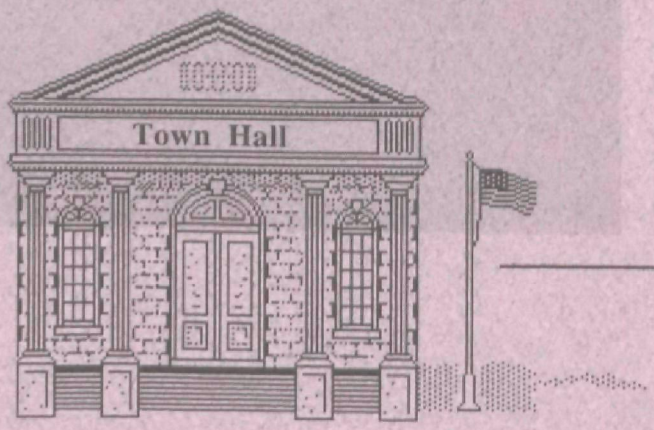
Everything You Wanted To Know About Environmental Regulations . . .

But Were Afraid To Ask



A Guide For Very Small Communities

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

Colorado Department of Local Affairs
Colorado Counties, Inc.
Council of Energy Resource Tribes
EPA, Region VIII
Midwest Assistance Program
Montana Department of Commerce
National City and County Journal
North Dakota Department of Health
North Dakota League of Cities
Northern Montana College
Rural Community Assistance Corporation
South Dakota Department of Environment & Natural Resources
South Dakota Municipal League
Utah Department of Environmental Quality
Wyoming Association of Municipalities
Wyoming Department of Environmental Quality

SEPTEMBER 1991

Preface

This handbook was prepared with the very small local units of government (communities) in mind. For the purpose of this handbook, a very small community is defined as a local unit of government with a population of 1,000 or less. It was prepared for use by the officials of such communities as a quick reference to the environmental issues facing their constituencies. If you are a community which exceeds this definition you will need, as a minimum, to comply with the enclosed requirements. It is likely you may need to meet additional requirements.

Information presented in the handbook is meant only as a summary of basic environmental requirements and/or agency guidance criteria. It is not intended to serve as a definitive statement to the specific ways in which a community may assure environmental compliance, but as a quick guide to the environmental programs that typically apply to most very small communities. The handbook does not provide a complete overview of all federal and state environmental requirements. As an example, EPA's Superfund Program is not discussed in this handbook since the majority of very small communities do not have superfund issues.

The requirements and guidance presented in this handbook are based on federal regulations and/or guidance in place in mid-1991. These requirements are implemented by a federal agency, usually the Environmental Protection Agency. It should be expected that some of these requirements/guidance will change in the future. In addition, States and Indian Tribes are required to adopt rules at least as stringent as these federal rules. States and Tribes may adopt rules that are somewhat different in some cases, e.g., frequency of sampling or required date of implementation. Be sure to ask for and read the rules from the appropriate state or tribal agency.

This document was initially prepared in late 1990 by the Midwest Assistance Program, Inc. under contract to EPA Region VIII. It was expanded by EPA Region VIII in early 1991. The purpose of the expansion was to include the EPA non-regulatory programs that typically apply to very small local units of government.

Table of Contents

CROSS MEDIA PROGRAMS 1 - 10

Pollution Prevention
Public - Private Partnerships
SARA Title III Emergency Planning and Community Right-to Know Act
Asbestos
Indoor Radon

AIR PROGRAM 11

Clean Air Act Amendments

LAND PROGRAMS 12-18

RCRA Hazardous Waste
Subtitle D Municipal Solid Waste Landfill Criteria
Underground Storage Tanks

WATER PROGRAMS 19-73

Water and Wetlands Protection
Drinking Water
Wellhead Protection
Wastewater

DEFINITIONS-ACRONYMS 74-75

RESOURCE MATRIX 76-82

CROSS MEDIA PROGRAMS

POLLUTION PREVENTION

EPA's Pollution Prevention approach

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

Rulings by courts, pronouncements by EPA, or wishing alone cannot clean up the environment or keep it from becoming more polluted. What we need is an attitude change. Community leaders can develop policies that encourage environmental awareness and provide mechanisms to help build the ethic of preventing pollution. Small communities are in a unique position to make things happen and to win the battle against pollution. Local governments can encourage and stimulate the practice of pollution prevention at all levels: by industry and manufacturing, by private and public business (including agriculture, transportation, energy generators, hospitals and schools), by communities and individuals.

Here are suggestions of 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 that provide environmental alternatives:

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

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

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

-Transportation. Buy energy efficient automobiles and other fleet vehicles and, keep them tuned. Carpool, bike, walk, or use mass transit when possible.

-Sustainable agriculture. Take advantage of natural methods of protection. Apply pesticides such as insecticides and herbicides carefully if they must be used.

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

-Hazardous waste. Reduce toxic use, encourage product substitution and operation modification to environmentally sound practices. Recycle used motor oil.

-Buy recycled or recyclable products. Seek out reusable, recyclable or returnable packages.

-Lead. 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.

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

Additional Information

EPA, Region VIII, Pollution Prevention Office:
Don Patton, 303/293-1456.
Sharon Childs, 303/293-1471.

PUBLIC-PRIVATE PARTNERSHIPS

As a community leader, you face the prospect of building or upgrading facilities to meet environmental needs. You already may be feeling the squeeze of growing environmental protection needs and expectations coupled with decreased funding for infrastructure projects. As the pressure grows to minimize rate shock for facility users, local community leaders must find new ways for their communities to hold down costs and build public support for necessary additional expenses. Public-private partnerships offer one solution.

"The Self-Help Guide for Local Governments" has been 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. This information will be conveyed in the following sections:

Public-Private Parternships: What and Why

A public-private partnership is a contractual relationship between a public and private partner 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 five categories. These types are contract services, turnkey facilities, developer financing, privatizations, and merchant facilities. There are different benefits associated with each of these categories.

Communities enter into partnerships for various reasons. These include: access to more sophisticated technology; cost-effective design, construction and/or operation; flexible financing; delegation of responsibility and risk; and guaranteed cost.

Building a Public-Private Partnership: An Action Checklist

No two communities build a partnership in exactly the same way, but all must take roughly the same steps. This document presents an action checklist of these steps that will help a community make many decisions necessary to enter into a contract with a private firm.

A community initiates the public-private 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. It is also important for community

leaders to generate public support while they are evaluating financing prospects and studying laws and regulations.

Reviewing a potential private partner's track record is also an important part of the process. Another option a municipality may consider is regionalizing services with surrounding communities. Eventually, local officials must narrow partnership options, select and conduct its 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. These financing strategies should then be assessed against the financial condition of the municipality, the project's costs and any risks. The community must select the option which is most appropriate by comparing benefits and costs.

A local government starts to implement its choice by initiating the procurement process. The three types of procurement most communities select are advertised procurement, competitive negotiation, and two-step advertising. While advertised procurement allows the community to dictate the terms of the solicitation, competitive negotiation offers greater flexibility. Two-step advertising is a mixture of the other two.

Finally, a partnership arrangement must be defined in a service agreement. Each contract must include a number of elements. The contract must define: the project and performance criteria; compensation method and timing; changing situations and risk allocations; and 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 VIII, Pollution Prevention Office:
Don Patton, 303/293-1456.

SARA TITLE III - THE EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT

SARA Title III has two purposes: to encourage and support emergency planning for responding to chemical accidents, and to provide local governments and the public with timely and comprehensive information about possible chemical hazards in communities.

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

Yes, the chemicals in your community may pose a threat to citizens and to those individuals being asked to respond to emergencies involving hazardous substances. All facilities, including government facilities, in your community storing certain hazardous chemicals (excluding specified quantities) must provide information to government agencies and local communities. Also, if there is a chemical accident, and if the accident results in the release of any one of a large number of hazardous substances, immediate notification must be made to governmental agencies.

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

What are the requirements under this law?

The law, passed in October 1986, had many requirements and deadlines associated with its passage. For example, governors were required to establish State Emergency Response Commissions (SERCs); facilities subject to emergency planning requirements were required to notify their state commissions; and SERCs were required to appoint Local Emergency Planning Committees (LEPCs). LEPCs were 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, informing the public of these activities.

The LEPC has other responsibilities besides developing an emergency response plan. It receives emergency release and hazardous chemical inventory information submitted by local facilities, and must make this information available to the public upon request.

Title III requires owners and operators of facilities storing specified hazardous substances to report to the LEPC within 60 days. As a result, the law allows small communities to identify what needs to be done at the local level to better deal with chemical emergencies.

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

As a local official you should insist on complete planning and adequate preparation for an emergency. Review the membership list of your Local Emergency Planning Committee (LEPC). Make sure it is fully representative of the community and includes individuals from citizen groups, fire departments, public institutions (hospitals, schools, state and local governments), medical, industry and business fields, and farmers. It is important not only to participate in emergency planning but to also communicate with the public.

Become familiar with the law so that you will know what tools are being made available to the community to better assess and manage risks present within the community. Identify what needs to be done at the local level to better prepare the response community to more effectively deal with and prevent chemical emergencies.

Additional Information

EPA, Region VIII, Emergency Response Branch, 303/293-1723.

SARA Title III Hotline, 1-800/535-0202.

(See the listing for the State Emergency Response Commissions in the Resource Section)

ASBESTOS

On October 22, 1986, the President signed the Asbestos Hazard Emergency Response Act (AHERA) into law. The Act required EPA to develop regulations creating a comprehensive framework for addressing asbestos hazards in schools. The Act required EPA to construct a model accreditation program for individuals who conduct inspections for asbestos, develop management plans, and perform abatement work.

Other provisions of AHERA require all public and private elementary and secondary schools to conduct inspections for asbestos-containing building materials, develop management plans, and implement response actions in a timely fashion. Specifically, each local education agency (or LEA, which means a public school district or private school) must do the following:

- Designate and train a person to oversee asbestos-related activities in the LEA (designated person).

- Inspect every school building for both friable and nonfriable asbestos containing building materials.

- Prepare a management plan for managing asbestos andcontrolling exposure in each school and submit that plan to the appropriate State Agency. The plan should include a time frame for implementation of recommended actions.

- Use only properly accredited persons to conduct inspections and develop the asbestos management plan. Accredited personnel must also conduct the required triennial reinspections.

- Provide custodial staff and short-term workers with information about the location of any asbestos-containing materials. Post warning labels as required.

- Provide custodial and maintenance staff with two hours of awareness training and an additional 14 hours of training for employees whose duties may cause them todisturb asbestos. This additional training must include proper work practices and the use of protective equipment when disturbing asbestos containing materials.

- Notify parents, teachers, and other school employees about the asbestos inspection and the availability of the asbestos management plan for review.

- Utilize properly accredited individuals to design and conduct asbestos abatement actions that are necessary and appropriate to protect health and the environment. These actions or methods must be documented in the management plan.

- Keep records of all asbestos-related activities in the plan and make them available for public review.

- Inform employees and building occupants or their legal guardians annually regarding the management plan availability and related ongoing activities pertaining to implementation.

Management plans were submitted to State agencies on or before May 9, 1989, as mandated by the provisions of AHERA. LEAs were required to begin implementation of their management plans by July 9, 1989. LEAs are required to update and maintain management plans to reflect activities with ongoing operations and maintenance, periodic surveillance, inspection, reinspection, and response action activities.

What help is available?

EPA has established several programs to assist schools in assessing and managing their asbestos related problems. Through its Headquarters office in Washington, D.C. and the Regional office, the Agency provides direct technical assistance to help school officials, school employees and parents better understand asbestos issues. EPA provides funds to assist States in developing asbestos programs, and to help schools comply with federal asbestos regulations.

Under the Asbestos School Hazard Abatement Act (ASHAA) program, EPA provides financial aid to schools in the form of an interest-free loan, grant, or a combination of both.

How do I obtain more information?

Under AHERA, LEAs afford citizens the opportunity to become familiar with asbestos activities in their respective school districts. The initial point of contact to obtain information on asbestos activities should be the LEA designee. This individual is most familiar with the asbestos situation in your school. Additionally, State AHERA designees and local, State, and national parent and teacher organizations are excellent sources for requesting information on asbestos activities.

Additional Information

EPA Toxic Substances Control Act (TSCA) Hotline - 202/554-1404.

ASHAA Asbestos Hotline (Schools) - 1-800/462-6706.

EPA has an asbestos ombudsman to help citizens with asbestos-in-schools issues, questions, and complaints. Call 1-800/462-6706.

Call 202/554-1404 to obtain the following documents: "Managing Asbestos in Place, A Building Owner's Guide to Operations and Maintenance Programs for Asbestos-Containing Materials;" "The ABC's of Asbestos in Schools;" "100 Commonly Asked Questions About the New AHERA Asbestos-in-Schools Rule."

CROSS MEDIA PROGRAMS

INDOOR RADON

Radon is a naturally occurring radioactive gas that comes from the natural breakdown (radioactive decay) of uranium in soil, rock and water. Radon moves up through the ground to the air above and into homes and other buildings through cracks or holes in the foundation, and other entry points. The home acts to trap radon gas, especially when the home is closed, increasing indoor radon levels. Most soils contain varying amounts of uranium, and, therefore, elevated radon levels have been found in homes, schools and buildings throughout the U.S.

Exposure to high radon levels is dangerous. The health hazard from radon arises from inhaling of its radioactive decay products. The Surgeon General has warned that radon is the second leading cause of lung cancer in the U.S. today. For persons who smoke, the health risk of elevated radon levels is especially high.

