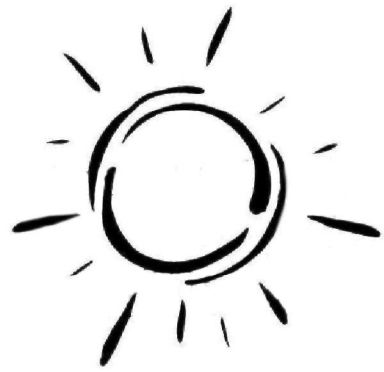
Everything You Wanted to Know About Environmental Regulations...



But Were Afraid to Ask!

A Guide for Small Communities
1999 Revised Edition

This handbook was developed by the Region 8 Small Community Work Group. The agencies and organizations represented on the work group include:

American Water Works Association
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Colorado Department of Public Health & Environment
City of Fort Lupton, Colorado
Department of Health and Human Services, Indian Health Service
Midwest Assistance Program
National Environmental Training Center for Small Communities
North Dakota Department of Health
Rural Community Assistance Corporation
South Dakota Department of Environment & Natural Resources
U.S. Department of Agriculture, Rural Development
U.S. EPA Region 8
U.S. EPA Headquarters, Washington DC
Utah Department of Environmental Quality
Wyoming Casper College Environmental Training Center

Preface

This handbook was prepared with small units of local government (communities) in mind. For purposes of this handbook, a small community is defined as a unit of local government with a population of 5,000 or less. The handbook was prepared for use by officials of such communities as a quick reference to information on addressing the environmental issues facing their constituencies. If your community is larger than 5,000 people, you will need, at a minimum, to comply with the environmental regulatory requirements outlined in this guide. It is likely that your larger community will need to meet additional requirements; information on these requirements can be obtained from the Environmental Protection Agency (EPA) or your state regulatory agency.

Information presented in this handbook is meant only as a summary of basic environmental requirements and/or EPA guidance. It is not intended to serve as a definitive statement of the specific ways in which a community can ensure environmental compliance, but rather, it is a quick guide to the environmental regulatory programs that typically apply to most small communities.

The requirements and guidance presented in this handbook are based on federal regulations and/or guidance documents in place in early 1999. These requirements are implemented by a federal agency, generally the EPA. It should be expected that some of these requirements/guidance documents will change in the future. In addition, states and Indian tribes are required to adopt rules at least as stringent as the federal rules if they assume the responsibility for implementation. States and tribes can adopt rules that are somewhat different and possibly more stringent in some cases; e.g., frequency of sampling or required dates of implementation. **Be sure to ask for and read the rules from the appropriate state or tribal agency in your area.**

This document was initially prepared in late 1990 by the Midwest Assistance Program, Inc. under contract to EPA Region 8. It was expanded by EPA Region 8 in early 1991 to include the EPA non-regulatory programs that typically apply to small local units of government. The handbook was updated in April 1993 and in January 1999 under the direction of the Region 8 Small Community Coordinator.

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AIR PROGRAMS

Clean Air Act Amendments of 1990

Do the Clean Air Act Amendments apply to my community?

Most provisions do not affect small communities, with a few exceptions. For example, communities located in areas where National Ambient Air Quality Standards (NAAQS) are not being met may be required to take corrective actions (e.g., requiring oxygenated fuels in carbon monoxide non-attainment areas or placing restrictions on woodburning in areas that are non-attainment for particulates).

Actions your community should be taking

Prior to initiating significant involvement to address air pollution issues that may arise, small communities should contact their State Air Pollution Agency and the Regional EPA Air Program for guidance.

Some states have taken the initiative in working with small communities early on when air quality concerns are identified. Often, the community and state can resolve an issue before the EPA needs to get involved. For example, a simple change in street sanding practices may be all that is needed in a small community to control particulate emissions that violate clean air standards.

Additional Information

- Clean Air Act Amendments: Title VIII - Miscellaneous Provisions, Sec. 810. Impact on Small Communities
- Region 8 Small Community Air Contact (303) 312-6004
- EPA Air Program website at http://www.epa.gov/oar/oaqps

See the listing for State Air contacts in the resource section

LAND PROGRAMS

RCRA - Hazardous Waste

Hazardous waste is found throughout all levels of commerce and industry. Wastes are identified as hazardous if they pose a potential danger to human health and/or the environment when not properly treated, stored, transported, disposed of, or otherwise managed. Potential dangers include explosions, fires, corrosive destruction of materials, chemical reactions, and/or health impairing exposure to toxic chemicals. The greater the quantity or concentration of chemicals exhibiting any of these dangers, the greater the need to assure their proper management.

In 1976, Congress enacted the Resource Conservation and Recovery Act (RCRA) as the primary regulatory vehicle to assure that hazardous waste is properly managed, from the point of its generation to its ultimate disposal or destruction, i.e., "from cradle to grave." RCRA establishes a very complex and comprehensive set of requirements to define the materials that are subject to hazardous waste regulation.

The Act also describes the responsibilities of anyone who generates, transports, stores, treats, disposes of or otherwise manages hazardous waste. At this time, individual household wastes, many that may exhibit some of the dangers described above, are not subject to federal RCRA requirements.

Many states are authorized to implement the hazardous waste program. In cooperation with your local county health officials, they sometimes conduct household hazardous waste collection days. You should contact your state or county representatives to find out when the next household hazardous waste pickup will be.

In 1984, Congress enacted the Hazardous and Solid Waste Amendment (HSWA) to RCRA. These rules broadened EPA's authority to address past disposal of solid wastes at active and inactive disposal facilities.

Currently, there are three categories of hazardous waste generators under the RCRA program requirements:

- Large Quantity Generator (LQG) - Facilities that generate more than 1,000 kilograms per month of any hazardous waste or more than one kilogram of an "acute" hazardous waste. A kilogram is approximately 2.2 pounds, and 1,000 kilograms is approximately five, 55-gallon drums of material. Acute hazardous waste is waste that poses additional threats to human health and the environment.

- Small Quantity Generator (SQG) - Facilities that generate less than 1,000 kilograms per month of hazardous waste but more than 100 kilograms per month (approximately one half of a 55-gallon drum). Small quantity gen-

erators are given additional time to comply with new regulations and for on-site storage of their waste.

- Conditionally Exempt Small Quantity Generator (CESQG) - Facilities that generate less than 100 kilograms a month of any hazardous waste are conditionally exempt from the RCRA regulations. These facilities may generally dispose of their waste in accordance with state "solid waste" requirements such as those described under the Subtitle D program (Municipal Solid Waste Landfill Criteria).

Does the RCRA Program apply to my community?

It is very likely that some types of hazardous wastes subject to RCRA regulations are generated by businesses in your community or by your municipal facility operations themselves. For example, hazardous wastes may be generated by vehicle repair shops, auto body repair shops and dry cleaning facilities. Wastes may include solvents, corrosives and materials containing metals (e.g., chromium, cadmium and lead). Any discarded material must be evaluated to determine if it has been listed by EPA as hazardous waste or if the waste exhibits any of the following characteristics: ignitability, corrosivity, reactivity, or toxicity as determined by the Toxic Characteristic Leaching Procedure (TCLP) test.

In addition to used materials that might be considered hazardous waste, you also must be careful with your disposal of products that no longer are wanted or needed. For example, leftover pesticides from groundskeeping operations, old paint thinner, etc., must be fully evaluated before you determine how you are going to do dispose of it. EPA has identified several hundred chemical products, which if disposed of improperly, also would be considered "listed hazardous waste."

Another area of possible concern for your community is the operation of trash collection systems and/or landfills. Because household wastes are currently exempt from RCRA regulation, municipal landfills are regulated under a program referred to as "Subtitle D Municipal Solid Waste Landfill Criteria." These regulations are intended to ensure proper management of municipal landfills. However, the addition of commercial waste materials collected and/or disposed of with the household materials might trigger RCRA jurisdiction over the entire facility.

Used lubricating oil is another area of concern, since improper disposal poses a threat to the environment. While EPA does not list used oil as a hazardous waste, it has published specific management procedures to ensure proper disposal. Contact the RCRA Hotline or your regional or state office for further information.

Timetable

RCRA regulations were first published in 1980 and are constantly being amended to

add new wastes that are subject to the program. Once you determine that you are a handler of hazardous waste (e.g., you generate, store, or transport it), you must notify EPA and/or the State Hazardous Waste Office of your activity and receive an EPA RCRA identification number.

Different timetables and responsibilities apply to different activities. Hazardous waste generators may accumulate waste on-site for up to 90 days without triggering a requirement to obtain a storage permit. Small quantity generators have up to 180 days or may accumulate, one time only, up to 6,000 kg on-site.

Securing a permit to authorize the treatment, storage, or disposal of hazardous waste is a very expensive and lengthy process.

Actions your community should be taking

- Become familiar with the kinds of waste materials that are subject to RCRA regulation.
- Identify ways to reduce or recycle chemicals that are generating waste.
- Find non-toxic substitute products for hazardous chemicals.
- Buy the right amounts of chemicals that you need, not more. Try to find someone to use unwanted, unused chemicals rather than throwing them away.
- Become familiar with industrial facilities located in your community. Understand how they are managing their dangerous and hazardous waste.

Additional Information

- RCRA regulations are published at 40 CFR (Code of Federal Regulations) Part 260 through Part 272. Part 261 defines what materials are hazardous waste and, therefore, subject to RCRA requirements.
- EPA is reinventing its approach to environmental protection rather than focusing only on "end of pipe" regulatory controls. Much emphasis is now placed on pollution prevention/waste minimization in the hazardous waste program. Contact the Region 8 EPA Waste Minimization Office at (303) 312-6403 if you have innovative ideas for stopping or minimizing the generation of hazardous waste and/or pollution prevention as it relates to hazardous waste, or if you wish to know more about what the Region is doing in these areas.

- Many states have been approved by EPA to apply and enforce the federal RCRA hazardous waste requirements. You may wish to contact your state environmental agency to get more information on how your state offices are involved.

- EPA also has established a toll-free RCRA Hotline to answer questions regarding the applicability or interpretation of the RCRA regulations. The RCRA Hotline number is (800) 424-9346.

See the listing for State Hazardous Waste contacts in the resource section

LAND PROGRAMS

Subtitle D Municipal Solid Waste Landfill Criteria

Municipal Solid Waste (MSW) is non-hazardous waste generated at residences, commercial establishments, and institutions.

The Subtitle D Municipal Solid Waste Landfill regulations were published October 9, 1991, and became effective on October 9, 1993. The regulations cover six aspects of landfills: location, operation, design, groundwater monitoring and corrective action, closure and post-closure care, and financial assurance.

Does the regulation apply to my community?

The regulation applies only if your community owns or operates a landfill. Landfills that were closed before October 9, 1991, do not have to comply with any of the requirements of the new regulation. Landfills that stopped receiving solid waste before October 9, 1993, will have to comply only with the final cover requirements. Landfills that were operating on October 9, 1993, must comply with all of the requirements of the new federal regulations. (Landfill owners and operators need to remember that state rules still apply regardless of the changes in the federal regulations)

If your landfill is small, receiving no more than an average of 20 tons of solid waste per day on an annual basis, it may be exempt from the design, groundwater monitoring and corrective action criteria of Subtitle D, if it meets certain other requirements. These include the following:

- There is no evidence of groundwater contamination.
- The landfill is located in an area that receives less than 25 inches of precipitation annually.
- The community has no other practicable solid waste disposal alternative.

Communities should contact their state regulatory officials to determine their eligibility for this exemption. States with solid waste permitting programs approved by EPA may be more flexible in implementing the new regulations. All six states in Region 8 have received solid waste program approval.

Timetable

For the majority of landfills the new solid waste regulations became effective on October 9, 1993. The regulations for Municipal Solid Waste landfill units meeting the small landfill exemption were effective on October 9, 1997.

Actions your community should be taking

- Learn what impact Subtitle D Solid Waste Regulations have on your land-

fill and community.

- Consider joining with other nearby communities to jointly run and share costs of a "regional landfill."

- Plan and prepare a community solid waste management program that includes recycling, composting, waste reduction and other disposal options in addition to landfills.

Additional Information

- RCRA Subtitle D Criteria for Municipal Solid Waste Facilities, 40 CFR Parts 257 and 258

- RCRA Solid Waste Hotline (800) 424-9346

- Technical guidance is available from the EPA Region 8 Solid Waste Office at (303) 312-7008

- EPA Region 8 Solid Waste website at http://www.epa.gov/region08/waste/waste.html

See the listing for the State Solid Waste and Recycling contacts in the resource section

LAND PROGRAMS

Underground Storage Tanks

What is an Underground Storage Tank?

An Underground Storage Tank (UST) is any tank, including underground piping connected to the tank, that has at least 10 percent of its volume underground.

Does the UST regulation apply to my community?

Yes, if a UST is storing either petroleum or certain hazardous chemicals and it fits the UST definitions. Most communities have USTs covered by these regulations.

Does the UST regulation apply to all underground storage tanks?

No, some exclusions are:

- Farm or residential tanks holding 1,100 gallons or less of motor fuel used for noncommercial purposes;
- Tanks storing heating oil which is used on-site;
- Emergency spill or overfill containment UST systems;
- Septic tanks and systems for collecting storm or wastewater;
- Wastewater treatment tanks regulated under the Clean Water Act;
- Tanks with a capacity of 110 gallons or less;
- Storage tanks on or above the floor of an underground area, such as a basement, tunnel or vault;
- Field-constructed tanks.

If the UST regulation does apply, what must the owner do?

- Equip the UST with devices that prevent spill and overfills by December 1998.
- Protect the tank and piping from corrosion or structural failure by upgrading it by December 1998.
- Equip the tank and piping with leak detection devices.
- Verify that the stored contents are compatible with the tank's interior walls.
- Be financially responsible for the cost of cleaning up a leak or compensating other people for bodily injury and property damage caused by a leaking UST.

I own tanks to which regulations apply, but I'm not using them; what should I do?

Tanks not used for three to 12 months can be temporarily closed. For permanent closure (longer than 12 months), tanks must be emptied, cleaned, and possibly removed. Whether the closure is temporary or permanent, you must follow state closure requirements. Your state agency will help you determine how best to close your USTs so that you meet all local and state requirements.

If a leak or spill should occur, what should I do?

- Contact the local fire department to ensure that the leak does not pose a hazard to human health and safety.
- Notify the appropriate state agency within 24 hours; that regulatory authority will decide if you must take further action.
- Assume financial responsibility for taking corrective measures and compensating individuals who are harmed by leaks or spills from USTs that store petroleum products.
- If closure is necessary, you must notify the state agency as soon as possible before you close your UST.

What are the general reporting requirements for USTs?

Check with your state agency about the particular reporting requirements in your area. If you are located within an Indian Reservation boundary, check with the Federal EPA office for reporting requirements. You may need only to report to the state/Federal agency at the beginning and end of the UST's operating life. However, if your UST leaks or has a spill of over 25 gallons, it must be reported within 24 hours of occurrence.

Additional Information

- "Musts for USTs: A Summary of the New Regulation for Underground Storage Tank Systems," U.S. EPA, Office of Underground Storage Tanks
- RCRA/Superfund Hotline (800) 424-9346
- EPA Office of Underground Storage Tanks website at http://www.epa.gov/OUST
- Local Fire Marshall
- States may have different requirements for Underground Storage Tanks. Contact your State UST Office to obtain specific state information.

See the listing for State UST contacts in the resource section

LAND PROGRAMS

Superfund

As the 1970s came to a close, a series of stories gave Americans a look at the dangers of dumping industrial and urban wastes on the land. First, there was New York's Love Canal. Hazardous waste buried there for 25 years contaminated streams and soil and endangered the health of nearby residents who had to be evacuated.

It became increasingly clear that there were large numbers of serious hazardous waste problems throughout the U.S. that were falling through the cracks of existing environmental laws. The magnitude of these emerging problems moved Congress to enact the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) in 1980. CERCLA, commonly known as Superfund, was established to deal with the dangers posed by the nation's abandoned or uncontrolled waste sites.

Since the Superfund program began, hazardous waste has surfaced as a major environmental concern in every part the United States. It wasn't just the land that was contaminated by past disposal practices, but chemicals in the soil were spreading into the groundwater and into streams, lakes and wetlands. Toxic vapors contaminated the air at some sites, while improperly disposed or stored wastes threatened the health of the surrounding community and the environment.

Few realized the size of the problem until the EPA began the process of site discovery and evaluation. Congress directed EPA to establish a list of sites to target and to set priorities for cleanup based on the severity of the hazardous waste problems found. Out of this process came the "final" National Priority List (NPL), which currently lists 1,194 of the most complex and compelling cases in the entire inventory of potential hazardous waste sites. There are another 56 sites currently being proposed for the NPL.

The Superfund program responds immediately to problems posing imminent threats to human health and the environment. Including both NPL sites as well as those not on the NPL, the program aims to prevent, stabilize or temper the effects of a release of hazardous substances, or the threat of one, into the environment. Such releases might occur at tire disposal site fires or transportation accidents involving a spill of hazardous chemicals.

Superfund has completed actions to reduce immediate threats at over 1,760 NPL and non-NPL sites. Further remediation activities have been completed at 514 of the NPL sites, with 174 of them now deleted from the final NPL.

Superfund activities also depend upon citizen participation. While EPA's job is to analyze the hazards and deploy experts to help solve problems, the Agency needs citizen input. Because people in the community where a site is located will be those most

directly affected by the wastes and cleanup processes, EPA encourages citizens to get involved in cleanup decisions.

Additional Information

- EPA Region 8 Superfund Program (303) 312-6766
- National EPA Superfund website at http://www.epa.gov/superfund/index.htm
- Superfund/RCRA Hotline (800) 424-9346

WATER PROGRAMS

Water & Wetlands Protection

The Federal Water Pollution Control Act of 1972, later amended and renamed the Clean Water Act (CWA), mandated a variety of protection programs for "waters of the United States." U.S. waters include lakes, streams, rivers, wetlands and coastal waters. The CWA, along with the National Environmental Policy Act of 1969, also mandated that each Federal agency assesses the environmental impact of any proposed Federal action on U.S. waters.

Protection of U.S. waters involves several Federal agencies, primarily the U.S. Army Corps of Engineers, U.S. Environmental Protection Agency (EPA), U.S. Fish and Wildlife Service, and the Natural Resource Conservation Service. In addition, many state agencies, such as state departments of environmental quality, health, conservation, transportation, and agriculture, have responsibilities for U.S. waters within their boundaries.

The primary objectives of the Clean Water Act, other related legislation and subsequent regulations, include restoring and maintaining the chemical, physical and biological integrity of all U.S. waters.

Designated Use Waters

The EPA Water Quality Standards (WQS) program, a part of the Clean Water Act, Section 303, requires state agencies to designate uses for all waters of the state, and to adopt and implement criteria for protecting each of those uses or areas. Designated uses for water bodies may include:

Aquatic life - protection of fish and other aquatic organisms;
Recreation - swimming, wading, boating and incidental contact;
Drinking water - protection for downstream public water supply intakes;
Miscellaneous - industrial or agricultural uses, tribal religious use, etc.

