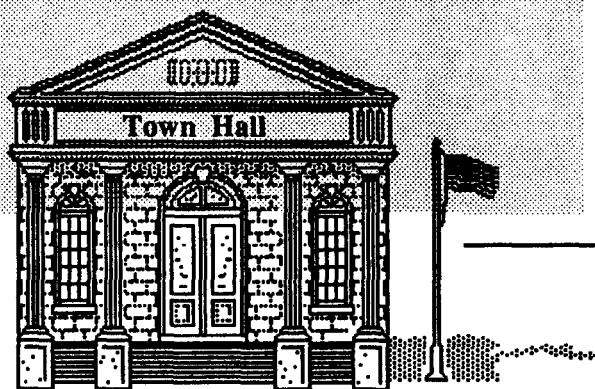




# Everything You Wanted To Know About Environmental Regulations . . .

*But Were Afraid To Ask*

MISSOURI



U.S. Environmental Protection Agency  
Region VII  
Information Resource Center  
901 N. 5th Street  
Kansas City, KS 66101

**A Guide For Small Communities**

U.S. Environmental Protection Agency  
Region VII Information Resources Center  
726 Minnesota Ave.  
Kansas City, KS 66101-2798  
October, 1992

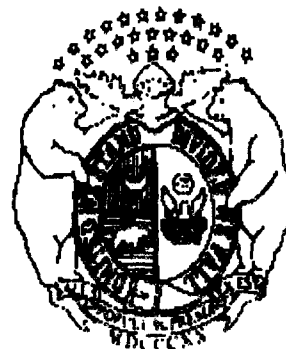


# **Everything You Wanted To Know About Environmental Regulations**

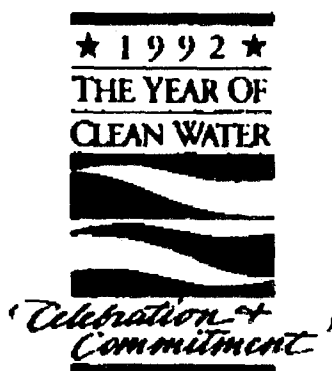
**But Were Afraid To Ask**

## **A Guide For Small Communities**

October, 1992



This handbook was produced through a joint effort of the Region VII office of the Environmental Protection Agency (EPA) and the Missouri Department of Natural Resources (Missouri DNR).



The Year 1992 has been designated the Year of Clean Water to commemorate the 20th anniversary of the signing of the Clean Water Act. October has been designated the Clean Water Month. This year is also the 75th anniversary of the Missouri State Parks.



## *Preface*

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This handbook was prepared for use by officials of small communities as a quick reference to the environmental issues facing their constituencies. If you are an official of a larger community, you will need, as a minimum, to comply with the enclosed requirements. It is likely you may need to meet additional requirements.

This handbook provides only a summary of basic environmental information. It is not a definitive statement to the specific ways in which a community may assure environmental compliance; it is a quick guide to the environmental programs that typically apply to most small communities.

The requirements and guidance presented in this handbook are based on federal regulations and/or guidance in place in mid-1992. It should be expected that some of these requirements/guidance will change in the future.

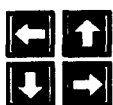
The handbook is organized according to key program areas. After highlighting services available to you from Region 7 and Missouri, the handbook explores Cross Media, Air, Land, and Water programs. Cross media programs are those that can reach across any of the other program areas. Definitions and acronyms are provided at the end.

This document was initially prepared in 1990 by the Midwest Assistance Program (MAP) under contract to the U.S. Environmental Protection Agency, Region 8. It was expanded by the Region 8 Small Community Work Group in early 1991.

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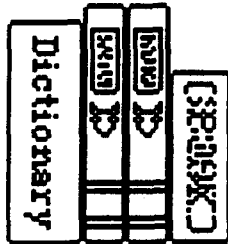
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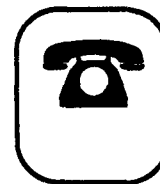
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## **EPA REGION 7 SERVICES**

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### **Toll-Free Access**

Residents of Iowa, Kansas, Missouri, and Nebraska can call the U.S. Environmental Protection Agency, Region 7 Environmental Action Line by dialing 1-800-223-0425. During the week, operators can connect you to appropriate contact persons or programs. After hours, and on the weekend, you will be able to leave a message.

### **EPA Regional Library**

A number of services are available to residents of Region 7 from EPA's regional library in Kansas City, Kansas (726 Minnesota Ave. ; KC, KS 66101). The library is available for use from 9:00 a.m. to 5:00 p.m. Monday-Friday. The regional library provides interlibrary loans through OCLC, or by using a standard ALA form available through your public library.

The public can also access the library via the Online Library System (OLS), a computer catalog of EPA's library network. An information handout about OLS and how to use it is available from the library. To contact the library, call (913) 551-7241. or (913) 551-7358.

### **Speaker's Bureau**

A number of EPA employees have volunteered to be available to speak on environmental topics. If you are interested in having someone speak to your group on a particular environmental issue, call 913-551-7003.

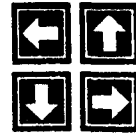
## **Missouri Toll-Free Access**

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All services of the Missouri Department of Natural Resources can be accessed by calling 1-800-334-6946.



# ***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 a unified effort. 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 on how community leaders can fight pollution and preserve environmental quality, human health and natural resources:

- Set pollution prevention as a major goal and integrate the concept into governmental activities. Publicly recognize pollution prevention as a priority. Practice what you preach--set an example.

- Educate the public as well as business and industry about pollution prevention. Create an awareness of the profitability and benefits of pollution prevention through greater efficiency and utilization of natural resources.

- Develop programs 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***

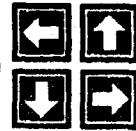
#### **Regional Contact:**

**Pollution Prevention Program:  
Waste Management Division  
EPA Region 7  
726 Minnesota Ave.  
Kansas City, KS 66101  
1-913-551-7050**

#### **State Contact:**

**Missouri Pollution Prevention Unit  
Hazardous Waste Program  
Missouri DNR  
P.O. Box 176  
Jefferson City, MO 65102  
1-314-751-3176**

# ***CROSS MEDIA PROGRAMS***



## **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 Partnerships: 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.

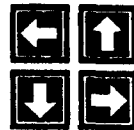
A local government starts to implement its choice by initiating the procurement process. The three types of procurement most communities select are advertised procurement, competitive negotiation, and two-step advertising. While advertised procurement allows the community to dictate the terms of the 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***

Public-Private Partnership Program:  
Office of Policy and Management  
EPA Region 7  
726 Minnesota Ave.  
Kansas City, KS 66101  
1-913- 551-7045

## **CROSS MEDIA PROGRAMS**



### **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 incidents, 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 (exceeding specified quantities) must provide information to government agencies and local communities. Also, if there is a chemical incident which 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. When facilities provide the information required by the Act to local officials, small communities can better prepare themselves for 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***

##### **Regional Contact:**

Emergency Response Program  
Air and Toxics Division  
EPA Region 7  
726 Minnesota Ave.  
Kansas City, KS 66101  
1-913-551-7020

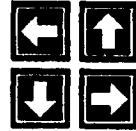
##### **State Contact:**

Right-To-Know  
Environmental Services Program  
Missouri DNR  
P.O. Box 176  
Jefferson City, MO 65102  
1-314-526-3349

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



# ***CROSS MEDIA PROGRAMS***



## **ASBESTOS**

### **Schools - Public and Private Nonprofit**

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. Asbestos is also regulated under the authority of the National Emission Standards for Hazardous Air Pollutants in the Clean Air Act.

