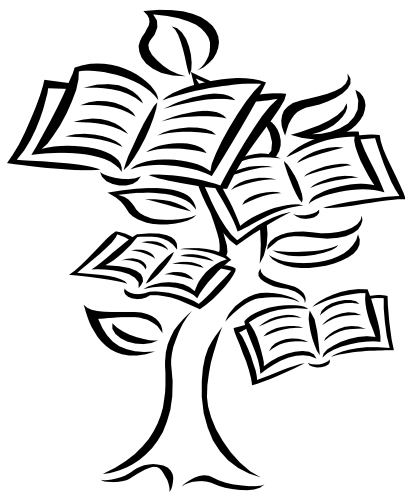
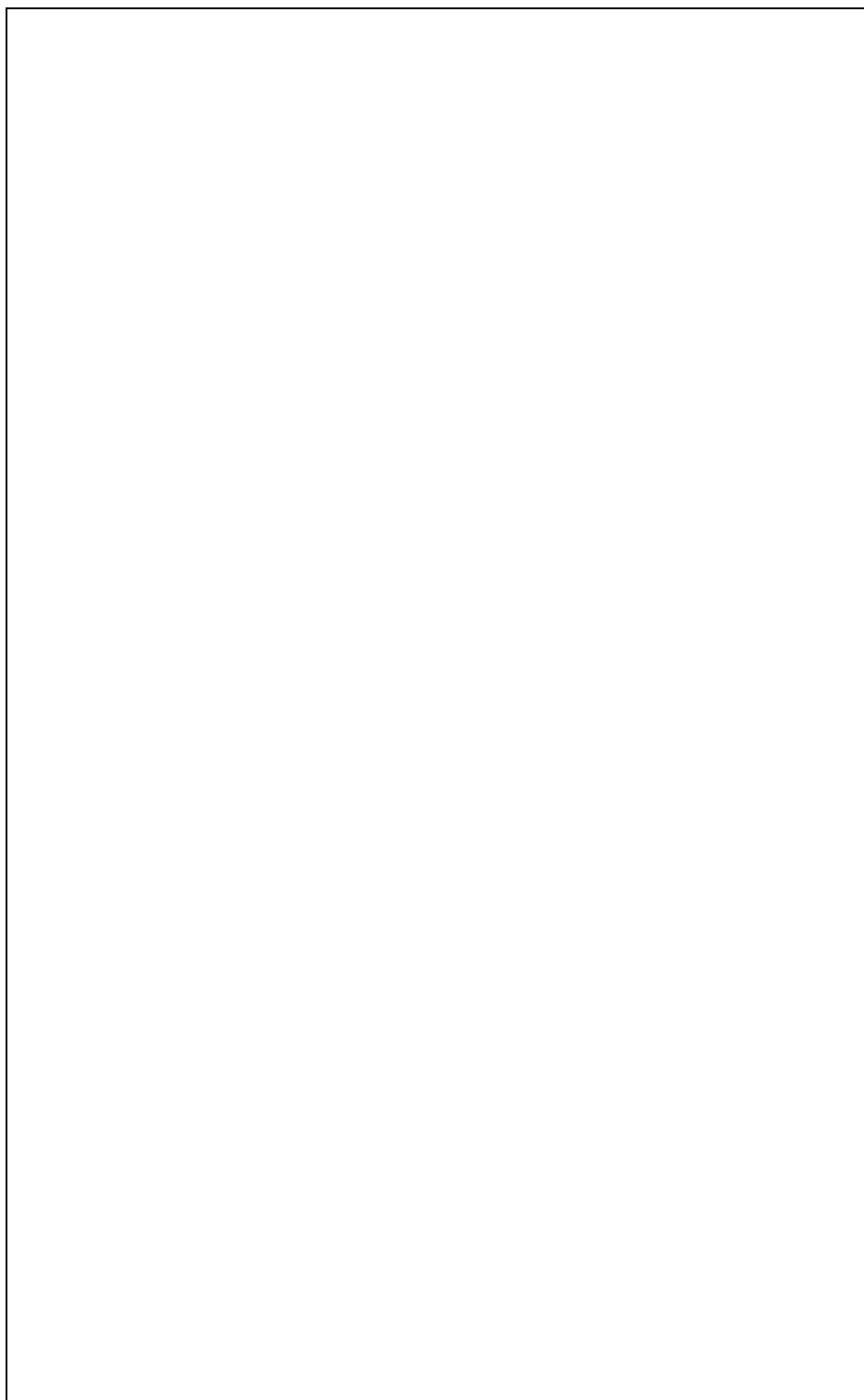


***Everything You Wanted
to Know About
Environmental Regulations
And Related Programs....***



But Were Afraid to Ask!

*A Guide for EPA Region 8 Small Communities
2010 Revised Edition*



Preface

This handbook was prepared by Region 8 Environmental Protection Agency (EPA) with small units of local government (communities) in mind. The handbook was prepared for use by officials of such communities as a quick reference to information on environmental regulations, related programs and associated issues facing their constituencies. Information presented in this handbook is meant only as a summary of basic environmental requirements and/or EPA guidance. It is not intended to serve as a definitive statement of the specific ways in which a community can ensure environmental compliance. Rather, it is a quick guide to the environmental regulatory and associated programs that typically apply to most small communities.

The requirements and guidance described in this handbook are based on federal regulations and/or guidance documents in place in the fall of 2010. It should be expected that some of these requirements and associated guidance documents will change in the future. In addition to the federal requirements described here, states and Indian tribes can adopt rules that may be different and, in some cases, more stringent than the federal rules. Be sure to ask for and read the rules from the appropriate agency in your area.

This handbook is intended only as a reference source. The statutory provisions and regulations described in this document contain legally binding requirement but this document does not itself create any legal rights, benefits, or obligations. EPA may deviate from any approach described in this document in a given case if consistent with legal requirements.

If your community is larger than 5,000 people, you will need, at a minimum, to comply with the environmental regulatory requirements outlined in this guide. It is likely that a larger community will need to meet additional requirements. Information on these requirements can be obtained from EPA or your state regulatory agency.

This handbook was originally developed by the Region 8 Small Community Work Group in association with the Midwest Assistance Program during the 1990s. The agencies and organizations represented on the original work group included: American Water Works Association; Colorado Department of Local Affairs; Colorado Department of Public Health & Environment; City of Fort Lupton, CO; Department of Health and Human Services, Indian Health Services; National Environmental Training Center for Small Communities; North Dakota Department of Health; Rural Community Assistance Corporation; South Dakota Department of Environment & Natural Resources; US Department of Agriculture, Rural Development; US EPA Region 8; US EPA Headquarters, Washington DC; Utah Department of Environmental Quality and Wyoming Casper College Environmental Training Center. It was updated by EPA Region 8 in 1991, 1993 and 1999 under the direction of the Region 8 Small Community Coordinator. This 2010 edition was a joint effort of EPA Region 8 staff.

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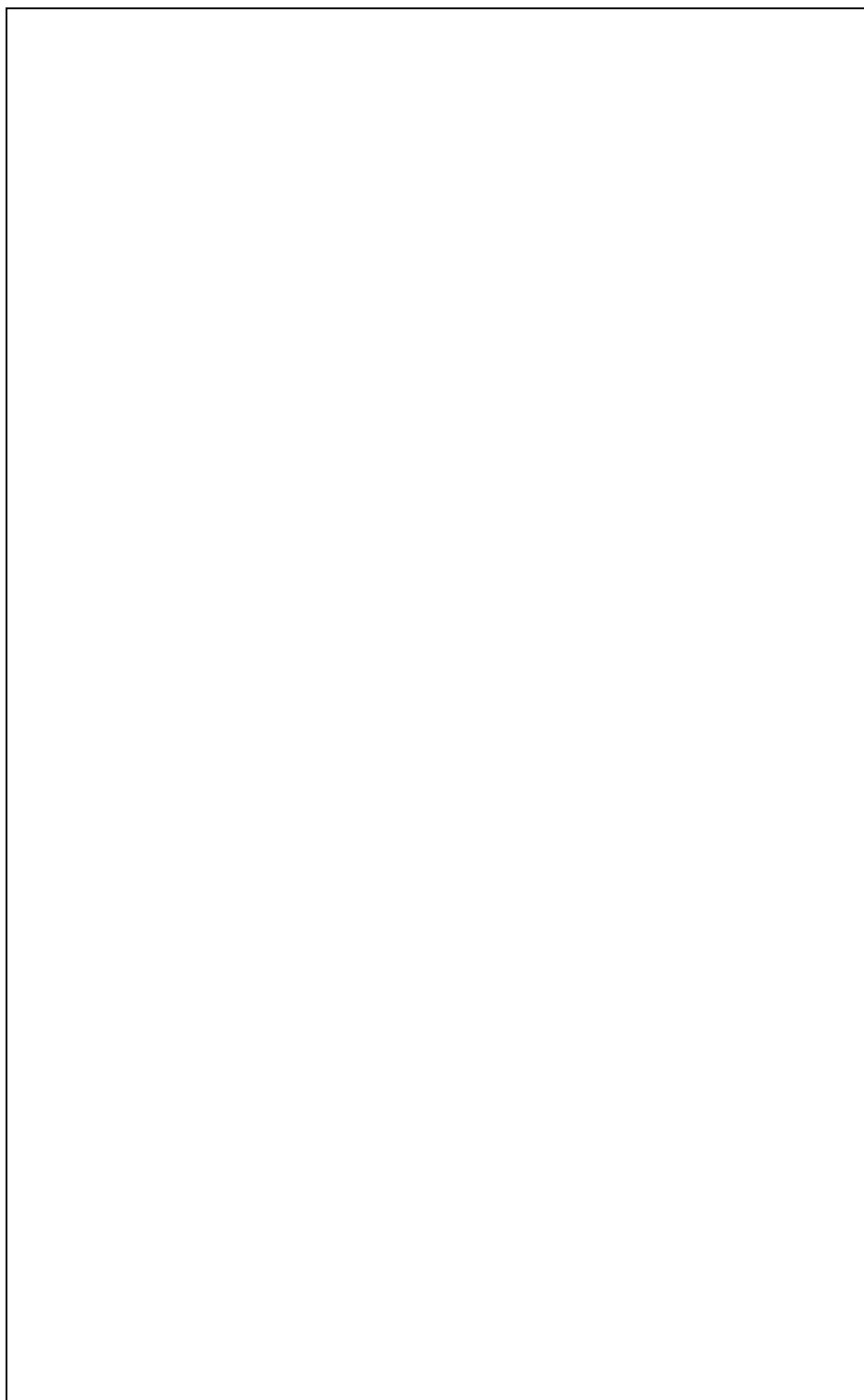
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Clean Air Act

Air Quality Standards and EPA's Ambient Air Monitoring Network

The Clean Air Act (CAA) requires EPA to set air quality standards for pollutants considered harmful to public health and the environment. The main pollutants for which there are air quality standards include ozone, particulate matter, sulfur dioxide, nitrogen dioxide, carbon monoxide and lead.

EPA has established a network of ambient air quality monitors for use in measuring levels of these pollutants in the air. EPA then uses this information to determine which areas of the country are attaining the air quality standards and which areas are not. The monitor information is also used to inform the public on a near real-time basis about the current air quality in their local area. This information is especially important to those living in areas that do not attain one or more of the air quality standards or those with health concerns that make them sensitive to air pollution.