In addition, a WQS program must provide for protection of all downstream uses; state provisions must include an anti-degradation policy to protect water quality that is already better than state standards.

WQS differ from some other regulations in that they usually are not "self-implementing." For example, in order to prevent point source discharges from violating standards, specific limitations are included in discharge permits, and these permit limitations become the "enforceable" provisions. Finally, state agencies are required to review state WQS at least once every three years, to include a public review process, and to submit the WQS to EPA for review and approval.

State agencies that oversee water quality (e.g., departments of environmental qual-

ity, health departments, etc.) have responsibility for implementing all aspects of WQS programs, including designating uses, establishing protection criteria, and developing anti-degradation policies and implementation strategies.

Wetlands

U.S. waters also include wetlands, generally defined as saturated or flooded areas where there is a prevalence of aquatic hydrophytic vegetation, such as swamps, marshes, and bogs. All states include wetlands (or are currently in the process of including them) in their definition of "waters of the state."

Wetlands in our country are being lost at an alarming rate; less than half of our original wetlands remain today. Some of the major causes of wetlands loss include, but are not limited to, agriculture drainage, urban development, trash deposition, chemical contamination and other types of pollution. Wetlands have many functions and values that make them dynamic, and they serve many purposes, including the following:

- Helping maintain and improve water quality;
- Storing water during floods and reducing erosion;
- Providing sources of groundwater and surface water for domestic and agriculture needs;
- Serving as important wildlife habitats, since many species are dependent on them for survival.

These biologically diverse areas are also recognized for their scientific, educational and aesthetic opportunities.

Protection of wetlands means controlling activities that adversely affect or may potentially adversely affect a wetlands area. Such activities often require a permit from the Army Corps of Engineers (issued under Section 404 of the CWA). This permit is subject to review by other Federal agencies (including EPA) and certification by the state. Violation of WQS regulations and related environmental protection laws can involve stiff penalties, including fines, requirements to restore the area, and/or imprisonment.

The four Federal agencies most frequently involved in wetlands protection are:

- U.S. Department of Defense: Army Corps of Engineers
- U.S. Department of Interior: Fish and Wildlife Service
- U.S. Environmental Protection Agency
- Natural Resource Conservation Service

Additional Information

- The Clean Water Act of 1977 (33 U.S.C. 1251-1376)
- The National Environmental Policy Act of 1969 (42 U.S.C. 4321)
- Fish and Wildlife Coordination Act of 1934, amended 1946, 1958, 1977 (16 U.S.C. 661-667e)
- River and Harbor Act of 1899, Section 10 Hazardous Waste
- Marine Protection, Research and Sanctuaries Act of 1972 as amended (33 U.S.C. 1431)
- The Coastal Zone Management Act of 1972 (16 U.S.C. 1451)
- The Endangered Species Act of 1973 (16 U.S.C. 1531)
- U.S. Army Corps of Engineer Regulations (33 CFR Parts 320-330)
- U.S. Environmental Protection Agency (40 CFR Part 230, also known as the 404(b)(1) guidelines)
- Executive Order 11990, May 25, 1977, pages 26961-26965
- The Wetlands Protection Hotline operates Monday through Friday, excluding holidays, from 9:00 a.m. to 5:30 p.m. (EST). The Hotline number is (800) 832-7828.
- EPA Office of Wetlands, Oceans and Watersheds website at http://www.epa.gov/watrhome/facts/contents.html
- EPA Region 8 Wetlands Program website at http://www.epa.gov/region8/cross/eco/wetlands.html

See the listing for State Wetlands contacts in the resource section

WATER PROGRAMS

Non-Point Source Pollution (NPS)

Despite progress in improving water quality impacts from industrial and municipal dischargers (point sources), the U.S. still faces significant water quality challenges. Our major remaining water pollution problems are caused by less obvious and more widespread sources of pollution (non-point sources) that affect both surface water and groundwater.

Unlike other programs described in this book, Non-Point Source programs (NPS) may or may not be regulatory, depending on a given state's regulations. Thus, these relatively uncontrolled sources of pollution may contribute more to water quality degradation than point sources. Leading non-point sources of pollution include agriculture, animal grazing, forestry practices, construction and urban runoff, mining, and hydrologic modification.

Section 319 was added to the Clean Water Act in 1987 and established the national Non-Point Source program. Congress has provided funding under Section 319 to states and tribes for the control of non-point source pollution since 1989. The Non-Point Source program is locally focused and state administered.

The NPS program is being implemented on a watershed-by-watershed basis, insofar as possible. This geographic targeting of watersheds focuses on ecological units - river basins, estuaries, or the critical habitat of a species or group of species - instead of on political boundaries such as federal regions, states, tribal lands, counties, and/or municipalities.

A watershed approach relies on the collaborative efforts of many to restore and sustain the health of watersheds in the nation. This approach shifts the emphasis from particular pollutants or pollution sources to a process that begins with the questions: "What do we want this watershed to look like? What is affecting the watershed? Can the resources and activities be managed differently to achieve our goals?"

See the listing for State Non-Point Source contacts in the resource section

WATER PROGRAMS

Drinking Water

The purpose of the Safe Water Drinking Act (SDWA) is to protect public health through the medium of drinking water. The 1986 amendments to the SDWA significantly increased the number of contaminants to be monitored for by Public Water Systems or PWS *(see the tables that follow)*. Many states produce a schedule each year tailored to each PWS that describes when to monitor for each of the contaminants. PWSs should transfer this schedule to a calendar at the plant and collect the samples as early as possible in the week, month, quarter or year in order to stay in compliance with existing regulations.

The 1996 amendments to the SDWA revised and streamlined some of the existing regulations and created new, more challenging ones for small systems. These regulations will begin to have an impact on small systems beginning in 1999, and continue for the next ten years. Operators of small systems can expect to see new requirements that address:

arsenic
capacity development
consumer confidence reports
cross connection control
disinfection byproducts
enhanced surface water treatment
groundwater disinfection
operator certification
other inorganics
pesticides & more volatile organic chemicals
permanent monitoring relief for some chemicals
public notice provisions
radionuclides and radon
sanitary surveys
sulfate
watersheds

One of the most important additions to the SDWA is the creation of the State Revolving Fund (SRF). The SRF is a low-interest loan and grant program for water system improvements. PWSs interested in SRF funds should contact their State Drinking Water Program.

The best way to keep up-to-date on future regulations is to contact your State Drinking Water Program and acquire a list of training programs available throughout the year and attend those training sessions. Drinking water directly affects public health in your community and the PWS has the ultimate responsibility and liability for its safety.

Drinking Water State Revolving Fund Program

The 1996 Amendments to the Safe Drinking Water Act (SDWA) authorized EPA to award grants to states for capitalization of Drinking Water State Revolving Funds (DWSRF). These are intended to be a source of financial assistance to public water systems in achieving compliance with Drinking Water Regulations and protecting public health. States must provide state matching funds equal to at least 20% of the grant.

There are two elements of a DWSRF. First is a loan fund enabling a state to make below-market loans to public water systems for the construction of projects. (A PWS can be publicly or privately-owned but some states have statutory or constitutional restrictions limiting funding for privately-owned systems.) States must adopt a priority system ranking projects based on considerations of public health, compliance and affordability (systems most in need) and are required to fund to the maximum extent practical in priority order.

At least 15% of the amount credited to each loan fund each year must be reserved for loans to small systems. A priority list of eligible projects is to be published and updated only after giving notice and an opportunity for public comment. Loans can be made only to systems that demonstrate they have adequate technical, financial and managerial (TFM) capacity to comply with drinking water regulations or agree to obtain such capacity. Up to 30% of the loan fund may be reserved for loan subsidies, including forgiveness of principal to disadvantaged communities (communities with financial shortfalls as defined by the state).

The second element of a DWSRF is the ability to set aside money for administration of the fund (4%), state program assistance (10%, requires an additional 1:1 state match), small systems technical assistance (2%), and local assistance (15%). These set-asides are intended to assist PWSs in meeting regulatory requirements through direct assistance, loans, and/or state grants funding capacity development, source water assessment, source water protection, and operator certification.

Subject to minimal federal requirements, each state develops, implements and administers its unique DWSRF program. The loan fund is intended to operate in perpetuity. To be eligible for a loan, projects must be on the state's priority list. After providing for public review and comment, states prepare an annual Intended Use Plan (IUP) identifying the intended uses of the amounts available to the DWSRF. States have discretion to determine how much money, if any, is to be allocated to any particular set-aside. Also, states have the flexibility to transfer funds between the Clean Water State Revolving Fund (CWSRF) and the DWSRF. Each state drafts a biennial report to facilitate federal oversight.

Additional Information

- EPA Region 8 DWSRF Coordinator (303) 312-6347
- Initial Guidance for Drinking Water State Revolving Funds, February 1997

See the listing for Drinking Water State Revolving Fund contacts in the resource section

Capacity Devlelopment

The Safe Drinking Water Act (SDWA), as amended in 1996, brings significant improvements to the national drinking water program. Capacity development is an important component of the SDWA's focus on preventing problems in drinking water. It refers to the process of planning for, acquiring and maintaining adequate technical, managerial and financial (TMF) capabilities necessary to enable public water systems to provide safe drinking water on a consistent basis.

What is technical, managerial and financial (TMF) capacity?

Technical capacity is the physical and operational capability of a water system to meet SDWA requirements; it refers to the physical infrastructure of the water system, which encompasses source water and the treatment, storage and distribution infrastructure. Technical capacity also refers to the ability of system personnel to operate and maintain the system properly.

Managerial capacity is the ability of a water system's managers to conduct its affairs in a manner that will enable the system to achieve and maintain compliance with SDWA requirements.

Financial capacity is a water system's ability to acquire and manage sufficient financial resources to allow the system to achieve and maintain compliance with SDWA requirements.

These three aspects of water system operations are interrelated. A deficiency in any one area could disrupt the entire effort to deliver safe drinking water.

What does the SDWA call for?

First, states are encouraged to develop programs to ensure that all new community water systems and new non-transient non-community water systems demonstrate the technical, managerial, and financial capacity to comply with all national primary drinking water regulations in effect upon initiation of operations. Second, states are encouraged to develop and implement strategies to assist all existing public water systems in acquiring and maintaining TMF capacity. [If a state fails to take either of these first two steps towards building capacity, a portion of the funds made available for the State Revolving Fund will be withheld.] And third, states may provide assistance through the State Revolving Fund only to systems that have adequate technical, managerial and financial capacity, or have agreed to undertake the steps needed to gain and maintain TMF capacity.

TMF Assistance Available

The SDWA provides states the opportunity to use federal funds to assist communities in their capacity building efforts. At the states' option, they may set aside up to ten

percent of the funds available from their State Revolving Fund to support the states' capacity development program and another ten percent to provide assistance, including financial, to public water systems to help with their capacity development efforts. Still other set-asides may be used for technical assistance and source water protection measures. Furthermore, low or interest-free financing may be made available from your State Revolving Fund to fund infrastructure improvements for community water systems and non-profit non-community water systems.

See the listing for State Capacity Development contacts in the resource section

Consumer Confidence Rule

Beginning in 1999, all community public water systems (defined as drinking water systems that serve at least 25 of the same people year-round, or that have at least 15 households) must prepare annual reports summarizing the quality of their drinking water supplies. The reports must include information on:

- What chemical and bacterial contaminants (if any) were detected in the water system over the previous year;
- Any violations of the drinking water regulations that occurred over the previous year;
- The drinking water source;
- The potential health effects of drinking water contaminants, as well as definitions of technical terms.

Public water systems must also ensure that copies of these annual reports are made available to their customers.

Maximum Contaminant Levels (MCLs)

Maximum contaminant level is the maximum permissible level of a contaminant in water delivered to any user of a public water system. Compare your monitoring results with the MCLs listed on the following pages. If your system exceeds any MCL, then your system may need to install the best available technology (BAT) to remove that contaminant.

Treatment Technique Requirements

Where EPA is unable to establish an MCL, it must establish a treatment technique requirement in lieu of an MCL. PWSs must comply with these treatment requirements. Currently, there are surface water filtration and corrosion control requirements in lieu of MCLs for several microorganisms and lead and copper, respectively.

EPA NATIONAL PRIMARY DRINKING WATER REGULATIONS (NPDWRs)

Table I
MICROBIOLOGICAL CONTAMINANTS

CONTAMINANT	MAXIMUM CONTAMINANT LEVEL (MCL)
Total Coliforms	*Presence/Absence
Giardia Lamblia	Treatment Technique
Heterotrophic Plate Count	Treatment Technique
Legionella	Treatment Technique
Virus	Treatment Technique
Turbidity	Treatment Technique <5.0 NTU at all times <0.5 NTU in 95% of all samples for conventional & direct filtration <1.0 NTU in 95% of all samples for diatomaceous earth and slow sand filtration, and other filtration techniques

* *If > 40 samples/month: no more than 5% of the samples may be Total Coliform Positive. If < 40 samples/month: no more than 1 sample may be Total Coliform Positive.*

Table II
INORGANIC CONTAMINANTS

Numbers in tables refer to treatments in the following list.
(Not necessarily BAT for variances & exemptions)

BEST AVAILABLE TREATMENT (BAT) TECHNOLOGIES

1. Coagulation & Filtration
2. Corrosion Control
3. Direct Filtration
4. Diatomite Filters
5. Ion Exchange
6. Lime Softening
7. Reverse Osmosis
8. Electrodialysis
9. Activated Alumina
10. Granular Activated Carbon
11. Public Education and Lead Service Line Replacement
12. Chlorine Oxidation

CONTAMINANT	MCL	BEST AVAILABLE TREATMENT (BAT)
Antimony	0.006 mg/l	1,7
Asbestos	7 million fibers/liter longer than 10 um	1,2,3,4
Arsenic	0.05 mg/l	Not yet specified in regulation. However, technologies with the highest removal efficiencies for Arsenic are 1,6,7,9
Barium	2 mg/l	5,6,7,8
Beryllium	0.004 mg/l	1,5,6,7,9
Cadmium	0.005 mg/l	1,5,6,7
Chromium	0.1 mg/l	1,5,6,7 (BAT for Chromium III) 1,5,7 (BAT for Chromium VI)
Copper	Treatment Technique	1,5,6,7 (Source Water BAT) 2,11 (Distribution System BAT)
Cyanide	0.2 mg/l	5,7,12
Fluoride	4.0 mg/l	Technologies with the highest removal efficiencies are 7,9
Lead	Treatment Technique	1,5,6,7 (Source Water BAT) 2,11 (Distribution System BAT)

Table II INORGANIC CONTAMINANTS (cont'd)

CONTAMINANT	MCL	BEST AVAILABLE TREATMENT (BAT)
Mercury	0.002 mg/l	[1,6,7] (BAT only if influent Mercury concentration is less than 10 ppb); 10
Nitrate as (N)	10 mg/l	5,7,8
Nitrite as (N)	1 mg/l	5,7
Selenium	0.05 mg/l	1,6,7,8,9 (BAT for Selenium IV) 6,7,8,9 (BAT for Selenium VI)
Sulfate	Deferred	
Thallium	0.002 mg/l	5,9
Total Nitrate & Nitrite	10 mg/l	5,7,8

Table III
SYNTHETIC ORGANIC CHEMICALS–PESTICIDES/PCBs/HERBICIDES

CONTAMINANT	MCL (mg/l)	BAT
Alachlor	0.002	Granular Activated Carbon
Aldicarb	(deferred)	Granular Activated Carbon
Aldicarb sulfoxide	(deferred)	Granular Activated Carbon
Aldicarb sulfone	(deferred)	Granular Activated Carbon
Atrazine	0.003	Granular Activated Carbon
Carbofuran	0.04	Granular Activated Carbon
Chlordane	0.002	Granular Activated Carbon
2,4-D	0.07	Granular Activated Carbon
Dalapon	0.2	Granular Activated Carbon

Table III SYNTHETIC ORGANIC CHEMICALS - PESTICIDES/PCBS/HERBICIDES (cont'd)

CONTAMINANT	MCL (mg/l)	BAT
1,2-Dibromo-3-Chloropropane (DBCP)	0.0002	Granular Activated Carbon Packed Tower Aeration
Dinoseb	0.007	Granular Activated Carbon
Diquat	0.02	Granular Activated Carbon
Endothall	0.1	Granular Activated Carbon
Endrin	0.002	Granular Activated Carbon
Ethylene dibromide (EDB)	0.00005	Granular Activated Carbon Packed Tower Aeration
Glyphosate	0.7	Oxidation (Chlorine or Ozone)
Heptachlor	0.0004	Granular Activated Carbon
Heptachlor epoxide	0.0002	Granular Activated Carbon
Lindane	0.0002	Granular Activated Carbon
Methoxychlor	0.04	Granular Activated Carbon
Oxamyl (Vydate)	0.2	Granular Activated Carbon
Picloram	0.5	Granular Activated Carbon
Polychlorinated by-phenyls (PCBs)	0.0005	Granular Activated Carbon
Pentachlorophenol	0.001	Granular Activated Carbon
Simazine	0.004	Granular Activated Carbon
Toxaphene	0.003	Granular Activated Carbon
2,4,5-TP (Silvex)	0.05	Granular Activated Carbon

Table IV SYNTHETIC ORGANIC CHEMICALS– VOLATILE ORGANIC CHEMICALS

CONTAMINANT	MCL (mg/l)	BAT
Benzene	0.005	Granular Activated Carbon, Packed Tower Aeration
Carbon Tetrachhloride	0.005	Granular Activated Carbon, Packed Tower Aeration
Dichlorobenzene (p-)	0.075	Granular Activated Carbon, Packed Tower Aeration
Dichlorobenzene (o-)	0.6	Granular Activated Carbon, Packed Tower Aeration
Dichloroethane (1,2-)	0.005	Granular Activated Carbon, Packed Tower Aeration
Dichloroethylene (1,1-)	0.007	Granular Activated Carbon, Packed Tower Aeration
Dichloroethylene (cis-1,2-)	0.07	Granular Activated Carbon, Packed Tower Aeration
Dichloroethylene (trans- 1,2-)	0.1	Granular Activated Carbon, Packed Tower Aeration
Dichloromethane	0.005	Packed Tower Aeration
Dichloropropane (1,2-)	0.005	Granular Activated Carbon, Packed Tower Aeration
Ethylbenzene	0.7	Granular Activated Carbon, Packed Tower Aeration
Monochlorobenzene	0.1	Granular Activated Carbon, Packed Tower Aeration
Styrene	0.1	Granular Activated Carbon, Packed Tower Aeration
Tetrachloroethylene	0.005	Granular Activated Carbon, Packed Tower Aeration

