

Appendix B

Federal Institutional Framework To Protect Groundwater

B.1 DESCRIPTION OF SOURCES ADDRESSED BY FEDERAL PROGRAMS (p. 296)

B.1 DESCRIPTION OF SOURCES ADDRESSED BY FEDERAL PROGRAMS^a

Source	Statute and Section	Description of Sources ^b	Provisions of Federal Programs To Protect Groundwater ^b	
			Detection	Correction Prevention
CATEGORY I:				
Subsurface Percolation	SDWA - Part C	Cesspools (or similar devices) serving 20 or more persons (included in Class V well category). ^c		
	CWA - Section 201	On-site septic systems serving one or more residences or small commercial establishments.		
Injection Wells	- NRE <	Wells are divided into five categories: 1) <u>Class I</u> - Wells used to dispose of hazardous, radioactive and other wastes <u>below</u> aquifers used for drinking water purposes. 2) <u>Class II</u> - Wells used in association with oil and gas production (e.g., enhanced recovery, or for storage of liquid hydrocarbons). 3) <u>Class III</u> - Wells used for the extraction of minerals (e.g., in-situ and solution mining). 4) <u>Class IV</u> - Wells used to dispose of hazardous or radioactive wastes into or above drinking water sources. 5) <u>Class V</u> ^c - Other injection wells not specified above (e.g., artificial recharge wells).	X	x
	CERCLA	Injection wells which release any hazardous substance, pollutant, or contaminant (as defined by CERCLA).	x	x
Land Application	CWA - Section 201	Land treatment processes for wastewater from sewage treatment plants.	x	X
	CWA - Section 405	Land treatment of sewage sludge.		x
	CWA - Section 406 ^d	Land application of dredged material.		x
	RCRA - Subtitle C	Land treatment of hazardous wastes (as defined by RCRA). ^e	x	x
	CERCLA	Land applications that release any hazardous substance, pollutant, or contaminant (as defined by CERCLA).	x	x

Source	Statute and Section	Description of Sources	Provisions of Federal Programs to Protect Groundwater		
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CATEGORY II:					
Landfills	RCRA - Subtitle C	Landfills used for the disposal of hazardous wastes (as defined by RCRA). ^e	X	X	X
	TSCA - Section 6	Landfills used for the disposal of PCBs (at concentrations of 50 ppm and above).	X		X
	RCRA - Subtitle D	Sanitary landfills are facilities that pose no reasonable probability of adverse effects on health or the environment from disposal of solid wastes (as defined by RCRA).			X
	CERCLA	Landfills that release any hazardous substance, pollutant, or contaminant (as defined by CERCLA).	X	X	
Open Dumps	RCRA - Subtitle D	Open dumps are defined as landfills that do not meet specified criteria for sanitary landfills.			X
	CERCLA	Open dumps that release any hazardous substance, pollutant, or contaminant (as defined by CERCLA).	X	X	
Residential (local) Disposal	FIFRA - Section 19	Burial of small pesticide containers in open fields.			X
Surface Impoundment	RCRA - Subtitle C	Surface impoundments used for the treatment, storage, or disposal of hazardous wastes (as defined by RCRA). ^e	X	X	X
	CERCLA	Surface impoundments that release any hazardous substance, pollutant, or contaminant (as defined by CERCLA).	X	X	
	SMCRA	Temporary and permanent impoundments associated with surface and underground coal mining operations.	X		X
	FLPMA and Associated Mining Laws	Impoundments associated with mining operations for leasable minerals (e.g., phosphate, sand, and gravel), locatable minerals (e.g., gold, silver, and copper) and geothermal steam production. Applies only to Federal lands.			X

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CATEGORY II (Cont'd.)					
Waste Tailings	UMTRCA	Waste tailings disposal areas (active) from uranium processing activities.	X	X	X
	UMTRCA	Waste tailing disposal areas (inactive) from uranium processing activities.	X	X	
	FLPMA and Associated Mining Laws	Waste tailings associated with mining operation for leasable and locatable minerals. Applies only to Federal lands.			X
Waste Piles ^{a, b, c}	RCRA - Subtitle C	Waste piles used for the storage or treatment of hazardous wastes (as defined by RCRA). ^e	X	X	X
	CERCLA	Waste piles that release any hazardous substance, pollutant, or contaminant (as defined by CERCLA).	X	X	
	SMCRA	Coal mine waste piles (e.g., earth materials separated from the coal) associated with surface and underground mining operations.	X		X
	FLPMA	Mine waste piles associated with mineral mining operations. Applies only to Federal lands.			X
	FIFRA -- Section 19	Storage of pesticide packages and containers.			X
Materials Stockpiles	---	---			
Graveyards	---	---			
Animal Burial	---	---			
Aboveground and Underground Storage Tanks	RCRA - Subtitle C	Tanks used for the treatment or storage of hazardous wastes (as defined by RCRA). ^{e, f}			X
	CERCLA	Tanks that release any hazardous substance, pollutant, or contaminant (as defined by CERCLA).	X	X	
	TSCA - Section 6	Tanks containing PCBs (at concentrations of 50 ppm and above).			X