Additional Information

EPA maintains large databases to store the air quality data from the monitoring network. The public can access this information in a number of different ways by utilizing the websites described below:

- AIRNow – Obtaining air quality information is important for planning daily outdoor activities, especially for those who are sensitive to air pollution. AIRNow website provides maps of current air quality conditions and next day forecasts for hundreds of cities nationwide.
<http://www.airnow.gov>
- AirCompare – One of the most common questions received by EPA related to air quality is “How does the air quality in my city compare with other cities?” The AirCompare tool allows users to answer this question and find other information like “What time of year has the best air quality?” and “Is air quality improving in my area?” This information can help people make informed decisions about moving or vacationing.
<http://www.epa.gov/aircompare>
- AirExplorer – This website provides a collection of air quality analysis tools for those seeking a more technical view of air quality monitoring data. Users can generate maps and graphs for the pollutants and time they specify.
<http://www.epa.gov/airexplorer>

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Clean Air Act

Air Toxics or Hazardous Air Pollutants

Air toxics, also known as hazardous air pollutants (HAPs), are pollutants that are known or suspected to cause serious health effects such as cancer, birth defects, and respiratory, reproductive, or neurological effects. EPA is working with state, local, and tribal governments to reduce the release of air toxics to communities and the environment. CAA lists 187 known HAPs. Examples of HAPs and their sources include benzene (gasoline), perchlorethylene (some dry cleaners), and formaldehyde (many industries). Other listed HAPs include acrolein, dioxin, asbestos, toluene, and metals such as manganese, mercury, chromium, and lead compounds.

Under Section 112 of the CAA, EPA has issued over 130 rules affecting industrial sources, such as cement plants, oil refineries, oil and gas exploration, and wood furniture manufacturing, as well as categories of smaller sources, such as dry cleaners, auto body refinishing, gas stations, and chromium electroplating facilities. These rules are expected to reduce air toxics emissions each year by about 1.7 million tons. For more information about these rules go to: [http:// www.epa.gov/ttn/atw/eparules.html](http://www.epa.gov/ttn/atw/eparules.html)

According to the National Air Toxics Assessment, the majority of air toxics are emitted from "mobile sources." These include on-road sources such as cars, buses and trucks and non-road sources such as trains, airplanes, ships and construction equipment.

Additional Information

- Improving Air Quality in Your Community - Communities like yours are essential to protecting our environment and improving public health. The following website provides ideas on what communities can do to improve local air quality. <http://www.epa.gov/air/community/>
- Basic Air Toxics Information - This webpage provides basic information related to air toxics, health, and ecological effects through the use of questions and answers. <http://www.epa.gov/air/community/basicinfo.html>
- *Healthy Air: A Community and Business Leaders Guide* is a collection of non-regulatory, time-and-cost-saving ideas communities can use to reduce toxic air pollution. You can request a copy by calling (919)541-5514 and asking for document number EPA-453/B-05/001 or go to: <http://www.epa.gov/air/toxicair/community/guide.html>
- The Community Toolbox - <http://ctb.ku.edu/en/default.aspx>
- Health Effects Notebook for Hazardous Air Pollutants – <http://www.epa.gov/ttn/atw/hlthef/hapindex.html>

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Clean Air Act

Clean Air Act Permits

Congress established the New Source Review (NSR) permitting program, also known as pre-construction permitting, as part of the 1977 CAA amendments. Congress established the Operating Permits program as part of Title V of the 1990 CAA amendments. Most NSR permits and Operating Permits are issued by state or local air pollution control agencies. EPA is responsible for overseeing these programs. On Indian reservations, EPA issues the permits, unless EPA has delegated responsibility to the Indian tribe.

The purpose of NSR is to ensure that air quality is not significantly degraded from the addition of new and modified stationary sources of air pollution. In areas with unhealthy air, NSR helps ensure that new emissions do not slow progress toward cleaner air. The NSR program also helps ensure that any large new or modified industrial source in your neighborhood will be as clean as possible, and that advances in pollution control occur concurrent with industrial expansion.

NSR permits are legal documents that the facility owner/operator must abide by. The permit specifies what construction is allowed, what emission limits must be met, and often how the emissions source must be operated.

The purpose of Operating Permits is to improve compliance by consolidating all CAA requirements for an existing stationary source of air pollution into one document. These permits are issued to all large ("major" sources) and a limited number of smaller sources. Operating Permits include pollution control requirements from federal or state regulations that apply to a source as well as requirements from NSR permits that have been issued to a source.

The public has an opportunity to comment on draft NSR permits and draft Operating Permits. In addition, the public may petition EPA to object to certain Operating Permits. To learn how you can comment on NSR and Operating Permits, contact your state or local air pollution control agency, or contact the EPA regional office.

Additional information

- NSR permits: <http://www.epa.gov/nsr>
- Operating permits: <http://www.epa.gov/air/oagps/permits>
- EPA Region 8 Air permitting information: <http://www.epa.gov/region8/air/permitting/index.html>

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Mobile Sources and Related Programs

EPA protects public health and the environment by regulating air pollution from motor vehicles, engines and fuels, and by encouraging travel choices that minimize fuel consumption. These "mobile sources" include cars and light trucks, heavy trucks and buses, nonroad recreational vehicles (such as dirt bikes and snowmobiles), farm and construction machines, lawn and garden equipment, marine engines, aircraft, and locomotives.

The EPA's Office of Transportation and Air Quality (OTAQ) has the primary responsibility for developing the necessary requirements, regulations, and standards. OTAQ also has direct implementation of some of the provisions, programs and rules. For example, new car/truck manufacturers must report test results of new vehicle emissions directly to OTAQ. EPA Region 8 works directly with our States and metropolitan planning organizations to address issues with the development of State Implementation Plans (SIP) revisions that involve emissions of motor vehicles (e.g., motor vehicle inspection and maintenance or I/M programs, and transportation conformity determinations). The Regional Office and OTAQ are also a source of information for questions from citizens and regulated entities.

Additional Information

OTAQ has a number of online resources for the public, including the following:

- Overview of Pollutants and Programs - How much air pollution, air toxics, and greenhouse gases are emitted by mobile sources, the programs OTAQ has undertaken to control these emissions, and the impact of those programs on air quality and climate change.
<http://www.epa.gov/otaq/transport.htm>
- Consumer Information - Learn what consumers can do to help reduce air pollution. Use the Green Vehicle Guide to find the cleanest, most fuel-efficient vehicle.
<http://www.epa.gov/otaq/actions.htm>
- On-Road Vehicles and Engines - Information about highway vehicles, fuel economy, emission standards and regulations, new vehicle certification and in-use vehicle compliance, inspection and maintenance programs, diesel retrofit programs, and importing vehicles and engines to the United States.
<http://www.epa.gov/otaq/hwy.htm>

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Clean Air Act

- **Nonroad Engines, Equipment and Vehicles** - Information about aircraft, diesel boats and ships, gasoline boats and personal watercraft, nonroad diesel equipment, forklifts, generators and compressors (gasoline and propane), lawn and garden (small gasoline equipment), locomotives, and snowmobiles, dirt bikes, and ATVs: emission standards and regulations, certification and compliance, and diesel retrofit programs.
<http://www.epa.gov/nonroad>
- **Fuels and Fuel Additives** - Information on diesel, gasoline, renewable fuels, and alternative fuels for mobile sources, fuel-quality control programs, requirements for registration and health effects testing of new fuels or fuel additives, and reporting forms.
<http://www.epa.gov/otaq/fuels.htm>
- **Partnerships** - Information about partnerships to reduce air pollution associated with transportation and other mobile sources. These programs include the National Clean Diesel Campaign (NCDC), SmartWay, and Clean School Bus USA.
<http://www.epa.gov/otaq/voluntary.htm>
- **State and Local Transportation Resources** - Information on the ties between land use, transportation planning, and air quality.
<http://www.epa.gov/otaq/stateresources/index.htm>
- **Modeling, Testing, and Research** - Information on modeling and inventories for estimating emissions from highway vehicles, nonroad sources, and fuels.
<http://www.epa.gov/otaq/research.htm>

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Radiation and Uranium

Radiation is naturally occurring and is all around us from various sources. Residents of Region 8 states often experience greater background radiation exposure as a result of the natural uranium formations and high elevations. The natural uranium formations also result in an increase in mining and milling of uranium in our region; Region 8 states contain approximately 65% of the uranium reserves in the U.S. Uranium is naturally occurring and undergoes spontaneous radioactive decay into radioactive “daughter” products until a stable element is reached. One daughter of uranium is radon, a colorless, odorless radioactive gas (see page 7, Radon).

To protect human health from radiation exposure, EPA regulates radioactive air emissions from various processes under the CAA. Radionuclide National Emission Standards for Hazardous Air Pollutants (NESHAPs), 40 CFR Part 61, regulate radon emissions from underground uranium mines and from uranium byproduct impoundments at uranium mills. The standards set are a result of a human health risk assessment conducted around 1989, the time the rules were promulgated.

Additional Information

- EPA’s role in radiation protection: <http://www.epa.gov/radiation/>
- Information on Radionuclide NESHAPs: <http://www.epa.gov/radiation/neshaps/index.html>
- Calculate your background radiation dose: <http://www.epa.gov/rpdweb00/understand/calculate.html>

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Indoor Environments

Indoor Environments

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

Radon

Radon is a radioactive gas given off by soils and rocks that seeps into buildings and homes through foundations. You cannot see it, smell it, taste it or feel it as you breathe it into your lungs. The U.S. Surgeon General has determined that indoor radon is the second leading cause of lung cancer in the United States. It is estimated that over 20,000 non-smoking persons a year get radon caused lung cancer.

Congress enacted the Indoor Radon Abatement Act (RAA) in 1988, requiring EPA to fund State governments to establish local and community radon programs encouraging testing of homes, schools and commercial buildings and mitigating for radon levels above 4 picocuries per liter (pCi/L). EPA also evaluates radon mitigation contractors and radon measurement labs and developed a national proficiency exam to test the knowledge of radon contractors.

There are a number of options available to test for radon. Do-it-yourself radon test kits can be purchased for about \$25 at hardware stores or can be ordered at a discount by calling 1-800-SOS-RADON. A certified radon tester can test your home, building or school with a continuous radon monitor for short and long term testing. To find a certified radon tester near you visit <http://www.neha-nrrp.org>.

Environmental Tobacco Smoke (ETS)

Environmental tobacco smoke (ETS), or "secondhand smoke," is the mixture of smoke that come from the burning end of a cigarette, pipe, or cigar, and smoke exhaled by a smoker. ETS contains over 250 toxic compounds, more than 50 of which can cause cancer, and many others of which are strong respiratory irritants. The Centers for Disease Control and Prevention estimates 46,000 heart disease deaths occur annually among nonsmokers in the US from exposure to ETS. ETS impairs the respiratory health of hundreds of thousands of children, including the exacerbation and increased onset of childhood asthma.

EPA is working to generate public awareness of the health risks associated with childhood exposure to ETS in the home. As part of this public awareness work,

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Indoor Environments

the Indoor Environments Program has developed the Take the Pledge education campaign to encourage adults to smoke outdoors, away from children and family members.

Indoor Air Pollution & Schools

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

EPA has developed a voluntary program called Indoor Air Quality Tools for Schools (IAQ TfS) to address this issue. The program offers guidance on how school staffs can achieve and maintain good indoor air quality using low or no-cost techniques. The IAQ TfS kit is available to school administrators and is intended as a "do-it-yourself" IAQ management plan. It is designed to help prevent indoor air quality problems from occurring and to guide schools through quick and efficient resolution of problems if and when they do occur. The program focuses on both awareness and effective communication. This proactive approach helps schools avoid the premature spending of money on air sampling and consulting fees since many indoor air quality problems can be easily identified and corrected without hiring professional help. IAQ TfS is a voluntary, non regulatory program. EPA's role is simply to promote good indoor air quality through education and to motivate schools to use this valuable information.

Does the indoor environments program apply to my community?

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

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

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Indoor Environments

Actions your community should be taking:

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

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

Additional Information

EPA has established a toll-free number to obtain indoor air quality information. For general indoor air quality inquiries and to order publications, contact EPA's Indoor Air Hotline at (800) 438-4318.

For radon inquiries, contact the Radon Hotline at (800) SOS-RADON.

Many states also have staff available to answer questions regarding radon. See the listing for State Radon contacts in the Resource Section for this book.