The EPA has established an action level for indoor air radon levels of 4 pci/l (picocuries per liter). Nearly one out of every 15 homes in the U.S. are estimated to have radon levels that exceed the action level. The EPA has established a testing procedure for testing homes, schools and buildings. This procedure is described in the "Citizen's Guide to Radon."

In 1988, Congress enacted the Indoor Radon Abatement Act (IRAA) with the goal of reducing indoor radon levels to radon levels found in outside air. Among other provisions, IRRA provided funds 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. IRAA also required EPA to develop a national description of radon levels in homes and schools throughout the country. To date, 40 states and seven Indian Nations in conjunction with the EPA have conducted radon residential surveys to characterize statewide radon distributions. Additionally, about 1,200 schools were tested in the winter of 1991. Results of the National School Radon Survey should be available in June, 1992.

IRAA also required the EPA to develop a program to evaluate radon mitigation contractors and radon measurement labs. In response, the EPA established four regional radon training centers to train radon professionals. The EPA also developed a national proficiency exam to test the knowledge of radon contractors. Contractors who pass the exam are listed on the Radon Contractor Proficiency (RCP) list. As of February, 1991, about 1,200 contractors were included on the RCP list.

Does the radon program apply to my community?

Local communities, in concert with state governments, play a vital role in reducing the public health risk of radon. It is very likely that there are homes, day care centers, schools or commercial buildings in your community that have elevated indoor air concentrations of radon.

Currently, most radon-related policies are non-regulatory. EPA, state and local governments have focused their energies toward educating the public about the health risk of radon and encouraging voluntary testing of homes and buildings. Some states, however, have developed radon regulations, including certification of radon professionals and mandatory testing of all public schools. Additionally, by the end of 1991, model building codes for new construction will be developed that may be incorporated into the building codes of local jurisdictions. Finally, Congressional attention has been directed toward required radon testing during real estate transactions that involve federal agencies, such as FHA or HUD.

Local governments can act to protect their residents from radon, in several ways: first, through developing radon education and outreach programs; second, through adopting radon-resistant building codes for new construction, such as the model codes currently proposed by the EPA; third, by encouraging voluntary testing in local communities; fourth, by ensuring that local radon contractors are RCP-listed; finally, by working in conjunction with the state radon office and community organizations such as, the American Lung Association, to elevate local attention to this important health risk.

Actions your community should be taking

-Become familiar with the health risks associated with radon, as well as the ways radon enters homes, schools and buildings.

-Identify ways to educate the community about radon and to encourage voluntary testing.

-Contact your state radon office. Request their assistance in providing you with public information about radon, including citizen guides to radon, current lists of radon contractors and measurement firms, and the status of state regulatory programs.

Additional Information

The EPA has established a toll-free number for radon - 1-800/SOS RADON. Many states also have toll-free numbers to answer questions regarding radon.

AIR PROGRAM

CLEAN AIR ACT AMENDMENTS

Will the Clean Air Act Amendments apply to my community?

Most provisions will not affect very small communities. However, there may be instances when impacts may occur. There may arise situations when air toxics are being emitted by a facility in excess of the MCL's (Maximum Contaminant Levels). Also, on occasion, ski communities may have wood burning or particulate problems that will need to be dealt with.

Actions your community should be taking

Prior to initiating significant involvement to address air pollution issues which may arise, small communities should contact their state air pollution agency and the Regional EPA Small Community Coordinator for guidance. The Air Program is aware of the economic impact which the Clean Air Act Amendments may have on small communities. Therefore, before taking any regulatory action which may affect small communities, Regional Offices of EPA will contact EPA Headquarters and determine the possible impacts of the action.

Additional Information

Clean Air Act Amendments:
TITLE VIII- MISCELLANEOUS PROVISIONS.
Sec. 810. Impact on small communities.
Before implementing a provision of this Act, the Administrator of the Environmental Protection Agency shall consult with the Small Communities Coordinator of the Environmental Protection Agency to determine the impact of such provision on small communities, including the estimated cost of compliance with such provision.

Region VIII Small Community Coordinator:
Charles Gomez, 303/294-1108.

RCRA HAZARDOUS WASTE

Hazardous waste is prevalent 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, 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 what hazardous waste is subject to regulation as well as the responsibilities of anyone who generates, transports, stores, treats, disposes or otherwise manages hazardous waste. At this time, waste generated by individual households, many of which may still exhibit some of the dangers described above, are not subject to federal RCRA requirements.

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

-Full Generator - Facilities that generate more than 1,000 kilograms per month of any hazardous waste or more than one kilogram of any "acute" hazardous waste. A kilogram is approximately 2.2 pounds and 1,000 kilograms is approximately five, 55 gallon drums of material.

-Small Quantity Generator - Facilities that generate less than 1,000 kilograms per month of hazardous waste but more than 100 kilograms per month (approximately one half 55 gallon drum). Small quantity generators are given additional time to comply with new regulations and for on-site storage of their waste.

-Conditionally Exempt Generator - 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 waste are generated by businesses in your community or by your municipal facility operations themselves. Because hazardous waste includes things like solvents, corrosives, and materials containing heavy metals like chrome, cadmium, and lead, vehicle maintenance shops often generate hazardous waste that may be subject to RCRA requirements. 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: ignitablity, corrosivity, reactivity, or toxicity as determined by the Toxic Characteristic Leaching Procedure (TCLP) test.

In addition to used materials which might be considered hazardous waste, you must also be careful with your management of products that no longer are wanted or needed, and you now wish to discard. Leftover pesticides from grounds keeping operations, old paint thinner, etc. must be fully evaluated before you determine what you are going to do with the waste. EPA has identified several hundred chemical products which, if disposed of, would also be considered "listed hazardous waste."

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

Timetable

RCRA regulations were first published in 1980 and are constantly amended to add new wastes subject to the program. Once you determine that you are a handler of hazardous waste (i.e., either generating, storing, transporting, etc.), 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 the different activities. 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.

Securing a permit authorizing 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 amount of chemicals you need, not more. Try to find someone to use unwanted, unused chemicals rather than throwing them away.

-Become familiar with the industrial facilities served by your community. Understand how they are managing their dangerous and hazardous waste.

Additional Information

The RCRA regulations are published at 40 CFR (Code of Federal Register) Part 260 through Part 272. Part 261 defines what materials are hazardous waste and therefore subject to the RCRA requirements. (See the listing for the Solid and Hazardous Waste Program Directors in the Resource section.)

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 has also established a toll free RCRA Hotline to answer questions regarding the applicability or interpretation of the RCRA regulations. The RCRA Hotline number is 1-800/424-9346.

SUBTITLE D MUNICIPAL SOLID WASTE LANDFILL CRITERIA

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

The Subtitle D Municipal Solid Waste Landfill Criteria proposed rule sets general facility standards, groundwater monitoring requirements, closure and post closure standards, and performance and operating requirements.

Does the rule apply to my community?

The rule applies only if your community owns or operates a landfill. The rule at this time is proposed. It will be effective 18 months after promulgation.

Timetable

Final regulations have been postponed several times, but are expected to be published during 1991.

Actions your community should be taking

-Be alert to the publishing of final regulations. Expect changes in the regulations from August 1988.

-Be prepared to either not accept waste or upgrade to meet criteria.

-Develop community education and recycling programs.

-Plan and prepare solid waste management and disposal options.

Additional Information

40 CFR Part 258, Proposed regulations under RCRA Subtitle D Part 258, Criteria for Municipal Solid Waste Landfills.

RCRA Hotline - 1-800/424-9346.

Technical guidance will be available after promulgation.

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 an 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 system

-Septic tanks and systems for collecting storm or wastewater

-Wastewater treatment tanks regulated under the Clean Water Act

-Tanks whose capacity is 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 within the following specified time frames:

Tank and Piping Age:	Leak Detection is Required By:
25 years or older	December 1989
20 - 25 years old	December 1990
15 - 19 years old	December 1991
11 - 14 years old	December 1992
5 - 9 years old	December 1993

-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 compen sating other people for bodily injury and property damage caused by the leaking UST.

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

Follow closure requirements for tanks temporarily or permanently closed. (Note: Tanks not used for 3 to 12 months can be temporarily closed.) Beyond 12 months, for permanent closure, the tank will have to be emptied and cleaned, possibly removed. The State Agency will help you decide how best to close the UST so that it meets all local and state requirements.

If a leak or spill should occur, what must be done?

-Contact the fire department to ensure that it does not pose a hazard to human health and safety.

-Tell the State Agency within 24 hours; the 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, notify the State Agency as soon as possible before you close your UST.

What are the reporting requirements?

You need to check with your State Agency about the particular reporting requirements in your area. You may only need to report to the State Agency at the beginning and end of the UST system's operating life.

Additional Information

"Musts for USTs: A Summary of the New Regulation for Underground Storage Tank Systems," U.S. EPA, Office of Underground Storage Tanks, July 1990.

RCRA/Superfund Hotline 1-800/424-9346.

Local Fire Marshall.

Your State Agency will also be able to provide additional information.

(See the listing for the State UST Program offices in the Resource section)

WATER PROGRAMS

WATER AND WETLANDS PROTECTION

The National Environmental Policy Act of 1969 and Federal Water Pollution Control Act of 1972 (later amended and renamed the Clean Water Act) expanded the definition of waters of the United States to include wetlands and mandated every federal agency to assess the environmental impact of any proposed federal actions. Protection of U.S. waters and wetlands involves several federal agencies (primarily the U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and Soil Conservation Service) plus many State Agencies (usually State Departments of Environmental Quality, Health, Conservation, Transportation, Agriculture and others). The function of these legislative acts, and subsequent regulations are to restore and maintain the chemical, physical and biological integrity of the U.S. waters including wetlands.

U. S. waters include lakes, streams, rivers, wetlands and coastal waters. Wetlands include saturated or flooded areas where there is a prevalence of aquatic or hydrophytic vegetation, such as in swamps, marshes, bogs and other similar areas. Protecting these U.S. waters and wetlands means virtually any type of activity which affects or may potentially affect them could require a regulatory review prior to the activity commencing. Violation of these and related environmental protection laws can involve stiff penalties, including fines, requirements to restore the area and/or imprisonment.

Actions your community should be taking

Check before you act.

The three agencies most frequently involved are:

- U.S. Department of Defense, Army Corps of Engineers
- U.S. Department of Interior, Fish and Wildlife Service
- U.S. Environmental Protection Agency

Contact each of these agencies prior to commencing activities which might affect the chemical, physical or biological integrity of any U.S. waters or wetlands.

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 320-330).

U.S. Environmental Protection Agency (40 CFR 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 Federal holidays, from 9:00 a.m. to 5:30 p.m. (EST). The Hotline number is 1-800/832-7828.

(See the listing for the Federal Wetlands contacts in the Resource section)

DRINKING WATER

INORGANIC CHEMICALS

Inorganic Chemicals (IOCs) are elements or compounds found in water supplies and may be natural in the geology or caused by activities of man through mining, industry or agriculture. It is common to have trace amounts of many IOCs in water supplies. Amounts above the Maximum Contaminant Levels (MCLs) may cause a variety of damaging effects to the liver, kidney, nervous system, circulatory system, blood, gastrointestinal system, bones, or skin depending upon the IOC and level of exposure. Some IOCs are more damaging to infants and pregnant women. Because of some special aspects of the rules for asbestos, lead and fluoride, separate pages are prepared for them in this booklet.

Do the IOC regulations apply to my community?

Yes, at present there are 13 regulated IOCs (including fluoride lead, and copper).

All community public water supply systems must monitor for regulated IOCs in their water supply. Sampling for IOCs is required every three years for groundwater supplies and every year for surface water supplies under present rules.

Timetable (for revisions to regulations)

New regulations called Phase II were finalized January 30, 1991, which added two new IOCs, asbestos and nitrate, and changed the MCLs for four of the current IOCs. Silver is now a secondary MCL. As a result of this regulation non-transient non-community (NTNC) Public Water Supplies (PWSs) will be required to test for IOCs, and all PWSs (both community and non-community) will be required to test for nitrate and nitrite at least annually.

PWSs will continue to take IOC samples as they have in the past until January 1, 1993. A new monitoring framework was proposed for this rule to standardize monitoring for all the new regulations. The standardized monitoring framework (SMF) is comprised of a nine year cycle called a compliance cycle and three 3-year periods called compliance periods. For example, a groundwater PWS would have to test for IOCs sometime in the first compliance period (January 1, 1993 - January 1, 1996). This regulation allows PWSs to get waivers for monitoring. A waiver either eliminates or reduces monitoring. A PWS with a waiver for IOCs means that they would need to sample once each compliance cycle or once every nine years beginning January 1, 1993. It is the PWSs responsibility to ask the state for a waiver prior to January, 1993. It is the State's responsibility to grant the waiver.

Additional new regulations called Phase V were proposed on July 25, 1990, and add six new IOCs. These rules will be final in March, 1992. A PWS would be allowed to apply for a waiver after three monitoring rounds if the new IOCs were not detected. Again a waiver for IOCs would reduce sampling to once every nine years.

EPA may be expected to add an occasional IOC to the regulated list from time to time and may change some MCLs of IOCs as new research clarifies levels of contamination considered hazardous. Most IOCs are tested from the same sample requiring no additional work and little additional cost for the community.

New sampling requirements for nitrates/nitrites will be quarterly for surface water supplies and annually for groundwater supplies. These frequencies may be reduced or increased by the State based upon the levels of nitrate/nitrite found. The new sampling requirements begin January 1, 1993. EPA does not allow waivers for nitrates. Therefore, PWSs can expect to sample at least annually.

MCLs

A separate page follows to list current and proposed MCLs for IOCs.

Actions your community should be taking

-Continue sampling yearly or every three years for currently regulated IOCs.