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 nonprofit 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 and controlling 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 to disturb 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.

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.

### All Buildings

In 1971 the Administrator of the EPA determined that asbestos presents a significant risk to human health and is therefore a hazardous air pollutant. The National Emission Standards Hazardous Air Pollutants (NESHAP) for asbestos, promulgated under section 112 of the Clean Air Act, specifies emission control requirements for the milling, manufacturing and fabricating of asbestos, for demolition and renovation activities, and for the handling and disposal of asbestos-containing waste materials.

The NESHAP requires that each owner or operator of a demolition or renovation activity thoroughly inspect the affected facility or part of the facility for the presence of asbestos including Categories I and II nonfriable asbestos before commencement of the demolition or renovation.

Under the NESHAP, notification to the appropriate regulatory agency is required for all demolitions, including facilities containing no asbestos. Work practice procedures, waste disposal requirements, and recordkeeping provisions apply to those demolition /renovation operations where the amount of regulated asbestos-containing material (RACM), as defined in Section 61.141, meets or exceeds 160 square feet, 260 linear feet, or 35 cubic feet off facility components.

Under the NESHAP, notification to the appropriate regulatory agency, as well as work practice procedures, waste disposal requirements, and recordkeeping provisions apply to those renovation operations, including individual nonscheduled operations, where the amount of RACM meets or exceeds 160 square feet, 260 linear feet, or 35 cubic feet off facility components.

The NESHAP requires at least one representative trained in the provisions of this regulation be on site during any stripping, removal, or handling of RACM. The AHERA contractor/supervisor course meets the NESHAP training requirements.

Persons who inspect for asbestos-containing material in public or commercial buildings, or who design or conduct response actions in these buildings, must be accredited through state or EPA-approved training under AHERA.

The NESHAP requires notification be submitted at least 10 working days before any asbestos stripping, removal, or any other activity begins that would otherwise disturb the asbestos material.

The Missouri regulations governing the control of asbestos must be at least as stringent as the federal requirements and may be more stringent. For example, Missouri requires notification 20 days prior to commencement of abatement where the amount of RACM meets or exceeds 10 square feet or 16 linear feet. Missouri also has fees associated with notifications and inspections. Contractors must also be registered with the State before conducting asbestos abatement.

Please notify the State regional office (see map last page) if a demolition or renovation is to occur in their area. A copy of these notifications should be sent to the Missouri DNR and EPA.

#### **Public Employers**

Employers of public employees who are engaged in asbestos abatement projects must comply with provisions of the Asbestos Abatement Projects Worker Protection Final Rule, designed to protect their workers from friable asbestos-containing materials. Employers are required to conduct air monitoring, utilize specified engineering controls and work practices, provide medical surveillance of the employees, and submit prior notification to EPA Region VII's Regional Asbestos Coordinator.

#### **What help is available?**

##### **Schools - Public and Private Nonprofit**

Under the Asbestos School Hazard Abatement Act (ASHAA) program, EPA provides financial aid to eligible schools in the form of an interest-free loan, grant, or a combination of both, for the purpose of abating friable asbestos-containing building materials.

#### **How do I obtain more information?**

Under AHERA, LEA's 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 1-202-554-1404

ASHHA Asbestos Hotline (Schools) 1-800-462-6706

"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"

**For the following information, please call the EPA Region 7 office contact.**

40 CFR 61 National Emission Standard for Hazardous Air Pollutants; Asbestos NESHAP Revision; Final Rule

"The Asbestos Informer"

"Asbestos/NESHAP Adequately Wet Guidance"

"Asbestos/NESHAP Regulated Asbestos-Containing Materials Guidance"

"Reporting and Recordkeeping Requirements for Waste Disposal"

"Common Questions on the Asbestos NESHAP"

"A Guide to the Asbestos NESHAP As Revised November 1990"

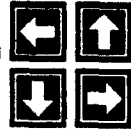
**Regional Contact:**

Asbestos Control Program  
Air and Toxics Division  
EPA Region 7  
726 Minnesota Ave.  
Kansas City, KS 66101  
1-913-551-7020

**State Contact:**

Air Pollution Control Program  
Missouri DNR  
P.O. Box 176  
Jefferson City, MO 65102  
1-314-751-4817

# ***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 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 inhaling radon is especially high.

The EPA has established an action level for indoor air radon levels of 4 pc/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 testing procedures for testing homes, schools and buildings. These procedures are described in various radon documents that are available from the EPA or the state contact.

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. IRRA 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 November, 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. The EPA also established the Radon Measurement Proficiency (RMP) Program. This program tests and evaluates the accuracy of firms that supply radon test devices. Those that pass the program are included on the RMP 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 early 1992, 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, or state-certified. 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.

### ***Additional Information***

#### **Regional Contact:**

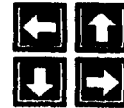
Radon Program  
Air and Toxics Division  
EPA Region 7  
726 Minnesota Ave.  
Kansas City, KS 66101  
1-913- 551-7020

#### **State Contact:**

Bureau of Radiological Health  
Missouri DNR  
P.O. Box 570  
Jefferson City, MO 65102  
1-314-751-6083

Radon Measurement Proficiency Program  
Research Technical Information Service  
Research Triangle Institute  
Research Triangle Park, NC 27709  
1-919- 541-7131

Radon Contractor Proficiency Program  
Midwest University Radon Consortium  
1985 Buford Ave.  
St. Paul, MN 55108  
1-612- 624-8747



### **PESTICIDES**

Few chemicals have had as much impact or been the subject of as much controversy in recent decades as pesticides. The Environmental Protection Agency has the authority to regulate pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug and Cosmetic Act. Under FIFRA, EPA has the authority and responsibility for regulating pesticide registration, production, sale, distribution, and use. No pesticide may legally be sold or used in the United States unless it has been registered by the EPA and bears an EPA registration number. EPA also has the authority to suspend or cancel the registration of a pesticide.

EPA regulates the safety of the food supply by setting limits for pesticide residues on food and animal feed available for sale in the United States. Other issues dealt with in the pesticide program include farmworker safety, applicator certification and training, state enforcement, pesticides in groundwater, and endangered species.

With regards to farmworker safety, EPA proposed new Worker Protection Standards in 1988. These standards were published as final regulations on August 13, 1992. These standards, which were in response to a significant number of pesticide poisonings occurring every year, strengthened earlier protection provisions, reduced risks of exposure, and extended coverage to additional handlers.

Currently there are about 100 active ingredients federally registered as restricted use. Pesticides containing these active ingredients can only be applied by, or under the direct supervision of, a certified applicator. With the exception of Nebraska, all the states in Region VII conduct a certification program; EPA administers the certification in Nebraska.

Efforts are under way to strengthen state training programs, particularly with respect to groundwater protection, worker protection and endangered species protection. EPA has prepared a Pesticides in Groundwater Strategy to address risks of groundwater contamination by pesticide chemicals. EPA is required under the Endangered Species Act, to protect listed species and their habitat from the effects of pesticides. In 1989, EPA proposed an Endangered Species Protection Program to accomplish this.

In Missouri, the Department of Agriculture is the agency dealing with pesticide use. However, the Department of Natural Resources regulates the

management of waste pesticides and pesticide containers, as well as the bulk storage of pesticides.

***Additional Information***

U.S. EPA, FIFRA Amendments of 1988; Schedule of Implementation.  
54 Federal Register 18078 (April 26, 1989).