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Resource Conservation & Recovery Act

Hazardous Waste

Hazardous waste is generated by a wide variety of businesses and activities, such as oil refineries, computer semi-conductors manufactures, drycleaners and academic laboratories. A waste is identified as hazardous if it is a solid waster that either exhibits one of four characteristics (ignitability, corrosivity, reactivity, or toxicity) or it is specifically listed by EPA as hazardous in the Code of Federal Regulations (CFR). 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 amendments to the Solid Waste Disposal Act of 1965. RCRA serves 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 comprehensive set of requirements to define the materials that are subject to hazardous waste regulation. While EPA was given the authority to set national standards and initially conduct the program, most states have received authorization to manage these hazardous waste programs. The Act also describes the responsibilities of anyone who generates, transports, stores, treats, or disposes of or otherwise manages hazardous waste. Individual household wastes, many that may exhibit some of the dangers described above, are exempt from federal RCRA hazardous waste requirements. See Household Hazardous Waste Collection Programs section for additional information.

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

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

- Large Quantity Generator (LQG) – is a facility that generates more than 1,000 kilograms per month of any hazardous waste or more than one kilogram of an "acute" hazardous waste. A kilogram is approximately 2.2 pounds, and 1,000 kilograms would be roughly about five 55-gallon drums of material. Acute hazardous waste is waste that contains certain constituents that scientific studies show to be fatal to humans or animals in low doses. A facility generating these amounts or more is fully subject to the RCRA regulatory requirements.
- Small Quantity Generator (SQG) – is a facility that generates less than 1,000 kilograms per month of hazardous waste but more than 100 kilograms per month (approximately one-half of a 55-gallon drum).

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Small quantity generators are given ample time to comply with newer regulations and for on-site storage of their wastes. They are subject to some but not all of the RCRA regulatory requirements.

- Conditionally Exempt Small Quantity Generator (CESQG) – is a facility that generates less than 100 kilograms per month of any hazardous waste and is conditionally exempt from the RCRA regulations. These facilities may generally dispose of their waste in accordance with state solid waste requirements described under the RCRA Municipal Solid Waste program in this brochure.

Does the RCRA Hazardous Waste Program apply to my community?

It is very likely that some types of materials generated by businesses or municipal facility operations in your community would be subject to RCRA hazardous waste regulations. For example, hazardous wastes may be generated by vehicle repair shops, auto body repair shops and dry cleaning facilities. Wastes may include solvents, corrosives and materials containing hazardous levels of metals (e.g., chromium, cadmium and lead). Any discarded material must be evaluated to determine if it has been listed by EPA as a 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. Procedures and criteria for these characteristic tests are found in both federal and authorized state RCRA regulations.

An area of possible concern for your community is the operation of trash collection systems and/or landfills. Municipal landfills are regulated in Subtitle D of RCRA. More information about can be found in under the “Municipal Solid Waste Landfill Criteria” portion of this handbook. Because household wastes are exempt from RCRA regulation, many of these wastes are legally disposed of in local landfills. However, the addition of commercially generated hazardous wastes to a municipal landfill would be considered a form of illegal disposal, and could trigger RCRA enforcement measures by the authorized state. While the municipal solid waste landfill regulations are intended to ensure proper management of allowable wastes, accidental releases of hazardous constituents to the groundwater can occur and might require some form of remedial treatment.

Products, such as paints, cleaners, used oils, batteries, some electronics and pesticides, can contain potentially hazardous ingredients requiring special care when discarded. These products can be corrosive, toxic, ignitable, or reactive. Do not dispose of household hazardous wastes by pouring them down the drain, on the ground, into storm sewers, or putting them out with the trash. The dangers of such disposal methods might not be immediately obvious, but improper

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disposal of these wastes can pollute surface and groundwater and pose a threat to human health. There are better ways to dispose of these unwanted wastes.

Household hazardous waste collection programs

Most states are authorized to implement the RCRA hazardous waste program. In cooperation with local county health officials, states sometimes arrange for and conduct household hazardous waste collection events. If available, these are an effective way to reduce the amount of hazardous waste entering municipal landfills by offering citizens a safe and convenient disposal method. You should contact your state, county or local representatives to find out if and when such collection events are planned. For more information on household hazardous waste please visit: <http://www.epa.gov/osw/consERVE/materials/hhw.htm>.

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

RCRA regulations were first put into effect in 1980 and are constantly being amended to add new wastes that are subject to the program. Once you determine that you are a handler of hazardous waste (i.e., you generate, store or transport it), you must notify EPA and/or the state hazardous waste office of your activity and obtain an EPA RCRA identification number.

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

Actions your community should be taking:

- Become familiar with the kinds of waste materials that are subject to RCRA regulation.
- Identify ways to reduce or recycle chemicals that would generate waste.
- Learn whether electronics recycling and household hazardous waste collection events are available to your community.
- Find non-toxic substitute products for hazardous chemicals.
- Buy the right amounts of chemicals that you need, not more.
- Try to find someone to use unwanted, unused chemicals rather than throwing them away.

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- Become familiar with industrial facilities located in your community. Understand how they are managing their dangerous and hazardous waste.

Additional Information

- RCRA regulations are published at 40 CFR Parts 260 through 272. Part 261 defines what materials are hazardous waste and, therefore, potentially subject to RCRA requirements.
- EPA is re-defining its approach to environmental protection. Rather than focusing only on “end-of-pipe” regulatory controls, much emphasis is now placed on pollution prevention and waste minimization of hazardous wastes. Contact the Region 8 EPA Waste Minimization Office at (303) 312-6403 if you would like more information on steps EPA is taking. We welcome innovative ideas you may have for minimizing the generation of hazardous waste.
- All states in EPA Region 8 have been approved by EPA to apply and enforce the federal RCRA hazardous waste regulations. You may wish to contact your state environmental agency to get more information, including specific questions on RCRA interpretations. See the listing for Hazardous Waste contacts in the resource section.
- Your State may also have developed pollution prevention or waste minimization strategies, which can assist your local community. See the listing for Recycling contacts in the resource section.

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Municipal Solid Waste

Municipal solid waste is non-hazardous waste generated at residences, commercial establishments and institutions.

Subtitle D Municipal Solid Waste Landfill Regulations

The Subtitle D Municipal Solid Waste Landfill regulations were published October 9, 1991, and became effective on October 9, 1993. The regulations cover six aspects of landfill management: location criteria, operations, design requirements, groundwater monitoring and corrective action, closure and post-closure care, and financial assurance. Since Congress determined that, unlike hazardous waste, solid waste management is primarily local in nature, EPA regulations set general performance criteria for municipal landfills. Enforcement and overall solid waste management is principally a state concern, once EPA has approved state authority and regulations for the program. County and local government entities may also have local solid waste and land use management rules, which may affect these facilities. The latter are separate from the RCRA regulatory requirements for municipal landfills under the Subtitle D program.

Do the Subtitle D regulations apply to my community?

The regulations apply only if your community owns or operates a landfill. Landfills that were closed before October 9, 1991, do not have to comply with any of the requirements of the regulations. Landfills that stopped receiving solid wastes before October 9, 1993, need comply only with the final cover requirements under closure. Landfills operating on or after October 9, 1993, must comply with all of the requirements. Regardless of these federal regulations, landfill owners and operators must still comply with all state and local landfill and land use restrictions.

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

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

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

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Resource Conservation & Recovery Act

Reuse and Recycling

Every day each individual produces an average 4.5 pounds of trash. This can include household garbage and kitchen scraps, glass and plastic containers, packaging and paper products, etc. Recycling and composting can reduce household waste dramatically, and it has never been easier to do!

Local communities, businesses and individuals can do their part in dramatically reducing the types and volumes of waste ending up in landfills. Even small communities can have recycling programs, and many recycling services are now "single stream" (no sorting of recyclables). For more information on how to set up a local recycling program, please contact your state or local recycling office. A list of state recycling contacts is provided in the Resources Section of this handbook for your convenience.

Composting organic materials like kitchen scraps is easy and can be done in any backyard. By diverting recyclable and compostable waste from your household trash, you'll be amazed how little trash you really have. These actions will conserve limited landfill space and reduce your environmental footprint. For more information on recycling and composting please visit this site:

<http://www.epa.gov/osw/conserve/rrr/index.htm>.

Electronics Recycling & the CRT Rule

The use of electronic products has grown substantially over the past two decades. Because electronics are prevalent in our daily lives, EPA is working to educate consumers on why it is important to reuse and recycle electronics and what the safe options are for reusing, recycling or disposing of these products. For example, electronics can have internal components that may contain materials, such as lead and heavy metals, which are harmful to human health and the environment if not handled properly.

Reuse is the environmentally preferred alternative and it benefits society. Reuse is when you pass on computers, cell phones and other electronics to new users. Donating used electronics for reuse extends the lives of valuable products and maximizes the benefits from the energy and resources that went into making the products. Schools, nonprofit organizations and low-income families can use such donations to obtain electronics that they otherwise could not afford.

When donation for reuse or repair is not a viable option, households and businesses should recycle their used electronics. Recyclers recover more than 100 million pounds of materials from electronics each year. Recycling electronics also saves precious materials that would otherwise have to be mined or extracted from the earth. Saving these materials also prevents additional pollution from being added to our soil, air and water. In 2007, the U.S. recycled 414,000 tons of electronics; this resulted in greenhouse gas reductions equal to

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178,000 passenger vehicles, and an energy savings equal to 140 million gallons of gasoline!

Since it is important to recycle your electronics properly, use a responsible recycler that recycles electronics safely, legally and ethically. Please visit EPA's website to determine where you can properly donate/recycle your electronic equipment: <http://www.epa.gov/osw/conserve/materials/ecycling/donate.htm>.

Commercial electronics recyclers should be aware of the Cathode Ray Tube (CRT) Rule requirements which affect how older TVs can be recycled. This rule will help increase the collection, reuse, and recycling of CRTs. Please see this link to EPA'S website on the CRT Rule for more information: <http://www.epa.gov/osw/hazard/recycling/electron/index.htm>.

Properly eliminating household hazardous waste and recycling potentially hazardous electronic equipment such as discarded TVs and computer CRTs are other positive steps you can take in reducing the solid waste landfill burden.

Actions your community should be taking:

- Learn what impact Subtitle D solid waste regulations have on your local landfill and community
- Become familiar with any state, county or local rules (including those of the landfill operation itself). The last could include certain restrictions on which wastes will be accepted at the landfill
- Consider joining with other nearby communities to jointly run and share costs of a "regional landfill"
- Plan and prepare a community solid waste management program that includes recycling, composting, waste reduction and other disposal options in addition to landfills.

Additional Information

- RCRA Subtitle D Criteria for Municipal Solid Waste Facilities, 40 CFR Parts 257 & 258
- EPA Region 8 Solid Waste Office: (303) 312-7008
- EPA Region 8 Solid Waste website: http://www.epa.gov/region8/land_waste/index.html

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Underground Storage Tanks

What is an Underground Storage Tank?

An Underground Storage Tank (UST) is any tank, or series of tanks and connecting piping, that contains a regulated substance in which at least 10 percent of the volume is underground.

USTs were first regulated under 1984 amendments to RCRA that created a federal program to regulate USTs containing petroleum and hazardous chemicals to limit corrosion and structural defects and thus, minimize future tank leaks. Additional amendments in 1986, 2005 and 2009 added enforcement provisions, authorization for EPA response to spill and leaks and created the Leaking Underground Storage Tank (LUST) Trust Fund.

Do the UST regulations apply to my community?

Yes, if an UST is storing either petroleum or certain hazardous chemicals, and it fits the UST definitions. Most communities have USTs covered by these regulations, for example, gas stations and convenience stores.

Do the UST regulations apply to all USTs?

No, some exclusions:

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

If the UST regulations do apply, what must the owner do?

- Equip the UST with a device that prevents spills and overfills.
- Protect the tank and piping from corrosion or structural failure.
- Equip the tank and piping with leak detection devices.

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- Verify that the stored contents are compatible with the UST system (e.g. the tank's interior walls).
- Maintain proper UST compliance documents and monitoring records.
- Be financially responsible for the cost of cleaning up a leak or compensating other people for bodily injury and property damage caused by a leaking UST.