-Make sure newly regulated IOCs are tested for as the new MCLs become effective.

-Apply for a waiver for IOCs before December 31, 1992.

If you exceed any of the MCLs

-Take additional three check samples. The State will then use the average of these four tests to see if you exceed the MCL. The current exception is nitrate where only one check sample is required.

-Notify the State Agency and complete Public Notices as required.

-Work with the State Agency and/or your engineer to determine the best way to reduce the level of the contaminate in your water supply. Consider a variety of options. In addition to a new treatment process, you may need to consider improving your present treatment process, mix your contaminated supply with another supply that does not exceed the MCL, or obtain a new source of water.

-Request an exemption from the State Agency to allow the community to continue to use the water supply while the solutions to the MCL violation are being explored and any needed financing is being planned.

-Contact resource agencies listed in the back of this booklet for help in planning and finding finances for your system improvements.

Additional Information

The rules for IOCs are contained in 40 CFR 141.11, 141.23, 141.62.

State rules concerning IOCs are contained in _____.
(The blank line is provided for you to insert where your State's rules are contained.)

Your State Agency can provide some additional information on any of the individual IOCs.

National Safe Drinking Water Act Hotline - 1-800/426-4791.

EPA, Region VIII Drinking Water Branch - 1-800/759-4372, Ext. 1413.

See separate pages of this booklet for information on Asbestos, Fluoride, Lead and Copper.

(See the listing for the State Drinking Water contacts in the Resource section)

Maximum Contaminant Levels for IOC's

Contaminants	MCL: Current	MCL:Proposed May 1989
Arsenic	0.05 mg/l	-
Barium	1 mg/l	5 mg/l
Cadmium	0.010 mg/l	0.005 mg/l
Chromium	0.05 mg/l	0.1 mg/l
Lead	0.05 mg/l	-
Mercury	0.002 mg/l	0.002 mg/l
Selenium	0.01 mg/l	0.05 mg/l
Silver	0.05 mg/l	Dropping MCL
Nitrate	10 mg/l	10 mg/l
Fluoride	4 mg/l	-
Asbestos	-	7 million fibers/l
Nitrite (As N)	-	1 mg/l
Combined Nitrate & Nitrite	-	10 mg/l

MCL: Proposed July 1990

Antimony	0.01/0.005 mg/l
Beryllium	0.001 mg/l
Nickel	0.1 mg/l
Sulfate	400/500 mg/l
Thallium	0.002/0.001 mg/l
Cyanide	0.2 mg/l

DRINKING WATER

ASBESTOS

Asbestos is an inorganic chemical that occurs naturally and has been used in the manufacture of a number of products used in the construction industry. Inhaled asbestos fibers have been identified as causing cancer. Asbestos fibers ingested through drinking water are suspected as a cancer causing agent. Asbestos occurs naturally in a few water supplies and may occur by a corrosive action on asbestos cement (AC) pipe contained in a water system.

Do the Asbestos regulations apply to my community?

Yes, if you are a community or non-transient non-community (NTNC) public water supply, the asbestos regulations apply to you. If your State Agency has a waiver program, a vulnerability assessment may be performed on your system. If you do not have asbestos likely to occur in your water source and do not have asbestos cement pipe, your system may be designated as non-vulnerable and be granted a waiver. A PWS that is granted a waiver will not have to monitor for asbestos. If your system does have AC pipe and your water is non-corrosive you also may be classified as non-vulnerable and eligible for a waiver. If a waiver is not granted, you will have to monitor for asbestos once every nine years.

Timetable

An MCL for asbestos was finalized as of January 30, 1991. If your PWS is vulnerable for asbestos in the water, you will have to take one sample within the first compliance period of each compliance cycle (1993-1996).

MCLs

The MCL for asbestos is 7 million fibers/liter (longer than 10 micrometers). If your system is required to test for asbestos and it has asbestos cement pipe the sample will be taken at the tap. If your system has asbestos in the source water only then test at the source. If your first test exceeds the MCL, take a repeat sample. Compliance will be based on the average of the two. If the sample is still over the MCL, then quarterly testing is required.

Actions your community should be taking

-Cooperate with the state in terms of performing initial monitoring, applying for a waiver, and/or performing a vulnerability assessment.

If your tests indicate levels of asbestos higher than the MCL, you are in violation of the MCL. You should:

-Test quarterly.

-Notify the State Agency and complete Public Notices as required.

-Work with the State Agency and/or your engineer to determine if asbestos is in your source water and/or is being leached from your asbestos cement pipe. Plan a corrective action.

-If asbestos is in your water source, it may be removed with coagulation/ filtration or direct and diatomite filtration. Corrosion control is used to reduce leaching of fibers from asbestos cement pipe.

-Contact resource agencies listed in the back of this booklet for help in working out financial needs.

Other important considerations

EPA proposed (in 1986) under the Toxic Substance Control Act to ban the manufacture of many asbestos products including asbestos cement pipe. There is no plan to call for the removal of existing pipe, but a water system may need to provide for corrosion control if there is asbestos cement pipe in their system. More important may be the need to plan for materials and procedures to repair existing asbestos cement pipe in the future.

The greatest risk related to asbestos cement pipe is to the maintenance worker who is repairing or otherwise coming into contact with the pipe. Inhaling the dust (fibers) from cutting the pipe is particularly hazardous. The Occupational Safety and Health Administration (OSHA) of the Department of Labor has published rules concerning occupational exposure to asbestos. If you work with asbestos cement pipe in your community, contact your state Department of Labor for information on these rules.

Additional Information

The rules for Asbestos are contained in 40 CFR 1413 (b) (1).

State rules concerning Asbestos are contained in _____.
(The blank line is provided for you to insert where your State's rules are contained.)

The rules of OSHA on Occupations Exposure to Asbestos are contained in 29 CFR 1910 and 1926.

Your State Agency may be able to provide additional fact sheets on Asbestos. EPA Region VIII Drinking Water Branch 1-800/759-4372, Ext. 1413.
(See the listing for the State Drinking Water contacts in the Resource section)

DRINKING WATER

FLUORIDES

Fluorides are compounds that contain an ionic form of the element fluorine.

Fluorides occur naturally in many water sources and are added in the treatment process by many public water systems. Fluorides in amounts between 1.0 and 1.5 parts per million (mg/l) have beneficial effects in reducing tooth decay. Amounts above 4.0 parts per million may cause bone and skeletal changes. Amounts greater than 2 mg/l can cause discoloration of teeth.

Does the Fluoride regulation apply to my community?

Yes, all community public water systems must test for fluorine every three years (ground water) or every year (surface water).

Timetable (for revision of regulations)

Testing for fluoride was required prior to the 1986 SDWA (Safe Drinking Water Act) Amendments. The new regulations on fluorides continue the testing requirement of every three years for ground water supplies and every year for surface water supplies. (Usually done with the routine testing for other regulated inorganic chemicals.) A new MCL was set in the final rules published on April 2, 1986 and became effective in October 1987.

MCLs

MCL = 4.0 mg/l (secondary standard suggested level = 2.0 mg/l).

If your tests show levels less than the 2.0 mg/l, your community needs to do nothing about fluoride. Plan your next routine test in one or three years.

Actions your community should be taking

If your tests indicate fluoride levels between 2.0 and 4.0 mg/l, you should check with your State Agency and/or engineer to see if any changes in operations can be made to lower the fluoride level. As this is not an MCL violation, immediate action is not required, but planning should be undertaken to reduce levels below 2.0 mg/l. Some of the options listed below may be necessary. The State Agency may require more frequent sampling to monitor the fluoride level. Public notice, with mandatory health effects language, is required for levels between 2.0 and 4.0 mg/l.

If your tests indicate Fluoride levels above 4.0 mg/l, you are in violation of the MCL, and you should:

-Immediately submit three check samples to confirm the initial test results.

-Contact your State Agency. They will assist you to form the contents of a public notice you are required to give your customers. (See Public Notification section.)

-Work with your State Agency and/or engineer to plan for a change in your water supply and/or treatment system to lower the fluoride levels.

-Seek help through other resource agencies (listed in the back of this booklet) for help in finding financial resources if needed to make water system changes.

-Continue regular testing, as suggested or required by the state agency to monitor fluoride levels while you are working on solutions. Notify the public periodically, as required.

Solutions to fluoride MCL violations for very small water systems usually involve finding and using a new water source or mixing existing sources to reduce the fluoride level. Removing fluoride through treatment is usually cost prohibitive for very small systems.

Additional Information

The rule for fluoride is contained in 40CFR 141.11, 141.23, 141.62.

State rules concerning fluoride are contained in_____.
(The blank line is provided for you to insert where your State's rules are contained.)

"Removal of Excess Fluoride in Drinking Water," "Fluoridation Engineering Manual," EPA, available from the Safe Drinking Water Hotline: 1-800/426-4791.

Your local dentist or state dental association will have information available on the beneficial effects of correct amounts of fluoride in your drinking water.

EPA Region VIII Drinking Water Branch - 1-800/759-4372, Ext. 1413.

(See the listing for the State Drinking Water contacts in the Resource section)

DRINKING WATER

LEAD MATERIAL BAN

Lead is a metal which, in the past, has been used for water supply pipe, joints in other pipe materials, and in alloy with other metals as solder in joining copper pipe and in the manufacture of water supply fixtures. Lead has been identified as a cause of central and peripheral nervous system damage, kidney effects, and can be highly toxic to infants and the developing fetus of pregnant women. Lead in plumbing materials may be leached into the drinking water by corrosive water.

Does the Lead Material Ban apply to my community?

Yes, the use of solder containing more than 0.2% lead in the installation of new plumbing in customers' facilities that are connected to the public water supply is banned. The law applies only to plumbing which distributes drinking water and does not require the removal of existing lead pipes or solder. Check with your state for additional information.

Timetable

On October 28, 1987, specific public notice requirements were published as a final rule. Contact your state or U.S. EPA for additional information.

MCLs

There is no MCL involved in the Lead Material Ban. See the section on Lead and Copper for additional information.

Actions your community should have completed

-Complete a plumbing materials inventory in cooperation with your State Agency.

-Complete a set of tests (under the instructions of your State Agency) to identify the corrosion related factors in your water supply.

-Publish a notice about the lead ban and the information on corrosiveness for the information of your customers. (This was to have been completed by June 19, 1988. In some states, a state-wide notice was published.)

-Consider adopting an ordinance or rule prohibiting the use of lead materials in any new plumbing that is connected to your water system. In some cases, a statewide plumbing code has met this requirement. If your community has adopted one of the national plumbing codes, (or are part of a jurisdiction that has adopted a code), these codes have all been amended to include the lead materials ban.

Actions your community should now be taking

-Inform customers involved in new construction or the replacement of plumbing that the lead materials ban is in effect for your water system. (Requiring a simple permit and inspection of new plumbing is one way some communities carry out this information requirement.)

-Make information available to your customers on the actions they can take to reduce lead levels in the water they consume in their own home.

-If your water supply is very corrosive, contact your State Agency and/or your community's engineer to plan for ways you can reduce the corrosive impact of your water on the lead that may be contained in customers' plumbing.

-If you have lead pipe or fixtures in your distribution system, consider replacement with non-lead materials. Leaded joints in old cast iron or other pipe is not considered to leach significant amounts of lead into the water. Replacement is not required by the Lead Ban but may be required for systems that continue to exceed the lead or copper action levels under the Lead Copper Rule.

Additional Information

The statute for the Lead Material Ban is contained in the Safe Drinking Water Act, section 1417(a)(1) & (2).

State rules concerning the Lead Materials Ban are contained in_____.
(The blank line is provided for you to insert where your State's rules are contained.)

"Lead and Your Drinking Water," EPA, available from the National Safe Drinking Water Hotline: 1-800/426-4791.

EPA Region VIII Drinking Water Branch - 1-800/759-4532, Ext. 1431.

DRINKING WATER

LEAD AND COPPER

Lead and copper are inorganic chemicals that are occasionally found in water supplies and are frequently leached out of plumbing in water systems that have corrosive water. Lead can cause central and peripheral nervous system damage, kidney effects and be highly toxic to infants and in the developing fetus of pregnant women. Copper causes taste problems and stains porcelain and can also cause stomach and intestinal distress.

Does the Lead and Copper Rule apply to my community?

Current rules require all community public water supplies to test for lead every three years (ground water) or one year (surface water) along with several other inorganic chemicals. The new rules will include copper in the same testing frequency as lead.

Timetable

Testing and MCL compliance for lead has been in effect for a number of years prior to the 1986 SDWA Amendments for community water supplies. In June 1991, EPA published new rules that will ultimately delete the MCL for lead but require additional sampling to be done at customer taps. High levels of lead and copper at the customer taps will trigger requirements of treatment of the water supply to reduce corrosivity; public education should also be provided to help customers reduce their intake of lead and copper.

Regulatory Schedule for Small Systems (<3,300 people)

Date	Activities (system activities denoted by *)
May 1991	National Primary Drinking Water Regulations (NPDWRs) for lead and copper promulgated
November 1992	Treatment technique requirements take effect
July 1993	*Begin tap water monitoring
January 1994	*Recommend optimal corrosion control treatment by State[1]
January 1995	State requires system to conduct corrosion control studies[2]
January 1996	State designates optimal corrosion control treatment[3]
July 1996	*Complete corrosion control studies and recommend treatment to State[2]
January 1997	State designates optimal corrosion control treatment[2]
January 1998	*Complete installation of corrosion control treatment[3]
January 1999	*Complete installation of corrosion control treatment[2]
	*Complete follow-up monitoring and submit results to State[3,4]
July 1999	State designates water quality parameters[3]
January 2000	*Complete follow-up monitoring and submit results to State[2,4]
July 2000	State designates water quality parameters[2]

[1]Assumes system exceeds lead or copper action level during first monitoring period.
[2]Small systems required to conduct comparative treatment studies.
[3]Small systems which State specifies optimal treatment without studies.
[4]Systems that continue to exceed action level begin 15-year lead service line replacement program.