**Regional Contact:**

Pesticide Program  
Air and Toxics Division  
EPA Region 7  
726 Minnesota Ave.  
Kansas City, KS 66101  
1-913- 551-7020

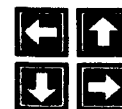
**State Contacts:**

Missouri Dept. of Agriculture  
P. O. Box 630  
Jefferson City, MO 65102  
1-314-751-4211

Missouri DNR  
P. O. Box 176  
Jefferson City, MO 65102  
1-314-751-3176



# **CROSS MEDIA PROGRAMS**



## **TOXICS - PCB'S**

The Environmental Protection Agency was required by Congress under Section 6(e) of the Toxic Substances Control Act (TSCA) (Public Law 94-469, October 11, 1976) to promulgate rules for the marking, storage, and disposal of Polychlorinated Biphenyls (PCBs).

Virtually every municipality and utility in the U.S. is, or has been, in possession of regulated PCB equipment. Manufacturers inadvertently contaminated about twelve percent of the mineral oil filled electrical equipment in use prior to 1976 by using the same pumps and lines to fill their premium PCB equipment and their mineral oil equipment.

Dielectric fluid less than 50 part per million (ppm) PCBs is considered "Non-PCB," but disposal is regulated by the states. Fluid from 50-499 ppm is "PCB contaminated" and is regulated. Fluid at 500+ ppm is considered "PCB" and is highly regulated.

Currently EPA has Cooperative Agreements with the State of Missouri to do PCB inspections. EPA does the enforcement since the State does not have enforcement legislation in place.

EPA intends to allow use of contaminated and PCB equipment for the remainder of its useful life as long as the equipment is properly monitored and maintained.

### ***Additional Information***

PCB Regulations; 40 CFR, Part 761.

#### **Regional Contact:**

Toxic Substances Control Section  
Air and Toxics Division  
EPA Region 7  
726 Minnesota Ave.  
Kansas City, KS 66101  
1-913-551-7020

#### **State Contact:**

Transporter, PCB Unit  
Missouri DNR  
P.O. Box 176  
Jefferson City, MO 65102  
1-314-751-3176



# **AIR PROGRAM**



## **CLEAN AIR ACT AMENDMENTS**

### **Will the Clean Air Act Amendments apply to my community?**

The goal of the Clean Air Act Amendments is to reduce pollution by 56 billion pounds a year. This reduction will generally come from cutting emissions in large urban areas, however, there may be some impacts on small communities. Implementation of the Act will require the regulation of small businesses in order to attain and maintain the national air quality standards and control air toxic emissions.

To be eligible for technical and environmental compliance assistance under the Clean Air Act Amendments, a small business stationary source must meet the following criteria:

- a. Owned or operated by a person employing 100 or fewer individuals;
- b. A small business under the Small Business Act;
- c. Not a major stationary source;
- d. Does not emit 50 tons per year or more of any regulated pollutant; and
- e. Emitting less than 75 tons per year of all regulated pollutants.

These small businesses frequently lack the technical expertise and financial resources necessary to evaluate state regulations and determine the appropriate mechanisms for compliance. The Act provides for the design of a program to render technical assistance and compliance information to small businesses.

### **Actions your community should be taking**

With regard to those regulations affecting small businesses, the state will designate a Small Business Ombudsman to represent small business to the appropriate governmental organizations. The state will also implement a Small Business Assistance Program. This program will collect and disseminate information on 1) determining applicable requirements under the Act and permit issuance; 2) the rights of small businesses under the Act; 3) compliance methods and acceptable control technologies; 4) pollution prevention and accidental release/prevention/detection; and 5) audit programs. In the event the State fails to appoint an Ombudsman or implement a Small Business Assistance Program, the EPA will assume those responsibilities.

A small community should contact its state air pollution agency and the Regional EPA Small Community Coordinator prior to addressing significant air pollution issues.

***Additional Information***

**Regional Contact:**

Air Program  
Air and Toxics Division  
EPA Region 7  
726 Minnesota Ave.  
Kansas City, KS 66101  
1-913-551-7020

**State Contact:**

Air Pollution Control Program  
Missouri DNR  
P.O. Box 176  
Jefferson City, MO 65102  
1-314-751-4817

**Small Community Coordinator:**  
1-913-551-7005

Clean Air Act Amendments  
Title VIII- Miscellaneous Provisions  
Sec. 810. Impact on small communities

# **LAND PROGRAMS**



## **SUPERFUND PROGRAM**

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

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

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

Few realized the size of the problem until the EPA began the process of site discovery and evaluation. Not hundreds, but thousands of potential sites existed. Congress directed EPA to set priorities and establish a list of sites to target. The sites on the National Priority List (NPL), there are almost 1300, are the most complex and compelling cases of the entire inventory of potential hazardous waste sites.

Superfund responds immediately to sites posing imminent threats to human health and the environment at both NPL sites and sites not on the NPL. The purpose is to stabilize, prevent, or temper the effects of a release of hazardous substances, or the threat of one, into the environment. These might include tire fires or transportation accidents involving the spill of hazardous chemicals.

The ultimate goal for a site on the NPL is a permanent solution; this requires a long-term effort. Nearly 1800 Superfund sites have been cleaned up; of those cleaned up, 112 are on the NPL.

Superfund activities also depend upon local citizen participation. The EPA's job is to analyze the hazards and to deploy experts, but the Agency needs citizen input. Because people in the community where a site is located will be those most directly affected by the wastes and cleanup processes, EPA encourages citizens to get involved in cleanup decisions.

### ***Additional Information***

Superfund Program  
Waste Management Division  
EPA Region 7

726 Minnesota Ave.  
Kansas City, KS 66101  
1-913-551-7052



# **LAND PROGRAMS**



## **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.

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: ignitability, 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.



In Missouri, the Department of Natural Resources administers much of the RCRA hazardous waste program. State laws and rules may differ from the federal requirements. For example, Missouri state law specifies that used oil is a hazardous waste and must be managed as a hazardous waste in Missouri.

Anyone who generates over 100 kg (about 220 pounds or 26 gallons) of hazardous waste per month, or accumulates over 100 kg of hazardous waste at any time, is required to register with the Department of Natural Resources. Generators of hazardous waste may be subject to certain fees and taxes.

Many companies and communities look for ways to reduce the amount of hazardous waste produced in order to reduce expense and regulatory burdens. Waste reduction can be accomplished through better housekeeping, careful purchasing, changes in process and a variety of other ways. Hazardous waste generators should examine their waste streams and consider whether there might be a way to reduce what is being generated.

***Additional Information:***

**Regional Contact:**

RCRA Program  
Waste Management Division  
EPA Region 7  
726 Minnesota Ave.  
Kansas City, KS 66101  
1-913-551-7051

**State Contact:**

Hazardous Waste Program  
Missouri DNR  
P. O. Box 176  
Jefferson City, MO 65102  
1-314-751-3176

RCRA Regulations 40 CFR Parts 260-272

RCRA Hotline 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. Municipal solid wastes include durable goods (appliances, furniture, etc.), nondurable goods (newspapers, clothing, etc.), containers and packaging (boxes, bottles, etc.), food and yard wastes, and miscellaneous inorganic wastes (stones, pieces of concrete, etc.).

The Municipal Solid Waste Landfill Criteria (MSWLFC) was published on October 9, 1991 in the Federal Register, and will go into effect within the next two to three years. The purpose of the Criteria is to set minimum national performance standards which will protect human health and the environment. The MSWLFC sets location restrictions, operating criteria, design criteria, groundwater monitoring and corrective action standards, closure and post closure requirements, and financial assurance requirements.