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

Tanks that meet the current UST regulations for your state can be temporarily or permanently closed. Check with your state agency for closure requirements. For permanent closure, tanks must be emptied, cleaned, and possibly removed. USTs that do not meet the current UST regulations for your state must be permanently closed. If closure is necessary, you must notify the state agency at least 30 days before you close your UST.

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

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

Notify the appropriate state agency within 24 hours; that regulatory authority will decide if you must take further action.

Assume financial responsibility for taking corrective measures and compensating individuals who are harmed by leaks or spills from USTs that store petroleum products.

What are the general reporting requirements for USTs?

Check with your state agency about the particular reporting requirements in your area. If you are located in Indian country, check with EPA for reporting and closure requirements. If your UST leaks or has a spill of over 25 gallons, it must be reported to your state agency or, if you are on in Indian country, to EPA within 24 hours of occurrence.

Additional Information

- "Musts for USTs: A Summary of the New Regulation for Underground Storage Tank Systems," U.S. EPA, Office of Underground Storage Tanks
- RCRA/Superfund Hotline (800) 424-9346
- EPA Office of Underground Storage Tanks website at <http://www.epa.gov/OUST/>

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Superfund

As the 1970s came to a close, a series of events gave Americans a look at the dangers of dumping industrial and urban wastes. The abandoned chemicals near the Love Canal community in New York and the Valley of the Drums in Kentucky called the nation's attention to the threat posed by abandoned hazardous substances. It became increasingly clear that there were large volumes of abandoned hazardous substances festering throughout the U.S. that were not subject to existing environmental laws. The magnitude of these emerging problems moved Congress to enact the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) in 1980. CERCLA, commonly known as Superfund, was established to deal with the dangers posed by the nation's abandoned or uncontrolled waste sites.

Since the Superfund program began, abandoned hazardous substances have surfaced 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.

Few realized the size of the problem until EPA began looking. Congress directed EPA to establish a list of sites to target for cleanup based on the severity of the hazardous waste problem. Out of this process came the National Priorities List (NPL). In 2010, there were 1277 sites on the NPL undergoing or awaiting cleanup and another 61 sites being proposed. EPA also had completed cleanup construction at 514 of the sites, with 174 of them now deleted from the final NPL.

The Superfund program aims to prevent, stabilize, eliminate or reduce the effects of a release or threat of a release of hazardous substances into the environment. Such releases might occur at tire disposal site fires or transportation accidents involving a spill of hazardous chemicals. Abandoned hazardous substances that might threaten people's health or the environment also may be found at abandoned mining sites, hazardous waste landfills or industrial properties.

While EPA's job is to analyze the hazards and deploy experts to help solve problems, the Agency needs citizen input. Because people in the community where a site is located will be those most directly affected by the wastes and cleanup processes, EPA encourages citizens to get involved in cleanup decisions.

Additional Information:

- EPA Region 8 Superfund Public Liaison (303) 312-6600

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- National EPA Superfund website: <http://www.epa.gov/superfund/>

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Brownfields

What are Brownfields?

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. While the specific make-up of each property varies, they all have actual or perceived contamination and reuse potential.

Brownfields Laws and Statutes

On January 11, 2002, President Bush signed the Small Business Liability Relief and Brownfields Revitalization Act ("the Brownfields Law"). The Brownfields Law amended CERCLA by providing funds to assess and clean up brownfields; clarified CERCLA liability protections; and provided funds to enhance state and tribal response programs. Other related laws and regulations impact brownfields cleanup and reuse through financial incentives and regulatory requirements.

For further information on laws and regulations that impact brownfields cleanup and reuse through financial incentives and regulatory requirements go to:

<http://www.epa.gov/brownfields/laws/index.htm>.

Region 8 Brownfields

Region 8's Brownfields Program provides funds and technical assistance to states, tribes, communities, and other stakeholders to clean up and redevelop potentially contaminated lands in the Rocky Mountain region, making it easier for such lands to become vital, functioning parts of their communities. More information about Region 8's Brownfields program is available online at:

<http://www.epa.gov/region8/brownfields>.

Brownfields Grants

Assessment Grants

Tribal, state, and local governments are eligible to apply for funding to inventory, assess, and conduct planning and community involvement activities related to Brownfield sites. Individual applicants may apply for \$200,000 to address hazardous substance sites, plus another \$200,000 to address petroleum sites. Applicants may request a waiver of the \$200,000 limit and request up to \$350,000. Coalitions of three or more governments can receive up to \$1 million. For more information and proposal guidelines visit:

<http://www.epa.gov/brownfields/applicat.htm>

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Cleanup Grants

Tribal, state, and local governments and nonprofit organizations are eligible to apply for funding to clean up Brownfields sites. Grants of up to \$200,000 per site are available, for a maximum of five sites. The applicant must own the property, and a 20% match is required. For more information and proposal guidelines visit <http://www.epa.gov/brownfields/applicat.htm>

Revolving Loan Fund Grants

Tribal, state, and local governments are eligible to apply for funds to capitalize a revolving loan fund and to provide sub grants to conduct cleanup activities. Up to \$1,000,000 is available per applicant. Repaid loan funds can be used to make additional cleanup loans. A 20% match is required. For more information and proposal guidelines visit <http://www.epa.gov/brownfields/applicat.htm>.

Job Training Grants

Colleges, universities, nonprofit job training centers, local governments, and tribes are eligible to apply for funding to train residents living near Brownfields sites for future employment in the environmental field. Up to \$300,000 is available per applicant. For more information and proposal guidelines visit <http://www.epa.gov/brownfields/applicat.htm>

Other Assistance

State and Tribal Assistance Programs

State and Tribal Programs play a significant role in cleaning up brownfields. EPA provides financial assistance to states and tribes to establish or enhance programs that address the assessment, cleanup and redevelopment of Brownfields.

Targeted Brownfields Assessments

A Targeted Brownfields Assessment is an environmental investigation designed to document environmental conditions at a property under consideration for redevelopment. EPA can provide communities and nonprofit organizations with environmental assessment services at Brownfields properties with redevelopment potential. For more information and TBA applications go to <http://www.epa.gov/region8/brownfields/tba.html>.

More information about Region 8's Brownfields program, including laws, grants and contact information, is available online at: <http://www.epa.gov/region8/brownfields>.

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Drinking Water

The Safe Drinking Water Act (SDWA) was passed to protect the quality of drinking water in the U.S. This law regulates waters actually or potentially designed for drinking use, whether from surface water or underground sources. SDWA authorizes EPA to establish minimum standards to protect drinking water and requires all owners or operators of public water systems (PWS) to comply with these primary health-related standards. A PWS is defined as a water system that has at least 15 service connections or serves at least 25 people per day for 60 days of the year. There are currently more than 170,000 PWSs providing water to almost all Americans at some time in their lives.

SDWA allows States to seek EPA approval to administer and enforce their own public water system supervision (PWSS) programs. The authority to run a PWSS, or drinking water program, is called primacy. In EPA Region 8, Colorado, Montana, North Dakota, South Dakota and Utah have primacy. Wyoming is the only state in the nation that does not have primacy. Region 8 EPA, in cooperation with Wyoming Department of Environmental Quality, implements and enforces the SDWA in Wyoming. EPA Region 8 also is the primacy agency for all the Tribes in the Region.

SDWA was amended in 1986 and 1996. Besides these major statutory changes, regulations under SDWA are adopted every few years to protect the public from emerging contaminants and reflect best monitoring/treatment practices. The best way to keep up-to-date on current and future regulations is to contact your State Drinking Water Program. Drinking water directly affects public health in your community and the PWS has the ultimate responsibility and liability for its safety.

The 10 percent of Americans whose water comes from private wells (individual wells serving less than 25 people) are not required to be protected by these federal standards. Although some states do set private well standards, generally people with private wells are responsible for making sure that their own drinking water is safe. For additional information, please visit <http://water.epa.gov/drink/info/well/index.cfm>

National Primary Drinking Water Regulations and Federal Monitoring Requirements

EPA sets national standards for drinking water based on science to protect against health risks, considering available technology and costs. These National Primary Drinking Water Regulations (NPDWR) set enforceable maximum contaminant levels for particular contaminants in drinking water or required ways to treat water to remove contaminants. Each standard also includes requirements for water systems to test for contaminants in the water to make sure standards are achieved. In addition to these regulations, EPA provides

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guidance, assistance, and public information about drinking water, collects drinking water data, and oversees state PWSS programs.

The monitoring requirements under the NPDWR are require initial monitoring (for new water systems or for existing systems with new water sources) at a certain frequency, and then repeat monitoring at a reduced frequency. If contamination is found, then the monitoring frequency increases again. Both initial and reduced requirements may vary based on such things as the population served by the PWS and the source of the water (surface or groundwater) that the system utilizes.

Additionally, drinking water programs and their associated requirements vary by state. Under SDWA, state regulations must be at least as stringent as federal regulations but some states have adopted more stringent and/or additional requirements not mentioned in this publication.

Many states produce an annual schedule tailored to each PWS that describes when to monitor for each of the regulated contaminants. PWSs should transfer this schedule to a calendar at their facilities and collect the samples as early as possible in the compliance period (week, month, quarter or year) in order to stay in compliance with existing regulations. All communities should contact their state regulatory agency to get detailed information on their unique monitoring requirements.

The NPDWR are generally broken down into, and referred to by rule name. The main contaminant monitoring rules are:

- Total Coliform Rule (TCR)
- Nitrate/Nitrite Rule
- Chemical Phase Rules (Inorganic Chemicals (IOCs), Volatile Organic Chemicals (VOCs) and Synthetic Organic Chemicals (SOCs))
- Lead and Copper Rule (LCR)
- Radionuclides (Rads)
- Stage 1 & 2 Disinfectant/Disinfection By-products (DBP) Rule
- Surface Water Treatment Rules(SWTRs)
- Ground Water Rule

The additional reporting requirement rules are:

- Consumer Confidence Rule (CCR)
- Public Notice Rule (PN)

Each of these rules is summarized on the following pages of this publication.

Maximum Contaminant and Maximum Residual Disinfectant Levels

The maximum contaminant level (MCL) is the maximum permissible level of a contaminant in water delivered to any user of a PWS. MCLs are set as close to

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the health goals (known as the Maximum Contaminant Level Goals, or MCLGs) as possible, considering cost, benefits and the ability of PWSs to detect and remove contaminants using suitable treatment technologies. Additionally, the Disinfectant/Disinfection By-Products Rule established maximum residual disinfectant levels (MRDLs), which are similar to MCLs for disinfectants. If a PWS exceeds a MCL or MRDL, then the water system may need to install the best available technology (BAT) to remove the contaminant or modify its operations to reduce the MRDLs in the water. A complete listing of the MCLs and MRDLs for all the NPDWRs is available online at <http://water.epa.gov/drink/contaminants/>

Total Coliform Rule (TCR)

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

Fecal coliforms and *E. Coli* are particularly pathogenic strains of coliform bacteria. Their presence indicates that drinking water has been contaminated with sewage or animal (including human) wastes. Such contamination presents an urgent health problem.

Total coliform samples must be collected at sites which are representative of water quality throughout the distribution system according to a written sample siting plan subject to review and revision by the primacy agency. Sampling frequency for community PWSs is based on population. Non-community PWS monitoring may differ according to source and population type.

The TCR MCL is based on the presence or absence of total coliform. A system that takes 5 samples or less per month can have no more than one coliform positive sample before it incurs a violation. The monthly MCL is 5% of samples positive for coliform for systems taking more than 5 samples per month. For systems taking less than 5 samples per month, if a sample tested positive for total coliforms, four repeat samples must be collected within 24 hours of notification. These repeat samples must be collected within five service connections of the original sample. One sample must be taken at the original location, one within five connections upstream from the original sample and one within five connections downstream from the original sample. The fourth sample may be taken anywhere within the system.