Table IV SYNTHETIC ORGANIC CHEMICALS– VOLATILE ORGANIC CHEMICALS (cont'd)

CONTAMINANT	MCL (mg/l)	BAT
Toluene	1	Granular Activated Carbon, Packed Tower Aeration
Trichloroethane (1,1,1-)	0.2	Granular Activated Carbon, Packed Tower Aeration
Trichloroethane (1,1,2-)	0.005	Granular Activated Carbon, Packed Tower Aeration
Trichloroethylene (TCE)	0.005	Granular Activated Carbon, Packed Tower Aeration
Trichlorobenzene (1,2,4-)	0.07	Granular Activated Carbon, Packed Tower Aeration
Vinyl Chloride	0.002	Packed Tower Aeration
Xylenes (Total)	10	Granular Activated Carbon, Packed Tower Aeration
Acrylamide	Treatment Tech.	Polymer Addition Practices
Benzo(a)pyrene (PAH)	0.0002	Granular Activated Carbon
Di(2-ethylhexyl)adipate	0.4	Granular Activated Carbon, Packed Tower Aeration
Di(2-ethylhexyl)phthalate	0.006	Granular Activated Carbon
Epichlorohydrin	Treatment Tech.	Polymer Addition Practices
Hexachlorobenzene	0.001	Granular Activated Carbon
Hexachlorocyclopentadiene	0.05	Granular Activated Carbon, Packed Tower Aeration
2,3,7,8-TCDD (Dioxin)	3×10^{8}	Granular Activated Carbon
Trihalomethanes (Chloroform, Bromoform, Bromodichloromethane, Dibromochloromethane)	0.100	Chloramines, Chlorine Dioxide, Improved Clarification for THM Precursor Reduction, Moving the Point of Chlorination to Reduce TTHM, Powdered Activated Carbon

Table V - RADIONUCLIDES

CONTAMINANT	MCL	BAT*
Gross Alpha Particle Activity	15 pCi/l	Reverse Osmosis
Gross Beta Particle Activity**	4 mrem/yr	Ion Exchange, Reverse Osmosis
Radium-226 and Radium-228 (combined)	5 pCi/l	Ion Exchange, Lime Softening, Reverse Osmosis

* *These are proposed BAT's for Radionuclides in the July 18, 1991 Federal Register.*
** *Gross Beta applies to small PWS only if downstream from a man-made radioactive contaminant (e.g nuclear power plant) and specifically required by the state.*

Table VI - SECONDARY MAXIMUM CONTAMINANT LEVELS (SMCLs)*

CONTAMINANT	LEVEL
Aluminum	0.05 to 0.2 mg/l
Chloride	250 mg/l
Color	15 Color Units
Copper	1.0 mg/l
Corrosivity	Non-Corrosive
Fluoride	2.0 mg/l
Foaming Agents	0.5 mg/l
Iron	0.3 mg/l
Manganese	0.05 mg/l
Odor	3 Threshold Odor Number
pH	6.5 - 8.5
Silver	0.1 mg/l
Sulfate	250 mg/l
Total Dissolved Solids (TDS)	500 mg/l
Zinc	5.0 mg/l

**Secondary Maximum Contaminant Levels are recommended, not mandatory standards.*

Table VII - UNREGULATED CONTAMINANTS*

UNREGULATED VOCs	UNREGULATED SOCs	UNREGULATED IOCs
Chloroform	Aldrin	Sulfate
Bromodichloromethane	Butachlor	Sodium
Chlorodibromomethane	Carbaryl	
Bromoform	Dicamba	
Chlorobenzene	Dieldrin	
m-Dichlorobenzene	3-Hydroxycarbofuran	
1,1-Dichlorobenzene	Methomyl	
1,1-Dichloroethane	Metolachlor	
1,1,2,2-Tetrachloroethane	Metribuzin	
1,3-Dichloropropane	Propachlor	
Chloromethane		
Bromomethane		
1,2,3-Trichloropropane		
1,1,1,2-Tetrachloroethane		
Chloroethane		
2,2-Dichloropropane		
o-Chlorotoluene		
p-Chlorotoluene		
Bromobenzene		
1,3-Dichloropropene		

**Unregulated means no MCL established; however, monitoring may be required.*

Actions your community should be taking

The most important action for your community to take is to monitor for contaminants listed in the National Primary Drinking Water Regulations (NPDWRs). The NPDWRs are written at the federal level by the EPA. Failure to comply with any of the following is a violation:

1) A maximum contaminant level
2) A treatment technique
3) The schedule within a variance or exemption
4) A monitoring requirement
5) A testing procedure

Public notice must be given any time there is a violation. In addition, if a system is granted a variance or an exemption, it must give public notice of the fact.

Guidelines for public notification

Violations of items 1, 2, and 3 above require "Tier 1" or top priority public notice. Tier 1 is subdivided into "acute" and "non-acute" violations. Acute violations are those that involve an immediate risk to human health. This includes violations of the MCL for nitrate and/or nitrite, violations of the MCL for total coliforms, when fecal coliforms or *E. Coli* are present, waterborne disease outbreaks in an unfiltered surface water system, and other violations as specified by the state.

If your PWS has a Tier 1 violation, you must provide public notice as follows:

Acute violations only:
Notice must be given within 72 hours of the occurrence, through television and radio stations serving the area; hand delivery (if no TV or radio available) or posting (if no TV or radio available).

Acute and non-acute Tier 1 violations:

- Notice must be given within 14 days, through a newspaper; posting (if no newspaper available) or hand delivery (if no newspaper available);
- Notice must be given within 45 days through direct mail or hand delivery;
- Notice must be repeated every three months by direct mailing or posting for as long as the violation exists.

Violations of (4) and (5) above are Tier 2 violations, requiring public notice as follows:

- Within three months, through a newspaper; posting (if no newspaper available) or hand delivery (if no newspaper available);
- Repeat the notification every three months by direct mailing or posting for as long as the violation exists.

A Public Notice must contain the following:

- Clear explanation of the violation;
- Information about potential health effects;
- Information about the population at risk;
- Information about the necessity of seeking alternative water supplies;
- Preventive measures which will be taken until the violation is corrected;
- A telephone number of a contact at the PWS for additional information.

The public notice must also be "conspicuous" and not contain unduly small print, and where appropriate, be multi-lingual.

Questions to ask the state

Are there additional state requirements for public notice? Does the state have model language for or examples of public notices available for use by the PWS? Where should the notices be posted?

Note: Within the next year or two, the public notification regulations will be revised. For more information contact your state drinking water regulatory program.

Federal Monitoring Requirements

The monitoring requirements under the federal drinking water regulations can be complex. Most of these regulations require initial monitoring (for new water systems, or for existing systems with new water sources) at a certain frequency, and then repeat monitoring at a reduced frequency. If contamination is found, then the monitoring frequency increases again. Both initial and reduced requirements may vary based on such things as the population served by the water system and the source of the water (surface water or groundwater) that the system utilizes. Additionally, there is some flexibility with the federal regulations on how states implement their programs. Finally, state regulations must be at least as stringent as federal regulations, so some states may have additional requirements not mentioned in this publication. All communities should contact their state regulatory agency to get detailed information on monitoring requirements.

Guidelines for microbiological (coliform) monitoring

Bacteria from sewage and animal wastes have presented the most frequent and immediate health risks to public water supplies over the years. The best and easiest way to test for the presence of harmful bacteria in drinking water is to determine the presence of coliform bacteria. Although the presence of coliform bacteria in drinking water is not necessarily harmful by itself, it is a good indication of the presence of fecal coliform bacteria and *E. Coli* bacteria.

Fecal coliforms and *E. Coli* are particularly pathogenic strains of coliform bacteria.

Their presence indicates that drinking water has been contaminated with sewage or animal (including human) wastes. Such contamination presents an urgent health problem.

Sampling frequency for community PWSs is based on population. Non-community PWS monitoring may differ according to source and population type. If your PWS serves more than 5,000 people or is classified as a non-community PWS, contact your state drinking water program for the number of samples required.

The following table shows monitoring requirements for community systems with populations up to 4,900:

Total Coliform Monitoring Frequency

Population	Samples Per Month
25 to 1,000	1
1,001 to 2,500	2
2,501 to 3,300	3
3,301 to 4,100	4
4,101 to 4,900	5

The MCL is based on the presence or absence of total coliform. A system that takes 5 samples or less per month can have no more than one coliform positive sample before it incurs a violation.

If a sample tests positive for total coliforms, four repeat samples must be collected within 24 hours of notification. These repeat samples must be collected within five service connections of the original sample. One sample must be taken at the original location, one within five connections upstream from the original sample and one within five connections downstream from the original sample. The fourth sample may be taken anywhere within the system.

If total coliforms are detected in any repeat sample, the PWS is in violation of the MCL. The state must be notified by the next business day and public notice must be given.

If fecal coliforms or *E. Coli* are also detected in the same month, the PWS violates the MCL, incurs an acute violation and may pose an urgent public health problem. For an acute violation, contact the state the same day you receive the results. Public notice must be given.

The month following *any* MCL violation the PWS must collect five routine samples.

Microbial and Disinfection Byproducts

Disinfection of drinking water is one of the major public health advances in the 20th century. One hundred years ago, typhoid and cholera epidemics were common throughout American cities. Disinfection was a major factor in reducing these epidemics.

However, the disinfectants themselves can react with naturally-occurring materials in the water to form unintended byproducts which may pose health risks. Over the past ten years, we have also learned that there are specific microbial pathogens, such as *Cryptosporidium* that are highly resistant to traditional disinfection practices.

A major challenge for water suppliers is how to balance the risks from microbial pathogens and disinfection byproducts. It is important to provide protection from these microbial pathogens while simultaneously ensuring decreasing health risks to the population from disinfection byproducts (DBPs).

The 1996 Amendments to the Safe Drinking Water Act required EPA to develop rules to achieve these goals. The new Stage 1 Disinfectant and Disinfection Byproduct Rule and Interim Enhanced Surface Water Treatment Rule are the first of a set of rules under the Amendments and were finalized in November 1998. These new rules are a product of six years of collaboration between the water industry, environmental and public health groups, and local, State and federal government.

Stage 1 Disinfectants and Disinfection Byproducts Rule

Who Must Comply With the Rule?

The final Stage 1 Disinfectants and Disinfection Byproducts Rule applies to community water systems and non-transient non-community systems, including those serving fewer than 10,000 people, that add a disinfectant to the drinking water during any part of the treatment process.

What Does the Rule Require?

The new Rule updates and supersedes the 1979 regulations for total trihalomethanes. In addition, it will reduce exposure to three disinfectants and many disinfection byproducts.

The rule establishes maximum residual disinfectant level goals (MRDLGs) and maximum residual disinfectant levels (MRDLs) for three chemical disinfectants - chlorine, chloramine and chlorine dioxide (see Table VIII). It also establishes maximum contaminant level goals (MCLGs) and maximum contaminant levels (MCLs) for total trihalomethanes, haloacetic acids, chlorite and bromate (see Table VIII).

Table VIII - MRDLGs, MRDLs, MCLGs and MCLs for Stage 1 Disinfectants and Disinfection Byproducts Rule

DISINFECTANT RESIDUAL	MRDLG (mg/l)	MRDL (mg/l)	COMPLIANCE BASED ON
Chlorine	4 (as Cl_2)	4.0 (as Cl_2)	Annual Average
Chloramine	4 (as Cl_2)	4.0 (as Cl_2)	Annual Average
Chlorine Dioxide	0.8 (as ClO_2)	0.8 (as ClO_2)	Daily Samples
DISINFECTANT BYPRODUCTS	**MRDLG (mg/l)**	**MRDL (mg/l)**	**COMPLIANCE BASED ON**
Total trihalomethanes (TTHM)*	N/A	0.080	Annual Average
- Chloroform	0		
- Bromodichloromethane	0		
- Dibromochloromethane	0.06		
- Bromoform	0		
Haloacetic acids (five) (HAA5)**	N/A	0.060	Annual Average
- Dichloroacetic acid	0		
- Trichloroacetic acid	0.3		
Chlorite	0.8	1.0	Monthly Average
Bromate	0	0.010	Annual Average

N/A - Not applicable because there are individual MCLGs for TTHMs or HAAs

**Total trihalomethanes is the sum of the concentrations of chloroform, bromodichloromethane, dibromochloromethane, and bromoform.*

***Haloacetic acids (five) is the sum of the concentrations of mono-, di-, and trichloroacetic acids and mono- and dibromoacetic acids.*

Water systems that use surface water or groundwater under the direct influence of surface water and use conventional filtration treatment are required to remove specified percentages of organic materials, measured as total organic carbon (TOC), that may react with disinfectants to form DBPs (See Table IX). Removal will be achieved through a treatment technique (enhanced coagulation or enhanced softening) unless a system meets alternative criteria.

Table IX - Required Removal of Total Organic Carbon by Enhanced Coagulation and Enhanced Softening for Subpart H Systems Using Conventional Treatment*

Source Water TOC (mg/l)	Source Water Alkalinity (mg/l as $CaCO_3$)		
	0-60	>60-120	>120**
>2.0-4.0	35.0%	25.0%	15.0%
>4.0-8.0	45.0%	35.0%	25.0%
>8.0	50.0%	40.0%	30.0%

**Systems meeting at least one of the alternative compliance criteria in the rule are not required to meet the removals in this table.*

***Systems practicing softening must meet the TOC removal requirements in the last column to the right.*

Interim Enhanced Surface Water Treatment Rule

Who Must Comply With the Rule?

The Interim Enhanced Surface Water Treatment Rule applies to public water systems that use surface water or ground water under the direct influence of surface water (GWUDI) and serve at least 10,000 people. In addition, states are required to conduct sanitary surveys for all surface water and GWUDI systems, including those that serve fewer than 10,000 people.

What Does the Rule Require?

The new Rule amends the existing Surface Water Treatment Rule to strengthen microbial protection, including provisions specifically to address *Cryptosporidium*, and to address risk trade-offs with disinfection byproducts. The final rule includes treatment requirements for waterborne pathogens, e.g., *Cryptosporidium*. In addition, systems must continue to meet existing requirements for *Giardia Lamblia* and viruses. Specifically, the rule includes:

- Maximum contaminant level goal (MCLG) of zero for *Cryptosporidium*
- 2-log *Cryptosporidium* removal requirements for systems that filter
- Strengthened combined filter effluent turbidity performance standards
- Individual filter turbidity monitoring provisions

- Disinfection profiling and benchmarking provisions
- Systems using groundwater under the direct influence of surface water now subject to the new rules dealing with *Cryptosporidium*
- Inclusion of *Cryptosporidium* in the watershed control requirements for unfiltered public water systems
- Requirements for covers on new finished water reservoirs
- Sanitary surveys, conducted by states, for all surface water systems regardsless of size

Communities should contact their Regional EPA Office or state drinking water agency to get detailed information on the DBPs requirements.

Sanitary surveys

Drinking water regulations (40 CFR Part 14) require all public water systems that do not collect five or more routine bacteriological samples a month to undergo periodic sanitary surveys. The regulations define a sanitary survey as "an on-site review of the water source, facilities, equipment, and operation and maintenance" of a public water system. Most public water systems must undergo a sanitary survey at least once every five years. Non-community public water systems that use only protected and disinfected groundwater must undergo a sanitary survey not less than once every ten years.

Questions to ask the state

When is the next sanitary survey scheduled for my PWS (at least one by June 29, 1994, and every five years thereafter)?

Guidelines for Giardia Lamblia, heterotrophic plate count, legionella, virus and turbidity monitoring

PWSs do not have to test directly for the above contaminants because of the difficulty in testing these parasites. Instead, a treatment technique, filtration and disinfection, is used. Any surface water or groundwater system under the influence of surface water must:

- Provide filtration
- Provide a finished water turbidity less than 5.0 NTU at all times
- Provide finished water turbidity less than 0.5 NTU in 95% of the samples taken every four hours (conventional and direct filtration)
- Provide a finished water turbidity less than 1.0 NTU in 95% of the samples taken every four hours (slow sand, diatomaceous earth and other filtration

technologies)

- Maintain a 0.2 mg/l of chlorine residual going into the distribution system at all times
- Maintain a detectable chlorine residual in the distribution system at all times
- Insure that filtration and disinfection are achieving a 99.9% inactivation of *Giardia Lamblia* and 99.9% inactivation of viruses

Questions to ask the state

Is my groundwater or spring affected by surface water? How and when will it be tested for surface water influences? If my groundwater is affected by surface water, when must filtration be installed? Can I reduce turbidity or disinfection monitoring? How do I ensure that filtration and disinfection are achieving a 99.9% inactivation of *Giardia Lamblia* and 99.9% inactivation of viruses? Should disinfection contact time be calculated daily? Should pH, temperature, raw and settled water turbidity be measured every day?

Guidelines for inorganic/organic chemical (IOC) monitoring

One sample from each source is required every three years for groundwater. One sample from each source is required every year for surface water.

Questions to ask the state

How do I receive a waiver for IOC monitoring?

Guidelines for IOC monitoring: nitrate and nitrite

Water systems are required to monitor for nitrate at each entry point to the distribution system on an annual basis. If the results are greater than or equal to 50% of the nitrate MCL (i.e., 5 mg/l), increased monitoring is required. Initial monitoring requirements for new water systems (or water systems with a new source) require those entry points that receive surface water to be monitored on a quarterly basis.

Nitrite monitoring only needs to be performed one time at every entry point to the distribution system. If the sample results are greater than or equal to 50% of the nitrite MCL (i.e., 0.5 mg/l), increased sampling is required. Otherwise, additional sampling is required only if requested by the state.

Questions to ask the state

When do I take the nitrate sample? For surface water sources only, can I reduce monitoring from quarterly to annually?

Guidelines for IOC monitoring: asbestos

Monitoring is required once every nine years.

Questions to ask the state

How do I receive a waiver for asbestos monitoring? When should I monitor for asbestos?

Guidelines for lead and copper

A PWS serving fewer than 100 people must collect five first-draw tap water samples for lead and copper analysis, 10 samples if serving between 101-500, and 20 samples if serving between 501-3,300. Water for first-draw tap water sampling must stand motionless for at least six hours prior to sampling and may be collected by residents.

There are two consecutive six-month initial monitoring periods. If the 90th percentile sample exceeds a lead action level of 0.015 mg/l or a copper action level of 1.3 mg/l at any time, testing for water quality parameters and treatment techniques applies. If the PWS does not exceed these action levels, then the PWS goes on an annual testing schedule and reduced monitoring may be available.

The four types of actions required to remedy high lead and copper levels are: 1) corrosion control, 2) source water testing (and possible treatment), 3) public education programs (within 60 days of the exceedance of the action level for lead only), and 4) lead service line replacement.

Questions to ask the state

What is needed for a sample siting plan? Are videos available on how to sample at the tap? If my results show that lead and copper are below the action level, can I reduce monitoring?