### **Does the MSWLFC apply to my community?**

The MSWLFC applies to all new, existing, and lateral expansions to municipal solid waste landfills which receive waste on or after October 9, 1991. There are some exemptions for which small facilities (receiving less than 20 tpd on average) might qualify. These exemptions include design, groundwater monitoring, and corrective action. In order to qualify for the small facility exemption you must meet one of the following cases:

#### **Case 1:**

There is no evidence of existing groundwater contamination, and

The community experiences an annual interruption of at least 3 consecutive months of surface transportation that prevents access to the regional facility.

#### **Case 2:**

There is no evidence of existing groundwater contamination, and

The community has no practicable waste management alternative and the landfill unit is located in an area that annually receives less than 25 inches of precipitation.

The owner/operator must place information demonstrating compliance with the exemption in the operating record. If owner has been exempted, and is made aware of groundwater contamination, he must notify state director and comply with design and groundwater/corrective action requirements.

### **Action your community should be taking**

- For those communities with a landfill, be prepared to either not accept waste, or upgrade to meet the Criteria by October 9, 1993. For those communities without a landfill, be prepared to pay more for disposal .

- Develop community education programs to encourage recycling and waste reduction.

- Plan and prepare solid waste management and disposal options such as composting of tree and yard waste, and establishing household hazardous waste collection sites.

### ***Additional Information***

#### **Regional Contact:**

Solid Waste Program  
Waste Management Division  
EPA Region 7  
726 Minnesota Ave.  
Kansas City, KS 66101  
1-913-551-7051

#### **State Contact:**

Solid Waste Management Program  
Missouri DNR  
P.O. Box 176  
Jefferson City, MO 65102  
1-314-751-5401

RCRA Hotline: 1-800-424-9346

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

# **LAND PROGRAMS**



## **UNDERGROUND STORAGE TANKS**

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.

The UST regulations (40 CFR 280) cover notification (registration), performance standards for new and existing tanks, tank closure, cleanup activities, financial responsibility, reporting, and recordkeeping.

### **Do the UST regulations 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
- 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

Other tanks, such as tanks for emergency spill or overflow containment, tanks whose capacity is 110 gallons or less, and field constructed tanks, are deferred from the regulations.

### **If the UST regulation does apply, what must the owner/operator do?**

**For tanks installed before December 22, 1988:**

- Ensure tanks are registered with the state (or for Indian lands, with EPA).
- Equip the UST with devices that prevent spills 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, or close tank:

<b>Existing Tanks Installed:</b>	<b>Leak Detection is Required By:</b>
Before 1965 or unknown	December 1989
1965-1969	December 1990
1970-1974	December 1991
1975-1979	December 1992
1980-12/88	December 1993

After December 1988, leak detection is required at the time of installation. Pressurized systems must have line leak detectors added by December 22, 1990.

-Verify that the stored contents are compatible with the tank's interior walls.

-Be financially responsible for the cost of cleaning up a leak or compensating other people for bodily injury and property damage caused by 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, and either filled with inert material or 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.

### ***Additional Information***

"Musts for USTs: A Summary of the New Regulation for Underground Storage Tank Systems," U.S. EPA, UST Office, 7/90.

"Dollars and Sense: A Summary of the Financial Responsibility Regulations for Underground Storage Tank Systems," U.S. EPA, UST Office, 12/88.

***Additional Information:***

**Regional Contact:**

**UST Program  
Waste Management Division  
EPA Region 7  
726 Minnesota Ave.  
Kansas City, KS 66101  
1-913-551-7051**

**State Contact:**

**UST Prevention:**

**Water Pollution Control Program  
Missouri DNR  
P.O. Box 176  
Jefferson City, MO 65102  
1-314-751-7428**

**UST Clean-up**

**Environmental Services Program  
Missouri DNR  
P.O. Box 176  
Jefferson City, MO 65102  
1-314-526-3379**





# **WATER PROGRAMS**



## **WATER AND WETLANDS PROTECTION**

The Environmental Protection Agency (EPA), in partnership with state and local governments, is responsible for restoring and maintaining the chemical, physical and biological integrity of the nation's waters. Because of the value of wetlands as an integral part of those waters, EPA is also charged with protecting wetland resources. The major federal regulatory tool for this is Section 404 of the Clean Water Act, which is jointly administered by the U.S. Army Corps of Engineers and EPA. Section 404 establishes a permit program to regulate the discharge of dredged or fill material into waters of the U.S., including most wetlands. Failure to obtain a permit or to comply with the terms of a permit can result in civil and/or criminal penalties. The U.S. Fish and Wildlife Service has an important advisory role in the permit review process.

Waters of the U.S. include lakes, streams, rivers, wetlands and coastal waters. Wetlands are areas which are saturated or flooded for varying periods of time during the growing season. Because of the presence of water, there is a prevalence of aquatic or hydrophytic vegetation, such as that found in swamps, marshes, bogs and similar areas. Besides providing fish and wildlife habitat, wetlands also improve water quality by acting as filters, offer flood protection, buffer shorelines against erosion, and provide areas for recreation.

### ***Additional Information:***

For more information on the 404 permit process, please contact the U.S. Department of Defense, Army Corps of Engineers at the regional office nearest you (see the map next page).

#### **Regional Contact:**

Wetlands Program  
Office of Planning and Management  
EPA Region 7  
726 Minnesota Ave.  
Kansas City, KS 66101  
1-913-551-7042

#### **State Contact:**

Water Resources Program  
Missouri DNR  
P.O.Box 176  
Jefferson City, MO 65102  
1-314-751-2867







***Additional Information***

The Clean Water Act (33 U.S.C. 1251 to 1387)

National Environmental Policy Act (42 U.S.C. 4321 to 4370c)

Fish and Wildlife Coordination Act (16 U.S.C. 742a to 742m)

River and Harbor Act of 1899 (33 U.S.C. 403, 406, 407, and 411)

The Endangered Species Act (16 U.S.C. 1531 to 1544)

Regulations of the U.S. Army Corps of Engineers (33 C.F.R. 320-330).

Regulations of the U.S. Environmental Protection Agency  
(40 C.F.R. 230, also known as the 404 (b) (1) guidelines).

Executive Order 11990 (May 24, 1977) 3 C.F.R., 1977 Comp. pp. 121-123.

The Wetlands Protection Hotline:

1-800-832-7828 9-5:30 (EST) M-F, excluding Federal holidays.



# ***WATER PROGRAMS***



## **DRINKING WATER**

For questions on the drinking water requirements for small communities, please use the following contacts.

**Regional Contact:**

**Drinking Water Program  
Water Management Division  
EPA Region 7  
726 Minnesota Ave.  
Kansas City, KS 66101  
1-913-551-7032**

**State Contact:**

**Public Drinking Water Program  
Missouri DNR  
P.O. Box 176  
Jefferson City, MO 65102  
1-314-751-7834**

**or contact the State regional office  
(see map at end of book) in your area**

In Missouri, the Department of Natural Resources has primary responsibility for implementing the Federal Safe Drinking Water Act. State rules may differ from the federal requirements. Any questions about a supply's particular situation should be addressed to the State contact.





# **WATER PROGRAMS**



## **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, prior to the 1986 Safe Drinking Water Act, there were 12 regulated IOCs. Additional IOCs have been added with the Phase II and Phase V regulations, which are described in the following paragraphs.

#### **Timetable (for revisions to regulations)**

New regulations called Phase II were finalized January 30, 1991, and became effective on July 30, 1992. They added two new IOCs, asbestos and nitrite, 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.

Additional new regulations called Phase V were finalized on July 17, 1992, and added six new IOCs. These rules will become effective January 17, 1994. Public water supply systems with 150 or more service connections are required to begin monitoring for the Phase V contaminants in the January 1, 1993 through December 31, 1995 time period. 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 IOC to the regulated list 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**

The following page lists the MCLs for IOCs.