Source	Statute and Section	Description of Sources	Provisions of Federal Programs to Protect Groundwater	
			Detection	Correction/Prevention
Aboveground and Underground Storage Tanks (Cont'd.)	CWA - Section 3	Facilities with aboveground tank capacities equal to or greater than 1,320 gallons of oil (or single tanks with capacities greater than 660 gallons) or facilities with underground tank capacities equal to or greater than 42,000 gallons of oil.		X
	RCRA - Subtitle C	Containers used to store hazardous wastes (as defined by RCRA).		X
	TSCA - Section 6	Containers used to store PCBs at concentrations of 50 ppm and above).		X
	CERCLA	Containers that release any hazardous substance, pollutant, or contaminant (as defined by CERCLA).	X	X
Open Burning and Detonation Sites	FIFRA - Section 4	Pesticide containers see Maximum Stockpile.		X
	RCRA - Subtitle C	Open burning and detonation of waste explosives (open burning of hazardous wastes is prohibited).		X
	FIFRA - Section 4	Open burning of small quantities of mobile pesticide containers.		X
	CERCLA	Open burning and detonation sites that release any hazardous substance, pollutant, or contaminant (as defined by CERCLA).	X	X
Radioactive Disposal Sites	AEA	Disposal sites for low-level radioactive wastes.	X	X
	AEA	Geologic repositories for high-level radioactive wastes.	X	X
	AEA	Facilities used in enrichment process of nuclear materials.	X	X
	UMRCA	See Waste Tailings, above.	X	X

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CATEGORY III:				
Pipelines	HLPFA	Pipelines used to transport hazardous liquids (applies to petroleum, petroleum products, and anhydrous ammonia) in interstate and foreign commerce.		X
	CERCLA	Pipelines that release any hazardous substance, pollutant, or contaminant (as defined by CERCLA).	X	X
	HMFA	Transport of hazardous materials and hazardous wastes (as defined by HMFA) by rail car, aircraft, vessel, and motor vehicles used in interstate and foreign commerce, and by motor vehicles used to transport hazardous wastes in intrastate commerce.		X
	CERCLA	Transport-related releases of any hazardous substance, pollutant, or contaminant (as defined by CERCLA).	X	X
CATEGORY IV:				
Irrigation Practices	CWA - Section 208	Return flows from irrigated agriculture.		X
Pesticide Applications	CWA - Section 208	Agriculturally related sources of pollution.		X
	FIFRA - Section 3	Application of certain pesticides which may cause unreasonable adverse effects on the environment.		X
Fertilizer Applications	CWA - Section 208	Agriculturally related non-point sources of pollution.		X
Animal Feed Operations	CWA - Section 208	Manure disposal areas and lagoons for livestock.		X
De-icing Salts Applications	---	---		
Urban Runoff	CWA - Section 208	Urban stormwater runoff systems.		X
Percolation of Atmospheric Pollutants	---	---		

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CATEGORY IV (Cont'd.):				
Mining and Mine Drainage	FLPMA and Associated Mining Laws	Surface and underground mining operations for leasable and locatable minerals. Applies only to Federal lands.		X
	SMCRA	Surface and underground coal mining operations.	X	X
	CWA - Section 208	Mine-related sources of pollution including runoff from new, active, and abandoned surface and underground mines.		X
CATEGORY V:				
Production Wells	FLPMA (and Geothermal Steam Act)	Wells used for the production of geothermal steam. Applies only to Federal lands.	X	X
Other Wells (Non-waste)	FLPMA	Exploration wells used in mining operations for leasable minerals. Applies only to Federal lands.		X
Construction Excavation	CWA - Section 208	Construction activity related to sources of pollution.		X
CATEGORY VI:				
Groundwater - Surface Water Interactions	CWA - Section 208	Intermixing of surface and groundwater.		
Natural Leaching	Reclamation Act	Natural salt or other deposits affecting underground water supplies.	X	X
Salt-water Intrusion	CWA - Section 208	Salt-water intrusion into surface water resulting from reduction of freshwater flow from any cause including groundwater extraction.		X
	CZMA	Salt-water intrusion.		

- a. **Information** on the applicability of CERCLA to various sources is in the **Table** in ch. 3.
- b. The descriptions listed are based on Federal regulations or other documents issued by Federal agencies with respect to implementation of statutory requirements.
- c. Regulations for Class V wells have been promulgated.
- d. Corrective action provisions for leachate of sewage sludge are included in Section 20 of the Clean Water Act.
- e. Certain design and operation requirements do not apply to facilities (or portions of facilities) that received waste prior to the effective date of the regulations (Jan. 26, 1983). The definition of hazardous waste is discussed in footnote 12 in ch. 3.
As this report went to press, the Report of the Conference Committee, House Report No. 98-1133, had been adopted on a bill to reauthorize and amend RCRA and awaits enactment from the White House. Provisions of the bill (H.R. 2867) are not included in the OTA analysis of Federal laws and programs. Provisions of the bill are included for, among others, liquids in landfills, land disposal, small-quantity generators, underground storage tanks, waste facility standards, and surface impoundments. Some provisions directly address groundwater. For example, EPA must issue regulations for detecting leaks from underground tanks used to store hazardous substances and petroleum products; all new or expanded land disposal facilities for hazardous wastes must have groundwater monitoring; underground injection of hazardous wastes into or above any formation that contains, within one-quarter mile of the well, an underground source of drinking water is prohibited (variances are allowed); and a National Groundwater Commission is established. The reader is referred to: Congressional Quarterly, "RCRA Rewrite Strengthens Hazardous Waste Protections," Oct. 6, 1984; and M. E. Reisch, "RCRA Reauthorization: A Section-by-Section Comparison of H.R. 2867, As Passed By the House, and As Passed, Amended (S. 757), by the Senate," Congressional Research Service, revised Aug. 6, 1984.
- f. Regulations for underground tanks containing hazardous wastes have been promulgated.
- g. Regulations for underground burning and incineration have been promulgated.
- h. Regulations for the production of minerals are included in Category I Injection Wells.

Source: Office of Technology Assessment