If total coliforms are detected in any repeat sample, the PWS is in violation of the MCL. The state must be notified by the next business day and public notice must be given. If fecal coliforms or *E. Coli* are also detected in the same month as a positive total coliform sample, the PWS has incurred an acute violation and the

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PWS's water may pose an urgent public health problem. For an acute violation, the PWS must contact the state the day the results are received and give public notice within 24 hours.

Nitrate and Nitrite

Nitrates and nitrites are nitrogen-oxygen chemical units which combine with various organic and inorganic compounds. The major sources of nitrates in drinking water are runoff from fertilizer use; leaching from septic tanks, sewage; and erosion of natural deposits. Infants below six months who drink water containing nitrate in excess of the maximum contaminant level (MCL) could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.

EPA has set an enforceable regulation for nitrate at 10 mg/L or 10 ppm. MCLs are set as close to the health goals as possible, considering cost, benefits and the ability of public water systems to detect and remove contaminants using suitable treatment technologies. In this case, the MCL equals the MCLG, because analytical methods or treatment technology do not pose any limitation. Water systems are required to monitor for nitrate at each entry point to the distribution system on an annual basis. If the results are greater than or equal to 50% of the nitrate MCL (i.e., 5 mg/l), increased sampling is required.

The Chemical Phase Rules

The Chemical Contaminants were regulated in phases, which are collectively referred to as the Chemical Phase Rules. These rules regulate over 65 contaminants in three contaminant groups: Inorganic Contaminants (IOCs), Volatile Organic Contaminants (VOCs), and Synthetic Organic Contaminants (SOCs). The rules apply to all PWSs. PWS type, size, and water source determine which contaminants require monitoring for that system.

The Chemical Phase rules provide public health protection through the reduction of chronic risks from:

- cancer;
- organ damage; and
- circulatory,
- nervous, and
- reproductive system disorders.

Inorganic/organic chemical (IOC) monitoring

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

Volatile organic chemical (VOC) monitoring

New groundwater systems, surface water systems and systems with new sources of water must take one year of quarterly samples at each entry point to

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the distribution system. Sampling is done annually thereafter. Groundwater systems can reduce monitoring after three rounds of annual monitoring with no VOCs detected to once every three years.

Synthetic organic chemical (SOC) monitoring

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

Unregulated contaminant (VOC, SOC, and IOC) monitoring

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

The Lead and Copper Rule

The Lead and Copper Rule (LCR) was designed to protect public health by minimizing lead (Pb) and copper (Cu) levels in drinking water, primarily by reducing water corrosivity. Pb and Cu enter drinking water mainly from corrosion of Pb and Cu containing plumbing materials. All community water systems (CWSs) and non-transient, non-community water systems (NTNCWSs) are subject to the LCR requirements.

The LCR establishes an action level (AL) of 0.015 mg/L for Pb and 1.3 mg/L for Cu based on 90th percentile level of tap water samples. An AL exceedance is not a violation but can trigger other requirements that include water quality parameter monitoring, corrosion control treatment (CCT), source water monitoring/treatment, public education, and lead service line replacement .

As with most monitoring, the requirements under the LCR vary depending on the size of the PWS and its history of detection of Pb/Cu. First draw samples must be collected by all CWSs & NTNCWSs at cold water taps in homes/buildings that are at high risk of Pb/Cu contamination as identified in 40 CFR 141.86(a). The number of sample sites is based on system size. Systems must conduct monitoring every 6 months unless they qualify for reduced monitoring. Within 30 days of learning the results, these systems must provide a consumer notice to the homeowners where samples were taken in order to notify them of the Pb test results. This is required *regardless of whether the results exceed the lead action level* by 40 CFR 141.85(d).

Radionuclides Rule

Most drinking water sources have very low levels of radioactive contaminants ("radionuclides"), most of which are naturally occurring, although contamination of drinking water sources from human-made nuclear materials can also occur. Most radioactive contaminants are at levels that are low enough to not be

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considered a public health concern. At higher levels, long-term exposure to radionuclides in drinking water may cause cancer. In addition, exposure to uranium in drinking water may cause toxic effects to the kidney.

The radionuclide rule was implemented to reduce the exposure to radionuclides in drinking water. The radionuclide rule sets MCLs for the following radionuclides:

Beta/photon emitters	4 mrem/yr
Gross alpha particle	15 pCi/L
Combined radium 226/228	5 pCi/L
Uranium	30 mg/L

Under this rule, initial monitoring requires four consecutive quarters of monitoring. If the average of the initial monitoring results for each contaminant is below the detection limit, one sample every 9 years is required. If the average of the initial monitoring results for each contaminant is greater than or equal to the detection limit, but less than or equal to one-half of the MCL, one sample is required every 6 years. If the average of the initial monitoring results for each contaminant is greater than one-half of the MCL but less than or equal to the MCL, one sample is required every 3 years. Any system with a sample above the MCL must return to quarterly sampling until 4 consecutive quarterly samples are below the MCL.

Disinfectants and Disinfection Byproducts Rule

Disinfection of drinking water is one of the major public health advances in the 20th century. One hundred years ago, typhoid and cholera epidemics were common throughout American cities. Disinfection was a major factor in reducing these epidemics. However, the disinfectants themselves can react with naturally occurring materials in the water to form unintended byproducts which may pose health risks.

A major challenge for water suppliers is how to balance the risks from microbial pathogens and disinfection byproducts. It is important to provide protection from these microbial pathogens while simultaneously ensuring decreasing health risks to the population from disinfection byproducts (DBPs). The 1996 Amendments to the SDWA required EPA to develop rules to achieve these goals.

The Stage 1 DBP Rule is the first step of a staged set of rules reduces the allowable levels of DBPs in drinking water to balance the risks between microbial pathogens and disinfection byproducts. Stage 1 DBP Rule applies to all Community and Non transient Non Community systems that use a chemical disinfectant in any part of the treatment process and to transient noncommunity systems that use chlorine dioxide. This applies to both surface and groundwater systems.

Stage 1 DBP Rule sets MRDLs for chlorine, chloramines, and chlorine dioxide, and requires PWSs to monitor and control these disinfectant levels. Stage 1

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DBP Rule also sets the MCLs for Total Trihalomethanes (TTHMs), Five Haloacetic Acids (HAA5), Bromate, and Chlorite, and requires PWSs to monitor and control levels of these common disinfection byproduct contaminants in the distribution system. The PWS must develop and implement a Stage 1 Monitoring Plan to be kept on file for review by the PWS's primacy agency and the public. Systems using a surface water source and serving more than 3,300 people must submit a copy of the plan to their primacy agency for approval.

Stage 2 DBP Rule builds on the Stage 1 DBP Rule by focusing on monitoring for and reducing concentrations of two classes of DBPs – TTHM and HAA5 – in drinking water. The Stage 2 DBP Rule divides PWSs into 4 Schedules either based upon PWS's service population or based on the largest service population within the combined distribution system of wholesalers and purchasers. For information on which schedule applies to your PWS, please visit:

<http://water.epa.gov/lawsregs/rulesregs/sdwa/stage2/compliance.cfm>

All PWS must develop a Stage 2 Monitoring Plan before the start of Stage 2 DBP Rule compliance monitoring. The PWS must keep a copy of the Stage 2 Monitoring Plan on file for its primacy agency and public review. A PWS using a surface water source and serving more than 3,300 people must submit a copy of the Plan to its primacy agency for approval.

The Stage 2 DBP Rule also requires all community systems to complete an Initial Distribution System Evaluation (IDSE). Community PWSs must use the results of the IDSE in conjunction with the Stage 1 DBP Rule sampling results to characterize and identify locations to monitor DBPs for Stage 2 DBP rule compliance.

Surface Water Treatment Rules

The surface water rules and their initial compliance dates consist of: The Surface Water Treatment Rule (SWTR)(12/30/1991); the Interim Enhanced Surface Water Treatment Rule (IESWTR)(1/1/2002); the Filter Backwash Recycling Rule (FBRR)(6/2/2004); the Long Term One Enhanced Surface Water Treatment Rule (LT1)(1/14/2005); and the Long Term 2 Enhanced Surface Water Treatment Rule (LT2)(10/1/2006) (collectively SWTRs). These five rules regulate systems with raw water source(s) that are surface water or groundwater under the direct influence of surface water (GWUDI). These rules work together to strengthen microbial protection and to address risk trade-offs with disinfection byproducts.

These rules regulate through multiple barrier treatment techniques designed to control acute contaminants such as Cryptosporidium, Giardia Lamblia and viruses. They require filtration unless rigorous filtration avoidance criteria can be continuously met. Another barrier requirement is continuous disinfection. They also require specific periodic assessments of systems, analysis of treatment processes and continuous monitoring to ensure that effective treatment techniques are being maintained.

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Other requirements of the SWTRs include: Ban on constructing uncovered finished water reservoirs and requirements to cover or treat existing ones; disinfection profiling to ensure adequate protection against microbials while making significant disinfection changes to comply with the DBP rules; periodic sanitary surveys and identification of significant deficiencies; and qualified operators to run surface water treatment systems.

LT2 is a risk based rule which requires source water monitoring. Only PWSs with high risk of *Cryptosporidium* in their source water will have to provide additional levels of treatment for this microbial pathogen.

Ground Water Rule

The final Ground Water Rule (GWR) was adopted by the EPA in October 2006 to reduce the risk of exposure to fecal contamination that may be present in public water systems that use ground water sources. The rule, which came into effect on December 1, 2009, establishes a risk-targeted strategy to identify ground water systems that are at high risk for fecal contamination. The GWR also specifies when corrective action (which may include disinfection) is required to protect consumers of ground water systems from bacteria and viruses.

The GWR applies to more than 147, 000 public water systems that use ground water (as of 2003). The rule also applies to any system that mixes surface and ground water if the ground water is added directly to the distribution system and provided to consumers without treatment equivalent to surface water treatment. In total, these systems provide drinking water to more than 100 million consumers.

The GWR rule addresses risks through a risk-targeting approach that relies on four major components:

1. Periodic sanitary surveys of ground water systems that require the evaluation of eight critical elements and the identification of significant deficiencies (e.g., a well located near a leaking septic system). States must complete the initial survey by December 31, 2012 for most community water systems (CWSs) and by December 31, 2014 for CWSs with outstanding performance and for all non-community water systems.

2. Source water monitoring to test for the presence of *E. coli*, enterococci, or coliphage in the sample. There are two monitoring provisions:

- Triggered monitoring* for systems that do not already provide treatment that achieves at least 99.99 percent (4-log) inactivation or removal of viruses and that have a total coliform positive routine sample under Total Coliform Rule sampling in the distribution system.

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-Assessment monitoring- As a complement to triggered monitoring, a State has the option to require systems, at any time, to conduct source water assessment monitoring to help identify high risk systems.

3. Corrective actions required for any system with a significant deficiency or source water fecal contamination. The system must implement one or more of the following correction action options:

- correct all significant deficiencies,
- eliminate the source of contamination,
- provide an alternate source of water, or
- provide treatment which reliably achieves 99.99 percent (4-log)

inactivation or removal of viruses.

4. Compliance monitoring to ensure that treatment technology installed to treat drinking water reliably achieves at least 99.99 percent (4-log) inactivation or removal of viruses.

Consumer Confidence Rule

Since 1999 all community PWSs have been required to prepare annual reports summarizing the quality of their drinking water supplies and make these reports available to all of their customers. A community PWS is one that serves the same people year-round. Most residences including homes, apartments and condominiums in cities, small towns and mobile home parks are served by community PWSs.

The Consumer Confidence Reports (CCRs) must be prepared and delivered for the previous calendar year by July 1st. A certification that the report contains accurate information and has been distributed is due to the PWS's primacy agency by October 1st. In Region 8, these reports are sent to the State drinking water programs in every state except Wyoming. Wyoming reports are sent to Region 8 EPA.