### **If you exceed any of the MCLs**

- Take three additional 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.

**Additional Information**

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

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

**Maximum Contaminant Levels for IOC's**

<b>Contaminants</b>	<b>MCL (Pre-1986 and Phase II)</b>
Arsenic	0.05 mg/l
Barium	2 mg/l
Cadmium	0.005 mg/l
Chromium	0.1 mg/l
Lead	refer to section on lead and copper
Mercury	0.002 mg/l
Selenium	0.05 mg/l
Nitrate	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: Phase V**  
Effective January 17, 1994

Antimony	0.006 mg/l
Beryllium	0.004 mg/l
Nickel	0.1 mg/l
Sulfate	deferred
Thallium	0.002 mg/l
Cyanide	0.2 mg/l

For systems with 150 or more service connections, monitoring is required in the January 1, 1993 through December 31, 1995 time period.



# ***WATER PROGRAMS***

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## **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 asbestos is not likely to occur in your water source, and you 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.

### **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).

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

# **WATER PROGRAMS**



## **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 mg/l have beneficial effects in reducing tooth decay. Amounts above 4.0 mg/l 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 fluoride 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.
- 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 40 CFR 141.11, 141.23, 141.62.

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



# **WATER PROGRAMS**

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## **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 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.

#### **Timetable**

On October 28, 1987, specific public notice requirements were published as a final rule.

#### **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).

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

# **WATER PROGRAM**



## **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.

#### **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 deleted the MCL for lead but required that additional sampling 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.

#### **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.

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

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

## **Compliance Deadlines**

<b>ACTION</b>	<b>SYSTEM SIZE</b>	
	<b>3,300-50,000</b>	<b>&lt;3,300</b>
Begin monitoring	July 92	July 93
Complete treatment study (if required by State)	July 95	July 96
Recommend treatment to State		
-Study not required	Jan 93	Jan 94
-Study required	July 95	July 96
Complete treatment installation		
-Study not required	July 96	July 98
-Study required	Jan 98	Jan 99
Complete follow-up monitoring		
-Study not required	July 97	Jan 99
-Study required	Jan 99	Jan 2000

## **Sample collection methods and Locations**

-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.

-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.

### ***Additional Information***

The regulations for lead and copper are contained in 40 CFR Parts 141 and 142.

"Fact Sheet: National Primary Drinking Water Regulations For Lead and Copper" available from EPA.

National Drinking Water Hotline 1-800-426-4791



# **WATER PROGRAMS**

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## **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.

### **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, the required 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 PWS's 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. Several methods are required to test for all the SOCs, 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.

The Phase V regulations, which were finalized on July 17, 1992, added 15 non-volatile SOCs and three VOCs. The procedures and monitoring requirements are the same for these contaminants as required under the Phase II rule. Because EPA is required to add 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 the MCLs for SOC's. These MCLs are not 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 SOC's 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 (SOC's are not around to get in your supply) you will not have to sample for SOC's.
- 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 SOC's are not detected, you will not have to sample until the second compliance period (1996-1999).

### **If your tests indicate levels of a SOC higher than the MCL (year average), 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 SOC's are getting into your water supply. If possible, eliminate the source of contamination. If you must treat your water supply to remove the SOC's, work with your engineer to choose the best available technology for treatment.

### ***Additional Information***

The rules for SOC's are contained in 40 CFR 141.11, 141.23, and 141.62.

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



## Phase II

<u>Contaminant</u>	<u>MCL</u>
Alachlor	0.002 mg/l
Aldicarb *	0.01 mg/l
Aldicarb Sulfoxide *	0.01 mg/l
Aldicarb Sulfone *	0.04 mg/l
Atrazine	0.003 mg/l
Carbofuran	0.04 mg/l
Chlordane	0.002 mg/l
2,4-D	0.07 mg/l
Heptachlor	0.0004 mg/l
Heptachlor Epoxide	0.0002 mg/l
Lindane	0.0002 mg/l
Methoxychlor	0.4 mg/l
PCB's	0.0005 mg/l
Pentachlorophenol	0.2 mg/l
Toxaphene	0.005 mg/l
2,4,5-TP (SILVEX)	0.05 mg/l
Acrylamide	Treatment Technique
Epichlorohydrin	Treatment Technique

\*These have been suspended, and will not be enforceable under current regulations.

## Phase V (SOCs)

Endrin	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	0.4 mg/l
2,3,7,8-TCDD(Dioxin)	3 x 10 <sup>(-8)</sup> mg/l
Hexachlorocyclopentadiene	0.05 mg/l
Oxamyl (Vydate)	0.2 mg/l
Simazine	0.004 mg/l
PAH's [Benzo(a)pyrene]	0.0002 mg/l
Hexachlorobenzene	0.001 mg/l
Di(ethylhexyl) Phthalate	0.006 mg/l
Picloram	0.5 mg/l
Dinoseb	0.007 mg/l



# **WATER PROGRAMS**



## **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, the initial Volatile Organic Chemical (VOC) rule became effective on January 9, 1989. This rule, called Phase I, set maximum contaminant levels (MCLs) for 8 VOCs and required all community and non-transient, non-community water supply systems to monitor for, and if necessary, treat their supply to remove these chemicals. VOC monitoring requirements were revised on June 30, 1991 to synchronize them with other VOC monitoring requirements in a new set of regulations called Phase II. This rule set MCLs for 10 additional VOCs. Other Phase II regulations became effective July 30, 1992. More new regulations, called Phase V, added 3 new VOCs. The Phase V rule becomes effective on January 31, 1994.

The VOC MCLs are listed below.

#### **Phase I - Effective January 9, 1989**

<b><u>VOC</u></b>	<b><u>MCL (mg/l)</u></b>
Benzene	0.005
Carbon Tetrachloride	0.005
1,2-Dichloroethane	0.005
Para-Dichlorobenzene	0.075
1,1-Dichloroethylene	0.007
1,1,1-Trichloroethane	0.20
Trichloroethylene	0.005
Vinyl Chloride	0.002

### **Phase II - Effective July 30, 1992**

<b><u>VOC</u></b>	<b><u>MCL (mg/l)</u></b>
o-Dichlorobenzene	0.6
cis-1,2-Dichloroethylene	0.07
trans-1,2-Dichloroethylene	0.1
1,2-Dichloropropane	0.005
Ethylbenzene	0.7
Monochlorobenzene	0.1
Styrene	0.1
Tetrachloroethylene	0.005
Toluene	1
Xylenes	10

### **Phase V - Effective January 30, 1994\***

<b><u>VOC</u></b>	<b><u>MCL (mg/l)</u></b>
Dichloromethane	0.005
1,2,4-Trichlorobenzene	0.07
1,1,2-Trichlorethane	0.005

\*Public water supply systems with 150 or more service connections must begin monitoring in the January 1, 1993 to December 31, 1995 time period.

## **Monitoring Requirements**

A major feature introduced in Phase II is its plan for synchronizing compliance monitoring across several existing and upcoming rules. Under this Standardized Monitoring Framework, the various monitoring frequencies for most source-related contaminants will be coordinated within compliance periods of three years each. Some monitoring and related system activities, such as vulnerability assessments, will occur at intervals which may span across up to three of these three-year periods, forming a nine-year compliance cycle. The first compliance cycle and the initial compliance period both begin on January 1, 1993.

Other features of Phase II monitoring requirements include:

**Sampling location** - Groundwater systems must sample at entry points to the distribution system which are representative of each well after any application of treatment. Surface water systems must sample at points within the distribution

system which are representative of each source of at entry points to the distribution system after any application of treatment. Samples must be analyzed by a state-certified lab.

