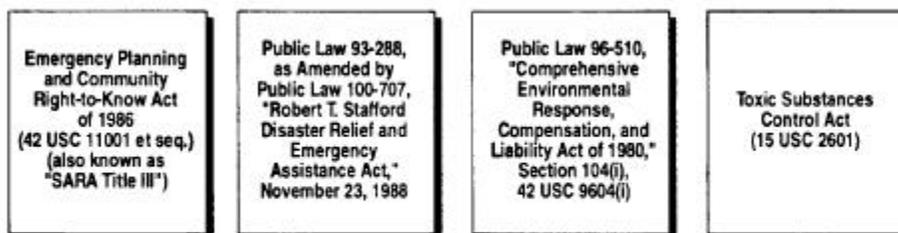


Figure 5-4 Federal Statutes Applicable to Emergency Management and Response

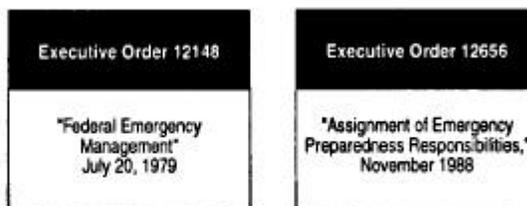
- **Public Law 93-288, as Amended by Public Law 100-707, Robert T. Stafford Disaster Relief and Emergency Assistance Act, November 23, 1988** This Act, as amended, provides an orderly and continuing means of assistance by the Federal Government to State and local governments in carrying out their responsibilities to alleviate the suffering and damage resulting from disasters. The President, in response to a State Governor's request, may declare an emergency or major disaster, to provide Federal assistance under the Act. The President, in Executive Order 12148, delegated all functions, except those in Sections 301, 401, and 409, to the Director, Federal Emergency Management Agency. The Act provides for the appointment of a Federal Coordinating Officer who will operate in the designated area with a State Coordinating Officer for the purpose of coordinating State and local disaster assistance efforts with those of the Federal Government.

- ❑ **Public Law 96-510, “Comprehensive Environmental Response, Compensation, and Liability Act of 1980,” Section 104(I), 42 U.S.C. 9604(I)**—More popularly known as “Superfund,” this Act provides the needed general authority for Federal and State governments to respond directly to hazardous substances incidents. The Act requires reporting of spills, including radioactive spills, to the National Response Center.
- ❑ **Public Law 98-473, Justice Assistance Act of 1984**—These Department of Justice regulations implement the Emergency Federal Law Enforcement Assistance functions vested in the Attorney General. Those functions were established to assist State and local governments in responding to a law enforcement emergency. The Act defines the term “law enforcement emergency” as an uncommon situation which requires law enforcement, which is or threatens to become of serious or epidemic proportions, and with respect to which State and local resources are inadequate to protect the lives and property of citizens, or to enforce the criminal law.

Emergencies that are not of an ongoing or chronic nature, such as the Mount Saint Helens volcanic eruption, are eligible for Federal law enforcement assistance. Such assistance is defined as funds, equipment, training, intelligence information, and personnel. Requests for assistance must be submitted in writing to the Attorney General by the chief executive office of a State. The Plan does not cover the provision of law enforcement assistance. Such assistance will be provided in accordance with the regulations referred to in this paragraph [28 CFR Part 65, implementing the Justice Assistance Act of 1984] or pursuant to any other applicable authority of the Department of Justice.

5.3.2 Executive Orders

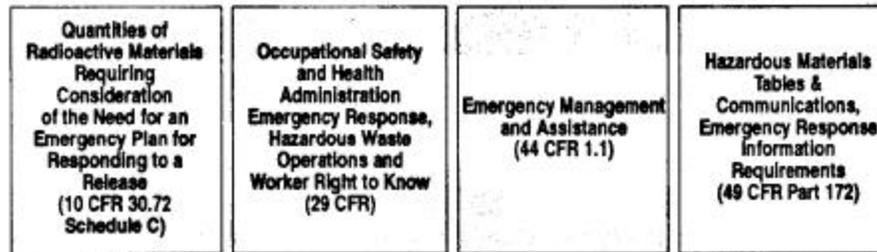
Figure 5 illustrates Executive Orders applicable to emergency management and response. Summaries of these Executive Orders follow the figure.



- ❑ **Executive Order 12148, “Federal Emergency Management,” July 20, 1979**—Executive Order 12148 transfers functions and responsibilities associated with Federal emergency management to the Director, Federal Emergency Management Agency. The Order assigns the Director, Federal Emergency Management Agency, the responsibility to establish Federal policies for and to coordinate all civil defense and civil emergency planning, management, mitigation, and assistance functions of Executive Agencies.
- ❑ **Executive Order 12656, “Assignment of Emergency Preparedness Responsibilities,” November 1988**—Executive Order 12656 assigns emergency preparedness responsibilities to Federal departments and agencies.

5.3.3 Federal Regulations Concerning Emergency Management

Figure 5–6 illustrates Federal regulations applicable to emergency management and response. Summaries of these regulations follow the figure.



- ❑ **Quantities of Radioactive Materials Requiring Consideration of the Need for an Emergency Plan for Responding to a Release (10 CFR 30.72 Schedule C)**—This list is the basis for both the public and private sector to determine if the radiological materials they deal with must have an emergency response plan for unscheduled releases, and is one of the threshold criteria documents for DOE Hazards Assessments required by DOE Order 5500.3A, Planning and Preparedness for Operational Emergencies. Federal Radiological Emergency Response Plan, November 1985—Primarily discusses offsite Federal response in support of State and local governments with jurisdiction during a peacetime radiological emergency.
- ❑ **Occupational Safety and Health Administration Emergency Response, Hazardous Waste Operations and Worker Right to Know (29 CFR)**—This regulation sets down the Occupational Safety and Health Administration requirements for employee safety in a variety of working environments. The regulation addresses employee emergency and fire prevention plans (Section 1910.38), hazardous waste operations and emergency response (Section 1910.120), and hazards communication (Section 1910.1200) that enables employees to be aware of the dangers they face from hazardous materials at their workplace.
- ❑ **Emergency Management and Assistance (44 CFR 1.1)**—This regulation contains the policies and procedures for the Federal Emergency Management Act, National Flood Insurance Program, Federal Crime Insurance Program, Fire Prevention and Control Program, Disaster Assistance Program, and Preparedness Program including radiological planning and preparedness.
- ❑ **Hazardous Materials Tables & Communications, Emergency Response Information Requirements (49 CFR Part 172)**—The regulatory requirements for marking, labeling, placarding, and documenting hazardous materials shipments are defined in this regulation. The regulation also specifies the requirements for providing hazardous material information and training.

5.3.4 Emergency Planning

During peacetime radiological emergencies that occur outside of Federal jurisdiction, Federal agencies support State and local governments with jurisdiction for the emergency. The *Federal Radiological Emergency Response Plan* of November 1985 describes the Federal government's concept of operations for this support. The plan outlines policies and planning assumptions that underlie the concept of operations. It also specifies authorities and responsibilities for those Federal agencies that play a significant role during an emergency.