Each CCR must include the following required information:

- Information about the water system, including contact information and a list of opportunities for the public to participate in decision affecting water quality;
- Information about the source of water;
- Definitions of technical terms, such as MCL, MRDL , etc;
- Information on detected contaminants, including their potential health effects;
- Required explanations about drinking water sources and the types of possible contaminants
- Required health information language for vulnerable populations and lead
- Any violations of the drinking water regulations that occurred over the previous year;

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To obtain a copy of your PWS's CCR, please contact your PWS, state drinking water agency or EPA Region 8. Many of the reports are also available online.

Public Notification and the Public Notice Rule

The Public Notice (PN) Rule was most recently revised in May 2000. The purpose of this rule is to notify the public of situations that may pose a risk to public health and of other drinking water violations. The PN Rule requires all PWSs to notify their consumers any time a PWS violates a national primary drinking water regulation or has a situation posing a risk to public health. Notices must be provided to all persons served, not just billing customers.

There are 3 tiers of PN based upon the nature or severity of health risk. Tier 1 PN requires immediate notice, within 24 hours, and typically involves possible acute health risks, including when fecal coliform or E. coli positive samples occur, when nitrate or nitrite MCL or chlorine dioxide MRDL are exceeded, or when a waterborne disease outbreak, other waterborne emergency or other violation or situation as determined by the primacy agency occur. Tier 2 PN requires notice as soon as practical or within 30 days. It is required for all MCL, MRDL, and treatment technique violations that do not require Tier 1 PN. Tier 3 PN is required for any other violation with notice being given within 12 months. For community PWS, inclusion of the notice in the CCR covers Tier 3 PN.

Each PN must be displayed in a conspicuous way, must not include overly technical language or very small print, must not be formatted to or include language that defeats the purpose of the PN. As a member of the public, it is important to follow any instructions from the PWS in the notice.

Unless otherwise specified by the primacy agency, all PNs must include the following ten elements:

- Clear explanation of the violation, including the contaminant(s) or situation of concern;
- When the violation or situation occurred;
- Information about any potential adverse health effects;
- Information about the population at risk;
- Whether an alternative water supply should be used;
- Actions consumers should take, including when they should seek medical help, if known;
- What the PWS is doing to correct the violation
- When the PWS expects the violation or situation to be corrected;
- A PWS contact person including name, address and phone
- A statement encouraging distribution of the notice to others

The public notice must, where appropriate, be multi-lingual. Each state may have additional requirements. EPA, as well as many states, have developed model language and templates for public notices. EPA's templates can be found online at: <http://water.epa.gov/lawsregs/rulesregs/sdwa/publicnotification/>

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Capacity Development

Capacity development is an important component of SDWA's focus on preventing problems in drinking water. It refers to the process of planning for, achieving and maintaining adequate technical, managerial and financial (TMF) capabilities necessary to enable PWSs to comply with applicable drinking water standards and thus, provide safe drinking water on a consistent basis.

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

Technical capacity is the physical and operational capability of a water system to meet SDWA requirements. It refers to the physical infrastructure of the water system, which encompasses source water and its treatment before consumption as well as storage and distribution infrastructure. Technical capacity also refers to the ability of system personnel to operate and maintain the system properly. A system with adequate technical capacity employs a certified operator who understands the benefits of public health protection.

Managerial capacity is the ability of a water system's managers to conduct its affairs in a manner that will enable the system to achieve and maintain compliance with SDWA requirements. Accountability is an essential element of managerial capacity and ensures that a system can continue to operate effectively. System personnel are encouraged to interact regularly with the customers and regulators.

Financial capacity is a water system's ability to acquire and manage sufficient financial resources to allow the system to achieve and maintain compliance with SDWA requirements. The essential elements of financial capacity are revenue sufficiency, fiscal management and controls, and credit worthiness.

Each of the three elements of capacity is intrinsically related to the others. A deficiency in any one area could disrupt the entire effort to deliver safe drinking water.

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

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TMF Assistance Available

SDWA provides states the opportunity to use federal funds to assist communities in their capacity building efforts. Each state may set aside up to ten percent of the funds available from their Drinking Water State Revolving Fund to support the state's capacity development program and another ten percent to provide assistance to PWSs to help with their capacity development efforts. Still other set-asides may be used for technical assistance and source water protection measures. Furthermore, low or interest-free financing may be made available from the State Revolving Fund to fund infrastructure improvements for PWSs.

Other resources made available under SDWA are Technology Assistance Centers (TACs) and Environmental Finance Centers (EFCs). TACs provide training and technical assistance relating to the information, performance, and technical needs of small public water systems. EFCs are university-based centers that provide technical assistance to State and local officials in developing the capacity of PWSs. For more information on EPA's TACs and EFCs, visit <http://water.epa.gov/drink/index.cfm>

For more information on EFC services in Region 8 call: (505)924-7028.

Sanitary Surveys

SDWA regulations define a sanitary survey as "an on-site review of the water source, facilities, equipment, operation and maintenance of a public water system for the purpose of evaluating the adequacy of such source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water" (40 CFR 141.2).

Sanitary surveys have been a component of drinking water programs for decades. They are used by EPA and primacy states to collect information on water systems, and are utilized to determine a facility's capacity to deliver drinking water on a sustainable basis. When conducted properly, sanitary surveys can:

- identify systems needing technical or capacity development assistance;
- reduce the risk of waterborne disease; and
- provide an opportunity to educate system operators.

Most public water systems must undergo a sanitary survey at least once every five (5) years, with most community PWSs undergoing a sanitary survey once every three (3) years.

EPA outlines eight elements as basic components of a sanitary survey. All sanitary surveys will address these elements, if applicable:

- Water source
- Operator compliance with state requirements
- Distribution system
- Pumps, pump facilities and controls

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- Treatment and finished water storage
- Cross-connection control
- Operational safety
- Water system management and operations

If any significant deficiency identified through the sanitary survey, the PWS will be notified by its primacy agency and requested to address it.

Operator Certification Program

In accordance with SDWA, EPA issued guidelines in February 1999 specifying minimum standards for the certification and recertification of operators. These guidelines apply to state Operator Certification Programs. All states are currently implementing EPA-approved operator certification programs, which include ongoing stakeholder involvement. Contact your state for more information.

Actions your community should take for Safe Drinking Water

Essential components of safe drinking water include protection and prevention. The most important action for your community to take is to monitor for contaminants listed in NPDWRs.

General questions to ask the state

When I detect a contaminant, is a follow-up sample required?

When an MCL is exceeded, is a follow-up sample required?

What else should be done immediately when an MCL is exceeded?

Where can I get free fact sheets on these regulations?

Where can I get instructions on how to sample? Who can help me take the sample? Can I "composite" my samples with other systems?

Are there waiver programs for any monitoring requirements?

What is a certified laboratory, and why must I use a certified laboratory to test for NPDWRs?

Additional Information

Your State Drinking Water Agency will be able to provide information and fact sheets. See the Resource Section at the back of this handbook for contact information.

- Region 8 Drinking Water Program: (800) 227-8917 or <http://www.epa/region8/waterops>
- National SDWA Hotline: (800) 426-4791
- EPA Headquarters Water Website: <http://water.epa.gov>

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- American Water Works Association (AWWA): (800)926-7337 or <http://www.awwa.org>
- State Rural Water Association and/or Environmental Training Center
- Rural Community Assistance Corporation (916) 447-2854
- A good website for trainings and other information: <http://SmallWaterSupply.org>

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Injection Wells

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

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

The UIC program divides injection wells into six main Classes:

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

Does the UIC program apply to my community?

Generally, only shallow wells are likely to be found within your community. However, it is these wells that can pose the greatest threat to public and private drinking water wells. The types of shallow disposal systems most commonly operated in small communities include agricultural drainage wells, domestic wastewater disposal wells (e.g., septic systems and cesspools) that serve 20 or more persons per day, and commercial disposal wells used by small businesses (by car washes for example).

To address incidences of drinking water contamination resulting from shallow injection of motor vehicle maintenance-related wastes, EPA banned new Class V

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motor vehicle waste disposal (MVWD) wells in April 2000, and began phasing out existing MVWD wells. To date, EPA and Region 8 States have closed over 1500 of these wells and are continuing to find and close wells throughout Region 8. Individual or single family residential septic systems or cesspools are not regulated by the UIC program, but may be regulated under local or state laws and regulations. Additionally, States may have stricter rules than EPA, so contacting your State agency is recommended.

In addition, new large capacity cesspools have been banned since April 2000, and any remaining existing large capacity cesspools are being closed once identified. A large capacity cesspool has been defined as a cesspool that serves more than one residence or a non-residential cesspool that serves more than 20 people. This would mean restaurants, apartment buildings, churches and duplexes cannot dispose of their waste in cesspools. This is to protect the local groundwater from contaminants such as microbes, bacteria, and chemicals that would come from the cesspools. It is important to note that the State definition may vary from the federal definition, but the federal rule and definition applies.

Actions your community should be taking:

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

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

The threat of contamination to groundwater from shallow injection wells can be reduced significantly by utilizing Best Management Practices (BMP) and by reviewing new applications for septic systems to ensure appropriate use. BMPs refer to methods that have been determined to be the most effective and practical means of preventing or reducing pollution from non-point sources. For example, limiting the use of pesticides and fertilizers can significantly reduce the amount of chemicals that reach groundwater via agricultural drainage wells. Another BMP example is that of using public awareness programs to educate community members on the adverse effects of disposing of household chemicals in septic systems. Such best management practice programs can also encourage small businesses such as auto service stations to practice source reduction and recycling, for example, of used oil, antifreeze, solvents, and heavy metals that may otherwise be disposed of improperly in a septic system.

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Additional Information

- National Safe Drinking Water Hotline - (800) 426-4791
- "Shallow Injection Wells and How They Affect Drinking Water," U.S.
- EPA Region 8, Groundwater Program – (303) 312-6312
Residents of Colorado, Montana and South Dakota can contact the U.S. EPA Region 8 (phone number listed above). Residents of Utah, North Dakota and Wyoming can contact their respective state agencies.

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

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Source Water Assessment and Protection

States and water suppliers must conduct assessments of water sources to see where they may be vulnerable to contamination. Water systems may also voluntarily adopt programs to protect their watershed or wellhead, and states can use legal authorities from other laws to prevent pollution.

Source water is untreated water from streams, rivers, lakes or underground aquifers that is used to provide public drinking water, as well to supply private wells used for human consumption. Some water treatment is usually necessary, so public utilities treat most of the drinking water before it enters the home. However, the cost of this treatment, as well as the risks to public health, can be reduced by protecting source water from contamination. EPA, other federal agencies, states, local communities, businesses and citizens all play a role in ensuring that drinking water is protected.

The Wellhead Protection Program

The Wellhead Protection Program (WHPP) is a pollution prevention and management program used to protect underground sources of drinking water. The national WHPP was established under section 1428 of the 1986 SDWA amendments. The law specified that certain program activities, such as delineation, contaminant source inventory, contingency planning and source management, be incorporated into state WHPPs, which are approved by EPA before implementation. All states have EPA-approved state WHPPs. Although section 1428 applies only to states, a number of tribes are implementing the program as well.

WHPPs provided the foundation for many of the state source water assessment programs required under the 1996 SDWA amendments. Most states also use the wellhead protection program as a foundation for assessing and protecting ground water systems. State WHPPs vary greatly. For example, some states require community water systems to develop management plans, while others rely on education and technical assistance to encourage voluntary action. Other states, such Utah, have mandatory requirements for wellhead protection. Guidance, publications and other resources are available on state source water websites.

Source Water Assessments

A source water assessment is a study and report, unique to a PWS, that provides basic information about the water used to provide drinking water. The assessment may be completed by the State or a public water system and is a tool to provide the PWS, its customers and the public with information needed to make source water protection decisions. The assessment identifies the area of the watershed or aquifer from which the PWS's drinking water is drawn, including those areas most critical for protection. The assessment then identifies possible sources of contaminants that could affect the water's quality, and how likely they are to cause a problem.