MCLs

Currently, if your test indicates lead levels above the current MCL, you should:

-Have three check samples tested to confirm test results.

-Provide public notice of the MCL violation. Contact your state for specific requirements.

Action levels per the new rule:

-The treatment technique requirements are triggered by exceedances of the lead action level of 0.015 mg/l or the copper action level of 1.3 mg/l measured in the 90th percentile.

-All public water systems are required to collect one sample for lead and copper analysis from the following number of sites during each six month monitoring period.

System Size (Population)	No. of Sampling Sites (Initial Base Monitoring)	No. of Sampling Sites (Reduced Monitoring)
501 to 3,300	20	10
101 to 500	10	5
<100	5	5

The above samples must be collected per monitoring period. One monitoring period is equivalent to six months. There are two monitoring periods per calendar year, January to June and July to December.

Sample collection methods

-First flush tap water samples must stand motionless for at least six hours before the samples are collected.

-One liter of water must be drawn from the cold water kitchen or bathroom tap.

-Systems may collect samples or enlist residents to collect samples. Residents fill the container supplied by the water system according to directions and leave the container for the system to pick up.

Actions your community should be taking

-Begin tap water monitoring program by July 1993. Tap water samples must be collected at high risk locations:

- o homes with lead solder installed after 1982,
- o homes with lead pipes,
- o homes with lead service lines.

-Work with your State Agency and/or engineer to consider changes to your system to reduce lead levels to acceptable levels. This may include finding a new water source with lower lead levels of treating the present supply. Treatment technologies used for lead removal include: Ion Exchange, Reverse Osmosis, Lime Softening, Direct Filtration, and Coagulation/Filtration. Both capital and operation and maintenance costs vary greatly for these different technologies.

-Start planning now for ways to reduce the corrosivity of your water. If you have a corrosive water supply (as determined by tests done in the last 2 or 3 years) and if lead and copper materials were identified in your system materials inventory recently completed, contact your State Agency for additional sources of assistance.

Additional Information

The rule for lead and copper MCLs and treatment are contained on 40 CFR Part 1412 (1).

State rules concerning lead and copper are contained in_____.
(The blank line is provided for you to insert where your State's rules are contained.)

EPA, Region VIII Drinking Water Branch - 1-800/759-4372, Ext. 1413.

"Lead And Your Drinking Water," EPA, available from the National Safe Drinking Water Hotline: 1-800/426-4791.

"Summary - Proposed Regulations For Lead In Drinking Water - Requirements For Water Systems Serving Fewer Than 500 People," available from EPA.

(See the listing for the State Drinking Water contacts in the Resource section)

DRINKING WATER

SYNTHETIC ORGANIC CHEMICALS (Non-Volatile)

Synthetic organic chemicals (SOCs) are man-made compounds used for a variety of industrial and agricultural purposes. For monitoring purposes, the SOCs are divided into two groups - volatile synthetic organic chemicals (VOCs) and others which are usually called pesticides and PCBs. This page will discuss SOCs that are not volatile. VOCs will be discussed on a separate page. Also see the page on disinfection by-products. SOC effects include damage to the nervous system, kidneys and cancer risks.

Do the SOC regulations apply to my community?

The six currently regulated pesticides only apply to surface water systems. The trihalomethane MCL's only apply to PWS > 10,000 population. At present, there are six regulated SOCs plus the disinfection by-products called trihalomethanes.

Timetable (for revisions to regulations)

New regulations called Phase II were finalized January 30, 1991. These regulations added 13 new SOCs and revised five SOCs. All community and NTNC PWSs will be required to test for SOCs. For a PWS that is vulnerable to SOCs, quarterly sampling is required beginning in 1993, the first compliance period (1993-1996) in the first compliance cycle (1993-2001). If there are no detects of SOCs repeat sampling is: two quarterly samples beginning in the second compliance period (1996) for PWSs greater than 3,300 people, or one quarterly sample also beginning in the second compliance period for PWSs with less than 3,300 people.

It is the PWSs responsibility to perform the vulnerability assessment for SOCs. The vulnerability assessment is mailed to the State with a request for a waiver. If a waiver is granted by the State no monitoring is required for that compliance period. The PWS must be granted a waiver before the year testing is required. Every compliance period thereafter, the PWS must update the vulnerability assessment and be granted a waiver. To test for all the SOCs several methods are required, which adds tremendously to the cost. The PWS should perform the vulnerability assessment and secure the waiver prior to the year monitoring is required to avoid a significant cost to the system.

On July 25, 1990, additional proposed regulations called Phase V add 15 non-volatile SOCs and three VOCs. These rules will be finalized in March 1992. The same procedures and monitoring requirement will be used as with the May 1989 proposed rules. Because EPA is required to add new contaminants to the list to be

regulated on a regular schedule, SOCs will probably be added to the list. The PWS will want to perform a vulnerability assessment on these new SOCs and request a waiver to eliminate monitoring.

MCLs

A separate page is included to list current and proposed MCLs for SOCs. Proposed MCLs will not be enforceable in very small systems until 48 months after the final rules are published.

Actions your community should be taking

-Complete any sampling for currently regulated SOCs as required, if your system uses surface water.

-Cooperate with your State Agency to determine vulnerability of your water supply to SOC contamination. If it is determined that you are non-vulnerable (SOCs are not around to get in your supply) you will not have to sample for SOCs.

-If your system is vulnerable, cooperate with your State Agency to get the first round of samples taken. Some states are doing this for very small systems. If SOCs are not detected, you will not have to sample until the second compliance period (1996-1999).

Once the new SOC regulations are final, if your tests indicate levels of a SOC higher than the MCL (averaged over the year), you are in violation of the MCL. You should:

-Continue quarterly sampling (at times of highest vulnerability, i.e., after fertilizer application and a rain).

-Notify the State Agency and complete public notices as required.

-Request an exemption from the State Agency to allow the community to continue to use the water supply while the solutions to the MCL violation are being explored and any needed financing is being planned.

-Work with the State Agency and/or your engineer to determine how SOCs are getting into your water supply. If possible, eliminate the source of contamination.

-If you must treat your water supply to remove the SOCs, work with your engineer to choose the best available technology for treatment. Filtering

through granular activated carbon is suggested for most SOCs. Packed tower aeration and polymer addition practices are used for some.

-Contact resource agencies listed in the back of this booklet for help in working out financial needs.

-Changing water sources may be the most economical solution in situations where available.

Additional Information

The rules for SOCs are contained in 40 CFR 141.11, 141.23, 141.62.

State rules concerning SOCs are contained in_____.
(The blank line is provided for you to insert where your State's rules are contained.)

"Pesticides in Drinking Water Wells," EPA. (Agricultural Extension Service offices also have useful pamphlets on pesticides.)

National Safe Drinking Water Act Hotline, 1-800/426-4791.

EPA, Region VIII Drinking Water Branch - 1-800/759-4372, Ext. 1413.

(See the listing for the State Drinking Water contacts in the Resource section)

MCLs for Synthetic Organic Chemicals (SOC's)

Contaminant	MCL: Proposed April 1989	MCL: Current
Alachlor	0.002 mg/l	-
Aldricarb	0.01 mg/l	-
Aldicarb Sulfoxide	0.01 mg/l	-
Aldicarb Sulfone	0.04 mg/l	-
Atrizine	0.003 mg/l	-
Carbofuran	0.04 mg/l	-
Chlordane	0.002 mg/l	-
2,4-D	0.07 mg/l	0.1 mg/l
Heptachlor	0.0004 mg/l	-
Heptachlor Epoxide	0.0002 mg/l	-
Lindane	0.0002 mg/l	0.004 mg/l
Methoxychlor	0.4 mg/l	0.1 mg/l
PCB's	0.0005 mg/l	-
Pentachlorophenol	0.2 mg/l	-
Toxaphene	0.005 mg/l	0.005 mg/l
2,4,5-TP (SILVEX)	0.05 mg/l	0.01 mg/l
Acrylamide	Treatment Technique	-
Epichlorohydrin	Treatment Technique	-

MCL: Proposed July 1990

Endrin	0.002 mg/l	0.002 mg/l
Dalapon	0.2 mg/l	-
Diquat	0.02 mg/l	-
Endothall	0.1 mg/l	-
Glyphosate	0.7 mg/l	-
Di (Ethylehexyl) Adipate	0.5 mg/l	-
2,3,7,8-TCDD(Dioxin)	5 x 108 mg/l	-
Hexachlorocyclopentadiene	0.05 mg/l	-
Oxyamly (Vydate)	0.2 mg/l	-
Simazine	0.001 mg/l	-
PAH's [Benzo(a)pyrene]	0.0002 mg/l	-
Hexachlorobenzene	0.001 mg/1	-
Di(ethylhexyl) Phythalate	0.004 mg/l	-
Pichloram	0.5 mg/l	-
Dinoseb	0.007 mg/l	-

DRINKING WATER

VOLATILE ORGANIC CHEMICALS

Volatile Synthetic Organic Chemicals (VOCs) are man-made compounds used for a variety of industrial and manufacturing purposes. VOCs tend to be in a gaseous form under conditions that may occur in a water system and then separate from the water supply. VOCs have various effects on the liver, kidneys, nervous system and some pose a cancer risk.

Do the VOC regulations apply to my community?

Yes, at present, there are eight regulated VOCs. These regulations became final in July 1987, and require very small water systems to begin monitoring by January 1, 1991. Initial monitoring is done by one sample every three months for one year. States can reduce this to one sample for groundwater systems which are not vulnerable.

All community and NTNC public water systems must monitor for regulated VOCs in their water supply. If VOCs are not detected, your system must monitor again beginning in 1993. If VOCs are detected, monitoring must be done quarterly.

Timetable (for revisions of regulations)

New regulations called Phase II proposed on May 22, 1989 add 10 VOCs. These rules are final as of January 30, 1991 and will require quarterly monitoring beginning in January 1993. More new regulations proposed on July 25, 1990 will add three more VOCs. Monitoring for these are proposed to begin by January 1, 1996.

If a system is non-vulnerable a system may be granted a waiver which will reduce monitoring. If you have a groundwater source, a waiver will reduce sampling to once every six years. If you have a surface water source, and you are non-vulnerable, testing is done at state discretion. A PWS vulnerable to VOCs must test annually beginning in 1994, after the four quarterly samples in 1993. The state may grandfather or use the data taken previously and apply it to the critical monitoring. This grandfathering of data will allow the replacement of the four quarterly samples due in 1993 for one sample.

Because EPA is required to add new contaminants to the list to be regulated on a regular schedule, some VOCs may be added to the list from year to year. Little change should occur to the very small system because all VOCs are tested from the same sample and with little additional cost.

MCLs

A separate page is included to list current and proposed MCLs for VOCs.

Actions your community should be taking

-Complete any sampling for the first round of four quarterly samples for currently regulated VOCs as required. (In some states the State Agency is helping small systems with VOC sampling.)

-Test for VOCs again beginning January 1, 1993. Grandfather old data.

-Let your customers know through a newsletter or poster when you find that your water is free of VOC contaminates (and other contaminates that you don't have to worry about as well).

-Apply for a waiver to reduce monitoring, before December 31, 1992.

EPA's revised drinking water regulations have been published in phases. Phase I set monitoring requirements and MCLs for eight VOCs and required one-time monitoring for up to 51 other "unregulated" VOCs (listed in three lists). Phase I became effective for small PWSs (<3,300 population) in January 1991. Phase II has now set MCLs and routine monitoring requirements for 12 of the 51 "unregulateds" and these requirements go into effect in July 1992.

All PWSs must comply with all the monitoring requirements and MCLs. The only exception is for PWSs serving fewer than 150 service connections. Instead of collecting samples for the "unregulateds" monitoring, PWSs serving fewer than 150 connections may simply send a letter to the State regulatory agency stating that the system is available for sampling. The catch here is the overlap of 12 VOCs between Phase I and Phase II.

If a PWS serving fewer than 150 connections performs the monitoring of the Phase I unregulateds, then the data for the 12 that become regulated in Phase II can be "grandfathered" in for compliance with the MCLs. If not, then the PWS will have to monitor the 12 VOCs quarterly for four quarters when Phase II becomes effective. (Doing one round of Phase I "unregulateds" in 1991 will save having to do four analyses after July 1992.)

In summary, regardless of State policy, all PWSs should test for lists one and three of the unregulated contaminants to save money in monitoring costs in the future. Testing list 1 will cover the future Phase II requirement testing; testing list three will cover the future Phase V requirements.

If your tests indicate levels of a VOC higher than the MCL (average over the year), you are in violation of the MCL. You should:

-Continue quarterly sampling (at times of highest vulnerability).

-Notify the State Agency and complete Public Notices as required.

-Request an exemption from the State Agency to allow the community to continue to use the water supply while the solutions to the MCL violation are being explored and any needed financing is being planned.

-Work with the State Agency and/or your engineer to determine how VOCs are getting into your water supply. If possible, eliminate the source of contamination.

-If you must treat your water supply to remove the VOC, work with your engineer to choose the best available technology for treatment. Filtering through Granular Activated Carbon and Packed Tower Aeration are common treatments for most VOC removal.

-Contact resource agencies listed in the back of this booklet for help in working out financial needs.

-Consider changing the source of your water supply as one option. This may be the most economical solution when available.

Additional Information

The rules for VOC are contained in 40 CFR 141.11, 141.23, 141.62.