The following questions pertain to those systems that exceeded the action level:

What are water quality parameters (WQP), and when do the samples for WQP need to be taken? Do I continue to monitor for lead even though I am over the action level? Where do I get material for public education? How should this material be distributed to residents? How often must I repeat these public education requirements? How do I recommend optimal corrosion control treatment to the state? How many source water samples do I take? How do I recommend treatment to the state if there is no lead in the source water? Who can work with me to do a corrosion control study and install corrosion control treatment? What happens if optimal corrosion is installed and I still cannot meet the action levels?

Lead material ban

The lead ban went into effect in 1986 and prohibits lead material from plumbing used for drinking water systems. Drinking water systems should continue to ensure that leaded solder (more than 0.2% lead) is not being used in plumbing that distributes

drinking water.

Guidelines for radionuclide monitoring

All community PWSs must sample every four years.

Guidelines for volatile organic chemical (VOC) monitoring

New groundwater systems, surface water systems and systems with new sources of water must take one year of quarterly samples at each entry point to the distribution system. Sampling is done annually thereafter. Groundwater systems can reduce monitoring after three rounds of annual monitoring with no VOCs detected to once every three years.

Questions to ask the state

Where do I sample for VOCs? Where should the sample be taken? Is there a monitoring waiver program for VOCs, and how do I apply for a waiver? Am I allowed to "composite" my samples with samples from other water systems in order to reduce the cost of monitoring?

Guidelines for synthetic organic chemical (SOC) monitoring for systems serving fewer than 3,300 people

New groundwater systems, surface water systems and systems with new sources of water must take one year of quarterly samples at each entry point to the distribution system. Sampling is done once every three years thereafter.

Questions to ask the state

When do I sample for SOCs? Where should the samples be taken? Is there a monitoring waiver program for SOCs, and how do I apply for a waiver? Am I allowed to "composite" my samples with samples from other water systems in order to reduce the cost of monitoring?

Guidelines for unregulated contaminant (VOC, SOC, and IOC) monitoring

Monitoring must be performed once every five years, with either one sample or four quarterly samples required. The list of unregulated contaminants to be monitored is periodically updated, with contaminants being added or deleted.

Questions to ask the state

When do I sample for unregulated contaminants? Which contaminants must be monitored? Where should the samples be taken? Is there a monitoring waiver program for unregulated contaminants and how do I apply for a waiver? Am I allowed to "composite" my samples with samples from other water systems in order to reduce the cost of monitoring?

General questions to ask the state

When I detect a contaminant, is a check sample required? When an MCL is exceeded, is a check sample required? What else should be done immediately when an MCL is exceeded? Where can I get free fact sheets on these regulations? Can I "composite" my samples with other systems? Where do I obtain the bottles and what types of bottles do I use for taking the samples? Where can I get instructions on how to sample? Who can help me take the sample? What is a certified laboratory, and why must I use a certified laboratory to test for NPDWRs?

Additional Information

- Your State Drinking Water Agency will be able to provide information and fact sheets.
- Region 8 Drinking Water Program (800) 227-8917
- National SDWA Hotline (800) 426-4791
- American Water Works Association (AWWA) (303) 794-7711
- AWWA Small System Operational Support (800) 366-0107
- Your State Rural Water Association and Environmental Training Center
- Rural Community Assistance Corporation (916) 447-2878

See the listing for State Drinking Water contacts in the resource section

WATER PROGRAMS

Injection Wells

What is an injection well? EPA defines an injection well as a well into which fluids are injected for purposes such as waste disposal, improving the recovery of crude oil, or solution mining. Injection into a well is defined as the subsurface emplacement of fluids, which can be semi-solid, liquid, sludge or in a gaseous or other state.

In the 1974 Safe Drinking Water Act (SDWA), Congress created the Underground Injection Control (UIC) program in order to prevent the contamination of Underground Sources of Drinking Water (USDW) by injection wells. A USDW is defined as an aquifer or its portion that supplies any public water system or contains a sufficient quantity of groundwater to supply a public water system, and contains less than 10,000 mg/l total dissolved solids.

The UIC program divides injection wells into five main categories:

- Class I - Wells used to inject hazardous wastes or dispose of industrial and treated municipal sewage below the deepest USDW;
- Class II - Wells used to inject fluids associated with the production of oil and natural gas or fluids/compounds used for enhanced hydrocarbon recovery;
- Class III - Wells that inject fluids used in subsurface mining of minerals such as salt and uranium;
- Class IV - Wells that dispose of hazardous or radioactive wastes into or above a USDW (banned);
- Class V - Not included in the other classes, generally shallow wells injecting nonhazardous fluid into or above a USDW. Shallow wells represent the largest number of wells and are the most common.

Does the UIC program apply to my community?

Only shallow Class IV and V wells are likely to be found within your community. However, it is these wells that generally pose the greatest threat to public and private drinking water wells. The types of shallow disposal systems most commonly operated in small communities include agricultural drainage wells, domestic wastewater disposal wells (e.g., septic systems and cesspools) that serve 20 or more persons per day, and commercial disposal wells used by small businesses (e.g., auto service stations and car washes). Individual or single family residential septic systems or cesspools are not regulated by the UIC program.

Timetable

Although general regulations for all categories of wells presently exist, additional Federal regulations for several specific categories of Class V injection wells, including

commercial disposal wells and cesspools, are being developed. These are due to be finalized in 1999 and effective in 2000.

Actions your community should be taking

Methods that have proven successful in locating injection wells include telephone and mail surveys as well as public meetings. Community efforts should target residential, agricultural, and commercial areas/facilities not served by or connected to a municipal sewer system because this is where injection wells are most likely to be found. If an injection well is found, its potential for contaminating groundwater will depend upon:

- Where injection occurs relative to the groundwater aquifer;
- Well construction, design, and operation;
- Composition of the injected fluid;
- Volume of fluid injected.

The threat of contamination to groundwater from shallow injection wells can be reduced significantly by utilizing Best Management Practices (BMP) and by reviewing new applications for septic systems to ensure appropriate use.

Best Management Practices refers to methods that have been determined to be the most effective, practical means of preventing or reducing pollution from non-point sources. For example, limiting the use of pesticides and fertilizers can reduce the amount of chemicals that reach groundwater via agricultural drainage wells. Another BMP example is that of developing public awareness programs to educate community members on the adverse effects of disposing of household chemicals in septic systems. Such best management practice programs can also encourage small businesses (e.g., auto service stations) to practice source reduction and recycling of used oil, antifreeze, solvents, and heavy metals that may otherwise be improperly disposed of (e.g., via a septic system).

Additional Information

- National Safe Drinking Water Hotline - (800) 426-4791

- "Shallow Injection Wells and How They Affect Drinking Water," U.S. EPA Region 8, Groundwater Program - (303) 312-6312

- Residents of Colorado, Montana and South Dakota can contact the U.S. EPA Region 8 (phone number listed above). Residents of Utah, North Dakota and Wyoming can contact their respective state agencies.

See the listing for State Injection Wells contacts in the resource section

WATER PROGRAMS

Wellhead Protection

The 1986 Amendments to the Safe Drinking Water Act (SDWA) called upon each state to develop a Wellhead Protection (WHP) program. This legislation established a nationwide program to encourage states to develop systematic and comprehensive programs to protect groundwater public water supply wells and wellfields within their jurisdiction from contamination.

The statute mandated that all states develop WHP programs. To date, every state in Region 8 has developed and is implementing an EPA-approved WHP program. The Region 8 states' programs are voluntary, with the exception of Utah, which operates a mandatory program. (Certain WHP components are required to be implemented by states under the Source Water Assessment Program [SWAP].) States encourage municipalities to participate and to exercise individual discretion in developing methods of protecting groundwater used for drinking water. The Source Water Protection Program incorporates surface water systems and is very similar to Wellhead Protection (see Source Water Assessment and Protection).

Under SDWA, Section 1428, each state in Region 8 developed a WHP program consisting of several elements. At a minimum, each state's WHP program addressed:

- Specific roles and duties of state agencies, local government entities, and public water suppliers, with respect to WHP programs;
- Delineation of the wellhead protection area (WHPA) for each wellhead;
- Identification of sources of contaminants within each WHPA;
- Development of management approaches to protect the water supply within WHPAs from such contaminants;
- Development of contingency plans for each public water supply system to respond to well or wellfield contamination;
- Properly siting of new wells to maximize yield and minimize potential contamination;
- Ensuring public participation.

Actions your community should be taking

The Wellhead Protection program requires the participation of all levels of government. The Federal government is responsible for approving state wellhead protection programs and for providing technical support to state and local governments. States must develop and implement Wellhead Protection programs that meet requirements of the SDWA Amendments. While the responsibilities of local governments depend upon the particular requirements of the state's Wellhead Protection program, local governments are often in the best position to implement measures to ensure that wellhead areas are properly protected from contamination.

Local governments typically have jurisdiction to implement zoning decisions, develop land use plans, oversee building and fire codes, implement health requirements, supply water and sewer services, and enforce police powers. Each of these local powers may be used to protect the quality of local aquifers.

Cities and counties are also often the innovators in developing Wellhead Protection programs by applying combinations of management tools (e.g., zoning and potential contaminant source prohibitions) to meet unique local conditions. Localities often protect groundwater as part of larger projects, such as developing growth management plans or economic development efforts. In close cooperation with regional, state and Federal agencies, local governments can take positive steps to protect their wellhead areas.

Additional Information

- Region 8 WHP Coordinator (303) 312-6719
- Safe Drinking Water Hotline (800) 426-4791
- National Center for Environmental Publication and Information (800) 490-9198
- EPA Wellhead Protection website at http://www.epa.gov/OGWDW/whpnp.html

See the listing for State Wellhead Protection contacts in the resource section

WATER PROGRAMS

Source Water Assessment & Protection

EPA has supported states and communities in their voluntary efforts to protect sources of drinking water since 1986, when the Safe Drinking Water Act (SDWA) Amendments established the Wellhead Protection program (WHP). The 1996 SDWA Amendments have expanded upon this effort, and now require states with responsibility for regulating public water supplies to develop a Source Water Assessment Program (SWAP).

SWAP addresses both surface water and groundwater sources of drinking water, and integrates the earlier WHP activities into it. The SWAP approach continues to rely upon a clear state lead in program development and management, and upon strong public participation.

States must form advisory committees to assist in development of their Source Water Assessment and Protection program, as follows:

- Technical advisory committee - to provide input on the technical feasibility and effectiveness of the proposed SWAP plan;

- Citizen advisory committee - to evaluate the SWAP plan for appropriateness and desirability.

The committees may be combined, but members must represent a wide cross-section of stakeholders from throughout the state, and must be able to evaluate technical material and/or policy issues. SWAP documents submitted to EPA will need to describe the committees' advice regarding key issues.

States must submit SWAP plans to EPA for review by February 1999. EPA must approve or disapprove the SWAP programs within nine months of submittal. States must begin implementation immediately upon approval, and they must complete program implementation within three and one-half years, including any allowable extensions.

Assessment

The SWAP plan forms the framework for undertaking required assessments of sources of groundwater and surface water for all public water systems in the state, and for identifying activities within designated source water protection areas that could contaminate water quality. The resulting assessments provide enough information about drinking water sources so that drinking water utilities can take action to prevent contamination of the sources.

States have considerable discretion in fulfilling SWAP requirements since EPA guidance provides for alternatives and options in completing their SWAP plans. However,

each SWAP must include the following elements:

- Delineation of the Source Water Protection Area - Basically, this is a topographical map of the land area surrounding a surface or groundwater drinking water source through which contaminants could move and reach the well or intake.

- Contaminant Inventory - Identification of land uses, industries, and activities within the source water protection area that could contribute contaminants to the source of drinking water and, thereby, degrade water quality.

- Susceptibility Analysis - Determination of the likelihood that a contaminant, once it has entered the drinking water source, will reach the intake or drinking water well in an amount that will affect the public water system and its ability to deliver safe drinking water.

- Public Notification - The SWAP plan must describe how the results of the assessments will be made available to the public. In its report to the public, the state must provide maps showing the delineated areas, the location of the contaminants, and the results of the susceptibility analysis.

States are encouraged to use information and data sources that already exist at many different Federal, state, and local agencies in developing their SWAP plans. SWAP implementation can then serve as an opportunity for states to collect existing information in one place and use it to conduct susceptibility analyses.

EPA recommends that states use an iterative process in completing the required assessments: that is, collect the available information necessary for completing assessments, and then determine if a collection of additional information is warranted in order to undertake complex susceptibility analyses. Information collected under an existing WHP would remain acceptable upon review and appropriate updates.

Protection

States' SWAP plan submittals to EPA need to report whether or not they will be developing a Source Water Protection Program (SWPP). While not mandatory, the SWPP will describe how the information collected through SWAP implementation will be used to advance pollution prevention and protection efforts. Additionally, a Source Water Protection Program provides guidelines and advice to local communities on subsequent development of plans for protecting their sources of drinking water.

Several states have chosen to incorporate SWPP measures within their existing Wellhead Protection Program. States may also actively assist communities in protecting

their drinking water sources by providing technical assistance and financial resources in the form of grants and loans.

The Drinking Water State Revolving Fund

A new addition to SDWA is the Drinking Water State Revolving Fund, for which states must provide an overall 20% match. From this state-administered fund, they can provide public water systems with low interest loans to improve the treatment and distribution of drinking water. (See Drinking Water SRF section for more information.) In addition, several "set-asides" are included, whereby states can take a percentage of the fund for other activities, including source water assessment and protection. Depending on use, set-aside funding is available to states as either grants or loans for the following activities:

- Source water assessment programs (available from 1997 money only);
- Source water protection/source water petition programs;
- Purchase of land or conservation easements;
- Wellhead protection programs;
- Program administration or technical assistance for source water protection.

Actions your community should be taking

Active protection of drinking water sources remains the responsibility of the people who drink the water, working in coordination with their public water supplier. Local protection efforts are the key to protecting drinking water supplies, and local government units are in the best position to implement measures to ensure that source waters are properly protected from contamination.

Local governments typically implement zoning decisions, develop land-use plans, oversee building and fire codes, implement health requirements, supply water and sewer services, and enforce police powers. Through these local actions, positive steps can be taken to protect the quality of source waters. Combinations of management tools (e.g., zoning, source prohibitions), easements and purchases can be used to meet unique local conditions. Additionally, cooperation can be sought with state and federal agencies. Such cooperative approaches can be used to provide technical assistance and funding sources to enhance protective measures.

Additional Information

- EPA Region 8 Source Water Protection Program (303) 312-6550

- Region 8 Source Water Assessment and Protection website at http://www.epa.gov/unix0008/water/swap/swap.html

See the listing for State Source Water Assessment and Protection contacts in the resource section

WATER PROGRAMS

Wastewater

Discharge Permits Under the National Pollutant Discharge Elimination System (NPDES)

Public Law 92-500, the Federal Water Pollution Control Act, as amended in 1972, established a national policy to restore and maintain the chemical, physical and biological integrity of the nation's waters. [PL 92-500 was later renamed the Clean Water Act (CWA).] One of the chief mechanisms to achieve these goals is the National Pollutant Discharge Elimination System (NPDES) permit program. The U.S. EPA or the state environmental control agency has responsibility for administering the NPDES permit program. NPDES permits are issued to operators discharging any pollutant (including wastewater effluent) to state/U.S. waters (such as streams, rivers, lakes, wetlands, etc.).

Specific terms and conditions for NPDES permits vary from state to state, but each primacy state must administer the program to meet minimum EPA standards. In addition, permit requirements within a given state may also vary because of different designated beneficial uses of the receiving water and other factors at the discharge site.

Actions your community should be taking

Maximize community awareness of and develop education programs about:

- wastewater collection and disposal
- alternative solutions available
- funding resources and procedures for implementing appropriate wastewater treatment programs

Because of reduced levels of Federal funding for wastewater collection and disposal systems, rural communities and their technical consultants must identify less expensive alternative technologies in order to reduce project cost and operating expenses.

Numerous technical and administrative resources are available at little or no cost to small communities, either at the state or Federal level. Local regulatory authorities, funding agencies, and technical consultants must become knowledgeable about the resources available and work cooperatively in order for rural America to have effective wastewater collection and disposal systems.

Additional Information

- Federal Water Pollution Control Act of 1972 (33 U.S.C. 1342) - Commonly referred to as the Clean Water Act

- EPA Administered Permit Programs: The National Pollutant Discharge

Elimination System, 40 CFR Part 122

- "Small Wastewater Systems - Alternative Systems for Small Communities and Rural Areas," EPA National Small Flows Clearinghouse, (800) 624-8301

- "It's Your Choice - A Guidebook for Local Officials on Small Community Wastewater Management Options," EPA National Small Flows Clearinghouse, (800) 624-8301

- "Self-Help Handbook," Jane Schautz and Christopher M. Conway, The Rensselaerville Institute, Rensselaerville, NY 12147, (518) 797-3783

- "Community Managed Septic Systems - A Viable Alternative to Sewage Treatment Plants," Controller General Report to the Congress of the United States, CED 78-168, 11/3/78

- "Design Manual - Constructed Wetlands and Aquatic Plant Systems for Municipal Wastewater Treatment," Center for Environmental Research Information, Cincinnati, OH 45268, EPA/625/1-88/022

See the listing for State Water Quality Permit contacts in the resource section

WATER PROGRAMS

Wastewater

Secondary Treatment of Municipal Wastewater

Secondary treatment is the minimum treatment requirement for most Publicly Owned Treatment Works (POTW). Secondary treatment, among other things, requires that effluent concentrations of five-day biochemical oxygen demand (BOD_5) and total suspended solids limits not exceed 30 mg/l as a thirty-day average. Some states allow higher total suspended solids limits if certain conditions are met. In general, at a minimum the treatment process must be a stabilization pond.

Does the secondary treatment regulation apply to my community?

Yes, all treatment facilities that discharge to waters of the U.S. must comply. Designated beneficial uses of the receiving waters may necessitate that higher quality effluent be discharged or possibly allow no discharge at all.

Actions your community should be taking

If a wastewater treatment plant discharges to state/U.S. waters (such as streams, lakes, wetlands, etc), it is required to have a National Pollutant Discharge Elimination System (NPDES) permit. States may have slightly different names for their permit programs, but the permit will specify effluent limitations and monitoring requirements. If the POTW cannot meet the effluent limitations specified in the permit, it may be necessary to upgrade the treatment facility, review operational improvements, and/or improve the sewer collection system to correct excess inflow/infiltration problems. Another approach would be to minimize water use by instituting water conservation measures, such as the use of low-flow plumbing fixtures in homes and buildings.

If you suspect that there is a problem having to do with secondary treatment of municipal wastewater in your community, notify the appropriate parties. Starting with the POTW itself, this could include community officials, county sanitarians, or state officials responsible for water quality and/or wastewater discharge permits.