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The Safe Drinking Water Act (SDWA) Amendments of 1996 required states to develop and implement source water assessment programs (SWAPs) to analyze existing and potential threats to the quality of the public drinking water throughout the state. These SDWA Amendments expanded upon the WHPP efforts. Using these programs, most states have completed source water assessments for every public water system -- from major metropolitan areas to the smallest towns. The source water assessment programs created by states differ, because each program is tailored to a state's water resources and drinking water priorities.

Actions your community should be taking

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

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

Additional Information

- EPA Region 8 Source Water Protection Program (303) 312-6550
- Region 8 Source Water Assessment and Protection website <http://www.epa.gov/region8/water/swap.html>
- EPA Source Water website: <http://cfpub.epa.gov/safewaer/sourcewater>
- Source Water Collaborative website: <http://www.protectdrinkingwater.org>
- How-To Manual: Update and Enhance Your Local Source Water Assessments; EPA 816-K-06-004, September 2006, available by request or online at: <http://water.epa.gov/infrastructure/drinkingwater/sourcewater/protection/>

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Water Quality Standards/Designated Use Waters

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

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

Designated Use Waters

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

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

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

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

State agencies that oversee water quality (e.g., departments of environmental quality; health departments, etc) and authorized tribes with approved WQS have responsibility for implementing WQS programs, including designating uses, establishing protection criteria, and developing anti-degradation policies and implementation strategies. Violation of WQS regulations and related

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environmental protection laws can involve stiff penalties, including fines, requirements to restore the area, and/or imprisonment.

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Protecting Water Bodies

Protection of water bodies, such as wetlands, streams and lakes, means controlling activities that adversely affect or may potentially adversely affect these water bodies.

Wetlands, generally defined as saturated or flooded areas where there is a prevalence of aquatic hydrophytic vegetation, such as swamps, marshes, and bogs are a particularly vulnerable, yet vital piece of the waters of the US. Wetlands in our country are being lost at an alarming rate; with less than half of our original wetlands remain today.

Some of the major causes of wetlands loss include, but are not limited to, agriculture drainage, urban development, trash deposition, chemical contamination and other types of pollution. Wetlands have many functions and values that make them dynamic, and they serve many purposes, including the following:

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

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

Dredge and Fill/ Section 404 Permits

Under Section 404 of the CWA, anyone who proposes an activity that would discharge dredged or fill material into waters of the United States is required to apply for a permit from the Corps. The 404 permit process requires applicants to demonstrate that they have followed certain steps including evaluating alternatives that avoid the impact, minimize the impact and finally mitigate the impact. The law places the burden of proof on the permit applicant to demonstrate that any particular dredge or fill discharge into any waters of the U.S. is (a) unavoidable and (b) the least environmentally-damaging practicable alternative to achieve the basic purpose of the project. 404 permits are subject to review by other Federal agencies (including EPA) and certification by the state. Section 401 of the CWA gives states and tribes the ability to approve, condition or deny certification of a 404 permit or waive the right to review it altogether.

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Additional Information

- The Wetlands Protection Hotline: (800) 832-7828.
- EPA Office of Wetlands, Oceans and Watersheds website:
<http://www.epa.gov/waterhome/factscontents.html>
- EPA Region 8 Wetlands Program website:
<http://www.epa.gov/region8/cross/eco/wetlands.html>
- The Clean Water Act of 1977 (33 USC. 1251-1376)
- The National Environmental Policy Act of 1969 (42 USC. 4321)
- Fish and Wildlife Coordination Act of 1934, amended 1946, 1958, 1977 (16 USC. 661-667e)
- River and Harbor Act of 1899, Section 10 Hazardous Waste
- The Endangered Species Act of 1973 (16 USC. 1531)
- U.S. Army Corps of Engineer Regulations, 33 CFR Parts 320-330
- Guidelines for Disposal Sites for Dredged or Fill Material, 40 CFR Part 230
- Executive Order 11990 on the Protection of Wetlands, May 25, 1977, 42 FR 26961

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Nonpoint Source Pollution

Despite progress in improving water quality impacts from industrial and municipal dischargers (point sources), the U.S. still faces significant water quality challenges. The major remaining water pollution problems are caused by less obvious and more widespread sources of pollution (nonpoint sources) that affect both surface water and groundwater. Nonpoint source (NPS) pollution is caused by rainfall, snowmelt or other runoff moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants and deposits them into lakes, rivers, wetlands, and ground water.

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

The 1987 Amendments to the CWA established the Section 319 NPS Management Program. Under Section 319, states and tribes receive grants that supports a wide variety of activities including technical and financial assistance, education, training, technology transfer, demonstration projects and monitoring to assess the success of specific nonpoint source implementation projects. The NPS Program is locally focused and state administered.

The NPS program is being implemented on a watershed-by-watershed basis. This geographic targeting of watersheds focuses on ecological units – river basins, estuaries, or critical habitat - instead of on political boundaries such as federal regions, states, tribal lands, counties or municipalities. A watershed approach relies on the collaborative efforts of many to restore and sustain watershed health. This approach shifts the emphasis from particular pollutants or pollution sources to a process that begins with the questions: "What do we want this watershed to look like? What is affecting the watershed? Can the resources and activities be managed differently to achieve our goals?"

Communities have played an important role in addressing NPS pollution. When coordinated with federal, state, and local environmental programs and initiatives, community-based NPS control efforts can be highly successful. To learn about and help control NPS pollution, contact the community-based organizations and environmental agencies in your area.

Additional Information:

- Region 8 NPS Program Website:
<http://www.epa.gov/region8/water/nps/npsr8.html>
- EPA's website for information on polluted runoff:
http://www.epa.gov/owow_keep/NPS/index.html

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

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

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

Actions your community should be taking:

Maximize community awareness of opportunities to comment on new or reissued permits that may affect water quality in your watershed. Opportunities exist for public comment during public notice of the proposed draft permit in major newspapers serving the county where the proposed discharge is located.

Additional Information

- NPDES Program Information: <http://cfpub.epa.gov/npdes/index.cfm>.
- Federal Water Pollution Control Act of 1972 (33 U.S.C. 1342) – Commonly referred to as the Clean Water Act
- EPA Administered Permit Programs: The National Pollutant Discharge Elimination System, 40 CFR Part 122
- “Design Manual – Constructed Wetlands and Aquatic Plant Systems for Municipal Wastewater Treatment”, Center for Environmental Research Information, Cincinnati, OH 45268, EPA/625/1-88/022

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Septic (Decentralized) Systems

Septic or decentralized wastewater systems are an alternative wastewater treatment option for small and/or rural households and communities. Residential septic systems do not need a NPDES permit, but may be subject to state and local regulations. Nearly one in four households in the United States depends on an individual septic (decentralized) system or small community cluster system to treat wastewater. In far too many cases, these systems are installed and largely forgotten - until problems arise. EPA concluded in its 1997 Report to Congress that "adequately managed decentralized wastewater systems are a cost-effective and long-term option for meeting public health and water quality goals, particularly in less densely populated areas." The difference between failure and success is the implementation of an effective wastewater management program. Such a program, if properly executed, can protect public health, preserve valuable water resources, and maintain economic vitality in a community.

Who regulates septic (onsite) wastewater treatment systems?

- States, tribes and local governments may be responsible for regulating individual septic (onsite) systems. EPA provides guidance and technical assistance to help develop and enhance septic (onsite) programs
- EPA regulates large capacity septic systems (systems with the capacity to serve 20 or more persons) under the Underground Injection Well program
- EPA regulates system discharges to surface waters under the National Pollutant Discharge Elimination System
- EPA regulates disposal of sewage sludge (biosolids) including domestic septage under 40 CFR Section 503

Actions your community should be taking:

Maximize community awareness of and develop education programs about:

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

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

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

Additional Information

- EPA Septic Resources: <http://cfpub.epa.gov/owm/septic/>
- “Voluntary National Guidelines for Management of Onsite and Clustered (Decentralized) Wastewater Treatment Systems”
http://www.epa.gov/owm/septic/pubs/septic_guidelines.pdf
- “Handbook for Managing Onsite and Clustered (Decentralized) Wastewater Treatment Systems” - A "how-to guide" for implementing EPA's Voluntary National Guidelines for Management of Onsite and Clustered (Decentralized) Wastewater Treatment Systems”
http://cfpub.epa.gov/owm/septic/septic.cfm?page_id=289
- “Small Wastewater Systems – Alternative Systems for Small Communities and Rural Areas”, EPA National Small Flows Clearinghouse, (800) 624-8301
- “It’s Your Choice – A Guidebook for Local Officials on Small Community Wastewater Management Options”, EPA National Small Flows Clearinghouse, (800) 624-8301
- “Community Managed Septic Systems – A Viable Alternative to Sewage Treatment Plants”, Controller General Report to the Congress of the United States, CED 78-168, 11/3/78

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Secondary Treatment of Municipal Wastewater

Secondary treatment is the minimum treatment requirement for most Publicly Owned Treatment Works (POTW). Secondary treatment, among other things, requires that effluent concentrations of five-day biochemical oxygen demand (BOD₅) and total suspended solids (TSS) limits not exceed 30 mg/l as a thirty-day average and 45 mg/L as a seven-day average. Some states allow higher TSS limits if certain conditions are met. In general, at a minimum the treatment process must be a stabilization pond.

Does the secondary treatment regulation apply to my community?

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

Actions your community should be taking

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

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

Additional Information

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

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Biosolids/Sewage Sludge Use and Disposal

During the past half century the practice of recycling biosolids, a byproduct of the wastewater treatment process has become more common. Environmental regulations ensure that biosolids are handled properly and are of sufficient quality for use as a soil conditioner or fertilizer. Currently about one-half of the biosolids produced nationally are recycled with perhaps 80-90% in rural areas.

How do Biosolids differ from Sewage Sludge?

Biosolids are primarily organic *treated* wastewater residuals from municipal wastewater treatment plants (with the emphasis on the word *treated*) that are suitable for recycling as a soil amendment. Sewage sludge, which has received additional stabilization treatment at a municipal wastewater treatment plant are called biosolids

Exactly what are Biosolids?

Biosolids are, in effect, a slow release nitrogen fertilizer with low concentrations of other plant nutrients. In addition to nitrogen, biosolids also contain phosphorus, potassium, and essential micronutrients, such as zinc and iron. Many soils are deficient in one or more micronutrients and biosolids solve this problem. Since biosolids are also rich in organic matter, that can improve soil quality by improving water-holding capacity and soil structure. Proper use of biosolids can ultimately decrease topsoil erosion while improving soil quality and agricultural production.

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

What are the Federal Requirements for Biosolids?

In 1993 EPA published the 503 rule which lists requirements for management of all biosolids generated during the process of treating municipal wastewater. The 503 Rule encourages the beneficial reuse of biosolids by establishing strict standards under which wastewater residuals can and cannot be beneficially recycled as soil amendments. EPA believes that biosolids are an important resource that can and should be safely recycled.

The 503 Rule is designed to protect public health and the environment. Most of the requirements are based on the results of extensive environmental risk assessment and on more than 25 years of independent research. The 503 Rule established standards for pathogen destruction and for levels of metals that can

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be present in biosolids. It also governs reduction of the attraction of vectors (such as flies), agricultural practices, site restrictions, and crop harvesting restrictions. Region VIII also requires that facilities using or disposing of biosolids obtain a permit prior the use or disposal.

What are the Reuse/Disposal Options?

The only options covered by 503 are incineration, surface disposal, and land filling, or recycling as soil amendments. Incineration is very expensive. Land filling and surface disposal are really temporary solutions to a permanent problem. Because biosolids are a valuable resource, recycling as soil amendments is the preferred option.

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

In general, yes, if the wastewater treatment system includes any form of central treatment or mechanical plant, including a wastewater lagoon or stabilization pond, which will need solids removed. Even if you believe your current NPDES permit covers the project, it is best to always contact either your state permit program and/or EPA Region 8.

Additional Information

- EPA Region 8's Biosolids Program at (303) 312-6129 or <http://www.epa.gov/region8/water/biosolids/>

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Pretreatment Requirements

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

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

Do the pretreatment requirements apply to my community?