State rules concerning VOCs are contained in_____.
(The blank line is provided for you to insert where your State's rules are contained).

Your State Agency will be able to provide additional fact sheets on VOCs.

National Safe Drinking Water Act Hotline, 1-800/426-4791.

EPA, Region VIII Drinking Water Branch - 1-800/759-4372, Ext 1413.

(See the listing for the State Drinking Water contacts in the Resource section)

I. Phase I

A. Regulated Volatile Organic Chemicals Currently in Effect

Contaminant	MCL: Final
Trichloroethylene (TCE)	0.005 mg/l
Carbon Tetrachloride	0.005 mg/l
Vinyl Chloride	0.002 mg/l
1,2 Dichloroethane	0.005 mg/l
Benzene	0.005 mg/l
Para-dichlorobenzene	0.075 mg/l
1,1-Dichlorehtylene	0.007 mg/l
1,1,1 Trichloroethane	0.20 mg/l

B. Unregulated Contaminants

List I: Monitoring Required For All Systems

Bromobenzene
Bromodichloromethane
Bromoform
Bromomethane
Chlorobenzene
Chlorodibromomethane
Chloroethane
o-Chlorotoluene
p-Chlorotoluen
Dibropmomethane
m-Dichlorobenzene
o-Dichlorobenzene
trans-1,2-Dichloroethylene
cis-1,2-Dichloroethylene
Dichloromethane
1,1-Dichloroethane
1,1-Dichloropropane
1,2-Dichloropropane
1,3-Dichloropropane
1,3-Dichloropropene
2,2-Dichloropropane
Ethylbenzene
Styrene
1,1,2-Trichloroethane
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
1,2,3-Trichloropropane
Toluene
p-Xylene
o-Xylene
m-Xylene

List 2: Monitoring Required for Vulnerable Systems

Ethylene dibromide (EDB)
1,2-Dibromo-3-Chloropropane (DBCP)

List 3: Monitoring Required at the State's Discretion

Bromochloromethane
n-Butylbenzene
Dichlorodiflouromethane
Fluorotrichloromethane
Hexachlorobutadiene
Isopropylbenzene
p-Isopropyltoluene
Napthanlene
n-Propylbenzene
sec-Butylbenzene
tert-Butylbenzene
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene*
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene

*To be regulated in Phase V

II. Phase II

Regulated VOCs Effective July 1992

Contaminant	MCL: Final
cis-1,2-Dichloroethlene	0.07 mg/l
1,2-Dichloropropane	0.005 mg/l
Ethylbenzene	0.7 mg/l
Monochlorobenzene	0.1 mg/l
0-Dichlorobenzene	0.6 mg/l
Styrene	0.1 mg/l
Tetrachloroethylene	0.005 mg/l
Toluene	1.0 mg/l
trans-1,2-Dichloroethylene	0.1 mg/l
Xylenes (total)	10 mg/l

III. Phase V

Regulated VOCs

	MCL: Final
Dichloromethane (Methylene Chloride)	0.005 mg/l
1,1,2-Trichloroethane	0.005 mg/l
1,2,4-Trichlorobenzene	0.009 mg/l

Monitoring begins January 1, 1996. For additional information, contact your State office.

DRINKING WATER

COLIFORM MONITORING

Bacteria from sewage and animal wastes have presented the most frequent and immediate health risks to public water supplies over the years. Coliform bacteria, specifically the presence of fecal and *E. coli* bacteria, are used as the best and most easily tested for indicator of potentially harmful bacteria in the water.

Does the Coliform Monitoring rule apply to my community?

Yes, all community public water systems must submit samples for coliform bacteria testing on a regular monthly basis. Failure to submit samples, meet the MCL, and report non-compliance are all violations of the rule.

Timetable

Your community has been required to test for coliform bacteria for many years. All community PWSs have had to do other testing. The 1986 amendments to the Safe Drinking Water Act caused new rules to be published that change some of the procedures for testing, change the MCL, and require certain public notification related to coliform monitoring. These rules were published in final form on June 29, 1989, and became effective December 31, 1990. Most states have already implemented them.

MCLs

The MCL is based on the presence or absence of total coliforms in a sample (the old MCL was based on an estimate of coliform density). A very small water system may have no more than one coliform-positive sample per month.

Monitoring Requirements

You are required to submit one routine sample per month for your system. (Carefully follow procedures for sampling provided by your testing laboratory or the State Agency). Samples are to be from different customer taps from month to month. If the sample tests positive for total coliforms, you must (within 24 hours of notification of the result) collect four repeat samples. These repeat samples must be collected within five service connections of the original sample with at least one being at the original location, at least one upstream and at least one downstream. If total coliforms are detected in any repeat sample, your water system is in violation of the MCL and you must notify the State Agency no later than the end of the next business day that you learned of the violation.

If fecal coliforms or *E. coli* are identified in a sample in a month that the water system violates the MCL, it becomes an acute violation and you must notify the State Agency the same day you receive the results. The month following a violation of the total coliform MCL you must collect five routine samples. The State Agency may choose to require more than one routine sample per month.

A sanitary survey of your system is required at least every five years (usually done by the State Agency). The initial survey must be completed by June 29, 1994. Without the sanitary survey, you would have to collect five routine samples every month.

Actions your community should be taking

If your system is not having total coliform positive tests:

-Continue to submit regular samples and review results.

-Maintain a good operation and maintenance program for your water system including regular line flushing at fire hydrants and on dead ends.

If your system has a coliform-positive sample result:

-Immediately take and process your repeat samples.

-Carefully review your sample taking procedures to be sure you are not accidentally contaminating the samples.

-Call your State Agency and ask for help to locate any possible sources of contamination.

-Follow the State Agency's direction in issuing public notices and any state emergency measures that may be required.

-Correct any problems causing contamination immediately. Contact one of the resource agencies listed in the back of this booklet if you need technical support or help in financing.

Additional Information

The rule for coliform monitoring is primarily contained in 40 CFR 141.21 & 141.63, and public notice rules in 40 CFR 141.32.

State rules concerning coliform monitoring are contained in_____.
(The blank line is provided for you to insert where your State's rules are contained.)

EPA and your State Agency have several information sheets and pamphlets on sampling and testing for coliform bacteria. Contact your State Agency for more information.

You may also contact the National Safe Drinking Water Act Hotline at 1-800-426-4791.

EPA Region VIII Drinking Water Branch - 1-800/759-4372, Ext. 1413.

(See the listing for the State Drinking Water contacts in the Resource section)

DRINKING WATER

SURFACE WATER TREATMENT RULE

Does the Surface Water Treatment Rule apply to my community?

Yes, it applies to all Public Water Supply Systems (community and non-community) using a surface water source (i.e. water open to the atmosphere and subject to surface runoff) or a groundwater source under the direct influence of surface water.

Timetable

Compliance timetables under the Surface Water Treatment Rule are as follows:

A. State Regulations

1. State regulations necessary to implement the rule must be in place by December 30, 1990.

2. States must adopt by December 30, 1990, procedures for determining whether a groundwater source is under the direct influence of surface water.

B. Surface water systems currently using filtration and disinfection

1. The existing interim turbidity standard (1 ntu) continues in effect until June 29, 1993.

2. New filtration criteria, disinfection criteria, and monitoring and reporting requirements must be met beginning June 29, 1993.

C. Surface water systems currently using disinfection only

1. The existing interim turbidity standard (1 ntu) continues in effect until December 30, 1991 (except as noted in the following item 5).

2. PWSs are required to begin recording new monitoring and reporting requirements for unfiltered systems starting December 30, 1990. PWSs must meet these new monitoring and reporting requirements starting January 1, 1992.

3. States must determine before December 30, 1991, which systems are required to filter.

4. If filtration is required, it must be installed before June 29, 1993 or 18 months after it fails to meet the avoidance criteria.

5. If the state determines before December 30, 1991, that an unfiltered system must filter, the system must comply with the existing interim turbidity standard until June 29, 1993, or until filtration is installed, whichever is later.

D. Surface water systems currently using no treatment
Disinfection must be installed, and the compliance deadlines under the preceding section C must be met.

E. Systems using a groundwater source
For each system using a groundwater source, the state must determine whether that source is under the direct influence of surface water according to the following deadlines:

Community water systems - June 29, 1994
Non-community water systems - June 29, 1999

If a PWS is deemed groundwater under the influence (GWUI) of surface water it must begin sampling for the avoidance criteria within 6 months. The PWS must begin meeting the avoidance criteria 18 months after the determination. Failure to meet the avoidance criteria after 18 months may result in that PWS having to install filters. (Note: In some States, if a PWS is deemed GWUI they must install filters.) Check with your State as to their policy in using the avoidance criteria to avoid installing filtration.

Actions your community should be taking

-Public Water Supply must be operated by personnel that meet qualifications specified by the State or EPA. The water purveyor is required to monitor the water system, by sampling and testing the water, for compliance to the MCLs listed for the public water system category (community, non-community, etc).

-Treatment must remove or inactivate at least 99.9% of Giardia lamblia cysts and 99.99% of viruses; all systems must disinfect, and might be required to filter if certain water quality and site-specific criteria are not met; criteria must be met for determining if treatment (turbidity removal, disinfection) is adequate for filtered systems.

-Systems using surface water must send in reports to the State documenting compliance with treatment and monitoring requirements.

-The EPA must be informed, as well as water users through public notification, of any violations.

Additional Information

The rules for surface water treatment are contained in 40 CFR 141.71(b).

State rules concerning surface water treatment are contained in _____.
(The blank line is provided for you to insert where your State's rules are contained.)

EPA's "Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems Using Surface Water." Call the Safe Drinking Water Act Hotline: 1-800/426-4791.

EPA, Region VIII Drinking Water Branch - 1-800/759-4372, Ext. 1413.

November issue of Opflow, AWWA newsletter to operators.

Contact your State Drinking Water Agency for additional information about requirements for certain reporting requirements.

(See the listing for the State Drinking Water contacts in Resource section)

WATER PROGRAMS

DRINKING WATER

RADIONUCLIDES

Radionuclides are radioactive particles that occur naturally in areas of uranium and radium deposits and in waste from man made nuclear reactive processes. Radionuclides, even in very small concentrations, pose a cancer risk.

Does the Radionuclides regulation apply to my community?

Yes, radionuclides have been regulated since 1976 with MCLs currently set for four types. All community public water systems must test for radionuclides every four years.

Timetable (for revision of regulation)

Proposed regulations were published in June 1991 that will add MCLs for two additional radionuclides (Radon and Uranium). The Radon level will be set low because it is easily removed by aeration and may raise the MCL for Radium 226 & 228. Final new rules may be published in late 1993. Systems will begin to monitor under the new radionuclide rules in 1996. Until then, continue to monitor under the old rules.

MCLs

The following are current MCLs for radionuclides and the levels that are proposed. The units of measure are peculiar to radioactivity and represent very small quantities.

	Current MCL	MCL Likely to be Proposed
Gross Alpha Particle Activity	15 pCi/l	15 pCi/l
Beta Particle & Photon Activity	4 mrem/yr.	4 mrem/yr
Combined Radium - 226 & 228	5 pCi/l	-
Radium - 226	-	20 pCi/l
Radium - 228	-	20 pCi/l
Uranium	-	20 ug/l
Radon	-	300 pCi/l

Actions your community should be taking

Submit samples as required for routine testing. The monitoring process requires one sample every three months for one year (four samples in total). Unless test results indicate radionuclide values above or near the MCL, the test is repeated only every four years. Mark your calendar a few months prior to the four year time limit to remind yourself to test.

Compliance with the MCL is based on an average of the four quarterly samples.

If your tests indicate levels of radionuclides higher than the MCL, you should:

-Ask the State Agency if you should resample to confirm the test results. The State may also require you to continue quarterly sampling until the MCL level is met.

-Follow your State Agency's instructions regarding when and what type of public notice you need to give.

-Request an exemption from the State Agency to allow the community to continue to use the water supply while solutions to the MCL violation are being explored and any needed financing is being planned.

-Start working with your State Agency and/or engineer to consider options to eliminate the radionuclides from your system. In nearly all very small community water systems, finding a different source of water supply is the most economical solution to a radionuclide problem. Radon can be removed with aeration or granular activated charcoal. Any treatment may produce radioactive wastes that will be difficult to dispose of.

-Agencies listed in the Resource section of this booklet may be able to help you in working with the State Agency, arranging for financing, and including your community in solving your violation problem.

-Remember that exposure to radionuclides at levels found in water is a risk over long term exposure. It is not an acute risk for short periods of time. Don't panic or start unrealistic fears. Do proceed to work out a reasonable and affordable solution to your drinking water supply.

Additional Information

The rule for radionuclides is contained in 40 CFR 141.11, 141.23, 141.62.

State rules concerning radionuclides are contained in_____.
(The blank line is provided for you to insert where your State's rules are contained.)

"A Study of Possible Economical Ways of Removing Radium From Drinking Water" is available from EPA by calling the Safe Drinking Water Hotline at 1-800-426-4791.

EPA, Region VIII Drinking Water Branch - 1-800/759-4372, Ext. 1431.

EPA's "Radon in Drinking Water" pamphlet.

(See the listing for the State Drinking Water contacts in Resource section)

DRINKING WATER

DISINFECTION AND DISINFECTION BY-PRODUCTS

Disinfectants (such as chlorine) are the primary defense against diseases caused by microbiological contaminants in public water systems. More than 90% of surface water supply systems disinfect their water while less than half of the ground water supplies are disinfected. Although disinfection is the single most important treatment technique in use in public water supplies, the disinfectants themselves can react with organic materials in water supplies to form disinfection by-products (DBPs) which may prove to contaminate the water with compounds that increase cancer risk.