Additional Information

- Office of Wastewater Management website at http://www.epa.gov/owm
- EPA Secondary Treatment regulations, 40 CFR Part 133
- "Needs Survey Report to Congress," EPA, February 1997 published every four years
- "Overview of Selected EPA Regulations and Guidance Affecting POTW Management," EPA, September 1989

See the listing for State Water Quality Permit contacts in the resource section

Biosolids/Sewage Sludge Use and Disposal

Until about 25 years ago, what was then called sewage sludge or municipal wastewater sludge was disposed of in landfills or incinerated. During the past quarter century the practice has changed to recycling biosolids, a byproduct of the wastewater treatment process. Environmental regulations ensure that biosolids are handled properly and are of sufficient quality for use as a soil conditioner, fertilizer, or for other intended uses.

How do Biosolids differ from Sewage Sludge?

Biosolids are primarily organic *treated* wastewater materials from municipal wastewater treatment plants (with the emphasis on the word *treated*) that are suitable for recycling as a soil amendment. Sewage sludge now refers to *untreated* primary and secondary organic solids from the wastewater treatment process. This differentiates biosolids, which have received stabilization treatment at a municipal wastewater treatment plant, from sewage sludge, as well as the many other types of sludge (such as oil and gas field wastes) that cannot be beneficially recycled as soil amendments.

Exactly what are Biosolids?

Biosolids are, in effect, a slow release nitrogen fertilizer with low concentrations of other plant nutrients. In addition to significant amounts of nitrogen, biosolids also contain phosphorus, potassium, and essential micronutrients, such as zinc and iron, which are of great benefit in the West, where many soils are deficient in micronutrients. Since biosolids are also rich in organic matter, they can improve soil quality by improving water-holding capacity, soil structure and air and water transport. Proper use of biosolids can ultimately decrease topsoil erosion.

When applied at agronomic rates (the rates at which plants require nitrogen during a defined growth period), biosolids provide an economic benefit in addition to their environmental advantages. Colorado State University agronomists have shown that application of three dry tons of biosolids per acre every other year to dryland wheat crops produces comparable yields, higher protein content, and larger economic returns when compared with dryland wheat produced using 50 to 60 pounds per acre of commercial nitrogen fertilizer.

What are the Federal Requirements for Biosolids?

The EPA in 1993 set forth requirements for management of all biosolids generated during the process of treating municipal wastewater, commonly called the 503 Rule. The 503 Rule encourages the beneficial reuse of biosolids, and establishes strict standards under which wastewater residuals can and cannot be beneficially recycled as soil amendments. The EPA believes that biosolids are an important resource that can and should be safely recycled.

The 503 Rule is designed to protect public health and the environment. Most of the requirements are based on the results of extensive environmental risk assessment and on more than 25 years of independent research. The 503 Rule established standards for pathogen destruction and for levels of metals that can be present in biosolids. It also governs reduction of the attraction of vectors (such as flies), agricultural practices, site restrictions, and crop harvesting restrictions.

What are the Reuse/Disposal Options?

The only options for reuse/disposal of biosolids are incineration, surface disposal, landfilling, or recycling as soil amendments. Incineration is very expensive. Landfilling and surface disposal are really temporary solutions to a permanent problem. Because biosolids are a valuable resource, recycling as soil amendments is the preferred disposal option.

Do the Biosolids (sewage sludge) regulations apply to my community?

Yes, if the wastewater treatment system includes any form of central treatment or mechanical plant, including a lagoon, which will need to be cleaned, whether it is covered in your NPDES permit or not.

Even septage is now covered in the regulations as sewage sludge, as long as it is primarily domestic. Commercial/industrial septage is not included.

Additional Information

- "Biosolids Management Handbook for Small Publicly Owned Treatment Works (POTWs)," September 1995, U.S. EPA Region 8
- "Use of Reclaimed Water & Sludge in Food Crop Production," National Research Council National Academy Press, Washington, DC 1996
- "Questions & Answers About Biosolids Recycling in Colorado," Colorado Department of Public Health & the Environment, Water Quality Control Division & U.S. EPA Region 8
- "Guide to Soil Suitability and Site Selection for Beneficial Use of Domestic Wastewater Biosolids: Manual 8," Oregon State University Extension Service
- "A Guide to the Biosolids Risk Assessments for the EPA Part 503 Rule," EPA/ 832/B-93-005, September 1995
- "A Plain English Guide to the EPA Part 503 Biosolids Rule," EPA/832/R-93-003, September 1994

- Preparing Sewage Sludge for Land Application or Surface Disposal - A Guide for Preparers on the Monitoring, Record-keeping, and Reporting Requirements of Federal Standards for the Use or Disposal of Sewage Sludge, 40 CFR Part 503 (EPA, 1993)

- Surface Disposal of Sewage Sludge - A Guide for Owners/Operators of Surface Disposal Facilities on the Monitoring, Record-keeping, and Notification Requirements of the Federal Standards for the Use or Disposal of Sewage Sludge, 40 CFR Part 503 (EPA, 1994)

- Region 8 Biosolids Management Program website at http://www.epa.gov/unix0008/water/npdes/biosolid.html

- Colorado State University Cooperative Extension website at http://www.colostate.edu/Depts/CoopExt

- Water Environment Federation website at http://www. wef.org/biosolids.html

- EPA Region 8 Biosolids Coordinator (303) 312-6129

- Information may also be obtained by contacting your county sanitarian.

See the listing for State Biosolids contacts in the resource section

WATER PROGRAMS

Wastewater

Pretreatment Requirements

Pretreatment refers to processes used to reduce, eliminate, or alter the nature of wastewater pollutants from non-domestic sources before they are discharged into publicly owned treatment works (POTWs). A pretreatment program will include development of appropriate ordinances, education programs for operators, inspections, monitoring, and enforcement.

Specifically, pretreatment programs control pollutants that are incompatible or will interfere with the treatment process for domestic water, or pass-through the POTW untreated and cause problems in the receiving waters. In addition, pretreatment requirements can improve opportunities to recycle and reclaim domestic wastewaters and sludges.

Do the pretreatment requirements apply to my community?

Generally, smaller POTWs are not required to establish EPA or state-approved pretreatment programs since small communities have few, if any, non-domestic users. However, many smaller communities are opting to establish their own pretreatment programs voluntarily in order to enhance protection of their POTWs and receiving waters.

If a community does have non-domestic users (such as food processing plants, metal finishers, significant trucked and hauled waste contributors, etc) discharging pollutants that could pass through the POTW untreated or interfere with operations, the community may have to implement a pretreatment program to satisfy National Pollutant Discharge Elimination System (NPDES) permit requirements. (See the NPDES section for more information on the permit program)

Your facility's current NPDES permit contains a section on prohibited discharges for industrial or commercial users. This section requires all municipalities to protect their POTWs from pass-through, interference, sludge contamination or adverse effects on worker safety from the discharge of pollutants by non-domestic users. These are, in effect, pretreatment requirements and are designed to ensure that you protect your POTW.

If the rule applies to my community, what should I do?

If your community is required to establish a pretreatment program or if you establish one voluntarily, your local POTW governing unit must enact ordinances to implement pretreatment requirements and identify a person responsible for ensuring that the program is administered according to regulations.

Discharge limitations are developed and enforced by POTWs to implement prohibi-

tions and to protect the POTW. They are site specific to ensure that pretreatment standards are in place to protect the POTW, the receiving stream and municipal sludge quality.

If your community wants to establish a local pretreatment program but is not required to do so by your NPDES permit, contact your state wastewater agency or the Regional Office of the EPA for assistance.

If you suspect that there is a problem with a non-domestic user in your community, notify your POTW operator and EPA Regional Office, or the department of state government responsible for wastewater discharge permits.

Additional Information

- Pretreatment Final Rule, 40 CFR Part 403
- EPA Region 8 Pretreatment website at http://www.epa.gov/unix0008/water/npdes/pretreat.html

See the listing for State Pretreatment contacts in the resource section

Storm Water

Storm water runoff flows over parking lots and other areas, collects in street gutters and storm drains, and can eventually flow to water bodies after little or no treatment. In addition to the usual pollutants, storm water can be further contaminated by dumping used motor oil, leftover paint, pesticides and other household chemicals on the ground, in parking lots and in streets. This can severely affect nearby surface waters.

In 1987, Congress amended the Clean Water Act to require the establishment of a comprehensive two-phased approach to control storm water discharges. The Phase I regulations were published in the Federal Register on November 16, 1990, and concentrate primarily on:

- Discharges associated with industrial activity, including construction projects disturbing more than five acres.

- Discharges from municipal separate storm sewer systems (MS4s) serving a population of 100,000 or more.

Municipalities under 100,000 population have had fewer requirements under the Phase I regulations. They have been required to get permit coverage for storm water discharges from airports, power plants, and uncontrolled sanitary landfills that they own or operate. The state or EPA may require, on a case-by-case basis, permits for storm water discharges from other activities owned or operated by municipalities under 100,000 population if considered necessary to control contaminated runoff. Some small MS4s (serving fewer than 100,000 people) may also be covered under Phase I regulations if they have interconnections with medium or large MS4s, or if their discharges can negatively affect local receiving waters.

Phase II, which is currently under development, will address all storm water discharges not covered under Phase I. The proposed Phase II rule was published in the Federal Register on January 9, 1998, and the final rule is scheduled to be published in early 1999. Specifically, Phase II storm water regulations would affect municipalities under 100,000 population by:

- Requiring them to apply for MS4 permits if they are located within an urbanized area, as defined by the U.S. Census Bureau, or if designated by the state or EPA as needing a permit.

- Requiring them to apply for permits for storm water discharges from municipal construction projects that disturb one acre or more and for other

municipally-owned or operated facilities that are defined as associated with industrial activity (e.g., certain sewage treatment plants, vehicle maintenance operations, etc).

Actions your community should be taking

Maintain coverage under existing storm water discharge permits, as necessary, for Phase I municipal sources (e.g., airports, power plants, uncontrolled sanitary landfills). If you are still unclear whether certain municipal operations need coverage under Phase I storm water discharge permits, contact your state or EPA National Pollutant Discharge Elimination System (NPDES) permitting authority.

Contact your state or EPA NPDES permitting authority by the middle of 1999 to determine the applicability of the Phase II storm water requirements to your community. Apply for storm water discharge permits, and implement controls as necessary, according to Phase II storm water regulations.

Even if your community is not affected by storm water regulations, consider developing an information and education program to increase the awareness of municipal employees and residents of the relationship between the storm water drainage system and the local lake or stream. Communities should also consider establishing local ordinances prohibiting non-storm water hookups and discharges or disposal of chemicals into the storm water drainage system.

Additional Information

Contact your state or EPA Regional storm water contact for more information about the storm water permitting program or visit the following storm water Internet sites:

- EPA's NPDES Storm Water Program site at http://www.epa.gov/owm/stormw.htm
- EPA's Wet Weather site at http://www.epa.gov/owm/wgen.htm
- EPA's Storm Water Library at http://www.epa.gov/owm/swlib.htm
- EPA Region 8 Storm Water site at http://www.epa.gov/unix0008/water/npdes/storm.html
- EPA Region 6 Storm Water site at http://www.epa.gov/earth1r6/6en/w/sw/home.htm

See the listing for State Storm Water contacts in the resource section

WATER PROGRAMS

Wastewater

State Revolving Fund Program

Title VI of the 1987 Amendments to the Clean Water Act authorized EPA to award annual grants to states for funding of State Revolving Funds (SRFs). These funds are intended to be a source of financial assistance for water pollution control projects in perpetuity. States must provide at least a 20 percent match for each grant. However, the program allows states to employ optional, innovative financial strategies to increase the amount of loan funds available earlier in the SRF's life. An SRF may provide financial assistance to municipalities, inter-municipal, state and interstate agencies for construction of publicly owned wastewater treatment works (POTWs). Projects can include storm water facilities, and non-point source (NPS) management programs. For NPS projects, the SRF can also assist private citizens directly through loans for projects such as helping bring a private septic system into compliance.

The types of financial assistance available include loans, purchase or refinancing of existing municipal debt, guarantee of municipal or state obligations and purchase of insurance to guarantee municipal debt for wastewater systems. Direct grants are not authorized. Loans can cover 100% of eligible project costs with no cash up front.

Each state develops, implements and administers its own SRF program, which is meant to be a one-stop technical and financial service, subject to minimal federal requirements. Each state must prepare for public comment an annual Intended Use Plan on SRF operations for the upcoming year. Loans granted through an SRF must meet these basic criteria:

- Interest rates at or below market, including zero percent;
- Amortization schedules of 20 years or less;
- Annual principal and interest payments commencing not later that one year after project completion;
- Pledge of a dedicated source of revenue by each borrower.

Additional Information

- EPA Region 8 SRF Coordinator (303) 312-6277
- Initial Guidance for State Revolving Funds, January, 1988
- EPA State Revolving Fund Program Implementation Regulations, 40 CFR Part 35, Subpart K
- State Revolving Fund, Final Questions and Answers, July, 1990

See the listing for State Revolving Fund contacts in the resource section

OTHER PROGRAMS

Pollution Prevention

EPA's Pollution Prevention Approach

The Pollution Prevention Act of 1990 establishes pollution prevention as national policy, that is, EPA's preferred approach for protecting human health and the environment. The primary goal of pollution prevention is to prevent or reduce the generation of wastes and pollutants at the source. Pollutants that cannot be prevented should be recycled whenever possible. Pollutants that cannot be prevented or recycled should be treated in an environmentally safe manner. Disposal or other release of pollutants into the environment should be used only as a last resort and should be conducted in an environmentally safe manner.

In summation, instead of using traditional pollution treatment and control methods to stop existing pollutants from reaching the environment, pollution prevention aims to anticipate and avoid the generation of pollutants in the first place.

Actions for Communities

Small communities are in a unique position to make things happen and to win the battle against pollution because they can deal directly with local environmental problems. Local governments can encourage and stimulate the practice of pollution prevention at all levels by working with industry and manufacturing, business and government (including agriculture, transportation, energy generators, hospitals and schools), communities, and individuals.

Following are specific suggestions on how community leaders can fight pollution and preserve environmental quality, human health and natural resources:

- Set pollution prevention as a major goal and integrate the concept into governmental activities. Publicly recognize pollution prevention as a priority.

- Practice what you preach—set an example.

- Educate the public as well as business and industry about pollution prevention.

- Create an awareness of the profitability and benefits of pollution prevention through greater efficiency and utilization of natural resources.

- Develop programs to:

    1. Recycle paper, glass, plastic, aluminum, scrap metal, motor oil, and yard wastes.

2. Use less energy. Set back thermostats, insulate, buy energy-efficient lighting and appliances, and make creative use of daylight.

3. Use less water. Be conservative. Use ultra-low flush toilets; install water meters; repair leaks; review maintenance schedules; use water conserving landscaping.

4. Buy energy efficient automobiles and other fleet vehicles and keep them tuned.

5. Car pool, bike, walk, or use mass transit when possible.

6. Take advantage of natural methods of crop protection. Apply insecticides and herbicides carefully if they must be used at all.

7. Reduce smoke, radon, asbestos and other indoor-air pollutants.

8. Reduce use of materials that produce hazardous or toxic waste; encourage product substitution and modification of industrial operations to preclude generation of hazardous and/or toxic waste. Recycle used motor oil.

9. Buy recycled or recyclable products. Seek out products with reusable, recyclable or returnable packaging.

10. Be careful around surfaces covered with lead-based paint, and be cautious when children are nearby during renovation or rehabilitation of old buildings. Be sure drinking water does not contain harmful levels of lead or other contaminants.

11. Plant trees, shrubs, and indoor plants. They replenish the earth's oxygen supply and clean the air by removing pollution.

Additional Information

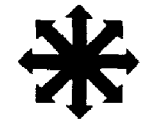
- EPA, Region 8, Pollution Prevention Program (303) 312-6385

- EPA Region 8 Pollution Prevention Program website at http://www.epa.gov/region08/p2/p2home.html

See the listing for State Pollution Prevention contacts in the resource section

OTHER PROGRAMS

Public-Private Partnerships



As a community leader, you face the prospect of building or upgrading public facilities to comply with growing environmental protection requirements and expectations. At the same time, Federal grant funds for public works have been substantially reduced, which means that state and local governments face expanded responsibilities while constrained by limited budgets. As these pressures grow, local community leaders must find new ways for their communities to hold down costs and build public support for necessary additional expenses. One approach a municipality may consider is to regionalize services with surrounding communities. Public-private partnerships offer another possible solution.

Public-Private Partnerships: What and Why?

A public-private environmental partnership is a contractual relationship between a public and private partner (e.g., a municipality and a local firm or district) that commits both to providing an environmental service. The private sector can be involved in a variety of ways, from the initial design of a facility to its daily operation and maintenance.

Although each arrangement is unique, most public-private partnerships fall into one of the following categories:

Contract Services: The private sector is contracted to provide a specific municipal service, such as garbage collection, or to maintain and operate a facility such as a waste treatment plant. The facility is owned by the public sector.

Turnkey Facility: The private sector designs, constructs, and operates an environmental facility that is owned by the public sector. While the public sector generally assumes the financing risk, the performance risk for minimum levels of service and/or compliance usually is assumed by the private partner.

Developer Financed: In this type of arrangement, the private sector (usually private developers) finances the construction or expansion of an environmental facility in return for the right to build houses, stores or industrial facilities.

Privatization: In privatization, the private sector owns, builds and operates a facility. They also partially or totally finance the facility.

Merchant Facility: In this type of arrangement, not only does the private sector own and operate the facility, as in privatization deals, but they also make the decision to provide an environmental service to a community. It is similar in concept to a fast food franchise except that it involves environmental services.

There are benefits associated with each of these categories. Communities enter into partnerships for various reasons, including access to more sophisticated technology; cost-effective design, construction and/or operation; flexible financing; sharing of responsibility and risk; and guaranteed costs.

Building a Public-Private Partnership

No two communities build a partnership in exactly the same way, but all must take roughly the same steps. There is now a publication called "Public-Private Partnerships for Environmental Facilities: A Self-Help Guide for Local Governments," written to acquaint local officials with the concept of public-private partnerships, their benefits, and the steps a community must take to build relationships with the private sector.

The guide presents an action checklist of the steps that will help a community make the many decisions necessary to enter into a partnership contract with a private firm. For example, a community initiates the partnership process by evaluating its service needs, reviewing available technology, and identifying resources that may be able to assist in the development of the contract. At the same time, community leaders involved in this process must also try to generate public support for the proposed partnership project.

It is also important to review a potential private partner's performance record prior to entering into negotiations. Eventually, local officials must narrow partnership options, select and conduct the procurement process and, finally, develop the service agreement.

Financing, Procurement, and the Service Agreement

Three of the most difficult steps in building a public-private partnership are financing, procurement, and the service agreement.

In choosing a financing method, a community should estimate the capital required and identify various financing options. The financing options should then be assessed in relation to the financial condition of the municipality, the project's costs and potential risks. The community then must select the option that is most appropriate by comparing costs and benefits of the various options.