**Initial sampling frequency** - All systems must sample at a base (or minimum) frequency which is specific for a contaminant or contaminant group. The state may grant monitoring waivers (as discussed below) and may allow a system to substitute suitable previous monitoring data for this initial monitoring. In the initial compliance period, the actual year in which a system samples will be determined by the state.

**Repeat sampling frequency** - In general, if a system does not detect contaminants in initial samples, then repeat sampling frequencies will be lower than initial frequencies. Repeat monitoring requirements are generally the same for all systems regardless of system size or water source.

**Trigger to increase monitoring** - If contaminants are detected in any sample, the system must begin quarterly sampling until the state determines that subsequent results are "reliably and consistently" below the MCL. At least two to four samples must be taken before this determination may be made. Detection is defined separately for various contaminants or contaminant groups at either the MCL, 50 percent of the MCL, or at the analytical method detection limit.

**Monitoring waivers** - Sampling frequencies may also be reduced or eliminated if the system obtains a waiver based on: 1) previous sampling results, and/or 2) an assessment of the system's vulnerability to each specific contaminant. There are two types of waivers based on vulnerability assessments:

**Use waiver:** A system may be eligible for a waiver if it can show that a contaminant has not been used, manufactured and/or stored within a certain area around the system's water source. If use cannot be determined, a use waiver cannot be granted.

**Susceptibility waiver:** Even if a system is not eligible for a use waiver, it may be eligible for a waiver based on its susceptibility in terms of source protection, wellhead protection program reports, previous sample results, environmental transport and fate of the contaminant, and elevated nitrate levels. If susceptibility cannot be determined, this type of waiver cannot be granted.

**Unregulated contaminant monitoring** - Phase II also contains one-time monitoring requirements for 30 other contaminants during the initial period which begins on January 1, 1993. Systems must take one year of quarterly samples for organic contaminants, and one sample for inorganic contaminants. No MCLs have been set for these contaminants, and no further monitoring is required if these chemicals are detected. Systems only need to report the results of this monitoring to the state. Systems with less than 150 service connections may request a waiver from the State.

**Additional Information**

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

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

**Compliance Monitoring Requirements**

Contaminant	Base Requirement		Trigger that Increases Sampling	Waivers for Base Requirements
	Ground water	Surface water		
Asbestos	1 Sample every 9 years		> MCL	YES Based on VA <sup>1</sup>
Nitrate	Annual After 1 year < 50% of MCL, SWS may reduce to an annual sample	Quarterly	≥ 50% MCL	NO
Nitrite	1 Sample: If < 50% of MCL, state discretion		≥ 50% MCL	NO
5 Inorganics	1 Sample every 3 years	Annual sample	> MCL	YES Based on analytical results of 3 rounds
18 VOCs	4 Quarterly samples every 3 years Annual after 1 year of no detects		> 0.0005 mg/L	YES Based on VA <sup>1</sup>
17 Pesticides and PCBs	4 Quarterly samples every 3 years After 1 round of no detects: systems >3300 reduce to 2 samples per year every 3 years; systems ≤ 3300 reduce to 1 sample every 3 years		Method Detection Limit (MDL)	YES Based on VA <sup>1</sup>
Unregulated - 6 IOCs - 24 SOCs	1 Sample 4 Consecutive quarterly samples		N.A.	YES Based on VA <sup>1</sup>

<sup>1</sup> VA = Vulnerability Assessment

# **WATER PROGRAMS**

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## **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. 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.

#### **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). The presence of total coliform bacteria indicates the possible presence of fecal and disease-causing bacteria. A 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. During the month following one or more positive coliform samples, you must collect five routine samples. The state 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). 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.

***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.

National Safe Drinking Water Act Hotline 800-426-4791



# **WATER PROGRAMS**

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## **DRINKING WATER**

### **SURFACE WATER TREATMENT RULE**

The Surface Water Treatment Rule (SWTR) was published in the *Federal Register* on June 29, 1989. It became effective on December 31, 1990. This rule requires water treatment in lieu of water testing because it regulates contaminants which are difficult to detect and pose acute health risks.

Under this rule, disinfection and filtration are required for surface water systems and for groundwater systems under the direct influence (UDI) of surface water. These systems must install filtration if the microbiological, turbidity and other standards in this rule are not met. All surface water systems must disinfect.

#### **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.

#### **Water Treatment Requirements**

Specific enforceable MCL standards for these microbial contaminants are not established in this rule. Instead, treatment will be required for surface water systems.

##### **Criteria to be met by systems seeking to avoid filtration \***

Although all surface water systems are required to filter their water, unfiltered systems may avoid this requirement as long as they meet certain source water quality and system operation criteria. These criteria are given in the following table. The water supply source must not exceed bacterial and other standards before the water is treated. The effectiveness of disinfection will be demonstrated in part by the amount of disinfectant in treated water and the length of time it is in contact with the water before reaching the first customer.

**\*Please note that Missouri's regulations do not allow any system using surface water or groundwater under the influence of surface water to avoid filtration.**

The water system must also operate in a way which minimizes the risk that the supply will be susceptible to microbiological contamination:

- System must maintain a watershed control program.
- System must have no more than 2 monthly total coliform MCL violations in any consecutive 2 month period.
- System must have no history of waterborne disease outbreaks.
- System serving 10,000 or more people must be in compliance with Total Trihalomethane requirements.

### Criteria for filtered systems

Systems which filter their water must ensure that the overall filtration and disinfection process they use is performing effectively as demonstrated by turbidity and disinfection criteria. These criteria are given in the table below. As with unfiltered systems, effectiveness will be demonstrated in part by the amount of disinfectant and the length of time it is in contact with the water before reaching the first customer.

#### Unfiltered System Criteria

<u>Criterion</u>	<u>Standard</u>
Source water quality	
Coliforms	acceptable
Turbidity	<5 NTU
Disinfection	
<i>Giardia</i>	99.9% effective
Viruses	99.99% effective
Residual	0.2 mg/l at entry
Coliform Sampling	
25-501 persons served	1/week
501-3300	2/week
3301-10,000	3/week
10,000-25,000	4/week

#### Filtered System Criteria

<u>Criterion</u>	<u>Standard</u>
Turbidity	<5 NTU at all times <0.5 NTU in 95% of all samples
Disinfection	
<i>Giardia</i>	99.9% effective
Viruses	99.99% effective
Residual	0.2 mg/l at entry

## **Compliance**

Systems are given time to comply with the water quality standards and treatment requirements of this rule. Specific dates are given in the following table.

### **Surface water (SW) systems (See earlier note\*)**

- Unfiltered systems must meet monitoring requirements within 18 months after the rule becomes effective.
- Unfiltered systems must meet criteria to avoid filtration within 30 months after the rule becomes effective.
- Beginning 30 months after the rule becomes effective, unfiltered systems which fail to meet any criteria to avoid filtration must install filtration within 18 months of such failure.
- Filtered systems must meet monitoring and treatment performance requirements beginning 48 months after the rule becomes effective.

### **Groundwater systems under direct influence of surface water (GW-UDI)**

- States will determine which community water systems are under direct influence of surface water within 5 years after the rule becomes effective.

#### **Compliance Dates**

<b><u>System Type</u></b>	<b><u>Requirement</u></b>	<b><u>Date</u></b>
SW-UF	Begin monitoring	12/31/90
SW-UF	Meet all criteria to avoid filtration	12/31/91
SW-UF	Install filtration if required to filter	6/29/93
SW-F	Performance and monitoring	6/29/93
GW-UDI	State must notify system that it is UDI	6/29/94

#### ***Additional Information***

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

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.