Do the Disinfection and Disinfection By-products regulations apply to my community?

Yes, all community and NTNC public water systems will be required to disinfect their water, with allowance for variances if the water comes from sources that are determined not to be at risk from microbiological contamination. Monitoring for DBPs will be limited to systems that are determined vulnerable to their development.

Timetable

Surface water supplies are now covered by final rules on filtration and disinfection that were published on June 29, 1989. These rules require disinfection of all surface water supplies and become effective over the next three years as determined by state schedules. Rules for general disinfection of all drinking water supplies are expected to be proposed in August 1993 and will include MCLs for a number of disinfectants and disinfection by-products. At present, three disinfection by-products (trihalomethanes) are regulated but only in community supplies of 10,000 or greater population.

MCLs

Proposed MCLs have not yet been circulated. The MCL for total trihalomethanes is 0.1 mg/l.

Actions your community should be taking

-If your water supply is surface water, contact your State Agency to determine your schedule for compliance with the filtration and disinfection rules.

-If your water supply is ground water and you are now adding a disinfectant, start regular disinfectant residual tests (weekly or monthly) at some consumer taps to determine how much disinfection is available at the "end-of-the-line"

in your system. This will help you plan for modifications in your disinfection to meet any new standards that are required.

-If your water supply is groundwater and you are not adding a disinfectant now, the following steps may help in your planning:

o Check your coliform bacteria tests over the past three or four years. A history with some coliform positive tests are likely to require you to disinfect.

o If you have no coliform positive tests, keep it that way by following a proper sampling procedure and through good maintenance and operation of your water supply and distribution systems. You may be able to ask for an exemption to the new disinfection rule.

o Look at and price different equipment for disinfection. For most very small systems, chlorination provided through gas, liquid solutions or granular compounds are the methods used. Costs vary and may not be out of reach for your community. Your State Agency, engineer or an equipment supply firm can help you with this information.

o Visit neighboring communities that are disinfecting and see how they do it and what it costs.

o Start public information/education efforts to help your customers understand the reasons and advantages of protecting your water supply from contamination through disinfection. Resource agencies listed in the back of this booklet may be able to help you with this.

Additional Information

The rules for Disinfectants and DBPs are in 40 CFR 1412 (b) (8).

State rules concerning Disinfectants and DBPs are contained in_____.
(The blank line is provided for you to insert where your State's rules are contained.)

"Protecting Our Drinking Water From Microbes," EPA, available by calling the National Drinking Water Hotline 1-800/426-4791.

Your State Agency has materials available, which describe the proper installation and use of disinfection equipment in small systems.

EPA, Region VIII Drinking Water Branch - 1-800/759-4372, Ext. 1413.

(See the listing for the State Drinking Water contacts in Resource section)

DRINKING WATER

PUBLIC NOTIFICATION

With the enactment of the Safe Drinking Water Act, Congress requires that public drinking water systems notify their customers when drinking water standards are violated. The purpose of public notification is to inform consumers of any potential adverse health effects and to describe what steps consumers can take to minimize the impact. It should also educate the consumer about the needs of the public water system to assure the delivery of safe drinking water.

Do the Public Notification rules apply to my community?

Yes, the Safe Drinking Water Act requires owners (or operators) of all community public drinking water systems to notify the persons they serve if certain violations of the National Primary Drinking Water Regulations or certain other specified events occur.

Timetable

Public Notification rules are now in effect for all contaminants that your community is required to monitor. As new contaminants are regulated and monitoring is required in your community, you are also required to give public notification when violations occur. This information describes the Federal Rules. Your State may add requirements for your area.

Types of violations requiring Public Notification

There are six violations or events that require Public Notification:

1. Failure to comply with an applicable maximum contaminant level (MCL)

2. Failure to comply with a prescribed treatment technique

3. Failure to perform water quality monitoring (testing) as required by the regulations

4. Failure to comply with testing procedures as prescribed by a National Primary Drinking Water Regulation

5. Issuance of a variance or an exemption

6. Failure to comply with the requirements of any schedule that has been set under a variance or exemption

Notification Procedures

The method, timing and frequency of notifying the public varies based on the "level" of the violation and the availability of the public communication media. There are two "levels" of violation. Tier 1 violations include numbers 1, 2 and 6 listed above, namely, failure to comply with an MCL; failure to comply with a treatment technique; failure to comply with a schedule prescribed under a variance or exemption.

Tier 2 violations are less serious and have simpler notification requirements. They include numbers 3, 4 and 5 listed above, namely, failure to comply with monitoring requirements; failure to comply with testing procedures; operating under a variance or exemption.

Tier 1 violations are subdivided into "acute" and "non-acute" violations. "Acute" risks are those that involve an immediate risk to human health. These are violations specified by the State Agency and presently must include violations of the MCL for nitrate and/or nitrite, violations of the MCL for total coliforms when fecal coliforms or *E. coli* are present, and occurrences of a waterborne disease outbreak in an unfiltered surface water system.

Actions your community should take

If you are informed of test results that indicate you are in violation of an MCL or you are informed of another violation, immediately contact your State Agency and notify them of the violation and ask their direction in proceeding with public notification. (Note: the State Agency may declare a sample invalid or require a check sample before confirming a violation and thereby ask you to delay public notification.)

Methods of Notification

Communities with a daily (or weekly) newspaper of general circulation (received by most households) in the community:

Tier 1 violations

1. Provide notice within 14 days of the violation through the newspaper, AND

2. Provide notice by direct mail or hand delivery within 45 days of the violation. Repeat this notice every three months as long as the violation continues, AND

3. For ACUTE VIOLATIONS ONLY - Deliver notice to the principal television and radio station serving the area within 72 hours following the violation.

Tier 2 violations

1. Provide notice within three months of the violation through the newspaper, AND

2. Provide notice by mail or hand delivery within three months of the initial notice. Repeat this notice every three months as long as the violation continues.

Methods of Notification

Communities without a newspaper:

Tier 1 violations

1. For ACUTE VIOLATIONS ONLY - Provide notice by hand delivery or by posting within 72 hours of the violation, AND

2. For non-acute violations - Provide notice by hand delivery or by posting within 14 days of the violation, AND

3. Repeat the notice by hand delivery every three months or by continuous posting for the duration of the violation.

Tier 2 violations

Provide notice by hand delivery or by posting within three months of the violation. Repeat the notice by hand delivery every three months or by continuous posting for the duration of the violation.

Information that must be included in the Public Notice:

1. Must provide a clear and readily understandable explanation of the violation.

2. Must include information about any potential adverse health effects.

3. Must contain information about the population at risk.

4. Must contain information about the steps being taken to correct the problem.

5. Must contain information about the necessity of seeking alternative water supplies, if any.

6. Must include any preventive measures that should be taken until the violation is corrected.

7. Must be clear and conspicuous.

8. Must not contain unduly technical language.

9. Must not contain unduly small print.

10. Must not create problems that frustrate the purpose of the public notification.

11. Must include a phone number of the owner, operator, or someone to contact at the public water system as a source of additional information.

12. Where appropriate, notices must be multi-lingual.

Additional Information

The rules for Public Notification are contained in 40 CFR 141, 142, and 143.

State rules concerning Public Notification are contained in _____.
(The blank line is provided for you to insert where your State's rules are contained.)

"General Public Notification for Public Water Systems," EPA, available by calling the National Safe Drinking Water Hotline at 1-800/426-4791 for a free copy. The chart on the following page is taken from this manual.

EPA Region VIII Drinking Water Branch - 1-800/759-4372, Ext 1413.

(See the listing for the State Drinking Water contacts in Resource section)

Checklist of Public Notification Requirements for Community Water Systems

Part A: Determine your notification requirements for each violation by circling all that apply. Read footnotes carefully.

Public Notification Requirements

Violation Category Type	Mandatory Health Effects Information Required (All PWSS)	Notice of New Billing Units (CWSs Only)	Type of PWS	Time frame within which notice must be given (box indicates time frame for initial notice and is followed by the frequency of repeat notice until the violation is resolved)						
				Violation	72 hours	7 days	14 days	45 days	3 months	Annual
TIER 1			Community	Acute Violation:						
1. MCL	Yes	Yes		TV and Radio	No Repeat					
2. Treatment Technique	Yes	Yes		Newspaper			No Repeat			
3. Variance or Exemption Schedule Violation	Yes	Yes		Mail or Hand Delivery				Quarterly Repeat		
				Non Acute Violations:						
				Newspaper			No Repeat			
				Mail or Hand Delivery				Quarterly Repeat		
TIER 2				Newspaper						Quarterly Repeat by Mail or Hand Delivery
1. Monitoring[3]	No	No								
2. Testing Procedure	No	No	Community							
3. Variance or Exemption Issued	Yes	No								

Footnotes

1If no newspaper of general circulation is available, posting or hand delivery is required as specified in . . .

2May be waived in accordance with . . .

3Less frequent notice (but no less than annual) to be required as in . . .

Part B: Check each item below that appears in the notice you have prepared. When all appropriate items have been checked, your notice should meet the requirements established for General Public Notification.

Notice Contents

The notice provides a clear and readily understandable explanation of the:

- violation;

- potential adverse health effects (mandatory health effects language);

- population;

- steps the system is taking to correct the violation;

- necessity of seeking alternative water supplies (if any); and

- preventive measures the consumer should take until the violation is corrected.

The notice:

- is clear and conspicuous in design;

- contains non-technical language;

- uses print that is easily read;

- content creates no problems that would frustrate the purpose of public notification;

- contains the telephone number of the owner, operator, or designee of the public water system as a source of additional information; and

- contains multi-lingual information, where appropriate.

DRINKING WATER

Regulatory Development Schedule

An important part of planning is knowing the specific regulations that will affect your particular community and its public water system(s), and further, knowing **when** these regulations will be in effect and enforced **in your community**. Following is the most recent schedule for the development of the new regulations.

Rule	Status	Effective
Fluoride	Final	10/87
Lead Ban (SDWA 1417)	Final	06/86
Phase I Volatile Organics	Final	01/89
Public Notification	Final	04/89
Surface Water Treatment Rule	Final	12/90
Total Coliform Rule	Final	12/90
Phase II IOCs and SOC	Final	07/92
Lead/Copper	Final	01/92
Phase V IOCs and SOCs	Proposed	1993
Phase III Radionuclides	Proposed	1994
Disinfection/Disinfection By-Products	TBP	1996
Additional List Contaminants	TBP	1997

- All dates after 1992 are estimated
- TBP means To Be Proposed
- IOC means Inorganic Chemicals
- SOC means Synthetic Organic Chemicals
- Some effective dates are phased-in by system size (see below)
- EPA Rules are generally effective 18 months after being finalized

An Example of a Special Schedule for Small Systems

Not all systems are required to comply with all the regulations upon the effective date. Some of the requirements are "phased" in over time depending on the size of the system, e.g., the monitoring requirements for VOCs and unregulated contaminants. The following chart displays the actual schedule that smaller systems must follow, unless otherwise informed by the state.

Number of persons served	Monitoring to begin by
Over 10,000	January 1, 1988
3,300 to 10,000	January 1, 1989
Less than 3,300	January 1, 1991

For additional information call EPA Region VIII Drinking Water Branch 1-800/759-4372, Ext. 1413.

WELLHEAD PROTECTION

The 1986 Amendments to the Safe Drinking Water Act (SDWA) call upon each State to develop a Wellhead Protection (WHP) Program. This legislation established a nation-wide program to encourage States to develop systematic and comprehensive programs within their jurisdictions to protect public water supply (PWS) wells and wellfields from contamination.

The statute specifies that all States will participate. However, the EPA has no authority to establish a WHP Program if a State chooses to forego action on its own. There are no sanctions against States that do not participate. States are encouraged to participate and to exercise individual discretion in developing methods of protecting ground water used for drinking water.

Under SDWA, Section 1428, each State must develop a WHP Program that consists of several elements. At a minimum, each State's WHP Program must:

-Specify roles and duties of State agencies, local government entities, and public water suppliers, with respect to WHP Programs;

-Delineate the wellhead protection area (WHPA) for each wellhead;

-Identify sources of contaminants within each WHPA;

-Develop management approaches to protect the water supply within WHPAs from such contaminants;

-Develop contingency plans for each public water supply system to respond to well or wellfield contamination;

-Site new wells properly to maximize yield and minimize potential contamination; and

-Ensure 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 the requirements of the SDWA Amendments. While the responsibilities

of local governments depend upon the particular requirements of their State's Wellhead Protection Program, localities are often in the best position to implement measures to ensure that wellhead areas 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. Each of these local powers may be used to protect the quality of local aquifers.

Local cities and counties are also often the innovators in developing wellhead protection programs by applying combinations of management techniques (e.g., zoning and 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

Ground Water Protection Document Request Hotline: 1-202/382-7779.

(See the listing for the Wellhead Protection contacts in the Resource section)

WASTEWATER

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

Public Law 92-500 amended the Federal Water Pollution Control Act in 1972 (later amended and renamed the Clean Water Act). It established a national policy to restore and maintain the chemical, physical and biological integrity of the nation's waters. The U.S. EPA or the state environmental control agency has responsibility for administering NPDES permits. These permits are issued to operators discharging any pollutant (including wastewater effluent) to State/U.S. waters (such as streams, lakes, wetlands, etc.) If, however, the operator can effectively establish a non-point discharge of domestic wastewater effluent, requirements and responsibility for NPDES may be minimized.

Specific terms and conditions for a NPDES permit 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 geological conditions, the beneficial uses of the receiving water and other factors at the discharge site.