Next comes the procurement process. The three types of procurement most communities select are advertised procurement, competitive negotiation, and two-step advertising.

Advertised Procurement involves preparing a very specific invitation for bid; bidders cannot alter or amend the terms. This type of procurement works best when a community knows precisely what it wants to buy or build and how the project is to be

financed.

Competitive Negotiation offers the opportunity to negotiate with one or more bidders and allows you to be less specific about the project and its financing. It offers the opportunity to define project needs generally; that is, to identify performance needs rather than a particular technical or financial approach.

Two-Step Advertising Procurement is a combination of the other two processes. It can be used to obtain flexibility when competitive negotiation is not permitted.

Finally, a partnership arrangement must be spelled out in a "service agreement" or contract. Each contract must include the following elements:

- description of the project and performance criteria
- compensation method and timetable
- provision for changes
- risk allocations
- provision for contract termination and step-in rights

Insurance and bonding should also be considered since they may affect the terms of the contract.

Additional Information

- EPA, Region 8, Reinvention Program, (303) 312-6387

- "Public-Private Partnerships for Environmental Facilities: A Self-Help Guide for Local Governments," is available on the Internet at http://www.epa.gov in the Publications Section or by calling (800) 490-9198.

OTHER PROGRAMS

Emergency Planning & Community Right-to-Know Act

Also Known as the Superfund Amendments & Reauthorization Act (SARA), Title III

The Emergency Planning and Community Right-to-Know Act (EPCRA), enacted in 1986, has two major purposes: 1) to increase public knowledge of and access to information on the presence of toxic chemicals in communities, releases of toxic chemicals into the environment, and waste management activities involving toxic chemicals; and 2) to encourage and support planning for responding to environmental emergencies.

What is an Environmental Emergency?

An environmental emergency is a sudden threat to the public health or the environment arising from the release or potential release of oil, radioactive materials, or hazardous chemicals into the air, land, or water. These emergencies may occur as a result of transportation accidents, events at chemical or other facilities that use or manufacture chemicals, or as a result of natural or man-made disasters. While there are many other serious environmental problems about which EPA is concerned, EPCRA focuses generally on sudden, immediate threats.

What are some of the requirements under this law?

Section 304 of the Act requires facilities to report immediately releases of toxic chemicals to air, water, and land.

Section 313 of the Emergency Planning and Community Right-to-Know Act requires certain businesses to submit annual reports to the U.S. EPA and the state no later than July 1 of each year. These reports include the amounts of toxic chemicals their facilities release into the environment, either routinely or as a result of accidents. The purpose of this reporting is to provide a database known as the Toxics Release Inventory (TRI) that informs local governments and the public about releases of toxic chemicals into the environment.

EPCRA also mandated formation of State Emergency Response Commissions (SERCs), which must appoint Local Emergency Planning Committees (LEPCs). SERCs must be notified by facilities of chemical accidents subject to EPCRA requirements.

LEPCs are required to analyze hazards and develop a local emergency plan to respond to chemical emergencies in each local district. Additionally, the LEPC must exercise, review and update the plan annually and make it available to the public. Businesses and industrial facilities must report annually to the LEPC on the chemical types, storage amounts and locations at their facilities. The LEPC must also make this inventory information available to the public.

In addition, if there is a chemical accident or other environmental emergency at a facility, responding organizations, such as the local fire department, will be prepared to deal effectively with the problem because of information and training available through EPCRA.

As a result of the TRI database and the hazardous chemical inventory information, EPCRA enables state and local governments and the public to identify what needs to be done at the local level to better deal with pollution and chemical emergencies. It provides one vehicle to fulfill the community's right-to-know.

Does the Emergency Planning and Community Right-to-Know Act apply to my community?

Yes, the chemicals released by manufacturing and other types of facilities in and near your community may pose a threat to citizens, to employees working at the facilities, and to the greater total environment. Chemicals being stored or processed at these facilities may also present a hazard to individuals (such as fire fighters, emergency medical and law enforcement personnel) asked to respond to accidents, spills, and other hazardous situations.

Compliance with EPCRA regulations can influence land use planning decisions for your community. For example, you would not want to locate a business or industry using chemicals that might present a hazard to individuals next to a school.

EPCRA provides stiff penalties for facilities that do not comply, and it allows citizens to file lawsuits against companies and even government agencies to force them to obey the law.

If the Emergency Planning and Community Right-to-Know Act applies, what should I do?

As a member of the public, you should, first, be informed. The TRI database is available to you on the Internet (at http://www.epa.gov/opptintr/tri/pdr96/drhome.htm), from Envirofacts Warehouse and other computer accessible data banks, on CD-ROMs available from the EPA and at some libraries. In addition, there are two documents published annually by EPA, "Toxics Release Inventory, Public Data Release," and "Toxics Release Inventory, Public Data Release, State Fact Sheets." With this information, you as an individual and as part of citizen groups can work to encourage reductions in TRI annual emissions by local industry and business.

As a local official, you should insist on complete planning and adequate preparation for environmental emergencies. You should review the membership list of your Local Emergency Planning Committee to make sure that it is representative of the community and includes individuals from citizen groups, fire departments, hospitals, schools,

state and local governments, medical, industry and business groups, and farmers if you live in a rural area. It is important for the LEPC not only to carry out the emergency planning process but also to communicate with the public about its activities.

In short, you should become familiar with the law so that you will know what tools are being made available to better assess and manage toxic chemical risks present within your community.

Whom to notify and how to be prepared in case of an environmental emergency

In the event of a public health emergency, officials of the facility involved must first contact local emergency response agencies, and then notify the appropriate state and Federal authorities. To report oil and chemical spills, call the National Response Center at (800) 424-8802.

Knowledge and training provide the best preparation in case of environmental emergencies. Emergency response organizations, such as local fire departments, will be prepared to deal effectively with chemical accidents and other environmental emergencies because of information and training available through EPCRA.

Additional Information

- EPA, Region 8, Preparedness, Assessment & Emergency Response (303) 293-1788 or (800) 227-8914
- EPA, Region 8 EPCRA Section 313 Program (303) 312-6447
- Region 8 EPCRA Program website at http://www.epa.gov/region08/toxics/epcra/epcra.html
- EPA, Region 8 EPCRA Enforcement (303) 312-6210
- Toxics Release Inventory Public Data Release Report at http://www.epa.gov/opptintr/tri/pdr96/drhome.htm
- SARA Title III Hotline (800) 424-9346
- EPA Region 8 Preparedness and Prevention Team Publication (908-F-98-003, July 1998)
- EPA Region 8 Emergency Response Program (March 1997)

See the listing for State Emergency Response contacts in the resource section

OTHER PROGRAMS

Asbestos

Asbestos is a general term for a number of naturally occurring fibrous mineral silicates; as minerals, the silicates crystallize in narrow veins as parallel bundles of extremely minute fibers. Any physical disturbance of these compact bundles generally breaks them down into individual fibers or finer bundles.

Asbestos has high thermal stability, excellent tensile strength, resistance to chemical attack, good thermal and electrical resistance and the ability to be subdivided into fine fibers. Because of these unique qualities, asbestos is useful as insulation (electrical and thermal), roofing and flooring, and as reinforcing additions to cements, mortars and other coatings.

However, the physical properties that give asbestos its resistance to heat and decay are linked with several adverse human health effects because asbestos tends to break into a dust of microscopic fibers when disturbed. Because of their size and shape, these tiny fibers can remain suspended in the air for long periods of time and can easily penetrate body tissues when inhaled. Because of their durability, these fibers can lodge and remain in the body for many years.

Asbestos is now known to cause asbestosis, lung cancer, and mesothelioma. Other cancers, primarily of the digestive tract, also have been associated with exposure to asbestos. These asbestos-related diseases have a long latency period; that is, symptoms may not appear until 20 to 40 years after exposure. No "safe" exposure threshold for asbestos has been established, but the risk of disease generally increases with the length and amount of exposure.

Discovery of the adverse health effects of asbestos brought about Federal regulation of its use; manufacture and use of asbestos is now prohibited in the U.S.

Federal Regulations Governing Asbestos

National Emissions Standards for Hazardous Air Pollutants (NESHAP)

Probably the largest single source of asbestos in the indoor air we breathe is insulation, since it had been used in most of the buildings built for some fifty years. In accordance with the Clean Air Act, Section 112, EPA established National Emissions Standards for Hazardous Air Pollutants (NESHAP) to protect the public health, and promulgated the Asbestos NESHAP in 40 CFR Part 61 on April 6, 1973.

A revised NESHAP regulation was promulgated on November 20, 1990. Asbestos NESHAP regulations protect the public by minimizing the release of asbestos fibers during activities involving the processing, handling, and disposal of asbestos-containing material (ACM). They specify work practices to be followed during demolition

and renovation of all structures, installations, and buildings (excluding residential buildings having four or fewer dwelling units). In addition, NESHAP regulations require building owners and/or contractors to notify the applicable state (or EPA Regional office) before any demolitions or renovations of buildings that will disturb a certain threshold amount of asbestos.

Asbestos Hazard Emergency Response Act (AHERA) (School Buildings)

The Asbestos Hazard Emergency Response Act (AHERA), signed into law on October 22, 1986, required all schools in the U.S. to develop "management plans" to address how to control their asbestos-containing material (ACM) (i.e., material greater than 1% asbestos by weight).

As part of these requirements, EPA requires schools to appoint an asbestos manager, called the "AHERA Designated Person," to be responsible for asbestos-related activities, including implementation of the management plan and ensuring compliance with federal asbestos regulations. EPA has observed that the quality of school asbestos programs depends heavily upon the dedication and work of the AHERA Designated Person (DP). DPs who follow AHERA requirements can prevent the release of asbestos fibers through their own actions, as well as through hiring and overseeing the work of qualified personnel to conduct asbestos-related activities at their school buildings.

Provisions for training these individuals is provided under AHERA's Model Accreditation Program (MAP) to certify people who conduct inspections for asbestos, develop management plans, and perform the work needed to clean up asbestos problems in schools. AHERA also established five accredited training programs for persons performing asbestos-related work in schools.

School asbestos management plans must be available to all concerned persons, such as faculty, staff, parents, or other interested parties. You may call your local school and ask to see a copy of the plan. Most schools will request that you make an appointment so that a school official can sit down with you and discuss the management plan.

Asbestos Ban and Phase-Out (ABPO)

On July 12, 1989, the EPA Promulgated the Asbestos Ban and Phase-Out Rule (ABPO) under authority of the Toxic Substances Control Act (TSCA). Under this rule, certain asbestos-containing products were scheduled to be banned at staged intervals over a seven-year period. The objective was to reduce unreasonable health risks to the public by eliminating certain asbestos-containing products and replacing them with safer alternatives.

The U.S. 5th Circuit Court of Appeals vacated most of the Asbestos Ban and Phase-out Rule and remanded it to EPA in October, 1991. However, it left intact the portion of

the rule that regulates products that were not being manufactured, produced, or imported when the rule was published - in other words, all products made after July 12, 1989.

Asbestos School Hazard Abatement Reauthorization Act (ASHARA) (Public and/or Commercial Buildings)

On November 28, 1990, the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) became law. Section 15 of ASHARA amended the Asbestos Hazard Emergency Response Act (AHERA) to require accreditation for any person who inspects for asbestos-containing materials (ACM) or who designs or conducts response actions with respect to friable ACM in any public or commercial building (not just school buildings). Based on the ASHARA amendments, EPA promulgated a revised Model Accreditation Plan (MAP) in February 1994, which not only extended the accreditation requirement but also increased the number of training hours required for accreditation.

Workers must now take a four-day, 32-hour EPA-approved training course consisting of topics such as potential health effects of asbestos exposure, the use of personal protective equipment, and state-of-the-art work practices. Contractors/supervisors must take a five-day, 40-hour EPA-approved course; inspectors and project designers take a three-day course; and management planners take a two-day course. By the early 1990's, 44 states had become EPA-approved and were active participants in this nationwide program.

Additional Information

The following documents are available by contacting the Region 8 Environmental Information Center at (800) 227-8917 or the Regional Asbestos Coordinator at (303) 312-6204:

- Managing Asbestos in Place: A Building Owners Guide to Operations and Maintenance Programs for Asbestos-Containing Materials, 20T-2003, July 1990 (The "Green Book")
- How to Manage Asbestos in School Buildings: AHERA Designated Person's Self Study Guide, January 1996
- The ABC's of Asbestos in Schools, Office of Pesticides & Toxic Substances, June 1989
- Asbestos in the Home: A Homeowner's Guide, December 1998
- Environmental Hazards In Your School: A Resource Handbook, EPA 2DT-2001, October 1990

- A Guide to Performing Reinspections Under the Asbestos Hazard Emergency Response Act (AHERA), EPA 700/B-92/001, February 1992

- Federal Register: 40 CFR Part 763: Asbestos-Containing Materials in Schools, Final Rule and Notice, October 30, 1987

- Federal Register: 40 CFR Part 61: National Emissions Standards for Hazardous Air Pollutants (NESHAP); Asbestos NESHAP Revision; Final Rule, November 20, 1990

- Federal Register: 40 CFR Part 763: Asbestos Model Accreditation Plan Rule, Interim Final Rule, February 3, 1994

See the listing for the State Asbestos contacts in the resource section

OTHER PROGRAMS

Indoor Environments

Comparative risk studies performed by EPA and its Science Advisory Board have consistently ranked indoor air pollution among the top five environmental risks to public health. Most people are aware that outdoor air pollution can be harmful to their health but may not know that *indoor* air pollution can also have significant effects. In fact, EPA studies of human exposure to air pollutants indicate that indoor air levels of many pollutants may be 2-5 times, and sometimes 100 times, higher than outdoor levels. These levels of indoor air pollutants are of particular concern because it is estimated that most people spend as much as 90% of their time indoors.

EPA's Indoor Environments Program was established in 1995 from existing Radon and Indoor Air Programs to protect and promote human health and welfare in the indoor environment. To accomplish this, EPA has identified the following goals to date:

- By 2005, 15 million more Americans will live or work in homes, schools, or office buildings with healthier indoor air than in 1994.

- To reduce lung cancer, other respiratory diseases and other health problems, by 2005, 11.5 million more Americans will be exposed to healthier indoor air in their homes. This will include the mitigation of high radon levels in 700,000 homes, as well as the construction of one million homes with new radon-resistant construction techniques. Goals also include the reduction of the proportion of households with children six years and under who are regularly exposed to environmental tobacco smoke (ETS), from 27% in 1994 to 15%.

- To reduce health problems in the nearly 10 million children made ill annually from indoor air problems in schools, by 2005, 15% of the nation's schools will adopt practices consistent with EPA's "Indoor Air Quality Tools for Schools" guidance.

Radon

Radon is the second leading cause of lung cancer in the U.S. For persons who smoke, the health risk associated with elevated radon levels is especially high due to a synergistic interaction between smoking and radon. The EPA has established an "action level" for indoor radon levels of 4 picocuries per liter (pCi/l) and a procedure for testing homes, schools and commercial buildings. Nearly one out of every 15 homes in the U.S. is estimated to have radon levels that exceed this action level.

Under the Indoor Radon Abatement Act (IRAA), enacted by Congress in 1988, funds

are provided for state governments to establish radon programs and to assist local governments and communities in encouraging residents to test for radon and mitigate elevated radon levels. The IRAA also required the EPA to develop a program to evaluate radon mitigation contractors and radon measurement labs. In response, the EPA established: (1) four regional radon training centers to train radon professionals; (2) a national proficiency exam to test the knowledge of radon contractors; and (3) a Radon Contractor Proficiency (RCP) list.

Environmental Tobacco Smoke (ETS)

Environmental tobacco smoke (ETS), or "secondhand smoke," is the mixture of smoke that come from the burning end of a cigarette, pipe, or cigar, and smoke exhaled by a smoker. ETS contains over 4,000 compounds, more than 40 of which are known to cause cancer in humans or animals and many others of which are strong respiratory irritants. In 1992, EPA completed a major assessment of the respiratory health risks of ETS. The report concludes that exposure to ETS is responsible for approximately 3,000 lung cancer deaths each year in nonsmoking adults, and impairs the respiratory health of hundreds of thousands of children, including the exacerbation and increased onset of childhood asthma. The Indoor Environments Program focus is to intensify efforts that will generate public awareness of the health risks associated with childhood exposure to ETS in the home.

Indoor Air Pollution & Schools

Children may be especially susceptible to air pollution. The same concentration of pollutants can result in higher body burden in children than in adults because children breathe a greater volume of air relative to their body weight. For this reason, air quality in schools is of particular concern. Good indoor air quality contributes to a favorable learning and working environment as well as a sense of comfort, health and well being for people in school buildings.

EPA instituted a voluntary program in September 1995 called Indoor Air Quality Tools for Schools (IAQ TfS) to address this issue. The program offers guidance on how school staffs can achieve and maintain good indoor air quality using low or no-cost techniques. The IAQ TfS kit is available to school administrators and is intended as a "do-it-yourself" IAQ management plan. It is designed to help prevent indoor air quality problems from occurring and to guide schools through quick and efficient resolution of problems if and when they do occur. The program focuses on both awareness and effective communication.

This proactive approach helps schools avoid the premature spending of money on air sampling and consulting fees, since many indoor air quality problems can be easily identified and corrected without hiring professional help. IAQ TfS is a voluntary, non-

regulatory program. EPA's role is simply to promote good indoor air quality through education and to motivate schools to use this valuable information.

Does the indoor environments program apply to my community?

Local communities, in concert with state governments, play a vital role in reducing the public health risk associated with indoor air pollution. It is very likely that there are homes, schools and commercial buildings in your community that have elevated indoor air pollutant concentrations.

Currently, most indoor environment policies are non-regulatory. EPA, state, and local governments have focused their energies on educating the public about the health risks of indoor air pollution and encouraging voluntary actions, such as testing indoor environments for radon and implementing the Indoor Air Quality Tools for Schools Action Kit. Some states have developed radon regulations that require certification of radon professionals, mandatory testing of all public schools and disclosure of radon concentrations in real estate transactions. There are a limited number of states that have adopted legislation for indoor air quality policies in schools and commercial buildings.

Actions your community should be taking

Local governments can act to protect their residents from indoor air pollution in several ways:

- Through developing indoor air quality education and outreach programs;
- Through adopting radon-resistant building codes for new construction, encouraging radon testing and ensuring local radon contractors are RCP-listed;
- Through community education on the health risks associated with childhood exposure to environmental tobacco smoke in the home;
- Through encouraging local schools to implement EPA's Indoor Air Quality Tools for Schools Action Kit;
- By working in conjunction with state radon and indoor air quality programs and community organizations, such as the American Lung Association, to elevate local attention to this important health risk.

Additional Information

The EPA has established a toll-free number to obtain indoor air quality information.