# **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 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 July 1991 that will add MCLs for two additional radionuclides (Radon and Uranium). 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.

	<u><b>Current MCL</b></u>	<u><b>MCL Likely to be Proposed</b></u>
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 small community water systems, finding a different source of water supply is the most economical solution to a radionuclide 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.

"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.

# **WATER PROGRAMS**

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## **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 June 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 groundwater 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 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.

#### ***Additional Information***

The authority for Disinfectants and DBPs are in Section 1412 (b) (8). of the SDWA.

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



# **WATER PROGRAMS**

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## **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.

"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 (modified) on the following page is taken from this manual.

## Checklist of Public Notification Requirements for Community Water Systems

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

<b>Public Notification Requirements</b>			
	Violation Category Type <sup>1</sup>		
	1	2	3
Mandatory Health Effects Information Required (All PWSS)	<b>TIER 1</b>		
	Yes	Yes	Yes
	<b>TIER 2</b>		
	No	No	Yes
Notice of New Billing Units (CWSs Only)	<b>TIER 1</b>		
	Yes	Yes	Yes
	<b>TIER 2</b>		
	No	No	No
Types of PWS	<b>TIER 1&amp;2 Community</b>		
Time Frame within which notice must be given (Initial notice is 72 hours after the violation, with repeat notices of 7, 14, and 45 days, 3 months, and annually, until violation is resolved.)	<b>TIER 1</b>		
	Acute Violation:		
	TV and radio, no repeat		
	Newspaper, no repeat		
	Mail or hand delivery		
	quarterly repeat		
	Non-acute Violations:		
	Newspaper, no repeat		
	Mail or hand delivery		
	<b>TIER 2</b>		
	Newspaper, Quarterly and repeat by mail or hand delivery		

**Footnote:**

1. For Tier 1, the numbers 1-3 stand for "MCL," "Treatment Technique," and "Variance or Exemption Schedule Violation," respectively. For Tier 2, the numbers 1-3 stand for "Monitoring," "Testing Procedure," and "Variance or Exemption Issued," respectively.

**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.

# **WATER PROGRAMS**



## **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.

<b>Rule</b>	<b>Status</b>	<b>Effective</b>
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	12/92
Phase V IOCs and SOC	Final	1/94
Phase III Radionuclides	Proposed	1994
Disinfection/Disinfection By-Products	TBP	1996
Additional List Contaminants	TBP	1997

- 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





# **WATER PROGRAMS**



## **DRINKING WATER**

### **UNDERGROUND INJECTION CONTROL**

The Underground Injection Control (UIC) program is authorized by the Safe Drinking Water Act. The program is primarily preventative in nature and regulates such aspects as siting, construction, operation, monitoring, and testing of various types of wells used to inject fluids underground. Five classes of wells are recognized, including:

Class I - Used to inject industrial, municipal or hazardous wastes below the lowest underground source of drinking water (USDW).

Class II - Used to inject fluids associated with oil and natural gas production.

Class III - Used to inject fluids for extraction for minerals such as salt and uranium

Class IV - Used to inject hazardous or radioactive wastes into or above a USDW.

Class V - Wells not otherwise classified and generally used to inject non-hazardous fluid into or above a USDW.

Class I, II, and III wells have been generally accounted for and are regulated by primacy states or direct implementation programs administered by EPA Region VII. In Region VII, Kansas, Missouri, and Nebraska have primacy for UIC programs; Iowa is under direct implementation.

Class IV and V well occurrence is not as well documented since they can be difficult to locate. There are a variety of constructions and uses for class IV and V wells, including deep cased wells, seepage pits, cesspools, and septic tanks with lateral (tile) fields. Wells or septic tanks handling strictly domestic wastewater and serving fewer than 20 persons a day are exempt from UIC regulation. If a well is identified as Class IV handling hazardous or radioactive wastes, closure is required unless it is part of an authorized groundwater cleanup and then it needs to be reported to the UIC program for permitting. Class IV and V wells can serve virtually any type of industrial or commercial facility including automotive service stations, lawn services, laundries and dry cleaners, transportation and road facilities, local weed control authorities, photo processing labs, electroplating companies, printers and lithographers, chemical plants, electronics manufacturers, pharmaceutical plants, food processors, and much more.

***Additional Information:***

**Regional Contact:**

UIC Program  
Water Management Division  
EPA Region 7  
726 Minnesota Ave.  
Kansas City, KS 66101  
1-913-551-7032

**State Contact:**

Underground Injection Control Unit  
Division of Geology & Land Survey  
Missouri DNR  
P.O. Box 250  
Rolla, MO 65401  
1-314-368-2167

# ***WATER PROGRAMS***

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## **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 Environmental Protection Agency has responsibility for approving WHP programs and for providing technical support to state and local governments. States shall develop and implement WHP programs that meet the requirements of the SDWA Amendments. Local governments should develop WHP plans that protect their public drinking water supply from contaminants.

An effective local program needs participation at all levels of government and should use the state-approved WHP program as a means to accomplish this.

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***

##### **Regional Contact:**

Wellhead Protection Program  
Water Management Division  
EPA Region 7  
726 Minnesota Ave.  
Kansas City, KS 66101  
1-913-551-7033

##### **State Contact:**

Public Drinking Water Program  
Missouri DNR  
P.O. Box 176  
Jefferson City, MO 65102  
1-314-751-5331

# **WATER PROGRAMS**

## **WASTEWATER**

### **State Revolving Fund Loan Program**

The 1987 Amendments to the Clean Water Act authorized the Administrator of the Environmental Protection Agency to make grants (called capitalization grants) to the states for deposit in State Water Pollution Control Revolving Funds (SRF). Using the SRF, states can provide loans and other types of non-grant financial assistance to communities and intermunicipal and interstate agencies for the construction of publicly-owned wastewater treatment facilities, and for implementation of nonpoint source management programs and groundwater pollution control programs.

Each SRF is primarily state-designed and operated, with minimal federal requirements beyond those specified by law. In addition to federal funds, which continue to be placed in state SRFs through 1994, states must provide a 20% match. Loans must be at or below market interest rate, and must be paid back within 20 years of project initiation of operation.

### ***Additional Information***

U. S. EPA State Revolving Fund Program Implementation Regulations,  
40 CFR 35.

Regional Contact:

State Contact:

#### **SRF Program**

Water Management Division  
EPA Region 7  
726 Minnesota Ave.  
Kansas City, KS 66101  
1-913-551-7031

Water Pollution Control Program  
Missouri DNR  
P.O. Box 176  
Jefferson City, MO 65102  
1-314-751-1300



# **WATER PROGRAMS**

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## **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.

Because Missouri has primacy, DNR must be contacted directly concerning administration of federal requirements. Missouri regulations require both construction and operating permits for most wastewater treatment facilities and water contamination sources.

***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.

**Regional Contact:**

NPDES Program  
Water Management Division  
EPA Region 7  
726 Minnesota Ave.  
Kansas City, KS 66101  
1-931-551-7034

**State Contact:**

Permit Section  
Water Pollution Control Program  
Missouri DNR  
P.O. Box 176  
Jefferson City, MO 65102  
1-314-751-6825



# ***WATER PROGRAMS***

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## **WASTEWATER**

### **SECONDARY TREATMENT OF MUNICIPAL WASTEWATER**

Secondary treatment is the minimum treatment requirement for most Publicly Owned Treatment Works (POTW). Secondary treatment, among other things, requires that effluent concentration of five-day biochemical oxygen demand (BOD<sub>5</sub>) 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 a 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.