Actions your community should be taking

Maximize community awareness and education concerning wastewater collection and disposal, available solution alternatives, funding resources and procedures for implementing the most appropriate wastewater collection and treatment facility. Numerous technical and administrative resources are available at little or no cost to the community. Your State Agency may be able to provide additional information.

Historically, state and federal wastewater regulations have encouraged metropolitan ideas to be used as a design guide for rural community systems. This has significantly advanced industry technology, but according to the 1978 Controller General Report to Congress, millions (billions by 1990) of state and federal dollars have been spent unnecessarily in rural America. Thus, Congress implemented phase-out funding for the EPA Wastewater Construction Grant Program, beginning October 1, 1990.

Reduced levels of funding for wastewater collection and disposal means rural communities and their technical consultants must identify appropriate technology resources to substantially reduce capital project cost and operating expense if wastewater collection and disposal is to be affordable and effective in rural America.

Fortunately, these technology resources are available, but not all technical consultants, regulatory authorities and funding agencies have made the necessary transition to facilitate full use of these options. Thus, it is crucial in the decade of the 90's to better educate all participants if the most appropriate and affordable wastewater collection and disposal facility is tobe installed in your particular community. Knowledge and cooperative efforts from all parties are essential for rural America to have successful wastewater collection and disposal in the decade of the 90s.

Additional Information

Federal Water Pollution Control Act of 1972 (33 U.S.C. 1342).

EPA Administered Permit Programs: The National Pollutant Discharge Elimination System, 40 CFR 122.

Small Wastewater Systems - Alternative Systems for Small Communities and Rural Areas, EPA National Small Flows Clearinghouse, 1-800/624-8301.

"It's Your Choice - A Guidebook for Local Officials on Small Community Wastewater Management Options," EPA National Small Flows Clearinghouse, 1-800/624-8301.

"Self-Help Handbook," Jane Schautz, Rensselaerville, NY 12142, 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 the State Water Quality 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). The secondary treatment, among other things, requires that effluent concentration of five-day biochemical oxygen demand (BOD<MV>5<D>) and total suspended solids not exceed 30 mg/l as a 30-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. Beneficial uses of the receiving waters may necessitate higher quality effluent be discharged or possibly require no point discharge.

Actions your community should be taking

If a wastewater treatment plant discharges to waters of the State/United States (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. 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.

If you suspect a problem, notify the organization you feel appropriate, starting with the POTW itself, community officials, county sanitarians, or state officials responsible for water quality and/or wastewater discharge permits.

Additional Information

U.S. EPA Secondary Treatment regulations, 40 CFR 133.

"Needs Survey Report to Congress," EPA, February 1987.

"Overview of Selected EPA Regulations and Guidance Affecting POTW Management," EPA, September, 1989.

(See the listing for the State Water Quality contacts in the Resource section)

WASTEWATER

SEWAGE SLUDGE USE AND DISPOSAL

Municipal wastewater sludge is a by-product of the wastewater treatment process. Sludge regulations ensure that sewage sludge is handled properly and is of sufficient quality for use as a soil conditioner, fertilizer, or other intended use.

Do the 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.

No, if the wastewater treatment mechanism is by individual on-site septic systems; however, these do produce septage which must be properly disposed. See local and state regulations and proposed sludge rules.

Timetable

Proposed rules were Public Noticed February 6, 1989 and will be located in 40 CFR 503. Many sections of the proposed regulation are undergoing changes, and the effective date of the regulation is expected to be early 1992. If you can meet the requirements of the sludge regulations without construction you must do this within 12 months of the final regulation. However, if construction is required you will have 24 months from the effective date of the regulation.

Actions your community should be taking

Be aware of restrictions covering proper use of the sewage sludge land application (both agricultural and non-agricultural) or distribution and marking, and proper disposal (landfilling, incineration, and surface disposal). Contaminated sludge or poor disposal practices can pose a threat to public health and the environment.

Monitoring will be required and specified in the NPDES permit.

Additional Information

State Sludge Management Program Regulations are contained in 40 CFR 501. Proposed Federal Regulations for sewage sludge are contained in 40 CFR 503.

EPA's Policy Promoting The Beneficial Use Of Sewage Sludge and The New Proposed Technical Sludge Regulations, June 1989.

"Environmental Regulations and Technologies-Control of Pathogens in Municipal Wastewater Sludge," September 1989.

"Suggested Guidelines for the Disposal of Drinking Water Treatment Wastes Containing Naturally Occurring Radionuclides," U.S. Environmental Protection Agency, Office of Drinking Water, July 1990.

"Guide to Soil Suitability and Site Selection for Beneficial Use of Sewage Sludge," Manual 8, Oregon State University Extension Services/U.S. EPA (Less than five copies are FREE of charge.)

Information may be obtained by contacting the county sanitarian, or your State Agency responsible for water quality.

(See the listing for the State Water Quality contacts in the Resource section)

WASTEWATER

PRETREATMENT REQUIREMENTS

Pretreatment refers to those measures taken to prevent pollutants, from sources other than conventional domestic wastewater, entering the wastewater system. Pretreatment is the treatment of a waste before it is discharged into the sanitary sewer. A pretreatment program includes ordinances, education, inspections, monitoring, and enforcement.

Pretreatment requirements, in other words, control pollutants which are incompatible or will interfere with the treatment process or pass-through the POTW and cause problems in the receiving stream or lake. In addition, pretreatment requirements will improve opportunities to recycle and reclaim domestic and industrial wastewaters and sludges.

Do the Pretreatment requirements apply to my community?

Traditionally, the smaller POTWs with individual discharges are not required to establish local pretreatment programs. Very small communities have few, if any, non-domestic users.

If the community has non-domestic users (such as sawmills, food processing plants, metal finishers, 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 the National Pollutant Discharge Elimination System (NPDES) permit requirements.

Your current NPDES permit does contain a section on prohibited discharges and industrial waste. These are pretreatment requirements and are designed to insure that you protect your POTW.

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

If you are required to establish a pretreatment program your municipality will establish local ordinances implementing the pretreatment requirements, and identify a person responsible for insuring the program is administered and enforced.

Discharge limitations are developed and enforced by POTWs to implement prohibitions and to protect the POTW. They are site specific to ensure 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, and is not required to through your NPDES permit, contact your State Agency or EPA for assistance.

If you suspect a problem, notify your POTW operator, community official, county sanitarian, department of state government responsible for wastewater discharge permits or the Environmental Protection Agency. All states have such departments.

Additional Information

Pretreatment Final Rule, 40 CFR 403.

Your State Agency or EPA will be able to provide additional details.

(See the listing for the EPA State Pretreatment contacts in the Resource section)

WATER PROGRAMS

WASTEWATER

STORM WATER

The storm water regulations are a new part of the National Pollutant Discharge Elimination System (NPDES). As part of the Clean Water Act amendments of 1987, congress acted to directly address storm water by adding Section 402(p). In response to these changes, EPA issued a final application rule in November 1990.

This regulation defines the initial scope of the NPDES permit program for storm water discharges. It defines the terms "storm water discharges associated with industrial activity," and "large and medium municipal separate storm sewer systems" and the permit application requirements for these discharges.

At this time, the municipal side of the program requires applications only from cities with a population of 100,000 or more, and counties having large populations in unincorporated, urbanized areas. Phase II (sometime after October 1992) may require communities less than 100,000 to obtain a permit and develop a storm water management program. It is unknown at this time if there will be exemptions for very small communities.

The industrial side of the program requires specific "industrial type" facilities (see attached page on storm water associated with industrial activity) to apply for and obtain a permit regardless of the size or ownership (private or government) of the operation.

Actions your community should be taking

Find out if the defined industrial operations owned or operated by the community (i.e. landfill, airport, wastewater treatment plant, construction activity and possibly others) need permits. The State or EPA contacts will be able to give assistance to determine which industrial operations need permits and how to apply for the permits.

Develop an information and education program for the community to increase awareness of the relation between the storm water drain system and the local lake or stream. Storm runoff water collects in street gutters and storm drains and flows directly to streams with little or no treatment. Educate the citizens that they play a role in the quality of the streams and lakes. Dumping used motor oil, unused paint, pesticides and other household chemicals on the ground or in the street can severely impact nearby surface water.

Communities should also consider establishing local ordinances controlling the improper disposal or discharge of pollutants to the municipal storm water drain system.

Classes of facilities that discharge storm water associated with industrial activity.

-Facilities subject to National effluent limitation guidelines;

-Facilities classified as Standard Industrial Classification (SIC) Codes 24 (except 2434), 26 (except 265 and 267), 28, 29, 30, 311, 32, 33 3441, and 373 (including lumber; paper; chemical; petroleum; rubber; leather tanning and finishing; stone, clay, glass, and concrete; metal; enameled iron and metal sanitary ware; and ship/boat manufacturers);

-Facilities classified as SIC codes 10 through 14 including active and inactive mining and oil and gas operations with contaminated storm water discharges, except for areas of coal mining operations which have been reclaimed and the performance bond has been released by the appropriate Surface Mining Control and Reclamation Act (SMCRA) authority, or non-coal mining operations which have been released from applicable State or Federal reclamation requirements after 30 days after publication of the final regulation;

-Hazardous waste treatment, storage, or disposal facilities;

-Landfills, land application sites, and open dumps that receive industrial wastes;

-Recycling facilities including metal scrap yards, battery reclaimers, salvage yards, and automobile junkyard (classified as SIC codes 5015 and 5093 only);

-Steam electric power generating facilities (including coal handling sites);

-Transportation facilities classified as SIC Codes 40, 41, 42, 44, and 45 (including vehicle maintenance, equipment cleaning, and airport deicing areas);

-Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of sewage (including land used for the disposal of sludge located within the confines of the facility) with a design flow of 1.0 mgd (million gallons per day) or more;

-Construction activity (except for disturbances of less than five acres of total land area which are not part of a larger common plan of development or sale); and

-For the following facilities, if materials are exposed to storm water: facilities classified under SIC codes 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 31 (except 311), 34 (except 3441), 35, 36, 37 (except 373), 38, 39, and 4221-25 (including food; tobacco, textile; apparel; wood kitchen cabinets; furniture; paperboard containers and boxes; converted paper/paperboard products; printing; drugs;leather; fabricated metal products; industrial and commercial machinery and computer equipment; electronic equipment; transportation equipment; measuring, analyzing and controlling instruments and photographic, medical and optical goods, and watches and clocks; miscellaneous; and certain warehousing and storage manufacturers).

DEFINITIONS-ACRONYMS

AHERA - Asbestos Hazard Emergency Response Act

ASHAA - Asbestos School Hazard Abatement Act

Bacteria - Microbiological contaminants frequently found in drinking water samples are fecal coliforms and the bacterium *E. coli.* Their presence is evidence of sewage contamination.

CERCLA - Comprehensive Environmental Response, Compensation and Liability Act

CFR - Code of Federal Regulations

DBP - Disinfection By-product

EPA - Environmental Protection Agency

Ground Water - Water below the land surface that feeds wells and springs.

GWUI - Ground Water Under the Influence (of surface water)

IOC - Inorganic Chemical

IRAA - Indoor Radon Abatement Act

LEA - Local Education Agency

LEPC - Local Emergency Planning Committee, established under SARA

MCL - Maximum Contaminant Level

NPDES - National Pollution Discharge Elimination System

NPDWR - National Primary Drinking Water Regulation

NTNC - Non-transient non-community

OSHA - Occupational Safety and Health Administration

pH - A measurement of hydrogen ion in a compound; determines whether a compound is "acidic" or "basic."

POTW - Publicly Owned Treatment Works

Public Water System - (25 or more persons or 15 or more service connections)

RCRA - Resource Conservation and Recovery Act

RCP - Radon Contractor Proficiency

SARA - Superfund Amendments and Reauthorization Act

SDWA - Safe Drinking Water Act

SMCRA - Surface Mining Control and Reclamation Act

SERC - State Emergency Response Commission, established under SARA

SMF - Standardized Monitoring Framework

SOC - Synthetic Organic Chemical (non-volatile)

State Agency - When used in this handbook, "State Agency" or "State," means that department of the State Government designated by the Governor and approved by EPA to administer the rules discussed in this handbook. State agencies with addresses and phone numbers for each state in Region VIII are listed at the end of this handbook.

Surface Water - Water that is open to the atmosphere and subject to surface runoff.