For general indoor air quality inquiries and indoor air publications, contact IAQ INFO at (800) 438-4318. For radon inquiries, contact the radon hotline at (800) SOS-RADON. Many states also have staff available to answer questions regarding radon.

- "The Inside Story: A Guide to Indoor Air Quality," U.S. EPA, April 1995, EPA 402-K-93-007

- "A Citizen's Guide to Radon," U.S. EPA, September 1994, EPA 402-K-92-001

See the listing for State Indoor Environments/Radon contacts in the resource section

OTHER PROGRAMS

Pesticides

The EPA registers and regulates the use of pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug and Cosmetic Act (FFDCA).

Under FIFRA, EPA has the authority to require manufacturers to submit specific research data to EPA in order to determine whether a chemical can be registered for production, sale, distribution and use in the United States. Upon approval by the EPA, products covered under FIFRA regulations are given a registration number. EPA also has the authority to cancel, suspend or place more use restrictions on a chemical product should that be necessary in order to protect the public or the environment.

On August 13, 1992, the Worker Protection Standards became law and greatly expanded protection to workers and other handlers of pesticide products. Employers must now ensure that these individuals are properly trained and that necessary safety measures are taken to protect users of these chemicals. Additionally, employers must provide medical assistance and decontamination facilities to those who may accidentally become exposed to a chemical. The Worker Protection Standards also increase the labeling requirements for all pesticide products.

The Federal Food Quality Protection Act (FQPA) was created as an amendment to FIFRA and FFDCA in August 1996, and encompasses several major changes in both Acts.

Under FIFRA, FQPA accomplishes the following:

- Expedites the review of safer pesticides
- Defines two new pesticide applicators: maintenance applicators and service technicians, and provides for their training
- Divides anti-microbial pesticide control into two groups, to be supervised by the EPA and the Food and Drug Administration (FDA)
- Allows for emergency suspension of use of a particular pesticide when necessary to protect the public and the environment
- Extends EPA's right to collect reregistration fees
- Provides more incentives for registering minor use pesticides
- Calls for the periodic review of pesticide registrations

In the case of FFDCA, FQPA does the following:

- Reevaluates current pesticide tolerance standards
- Considers what other provisions should be included when setting tolerance standards
- Makes special provisions with regard to infants and children
- Establishes "consumer right-to-know" provisions
- Requires endocrine disrupter screening of all chemicals
- Allows for pesticide benefits to be considered only within narrower circumstances than previously allowed

In the near future, Final Rule publication is expected that will address issues dealing with the hazards of pesticide contamination of groundwater, and the killing of threatened and endangered species due to the use of pesticides. States are now being encouraged by EPA to develop plans with the cooperation of local units of government that will address these items. On matters dealing with the use, storage, sale, registration or health and environmental problems relating to pesticide use, contact the Region 8 EPA office.

Additional Information

- EPA Region 8 Pesticide Program - (303) 312-6020
- EPA Region 8 Pesticide Program website at http://www.epa.gov/unix0008/toxics/pests/pesthome.html

OTHER PROGRAMS

Polychlorinated Biphenyls (PCBs)

The term "PCB" is an acronym for polychlorinated biphenyls. Due to their non-flammability, chemical stability, and electrical insulating properties, PCBs were used as dielectric fluid in various types of electrical equipment including heat transfer systems, fluorescent lamp ballasts, television sets, and numerous other kinds of electrical appliances. PCBs were also used as plasticizers in paints, plastics and rubber products, in pigments, dyes, carbonless copy paper and many other applications. They were sold under various trade names, such as Aroclor, Inerteen, Pyranol, Askaral, and many others.

However, it was discovered that PCBs are also toxic substances that are a hazard to human health and the environment due to their persistence, bioaccumulation in the food chain, toxicity, and delayed reproductive effects. PCBs are chlorinated hydrocarbons that do not occur naturally in biological systems.

Health Effects

Studies indicate that exposures to PCBs may cause cancer, nerve damage, damage to the reproductive system, immune system suppression, liver damage, and endocrine disruption. PCBs can enter the body through the lungs, gastrointestinal tract, and skin. They circulate throughout the body and are stored in the body's fatty tissue. Studies also indicate that prenatal exposure to PCBs can result in developmental abnormalities. Postnatal effects, for example, learning disabilities, have been seen following exposure to PCBs via breast milk.

Environmental Effects

PCBs are among the most stable organic compounds known; they remain in the environment and bioaccumulate in the fatty tissue of living organisms. Studies also indicate that PCBs affect the productivity of phytoplankton and the composition of phytoplankton communities; phytoplankton are the foundation of the ocean food chain and are the major source of oxygen in the atmosphere.

The transfer of PCBs up the food chain from phytoplankton to invertebrates, fish, bird, and mammals can result in human exposure through consumption of PCB-containing food sources. The consumption of PCB-contaminated fish is a major source of human exposure.

In addition, virtually every municipality and utility in the U.S. is, or has been, in possession of equipment containing PCBs. Manufacturers and servicers inadvertently introduced PCBs into a large proportion of the mineral oil-filled electrical equipment in use prior to July 2, 1978 (the publication date of the first PCB regulations), primarily through mixing PCBs and mineral oil during servicing operations.

Federal Regulation of PCBs

Concerned about industrial chemical toxicity and persistence in the environment, Congress enacted the Toxic Substances Control Act (TSCA) (Public Law 94-469, October 11, 1976), which included prohibitions on the manufacture, processing, and distribution in commerce of PCBs. Under TSCA, Congress mandated the regulation of PCBs from manufacture to disposal, or from "cradle to grave" throughout the U.S.

Under Section 6(e), the U.S. Environmental Protection Agency was required to promulgate rules for marking, storing and disposing of PCBs. On June 1998, the Agency published the Final Rule, providing many major changes in the disposal of PCBs.

Although TSCA prohibited further manufacture, processing and distribution of PCBs, many products containing PCBs are still in use (i.e. PCB-containing equipment). EPA intends to allow these uses to continue as long as the equipment is properly monitored and maintained. Dielectric fluid less than 50 parts per million (ppm) PCB is considered "non-PCB," but disposal according to regulations is required. These fluids may not be used for any purpose except that they may be burned in specified industrial furnaces and space heaters. Fluid containing more than 50 ppm PCB is regulated for use and disposal.

Additional Information

- PCB Regulations: Title 40 CFR, Part 761

- PCB Q & A Manual, 1994 edition. U.S. EPA, Office of Pollution Prevention and Toxics, Chemical Management Division, Operations Branch

- U.S. EPA Region 8 contacts:
  (800) 227-8917 for the Information Center
  (303) 312-6027 or (303) 312-6036 for Technical Assistance
  (303) 312-6973 for Enforcement

OTHER PROGRAMS

Community-Based Environmental Protection

As a nation, we have made significant progress over the past 25 years in reducing pollution. During that time the EPA has used regulatory standards to reduce pollution from specific sources. Unfortunately, many environmental problems cannot be solved with regulations alone. These problems, such as pollution from automobiles, and run-off from roads, can have serious environmental impacts, and solving them usually requires a different approach.

Community-Based Environmental Protection (CBEP) offers an alternative process to use in solving diverse environmental problems. CBEP assumes that local people have the greatest capacity and need to protect the air, water, soil, and other resources of their communities. Efforts to protect a specific component of the environment may be organized around a neighborhood, town, city, or region, depending on the environmental issues and the desires of the community. For CBEP to be successful, the people involved must have a common interest in protecting shared natural resources and quality of life. CBEP integrates environmental, economic, and social goals at the community level.

Key elements of CBEP

- Geographic Focus - For EPA, CBEP involves reaching out to communities, nurturing the formation of community groups while listening to the diverse viewpoints of local people.

- Emphasis on Environmental Results - Rather than focusing on individual facilities, CBEP is concerned with overall environmental improvements and trends in a particular area.

- Partnerships and Local Involvement - CBEP partnerships may include concerned citizens, government, industry, agriculture, mining, recreation, and others.

The EPA can help with:

- Partnership development
- Information on regulations
- Facilitation and mediation
- Technical and financial support
- Information source
- Project leadership

Additional Information

- EPA Region 8 Ecosystem Protection Program (800) 227-8917 or (303) 312-6342

- EPA Region 8 Community-Based Environmental Protection Program website at http://www.epa.gov/region08/cross/cbep/cbep.html

OTHER PROGRAMS

Environmental Justice

What is Environmental Justice?

Environmental Justice is the concept of focusing attention on the environmental and human health conditions in minority communities and low-income communities in an effort to ensure a quality environment for all citizens, regardless of race, ethnicity, or other socioeconomic factors. It is also concerned with promoting nondiscrimination among low-income and minority communities to ensure access to public information on, and public participation in matters relating to human health and the environment.

EPA's Environmental Justice Program

On February 11, 1994, the President signed Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.* This order is designed to focus federal attention on these populations and to achieve environmental justice.

EPA's response to this Executive Order was to develop its Environmental Justice program. It works to prevent minority and low-income communities from being subject to disproportionately high adverse environmental effects from activities such as landfills, toxic dumps, oil refineries, and highway construction.

EPA's Environmental Justice program promotes nondiscrimination in Federal programs that substantially affect human health and the environment and advances certain provisions in existing laws that can help ensure that all individuals and communities across the nation live in a safe and healthful environment.

How can the Environmental Justice program benefit my community?

The Environmental Justice program provides a number of services to assist communities in addressing local environmental problems. These services include:

- Raising awareness of Environmental Justice issues;
- Identifying, assessing, addressing, and responding to inequitable environmental impacts;
- Holding public meetings to receive public comments on local environmental protection activities;
- Communicating with the public about opportunities for involvement with environmental decision-making;

- Providing information about EPA activities;
- Providing funding to community groups to address environmental justice issues.

Environmental Justice Funding Opportunities

The Environmental Justice Grants program provides financial assistance to community-based and other non-profit organizations, as well as state, local, and tribal governments to work on Environmental Justice projects.

To assist communities and groups in understanding and applying for Environmental Justice Grants, the Region 8 Environmental Justice program provides workshops both at the Regional office in Denver and on-site, at the request of states or municipalities.

Additional Information

- EPA Region 8 Environmental Justice Program (303) 312-6053
- *Environmental Justice Bibliography* includes listings of websites, books, and journals specific to Environmental Justice and also includes lists of materials specific to Environmental Justice issues affecting Tribes and Latino communities.
- *The Resource Conservation Recovery Act's (RCRA) Expanded Public Participation Rule*. This brochure explains the Expanded Public Participation Rule.
- *Brochure on the Model Plan for Public Participation.* Developed by the National Environmental Justice Advisory Council as a guide for any organization or agency that addresses public participation.
- *EPA Environmental Justice Strategy.* This publication highlights the goals, principles and objectives of the Executive Order on Environmental Justice.

OTHER PROGRAMS

Tribal Assistance

The American Indian Environmental Office (AIEO) of the EPA coordinates the Agency-wide effort to strengthen public health and environmental protection in Indian Country throughout the United States. The AIEO places a special emphasis on building tribal capacity to administer its own environmental programs. AIEO also oversees development and implementation of the Agency's Indian policy and strives to ensure that all EPA Headquarters and Regional offices implement EPA's Indian program in a manner consistent with the Agency's established policy of working with tribes on a government-to-government basis.

The EPA Region 8 Tribal Assistance Program (TAP) office was created in 1995 in response to expanding tribal environmental protection and remediation needs and to fulfill the overall commitment to Indian tribes required by the Trust relationship and established in EPA policy. The TAP office serves as a first point of contact for tribes seeking delegation of Federal environmental programs and financial and technical assistance relating to the development of tribal environmental programs. The TAP also provides a coordination point for tribal environmental issues among EPA staff, tribal representatives, and the public.

Services Provided

The Tribal Assistance Program serves the needs of Indian tribes through grants management, training and technical assistance, and coordination of services with other groups.

Additional Information

- EPA Region 8 Tribal Assistance Program (800) 227-8917
- EPA Region 8 Tribal Assistance Program website at http://www.epa.gov/region08/coop/tribe/tap.html
- EPA Headquarters Tribal website at http://www.epa.gov/indian
- EPA Region 8 Policy for Environmental Protection in Indian Country (March 14, 1996)
- Announcement of Action for Strengthening EPA Tribal Operations (Memorandum from EPA Administrator July 14, 1994)
- Government-to-Government Relation with Native American Tribal Government (Memorandum from the President, April 19, 1994)
- EPA/State/Tribal Relations (Memorandum from EPA Administrator, July 10, 1991)
- EPA Policy for the Administration of Environmental Programs on Indian Reservations (Memorandum from the EPA Administrator, November 8, 1994)

GLOSSARY OF TERMS

Anti-degradation - A provision in the air and water quality laws that prohibits deterioration of air or water quality in areas where the pollution levels are presently below those allowed.

Antimicrobial - An agent that kills microbes.

Asbestosis - A chronic disease of the lungs which makes breathing progressively more difficult and can lead to death.

Bioaccumulation - The tendency for substances to increase in concentration in living organisms as they take in contaminated air, water, or food because the substances are very slowly metabolized or excreted.

Biochemical Oxygen Demand (BOD) - A measure of the amount of oxygen consumed in the biological processes that break down organic matter in water. The greater the BOD, the greater the degree of pollution.

Coliform Organisms - Microorganisms found in the intestinal tract of humans and animals. Their presence in water indicates fecal pollution and potentially adverse contamination by pathogens.

Delegation - With reference to Indian tribes: Delegation of authority to a tribe to administer its own environmental programs, upon approval by EPA, just as a state does.

Designated Beneficial Use - Desirable uses that water quality should support (e.g., drinking water, recreation, aquatic life). Each designated use has a unique set of water quality requirements that must be met for the use to be realized.

Dielectric - Any substance or medium that transmits the electric force by a process different from conduction, as in the phenomena of induction; a nonconductor.

Endocrine Disrupter - Any chemical that can disrupt the hormones in people.

Friable Asbestos - Any material containing more than one-percent asbestos and that can be crushed, pulverized, or reduced to powder by normal hand pressure.

Giardia Lamblia - Protozoan in the feces of humans and animals that can cause severe gastrointestinal ailments. It is a common contaminant in surface water.

Hazardous Waste - Byproducts of society that can pose a substantial or potential hazard to human health or the environment when improperly managed. Possesses at least one of four characteristics (ignitability, corrosivity, reactivity, or toxicity), or appears on special EPA lists.

Mesothelioma - A cancer of the chest and abdominal membranes; is exclusively linked to asbestos exposure.

Micronutrient - A nutrient found in relatively small amounts (<100 mg/kg) in plants.

Municipal separate storm sewer systems (MS4s):

Large - serving a population of more than 250,000
Medium - serving a population of 100,000 to 250,000
Small - serving a population of fewer than 100,000

Non-Community Water System - A public water system that is not a community water system; e.g., the water supply at a campsite or national park.

Non-Point Sources (NPS) - Diffuse pollution sources (i.e., sources without a single point of origin; not introduced into a receiving stream from a specific outlet). Examples: agriculture, construction, city streets.

Non-Transient Non-Community Water System - A public water system that regularly serves at least 25 of the same non-resident persons per day for more than six months per year.

Organic - Referring to or derived from living organisms. In chemistry, any compound containing carbon.

Organic Matter - Carbonaceous waste contained in plant or animal matter and originating from domestic or industrial sources.

Pesticide Benefits - The economic and social benefits of the pesticide.

Pesticide Tolerance - The amount of pesticide residue allowed by law to remain in or on a harvested crop. EPA sets these levels well below the point where the compounds might be harmful to consumers.

Pollutant - Generally, any substance introduced into the environment that adversely affects the usefulness of a resource or the health of humans, animals, or ecosystems.

Primacy (State) - Having the primary responsibility for administering and enforcing regulations.

Primary Treatment - The first stage in wastewater treatment, in which substantially all floating or settleable solids are mechanically removed by screening and sedimentation.

Publicly Owned Treatment Works (POTW) - A waste treatment works owned by a state, unit of local government, or Indian tribe, usually designed to treat domestic wastewaters.

Receiving Water - A river, lake, stream, ocean or other watercourse into which wastewater or treated effluent is discharged.

Registration - Formal listing with EPA of a new pesticide before it can be sold or distributed.

Reregistration - The reevaluation and relicensing of existing pesticides originally registered prior to current scientific and regulatory standards. EPA reregisters pesticides through its Registration Standards Program.

Response Action - Generic term for actions taken in response to actual or potential health-threatening environmental events such as spills, sudden releases, and asbestos abatement/management problems.

Septage - The liquid and solid material pumped from a septic tank, cesspool, or similar domestic sewage treatment system, or a holding tank when the system is cleaned or maintained.

Secondary Treatment - The second step in most publicly owned waste treatment systems in which bacteria consume the organic parts of the waste. It is accomplished by bringing together waste, bacteria, and oxygen in trickling filters or in the activated sludge process. This treatment removes floating and settleable solids and about 90 percent of the oxygen-demanding substances and suspended solids. Disinfection is the final stage of secondary treatment. (See primary and tertiary treatment)

Small Community - A unit of local government with a population of 5,000 or less.

Stabilization Pond/Lagoon - A shallow pond where sunlight, bacterial action, and oxygen work to purify wastewater.

Storm Water Facility (Storm Sewer) - A system of pipes (separate from sanitary

sewers) that carries water runoff from buildings and land surfaces.

Suspended Solids - Small particles of solid pollutants that float on the surface of, or are suspended in, sewage or other liquids. They resist separation by conventional means.

Tertiary Treatment - Waste water treatment beyond the secondary or biological state that includes removal of nutrients such as phosphorous and nitrogen and a high percentage of suspended solids.

Toxic Waste -A waste that can produce injury if inhaled, swallowed, or absorbed through the skin.

Treated Wastewater - Wastewater that has been subjected to one or more physical, chemical, and biological processes to reduce its potential of being a health hazard.

Uncontrolled Sanitary Landfill - A landfill or open dump, whether in operation or closed, that does not meet the requirements for run-on and run-off controls established pursuant to Subtitle D of the Solid Waste Disposal Act.