Because Missouri has primacy, DNR must be contacted directly concerning administration of federal requirements. States may have more stringent effluent requirements for specific streams or watersheds in order to comply with State Water Quality Standards.

***Additional Information:***

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

**Regional Contact:**

Water Compliance Program  
Water Management Division  
EPA Region 7  
726 Minnesota Ave.  
Kansas City, KS 66101  
1-913-551-7034

**State Contact:**

Permit Section  
Water Pollution Control Program  
Missouri DNR  
P.O. Box 176  
Jefferson City, MO 65102  
1-314-751-6825

## **WASTEWATER**

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### **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, the regulations apply if the wastewater treatment system includes any form of central treatment or mechanical plant, including a lagoon, which will need to be cleaned. The regulations do not apply if individual on-site septic systems are used. Septage from the individual on-site systems must be properly disposed.

#### **Timetable**

The final regulations are due out in late 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 marketing, 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 is required and specified in the NPDES permit.

\*The term, "Biosolids," may be used instead of "sludge" in some literature.

#### ***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.

**Regional Contact:**

**Sludge Program  
Water Managment Division  
EPA Region 7  
726 Minnesota Ave.  
Kansas City, KS 66101  
1-913-551-7034**

**State Contact:**

**Permit Section  
Water Pollution Control Program  
Missouri DNR  
P.O. Box 176  
Jefferson City, MO 65102  
1-314-751-6825**

# ***WATER PROGRAMS***

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## **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. 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 need to 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.

Because Missouri has primacy, DNR must be contacted directly concerning administration of federal requirements.

***Additional Information***

Pretreatment Final Rule, 40 CFR 403.

**Regional Contact:**

Pretreatment Program  
Water Management Division  
EPA Region 7  
726 Minnesota Ave.  
Kansas City, KS 66101  
1-913-551-7034

**State Contact:**

Permits Program  
Water Pollution Control Program  
Missouri DNR  
P.O. Box 176  
Jefferson City, MO 65102  
1-314-751-6825

# **WATER PROGRAMS**

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## **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. Stormwater runoff 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.

The following list are 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).

#### ***Additional Information***

##### **Regional Contact:**

Stormwater Program  
Water Management Division  
EPA Region 7  
726 Minnesota Ave.  
Kansas City, KS 66101  
1-913-551-7034

##### **State Contact:**

Permits Program  
Water Pollution Control Program  
Missouri DNR  
P.O. Box 176  
Jefferson City, MO 65102  
1-314-751-6825



# **DEFINITIONS-ACRONYMS**

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**AHERA** - Asbestos Hazard Emergency Response Act

**ASHAA** - Asbestos School Hazard Abatement Act

**Bacteria** - Microbiological contaminants 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.

**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)

**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

# MISSOURI DEPARTMENT OF NATURAL RESOURCES

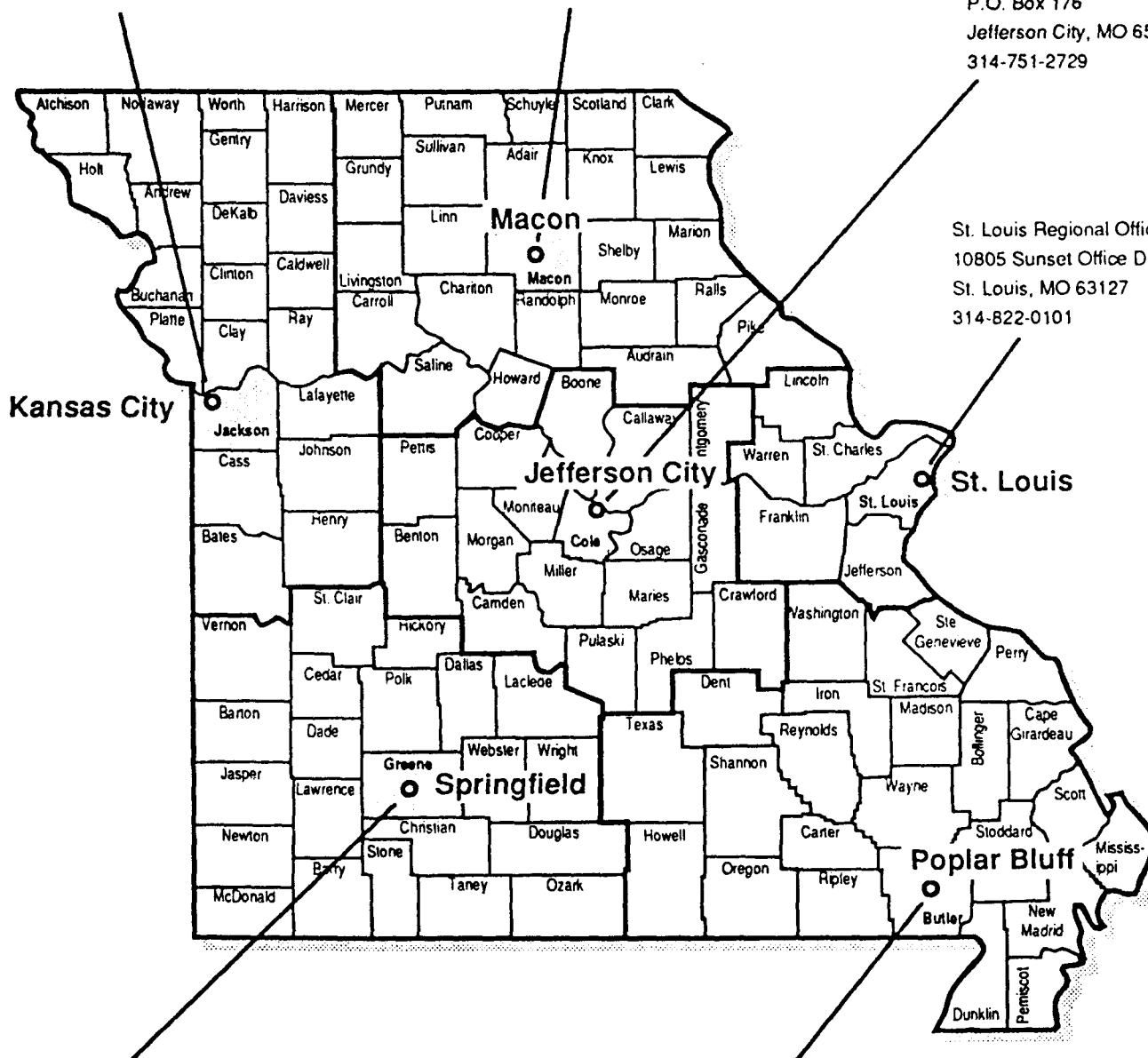
## DIVISION OF ENVIRONMENTAL QUALITY REGIONAL OFFICES

**Kansas City Regional Office**  
 3800 South Elizabeth Avenue, Suite G  
 Independence, MO 64057  
 816-795-8655

**Northeast Regional Office**  
 Highway 63 North – 1307 Jackson  
 Macon, MO 63552  
 816-385-2129

**Central Regional Office**  
 1908 Bubba Lane  
 P.O. Box 176  
 Jefferson City, MO 65102  
 314-751-2729

**St. Louis Regional Office**  
 10805 Sunset Office Drive  
 St. Louis, MO 63127  
 314-822-0101



**Southwest Regional Office**  
 318 Park Central East, Suite 500  
 Springfield, MO 65806  
 417-895-6950

**Southeast Regional Office**  
 948 Lester Street  
 P.O. Box 1420  
 Poplar Bluff, MO 63901  
 314-686-9750