TCLP - Toxicity Characteristic Leaching Procedure

TSCA - Toxic Substances Control Act

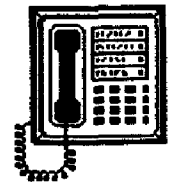
UST - Underground Storage Tank

VOC - Volatile Organic Chemical

WHP - Wellhead Protection

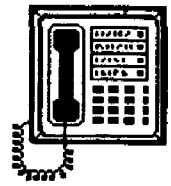
WHPA - Wellhead Protection Area

RESOURCE MATRIX



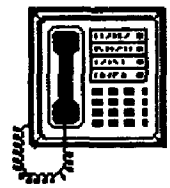
State	Pollution Prevention	Public-Private Partnerships	Emergency Response
Colorado	Don Patton U.S. EPA 999 18th Street, Suite 500 Denver, CO 80202 303/293-1456 Sharon Childs U.S. EPA 303/293-1471	Don Patton U.S. EPA 999 18th Street, Suite 500 Denver, CO 80202 303/293-1456	Department of Health Waste Management Division 4210 E. 11th Ave Denver, CO 80220 303/331-4858 U.S. EPA 303/293-1723
Montana	Don Patton U.S. EPA 303/293-1456 Sharon Childs U.S. EPA 303/293-1471	Don Patton U.S. EPA 303/293-1456	Department of Health and Environmental Sciences Cogswell Building Room A206 Helena, MT 59620 406/444-3948 U.S. EPA 303/293-1723
No. Dakota	Don Patton U.S. EPA 303/293-1456 Sharon Childs U.S. EPA 303/293-1471	Don Patton U.S. EPA 303/293-1456	Division of Emergency Mgmt State Emergency Oper. Center P.O. Box 5511 Bismark, ND 58502-5511 701/224-2111 U.S. EPA 303/293-1723
So. Dakota	Don Patton U.S. EPA 303/293-1456 Sharon Childs U.S. EPA 303/293-1471	Don Patton U.S. EPA 303/293-1456	Department of Environment & Natural Resources Joe Foss Building 523 E. Capitol Ave. Pierre, SD 57501-3181 605/773-3151 U.S. EPA 303/293-1723
Utah	Don Patton U.S. EPA 303/293-1456 Sharon Childs U.S. EPA 303/293-1471	Don Patton U.S. EPA 303/293-1456	Department of Environmental Quality Division of Environmental Management P.O. Box 16690 Salt Lake City, UT 84114-4820 801/538-6333 U.S. EPA 303/293-1723
Wyoming	Don Patton U.S. EPA 303/293-1456 Sharon Childs U.S. EPA 303/293-1471	Don Patton U.S. EPA 303/293-1456	WY Office of Emergency Mgmt P.O. Box 1709 Cheyenne, WY 82003 307/777-7566 U.S. EPA 303/293-1723
Hotline			1-800/535-0202

RESOURCE MATRIX



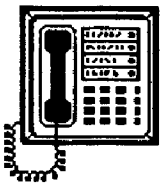
Air	Asbestos	Radon
Patricia Reisbeck U.S. EPA 999 18th Street, Suite 500 Denver, CO 80202 303/293-1758	U.S. EPA (8AT-TS) 999 18th Street, Suite 500 Denver, CO 80202 303/293-1442 Steve Fine Air Pollution Control Division Department of Health 4210 East 11th Avenue Denver, CO 80220 303/331-8592 Jack Bendixon Denver Department of Health and Hospitals RM-333 605 Bannock Street Denver, CO 80204 303/893-6243	U.S. EPA 999 18th Street, Suite 500 Denver, CO 80202 303/293-1709
Patricia Reisbeck U.S. EPA 303/293-1758	Warren Norton Air Quality Branch Department of Health and Environmental Sciences Cogswell Building Helena, MT 59620 406/444-3454	U.S. EPA 999 18th Street, Suite 500 Denver, CO 80202 303/293-1709
Patricia Reisbeck U.S. EPA 303/293-1758	Division of Environmental Engineering State Department of Health & Consolidated Laboratories 1200 Missouri Avenue Bismarck, ND 58502-5520 701/221-5188	U.S. EPA 999 18th Street, Suite, 500 Denver, CO 80220 303/293-1709
Patricia Reisbeck U.S. EPA 303/293-1758	Office of Waste Management Division of Environmental Regulation Department of Environment & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501 605/773-3153	U.S. EPA 999 18th Street, Suite 500 Denver, CO 80202 303/293-1709
Patricia Reisbeck U.S. EPA 303/293-1758	Kent Bott Dept. of Environmental Quality Division of Air Quality 1950 West N. Temple Salt Lake City, UT 84116-0690 801/536-4064 Don Horsley Salt Lake City/County Health Department 610 South 200 East Salt Lake City, UT 84111 801/534-4516	U.S. EPA 999 18th Street, Suite 500 Denver, CO 80202 303/293-1709
Patricia Reisbeck U.S. EPA 307/293-1758	F. Gerald Blackwell Air Quality Division Department of Environmental Quality 122 West 25th Street Herschler Building Cheyenne, WY 82002 307/777-7394 U.S. EPA Washington D.C. 202/544/1404 1-800/368-5888 ASHAA (Schools) 1-800/462-6706	U.S. EPA 999 18th Street, Suite 500 Denver, CO 80202 303/293-1709 1-800/SOS-RADON

RESOURCE MATRIX



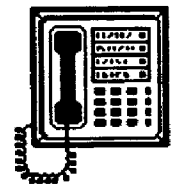
State	Hazardous Waste	Underground Storage Tanks	Wetland Protection
Colorado	Pam Harley Solid Waste and Incident Management Section Department of Health 4210 East 11th Ave Denver, CO 80220 303/331-4830 Kelly Roberts Recycling Coordinator Office of Energy Conservation 1675 Broadway, Suite 1300 Denver, CO 80202-4613 303/620-4292	CO State UST Coordinator Department of Health Haz. Mat. & Waste Mgmt. Underground Tank Program 4210 East 11th Ave Denver, CO 80220 303/331-4875	John Brink/Enforcement U.S. EPA 999 18th Street, Suite 500 Denver, CO 80202 303/293-1547 Sara Fowler Permit Review, 230.80 U.S. EPA 303/293-1575 Vern Heibig Permit Review, 230.80 Enforcement U.S. EPA 303/293-1585 Brad Miller Enforcement, Policy U.S. EPA 303/293-1583 Paul McIver Public Outreach U.S. EPA 303/293-1552
Montana	Pat Powell Solid & Hazardous Waste Bureau Department of Health & Environmental Sciences Cogswell Building Helena, MT 59620 406/444-1430	MT State UST Coordinator UST Program Department of Health & Environmental Sciences Cogswell Building, Room B201 Helena, MT 59620 406/444-5970	Steve Potts/Permit Review, Enforcement Montana Operations Office Fed. State Bldg. Drawer 19996 301 South Park Helena, MT 59620-0026 406/444-5486 John Brink 303/293-1547 John Peters Permit Review, 230.80, Enforcement U.S. EPA 303/293-1579 Paul McIver 303/293-1552
No. Dakota	Neil Knatterud Div. of Waste Mgmt Department of Health & Consolidated Laboratories 1200 Missouri Ave Bismarck, ND 58502-5520 701/221-5166	ND State UST Coordinator Department of Health & Consolidated Laboratories Division of Waste Management 1200 Missouri Avenue Bismarck, ND 58502-5520 701/221-5166	John Brink 303/293-1547 John Peters 303/293-1579 Paul McIver 303/293-1552
So. Dakota	Terry Keller Div of Envir Regulation Department of Environment & Natural Resources 319 S. Coteau c/o 500 E. Capitol Pierre, SD 57501-3181 605/773-3153	SD State UST Coordinator Office of Water Quality Department of Environment & Natural Resources Joe Foss Building 523 E. Capitol Pierre, SD 57501-3181 605/773-3351	John Brink 303/293-1547 Bob Mairley Permit Review, 230.80, Enforcement U.S. EPA 303/293-1582 Paul McIver 303/293-1552
Utah	Rusty Lundberg Planning & Program Development Section Division of Solid & Haz. Waste Department of Environmental Quality 288 North 1460 West Salt Lake City, UT 84114-4820 801/538-6170	UT State UST Coordinator Division of Solid & Haz. Waste Department of Environmental Quality 288 North 1460 West Salt Lake City, UT 84114-4880 801/538-6752	John Brink 303/293-1547 Paul McIver 303/293-1552 Bob Mairley 303/293-1582

RESOURCE MATRIX



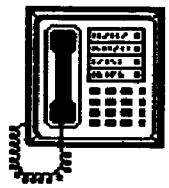
Drinking Water	Wellhead Protection	Water Quality
Department of Health 4210 East 11th Avenue Denver, CO 80220 303/331-4545 U.S. EPA 1-800/759-4372, Ext. 1413	U.S. EPA Groundwater Branch (8WM-GW) 999 18th Street, Suite 500 Denver, CO 80202-2405 303/294-1162 U.S. EPA Washington, D.C. 202/382-7077	Department of Health Water Quality Control Div. 4210 East 11th Avenue Denver, CO 80220 303/331-4534
Water Quality Bureau Department of Health & Environmental Sciences Cogswell Building, Rm A206 Helena, MT 59620 406/444-4549 U.S. EPA 1-800/759-4372, Ext. 1413	U.S. EPA 303/294-1162 U.S. EPA Washington, D.C. 202/382-7077	Water Quality Bureau Department of Health & Environmental Sciences Cogswell Building Capitol Station, Room A206 Helena, MT 59620 406/444-2406
Division of Water Supply & Pollution Control State Department of Health & Consolidated Laboratories 1200 Missouri Avenue Bismarck, ND 58502-5520 701/221-5210 U.S. EPA 1-800/759-4372, Ext. 1413	U.S. EPA 303/294-1162 U.S. EPA Washington, D.C. 202/382-7077	Environmental Health Section State Department of Health & Consolidated Laboratories 1200 Missouri Ave, Rm 102 Bismarck, ND 58502-5520 701/221-5210
Office of Drinking Water Department of Environment & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 605/773-3754 U.S. EPA 1-800/759-4372, Ext. 1413	U.S. EPA 303/294-1162 U.S. EPA Washington, D.C. 202/382-7077	Department of Environment & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 605/773-3151
Salt Lake City County Health Department 610 South 200 East Salt Lake City, UT 84111 801/534-4541 U.S. EPA 1-800/759-4372, Ext. 1413	U.S. EPA 303/294-1162 U.S. EPA Washington, D.C. 202/382-7077	Department of Environmental Quality Division of Water Quality 288 North 1460 West Salt Lake City, UT 84114-4870 801/538-6146

RESOURCE MATRIX



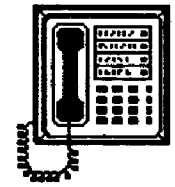
State	Hazardous Waste	Underground Storage Tanks	Wetland Protection
Wyoming	David A. Finley Solid Waste Program Dept of Environmental Quality Herschler Building, 4th Floor 122 West 25th Street Cheyenne, WY 82002 307/777-7752	WY State UST Coordinator Dept of Environmental Quality Water Quality Division Herschler Building, 4th Floor 122 West 25th Street Cheyenne, WY 82002 307/777-7085	John Brink 303/293-1547 Bob Mairley 303/293-1582 Vern Helbig 303/293-1585 Paul McIver 303/293-1552
Hotline	1-800/424-9346	1-800/424-9346	1-800/832-7828

RESOURCE MATRIX



Drinking Water	Wellhead Protection	Water Quality
Department of Environmental Quality Water Quality Division Herschler Building, 4th Floor 122 West 25th Street Cheyenne, WY 82002 307/777-7781	U.S. EPA 303/294-1162	Department of Environmental Quality Water Quality Division Herschler Building, 4th Floor 122 West 25th Street Cheyenne, WY 82002 307/777-7072
U.S. EPA 1-800/759-4372, Ext. 1413	U.S. EPA Washington, D.C. 202/382-7077	
1-800/426-4791	1-202/382-7779	1-800/624-8301

RESOURCE MATRIX



State	Sludge	Pretreatment	Storm Water
Colorado	Phil Hegeman Department of Health 4210 East 11th Avenue Denver, CO 80220 303/331-4564	Department of Health 4210 East 11th Avenue Denver, CO 80220 303/331-4590 U.S. EPA Water Management Division Industrial Pretreatment 999 18th Street, Suite 500 Denver, CO 80202-2405 1-800/759-4372	Vern Berry U.S. EPA 999 18th Street, Suite 500 Denver, CO 80202-2405 330/293-1260 Patricia Nelson Department of Health Water Quality Control Division 4210 East 11th Avenue Denver, CO 80220 303/331-4590
Montana	Scott Anderson Water Quality Bureau Department of Health & Environmental Sciences Cogswell Building, Room A206 Helena, MT 59620-5520 406/444-2406	U.S. EPA Industrial Pretreatment 1-800/759-4372	Vern Berry U.S. EPA 303/293-1260 Fred Shewman Water Quality Bureau Department of Health & Environmental Sciences Cogswell building Helena, MT 59620 406/444-2406
No. Dakota	Sheila McClenathan Division of Water Quality State Department of Health & Consolidated Laboratories 1200 Missouri Avenue Bismarck, ND 58502-5520 701/221-5210	U.S. EPA Industrial Pretreatment 1-800/759-4372	Vern Berry U.S. EPA 303/293-1260 Sheila McClenathan Division of Water Quality State Department of Health & Consolidated Laboratories 1200 Missouri Ave P.O. Box 5520 Bismarck, ND 58502-5520 701/221-5210
So. Dakota	William Geyer Division of Water Resource Management Department of Environment & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 605/773-3351	U.S. EPA Industrial Pretreatment 1-800/759-4372	Vern Berry U.S. EPA 330/293-1260 Glenn Pieritz Division of Environmental Regulations Department of Environment & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 605/773-3351
Utah	Paul Krauth Department of Environmental Quality Division of Water Quality 288 North 1460 West Salt Lake City, UT 84114-4870 801/538-6146	Department of Environmental Quality Division of Water Quality 288 North 1460 West Salt Lake City, UT 84114-4870 801/5386146 U.S. EPA Industrial Pretreatment 1-800/759-4372	Vern Berry U.S. EPA 303/293-1260 Paul Krauth (Municipal) Harry Campbell (Industrial) Department of Environmental Quality Division of Water Quality 288 North 1460 West Salt Lake City, UT 84114-4870 801/538-6146
Wyoming	John Wagner (permits) E.J. Fanning (technology) Department of Environmental Quality Water Quality Division Herschler Building, 4th Floor Cheyenne, WY 82002 307/777-7082 (P) 307/777-7074 (T)	U.S. EPA Industrial Pretreatment 1-800/759-4372	Vern Berry U.S. EPA 330/293-1260 John Wagner Department of Environmental Quality Water Quality Division Herschler Building, 4th Floor 122 West 25th Street Cheyenne, WY 82002 307/777-7082
Hotline			703/734-3126