RESOURCES

State	Air	RCRA/Hazardous Waste
Colorado	Air Pollution Control Division Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3100	Solid Waste & Incident Mgmt. Sect. Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3300
Montana	Air & Waste Management Bureau Dept. of Environmental Quality 1520 East Sixth Ave. P.O. Box 200901 Helena, MT 59620-0901 (406) 444-3454	Solid & Hazardous Waste Bureau Dept. of Environmental Quality 1520 East Sixth Ave. P.O. Box 200901 Helena, MT 59620-0901 (406) 444-3490
North Dakota	Div. of Env. Engineering Department of Health 1200 Missouri Avenue Bismarck, ND 58506-5520 (701) 328-5202	Division of Waste Management Department of Health 1200 Missouri Avenue Bismarck, ND 58506-5520 (701) 328-5166
South Dakota	Air Quality Program Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-3351	Division of Environmental Regulations Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-3153
Utah	Division of Air Quality Dept. of Environmental Quality P.O. Box 144820 Salt Lake City, UT 84114-4820 (801) 536-4000	Div. of Solid & Hazardous Waste Dept. of Environmental Quality P.O. Box 144880 Salt Lake City, UT 84114-4880 (801) 538-6170
Wyoming	Air Quality Division Dept. of Environmental Quality Herschler Building 122 West 25th Street Cheyenne, WY 82002-0600 (307) 777-7391	Solid Waste Program Dept. of Environmental Quality Herschler Building, 4th Floor 122 West 25th Street Cheyenne, WY 82002-0600 (307) 777-7752
U.S. EPA	U.S. EPA (8P-AR) 999 18th Street, Suite 500 Denver, CO 80202-2466 (303) 312-6004	U.S. EPA (8P-HW) 999 18th Street, Suite 500 Denver, CO 80202-2466 (800) 227-8917/6403 Waste Minimization Program (303) 312-6403
Hotline		(800) 424-9346

State	Solid Waste	Recycling
Colorado	Solid Waste & Incident Mgmt. Section Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3445	Office of Energy Conservation 1675 Broadway, Suite 1300 Denver, CO 80202-4613 (303) 620-4292
Montana	Permitting & Compliance Division Department of Environmental Quality 1520 East Sixth Ave. P.O. Box 200901 Helena, Montana 59620-0901 (406) 444-2409	Planning, Assistance & Prevention Division Department of Environmental Quality 1520 East Sixth Ave. P.O. Box 200901 Helena, Montana 59620-0901 (406) 444-5307
North Dakota	Division of Waste Management Department of Health 1200 Missouri Ave. Bismarck, ND 58506-5520 (701) 328-5163	Division of Waste Management Department of Health 1200 Missouri Ave. Bismarck, ND 58506-5520 (701) 328-5266
South Dakota	Office of Waste Management Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-3153	Office of Waste Management Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-5027
Utah	Division of Solid & Hazardous Waste Dept. of Environmental Quality P.O. Box 144880 Salt Lake City, UT 84114-4880 (801) 538-6170	Division of Solid & Hazardous Waste Dept. of Environmental Quality P.O. Box 144810 Salt Lake City, UT 84114-4810 (801) 536-4477
Wyoming	Solid & Hazardous Waste Division Department of Environmental Quality 250 Lincoln Street Lander, WY 82520 (307) 332-6924	Solid & Hazardous Waste Division Department of Environmental Quality 250 Lincoln Street Lander, WY 82520 (307) 332-6924
U.S. EPA	U.S. EPA (8P-HW) 999 18th Street, Suite 500 Denver, CO 80202-2466 (303) 312-7008	U.S. EPA (8P-P3T) 999 18th Street, Suite 500 Denver, CO 80202-2466 (303) 312-6193/6099

State	Underground Storage Tanks	Water Quality Standards
Colorado	State Oil Inspection Office Tower 3 1515 Arapahoe Street, Suite 600 Denver, CO 80202 (303) 620-4300	Water Quality Control Division Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3500
Montana	UST Coordinator Dept. of Environmental Quality 1520 East Sixth Ave. P.O. Box 200901 Helena, MT 59620-0901 (406) 444-5970	Water Quality Division Dept. of Environmental Quality 1520 East Sixth Ave. P.O. Box 200901 Helena, MT 59620-0901 (406) 444-2406
North Dakota	UST Coordinator Division of Waste Management Department of Health 1200 Missouri Avenue Bismarck, ND 58506-5520 (701) 328-5166	Division of Water Quality Department of Health 1200 Missouri Avenue Bismarck, ND 58506-5520 (701) 328-5210
South Dakota	UST Coordinator Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-5054	Division of Water Resources Mgmt. Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-3153
Utah	UST Branch Manager Div. of Env. Response Remediation Dept. of Environmental Quality P.O. Box 144810 Salt Lake City, UT 84114-4810 (801) 536-4100	Division of Water Quality Dept. of Environmental Quality P.O. Box 144870 Salt Lake City, UT 84114-4870 (801) 538-6146
Wyoming	UST Coordinator Water Quality Division Dept. of Environmental Quality Herschler Building, 4th Floor 122 West 25th Street Cheyenne, WY 82002-0600 (307) 777-7096	Water Quality Division Dept. of Environmental Quality Herschler Building, 4th Floor 122 West 25th Street Cheyenne, WY 82002-0600 (307) 777-7072
U.S. EPA	U.S. EPA (8P-W-GW) 999 18th Street, Suite 500 Denver, CO 80202-2466 (303) 312-3168	U.S. EPA (8EPR-EP) 999 18th Street, Suite 500 Denver, CO 80202-2466 (303) 312-6943

State	Wetlands Protection	Non-Point Source
Colorado	Dept. of Natural Resources 1313 Sherman St., Room 718 Denver, CO 80203 (303) 866-4901	Water Quality Control Division Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3512/5385
Montana	Wetlands Program/Water Quality Bureau Dept. of Environmental Quality 1520 East Sixth Ave. P.O. Box 200901 Helena, MT 59620-0901 (406) 444-2406	Water Quality Division Dept. of Environmental Quality 1520 East Sixth Ave. P.O. Box 200901 Helena, MT 59620-0901 (406) 444-5319/5317
North Dakota	North Dakota Water Commission 900 East Boulevard Ave. Bismarck, ND 58505-0850 (701) 328-4940	Division of Water Quality Department of Health 1200 Missouri Avenue Bismarck, ND 58506-5520 (701) 328-5232
South Dakota	Dept. of Agriculture/Wetlands Program Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-4432	Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-4254/2813
Utah	Governor's Office Planning & Budget State Capitol, Room 116 Salt Lake City, UT 84114 (801) 538-1548	Division of Water Quality Dept. of Environmental Quality P.O. Box 144870 Salt Lake City, UT 84114-4870 (801) 538-6146/7177
Wyoming	Dept. of Environmental Quality Herschler Building, 4th Floor 122 West 25th Street Cheyenne, WY 82002-0600 (307) 777-7081	Dept. of Environmental Quality Herschler Building, 4th Floor 122 West 25th Street Cheyenne, WY 82002-0600 (307) 777-5622/7079
U.S. EPA	U.S. EPA (8EPR-EP) 999 18th Street, Suite 500 Denver, CO 80202-2466 (303) 312-6340 Public Outreach (303) 312-6056	U.S. EPA (8EPR-EP) 999 18th Street, Suite 500 Denver, CO 80202-2466 (303) 312-6835/6237
Hotline	(800) 832-7828	(800) 227-9441

State	Drinking Water	Drinking Water State Revolving Fund
Colorado	Water Quality Protection Section Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3500	Water Quality Control Division Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3554
Montana	Public Water Supply Section Dept. of Environmental Quality 1520 East Sixth Ave. P.O. Box 200901 Helena, MT 59620-0901 (406) 444-4400 U.S. EPA (8MO) Federal Office Building Drawer 10096, 301 S. Park Helena, MT 59626-0096 (406) 441-1140	Technical and Financial Assistance Bureau Dept. of Environmental Quality 1520 East Sixth Ave. P.O. Box 200901 Helena, MT 59620-0901 (406) 444-5325
North Dakota	Drinking Water Program Department of Health 1200 Missouri Avenue Bismarck, ND 58506-5520 (701) 328-5210	Division of Municipal Facilities Department of Health 1200 Missouri Avenue Bismarck, ND 58506-5520 (701) 328-5211
South Dakota	Office of Drinking Water Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-3754	Water and Waste Funding Assistance Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-4216
Utah	Division of Drinking Water Dept. of Environmental Quality P.O. Box 144870 Salt Lake City, UT 84114-4870 (801) 536-4200	Division of Drinking Water/Engr'g Section Dept. of Environmental Quality P.O. Box 144830 Salt Lake City, UT 84114-4830 (801) 536-4197
Wyoming	(See U.S. EPA)	Office of State Lands and Investments Herschler Building 122 West 25th Street Cheyenne, WY 82002-0600 (307) 777-7331
U.S. EPA	U.S. EPA (8P-W-MS) 999 18th Street, Suite 500 Denver, CO 80202-2466 (303) 312-6245/6812 or (800) 227-8917	U.S. EPA (8P-W-MS) 999 18th Street, Suite 500 Denver, CO 80202-2466 (303) 312-6347
Hotline	(800) 426-4791	

State	Capacity Development	Injection Wells
Colorado	Water Quality Protection Section Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3500	Shallow Injection Wells (See U.S. EPA)
Montana	Public Water Supply Section Dept. of Environmental Quality 1520 East Sixth Ave. P.O. Box 200901 Helena, MT 59620-0901 (406) 444-4400	U.S. EPA (8MO) Federal Office Building Drawer 10096, 301 S. Park Helena, MT 59626-0096 (406) 441-1140
North Dakota	Drinking Water Program Department of Health 1200 Missouri Avenue Bismarck, ND 58506-5520 (701) 328-5210	Water Quality Division Department of Health 1200 Missouri Avenue Bismarck, ND 58506-5520 (701) 328-5210
South Dakota	Office of Drinking Water Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-3754	(See U.S. EPA)
Utah	Division of Drinking Water Dept. of Environmental Quality P.O. Box 144870 Salt Lake City, UT 84114-4870 (801) 536-4200	Water Quality Division Dept. of Environmental Quality P.O. Box 144870 Salt Lake City, UT 84114-4870 (801) 538-6146
Wyoming	Water Quality Division Dept. of Environmental Quality Herschler Building, 4th Floor 122 West 25th Street Cheyenne, WY 82002-0600 (307) 777-7781	Water Quality Division Dept. of Environmental Quality Herschler Building, 4th Floor 122 West 25th Street Cheyenne, WY 82002-0600 (307) 777-7095
U.S. EPA	U.S. EPA (8P-W-MS) 999 18th Street, Suite 500 Denver, CO 80202-2466 (303) 312-6270	U.S. EPA (8P-W-GW) 999 18th Street, Suite 500 Denver, CO 80202-2466 (303) 312-6137
Hotline		(800) 759-4372

State	Wellhead Protection, Source Water Assessment & Protection	Water Quality Permits
Colorado	Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3500	Water Quality Protection Section Dept. of Public Health and Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3598
Montana	Pollution Prevention Bureau Department of Environmental Quality 1520 East Sixth Ave. P.O. Box 200901 Helena, MT 59620-0901 (406) 444-4806 U.S. EPA (8MO) Federal Office Building Drawer 10096, 301 S. Park Helena, MT 59626-0096 (406) 441-1123	Department of Environmental Quality 1520 East Sixth Ave. P.O. Box 200901 Helena, MT 59620-0901 (406) 444-2406
North Dakota	Division of Water Quality Department of Health 1200 Missouri Avenue Bismarck, ND 58506-5520 (701) 328-5210	Division of Water Quality Department of Health 1200 Missouri Avenue Bismarck, ND 58506-5520 (701) 328-5200
South Dakota	Ground Water Quality Program Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-3296	Division of Water Resources Mgt. Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-3351
Utah	Division of Drinking Water Dept. of Environmental Quality P.O. Box 144830 Salt Lake City, UT 84114-4830 (801) 536-4195	Division of Water Quality Dept. of Environmental Quality P.O. Box 144870 Salt Lake City, UT 84114-4870 (801) 538-6146
Wyoming	Water Quality Division Dept. of Environmental Quality Herschler Building, 4th Floor 122 West 25th Street Cheyenne, WY 82002-0600 (307) 777-5985	Water Quality Division Dept. of Environmental Quality Herschler Building, 4th Floor 122 West 25th Street Cheyenne, WY 82002-0600 (307) 777-7781
U.S. EPA	U.S. EPA (8P-W-GW) 999 18th Street, Suite 500 Denver, CO 80202-2466 (303) 312-6719 U.S. EPA (202) 260-7077	U.S. EPA (8P-W-P) 999 18th Street, Suite 500 Denver, CO 80202-2466 (303) 312-6373
Hotline	(800) 426-4791	

State	Biosolids	Pretreatment
Colorado	Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3613	(See U.S. EPA)
Montana	U.S. EPA (8MO) Federal Office Building Drawer 10096, 301 S. Park Helena, MT 59626-0096 (406) 449-5486	U.S. EPA (8MO) Federal Office Building Drawer 10096, 301 S. Park Helena, MT 59626-0096 (406) 441-1140
North Dakota	(See U.S. EPA)	(See U.S. EPA)
South Dakota	Division of Water Resource Mgmt. Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-3351 – Technical Assistance	Division of Water Resource Mgmt. Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-3351
Utah	Division of Water Quality Dept. of Environmental Quality P.O. Box 144870 Salt Lake City, UT 84114-4870 (801) 538-6146 – Technical Assistance	Division of Water Quality Dept. of Environmental Quality P.O. Box 144870 Salt Lake City, UT 84114-4870 (801) 538-6146
Wyoming	Water Quality Division Dept. of Environmental Quality Herschler Building, 4th Floor 122 West 25th Street Cheyenne, WY 82002-0600 (307) 777-7775 – Technical Assistance	(See U.S. EPA)
U.S. EPA	U.S. EPA (8P-W-P) 999 18th Street, Suite 500 Denver, CO 80202-2466 (303) 312-6129	U.S. EPA (8P-W-P) 999 18th Street, Suite 500 Denver, CO 80202-2466 (303) 312-6377/6373

State	Storm Water	Water Quality State Revolving Fund
Colorado	Water Quality Control Division Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3500	Outreach & Assistance Unit Water Quality Control Division Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3554
Montana	Permitting & Compliance Division Department of Environmental Quality 1520 East Sixth Ave. P.O. Box 200901 Helena, MT 59620-0901 (406) 444-3080	Technical & Financial Assistance Bureau Department of Environmental Quality 1520 East Sixth Ave. P.O. Box 200901 Helena, MT 59620-0901 (406) 444-5324
North Dakota	Division of Water Quality Department of Health 1200 Missouri Avenue Bismarck, ND 58506-5520 (701) 328-5210	Division of Municipal Facilities Department of Health 1200 Missouri Ave. Bismarck, ND 58506-5520 (701) 328-5220
South Dakota	Division of Environmental Services Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-3351	Div. of Financial & Technical Assistance Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-4216
Utah	Division of Water Quality Dept. of Environmental Quality P.O. Box 144870 Salt Lake City, UT 84114-4870 (801) 538-6146	Division of Water Quality Dept. of Environmental Quality P.O. Box 144870 Salt Lake City, UT 84114-4870 (801) 538-6146
Wyoming	Water Quality Division Dept. of Environmental Quality Herschler Building, 4th Floor 122 West 25th Street Cheyenne, WY 82002-0600 (307) 777-7781	Water Quality Division Department of Environmental Quality Herschler Building, 4th Floor 122 West 25th Street Cheyenne, WY 82002-0600 (307) 777-7781
U.S. EPA	U.S. EPA Region 8 (8EPR-EP) 999 18th Street, Suite 500 Denver, CO 80202-2466 (303) 312-6234	U.S. EPA (8P-W-MS) 999 18th Street, Suite 500 Denver, CO 80202-2466 (303) 312-6277

State	Pollution Prevention	EPCRA
Colorado	Pollution Prevention Program Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-2975	Air Pollution Control Division Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80222-1530 (303) 692-3017
Montana	Department of Environmental Quality 1520 East Sixth Ave. P.O. Box 200901 Helena, MT 59620-0901 (406) 444-6697	Department of Environmental Quality 1520 East Sixth Ave. P.O. Box 200901 Helena, MT 59620-0901 (406) 444-5263
	Montana State University Ext. Service 300 Taylor Hall Bozeman, MT 59717-0312 (406) 994-3451	
North Dakota	Environmental Health Section Department of Health 1200 Missouri Ave. Bismarck, ND 58506-5520 (701) 328-5150	Division of Emergency Management State Emergency Operations Center P.O. Box 5511 Bismarck, ND 58502-5511 (701) 328-3300 or (800) 472-2121
South Dakota	Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-4216	Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-3296
Utah	Office of Planning & Public Affairs Dept. of Environmental Quality P.O. Box 144810 Salt Lake City, UT 84114-4810 (801) 536-4477	Div. of Env. Response & Remediation Dept. of Environmental Quality P.O. Box 144840 Salt Lake City, UT 84114-4840 (801) 536-4102
Wyoming	Pollution Prevention Coordinator Dept. of Environmental Quality Herschler Building 122 W. 25th Street Cheyenne, WY 82002-0600 (307) 777-6105	State Emergency Response Comm. WY Emergency Management Agency 5500 Bishop Blvd. Cheyenne, WY 82009 (307) 777-4912
U.S. EPA	U.S. EPA (8P- P3T) 999 18th Street, Suite 500 Denver, CO 80202-2466 (303) 312-6385	U.S. EPA (8EPR-SA) 999 18th Street, Suite 500 Denver, CO 80202-2466 (303) 293-1788
Hotline		(800) 227-8914

State	Asbestos	Indoor Environments/Radon
Colorado	Air Pollution Control Division Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3164	Radiation Control Division Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3057
	Denver Dept. of Health & Hospitals 605 Bannock Street, Room 333 Denver, CO 80204 (303) 285-4057	
Montana	Air & Waste Management Bureau Dept. of Environmental Quality 1520 East Sixth Ave. P.O. Box 200901 Helena, MT 59620-0901 (406) 444-2690	Dept. of Environmental Quality 1520 East Sixth Ave. P.O. Box 200901 Helena, MT 59620-090 (406) 444-6768
North Dakota	Div. of Environmental Engineering Department of Health 1200 Missouri Avenue Bismarck, ND 58506-5520 (701) 328-5188	Div. of Environmental Engineering Department of Health 1200 Missouri Avenue Bismarck, ND 58506-5520 (701) 328-5188
South Dakota	Div. of Environmental Regulations Dept. of Env. & Natural Resources Joe Foss Building, 523 East Capitol Pierre, SD 57501-3181 (605) 773-3153	Div. of Environmental Regulations Dept. of Env. & Natural Resources Joe Foss Building, 523 East Capitol Pierre, SD 57501-3181 (605) 773-3153
Utah	Division of Air Quality Dept. of Environmental Quality P.O. Box 144820 Salt Lake City, UT 84114-4820 (801) 536-4173	Division of Radiation Control Dept. of Environmental Quality P.O. Box 144850 Salt Lake City, UT 84114-4850 (801) 536-4250
Wyoming	Air Quality Division Dept. of Environmental Quality Herschler Building 122 West 25th Street Cheyenne, WY 82002-0600 (307) 777-7394	Department of Health Hathaway Building, Room 486 Cheyenne, WY 82002-0600 (307) 777-6015
U.S. EPA	U.S. EPA (8P-P3T) 999 18th Street, Suite 500 Denver, CO 80202-2466 (800) 227-8917	U.S. EPA (8P-AR) 999 18th Street, Suite 500 Denver, CO 80202-2466 (800) 227-8917
Hotline	ASHAA (Schools) (800) 462-6706	(800) SOS-RADON or (800) 767-7236