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

Generally, smaller POTWs without significant industrial users are not required to establish EPA or state-approved pretreatment programs. However, POTWs are required by their NPDES permit to protect their POTWs and receiving waters and should establish authority in their ordinance or rules and regulations to implement the pretreatment regulations to control significant discharges from non-domestic users that may be located in their service area.

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

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

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

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Discharge limitations are developed and enforced by POTWs to implement prohibitions and to protect the POTW. They are site specific to ensure that pretreatment standards are in place to protect the POTW, the receiving stream and municipal sludge quality.

If your community wants to establish a local pretreatment program but is not required to do so by your NPDES permit, contact your state wastewater agency or Al Garcia, EPA Region 8 Pretreatment Coordinator, garcia.al@epa.gov, (303) 312-6382 for assistance.

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

Additional Information

- Pretreatment Final Rule, 40 CFR Part 403
- EPA Region 8 Pretreatment website at <http://www.epa.gov/region8/water/pretreatment/>

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Stormwater

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

In 1987, Congress amended the Clean Water Act to require the establishment of a comprehensive two-phased approach to control stormwater discharges.

- Phase I, issued in 1990, requires medium and large municipal separate storm sewer systems (MS4s), cities or certain counties with populations of 100,000 or more, to obtain NPDES permit coverage for their stormwater discharges.
- Phase II, issued in 1999, requires regulated small MS4s in urbanized areas, as well as small MS4s outside the urbanized areas that are designated by the permitting authority, to obtain NPDES permit coverage for their stormwater discharges.

The Stormwater Phase II Rule extends coverage of the NPDES stormwater program to certain “small” MS4s but takes a slightly different approach to how the storm water management program is developed and implemented. Generally, Phase I MS4s are covered by individual permits and Phase II MS4s are covered by a general permit. Each regulated MS4 is required to develop and implement a Stormwater Management Plan (SWMP) to reduce the contamination of storm water runoff and prohibit illicit discharges.

EPA has developed a set of digitized maps for each urbanized area as defined by the 2000 US Census. These maps are intended to assist authorized states (and EPA Regional Offices for unauthorized states) as they develop their Phase II municipal programs and permits.

What Are the Phase II Small MS4 Program Requirements?

Operators of regulated small MS4s are required to design their programs to:

- Reduce the discharge of pollutants to the “maximum extent practicable” (MEP)
- Protect water quality
- Satisfy the appropriate water quality requirements of the Clean Water Act

The six MS4 program elements, termed “minimum control measures”:

- Public Education and Outreach

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- Public Participation/Involvement
- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control
- Post-Construction Runoff Control
- Pollution Prevention/Good Housekeeping

Actions your community should be taking:

Maintain coverage under existing stormwater discharge permits, for either Phase I or Phase II. As necessary, apply for stormwater discharge permits, and implement controls, according to the stormwater regulations. Even if your community is not affected by stormwater regulations, consider developing an information and education program to increase the awareness of municipal employees and residents of the relationship between the stormwater drainage system and the local lake or stream. Communities should also consider establishing local ordinances prohibiting non-stormwater hookups and discharges or disposal of chemicals into the storm water drainage system.

Additional Information

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

- EPA NPDES Stormwater Program site:
<http://www.epa.gov/npdes/stormwater>
- EPA Stormwater Publications
[:http://cfpub.epa.gov/npdes/pubs.cfm?program_id=6](http://cfpub.epa.gov/npdes/pubs.cfm?program_id=6)
- EPA Region 8 Stormwater site:
<http://www.epa.gov/region8/water/stormwater/>
- EPA Region 6 Stormwater site:
<http://www.epa.gov/region6/water/npdes/sw/index.htm>

WATER PROGRAMS

State Revolving Funds

Clean Water State Revolving Fund Program

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

The types of financial assistance available include loans, purchase or refinancing of existing municipal debt, guarantee of municipal or state obligations and purchase of insurance to guarantee municipal debt for wastewater systems. Financial assistance can cover 100% of eligible project costs with no cash up front.

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

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

Additional Information

- EPA Region 8 SRF Coordinator: (303) 312-6277
<http://epa.gov/region8/water/srf>

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Drinking Water State Revolving Fund

Drinking Water State Revolving Fund Program

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

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

At least 15% of the amount credited to each loan fund each year must be reserved for loans to small systems. A priority list of eligible projects is to be published and updated only after giving notice and an opportunity for public comment. Loans can be made only to systems that demonstrate they have adequate technical, financial and managerial (TFM) capacity to comply with drinking water regulations or agree to obtain such capacity. Up to 30% of the loan fund may be reserved for loan subsidies, including forgiveness of principal to disadvantaged communities (communities with financial shortfalls as defined by the state). The second element of a DWSRF is the ability to set aside money for administration of the fund (4%), state program assistance (10%, requires an additional 1:1 state match), small systems technical assistance (2%), and local assistance (15%). These set-asides are intended to assist PWSs in meeting regulatory requirements through direct assistance, loans, and/or state grants funding capacity development, source water assessment, source water protection, and operator certification.

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

Additional Information

- EPA Region 8 SRF Coordinator: (303) 312-7823
<http://www.epa.gov/region8/water/srf.html>

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Indian and Tribal Set-Aside Programs

Clean Water Indian Set-Aside Grant Program

The Clean Water Indian Set-Aside Grant Program (CWISA Program) provides funding for wastewater infrastructure to Indian tribes and Alaska Native Villages. Funds may be used for planning, design and construction of wastewater collection and treatment systems. The CWISA Program is administered in cooperation with Indian Health Service.

Additional Information

- CWISA Website <http://www.epa.gov/region8/water/tsa.html>

Drinking Water Infrastructure Grants Tribal Set-Aside Program

The 1996 SDWA amendments authorized the Drinking Water Infrastructure Grants Tribal Set-Aside Program (DWIG TSA) program. The grant funds are used to improve the infrastructure of PWSs that serve tribal populations and to address the most significant threats to public health associated with PWSs that serve Indian Tribes. Examples of projects include rehabilitation or development of a drinking water source and installation or upgrading treatment, storage, or transmission facilities. Funds may be used to conduct project feasibility studies, engineering design work, or for project administration. No matching contributions are required.

Any federally recognized Indian tribe is eligible to receive a project grant through the program. Funds may also be transferred directly to Indian Health Services through an Interagency Agreement at a Tribe's request. In order for a water system to be eligible to receive funds, it must be a PWS which serves a Tribe. The system must also be non-profit or classified as a community water system.

Projects are selected through a competitive solicitation process. Tribes interested in receiving a DWIG TSA grant for a specific project must submit a grant proposal along with supporting documentation to the EPA Regional office. Proposals are scored and ranked by a review committee and project selection determined based on project rank and available funding.

Additional Information

- EPA Region 8 DWIG TSA Coordinator (303) 312-6389
<http://www.epa.gov/region8/water/tsa.html>

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Sustainable Infrastructure

Sustainable Water / Wastewater Infrastructure

In 2002, EPA released the Clean Water and Drinking Water Gap Analysis Report. This report estimated that if investment in water and wastewater infrastructure doesn't increase to address anticipated needs, the funding gap over the next 20 years could grow to \$122 billion for Clean Water capital costs and \$102 billion for Drinking Water capital costs. Infrastructure needs are great and communities have to address challenges related to aging infrastructure and growing and shifting populations. But the problem is manageable if utilities undertake the work that needs to be done to address infrastructure and if the public understands the costs that will be needed to ensure that they have access to safe drinking water.

EPA is committing to promote sustainable practices that will help to reduce the potential gap between funding needs and spending at the local and national level. The Sustainable Infrastructure Initiative guides our efforts in changing how the nation views, values, manages, and invests in its water infrastructure. The sustainability of our nation's water and wastewater infrastructure will require an approach that integrates both traditional and innovative solutions to address this funding shortfall to sustain the life and function of our water infrastructure. EPA has identified four focus areas (pillars) which must be addressed simultaneously to ensure the longevity of our infrastructure investments: 1) Better Management; 2) Watershed Approach; 3) Water Efficiency; and 4) Full Cost Pricing.

Additional Information

- EPA Resources on Sustainable Infrastructure:
<http://www.epa.gov/waterinfrastructure/>

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Asbestos

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

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

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

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

Federal Regulations Governing Asbestos

National Emissions Standards for Hazardous Air Pollutants

The largest single source of asbestos in the indoor air we breathe is probably insulation, since it had been used in most of the buildings built for some fifty years. In accordance with the CAA, Section 112 and to protect public health, EPA established National Emissions Standards for Hazardous Air Pollutants (NESHAP), and promulgated the Asbestos NESHAP on April 6, 1973. A revised NESHAP regulation was promulgated on November 20, 1990.

Asbestos NESHAP regulations protect the public by minimizing the release of asbestos fibers during activities involving the processing, handling, and disposal of asbestos-containing material (ACM)(i.e. "material greater than 1% asbestos by weight). They specify work practices to be followed during demolition and renovation of all structures, installations, and buildings (excluding residential buildings having four or fewer dwelling units). In addition, NESHAP regulations require building owners and/or contractors to notify the applicable state (or EPA office) before any demolitions or renovations of buildings that will disturb a

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certain threshold amount of asbestos. Under certain circumstances moving a house may be considered a demolition. Intentional demolition by fire of single family homes may also be regulated. By the early 1990's, 44 states have been authorized to implement the CAA asbestos NESHAP program.

Asbestos Hazard Emergency Response Act (School Buildings)

The Asbestos Hazard Emergency Response Act (AHERA), signed into law on October 22, 1986, required all schools in the U.S., to develop "management plans" to address how to control their ACM.

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

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

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

Asbestos Ban and Phase-Out

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

In October 1991 the U.S. 5th Circuit Court of Appeals vacated most of the Asbestos Ban and Phase-out Rule and remanded it to EPA. However, the court left intact the portion of the rule that regulates products that were not being manufactured, produced, or imported when the rule was published - in other words, all products made after July 12, 1989.

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

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

Workers must now take a four-day, 32-hour EPA-approved training course consisting of topics such as potential health effects of asbestos exposure, the use of personal protective equipment, and state-of-the-art work practices. Contractors/supervisors must take a five-day, 40-hour EPA-approved course; inspectors and project designers take a three day course; and management planners take a two-day course.

Additional Information

The following documents are available by contacting the EPA Asbestos Ombusman at (800) 368-5888, Region 8 Environmental Information Center at (800) 227-8917 or the Regional Asbestos Coordinator at (303) 312-7076. Many publications, as well as additional information, are available online:

<http://www.epa.gov/asbestos/>

- Managing Asbestos in Place: The Building Owner's Guide to Operations and Maintenance Programs for Asbestos-Containing Materials (The "Green Book"), December 2009
- The ABC's of Asbestos in Schools, Office of Pesticides & Toxic Substances, August 2003
- How to Manage Asbestos in School Buildings: AHERA Designated Person's Self Study Guide, January 1996
- Environmental Hazards In Your School: A Resource Handbook, EPA 2DT 2001, October 1990
- Asbestos in the Home: A Homeowner's Guide, December 1998
- National Emissions Standards for Hazardous Air Pollutants; Asbestos
- NESHAP Revision; Final Rule, November 20, 1990, 40 CFR Part 61Asbestos Regulations, 40 CFR Part 763

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Children's Environmental Health

Why Focus on Children's Environmental Health?

It is important to develop strong partnerships and networks across government agencies, health and environmental organizations, health care providers, educators, and the general public to take steps to protect children's health from the variety of contaminants and pollutants that may affect them where they live, learn and play. We must work together to ensure that their homes, schools, and playgrounds provide the necessary environmental conditions for normal growth and development. We need to focus on preventing unnecessary exposures as a first-line defense against harmful environmental pollutants while we continue to improve environmental protections and health outcomes.

Children are not "little adults":

Children may be more vulnerable to environmental exposures than adults, and there is clear evidence that they may face health and development risks from environmental contaminants because:

- children's neurological, immunological, respiratory, digestive, and other physical systems are still developing and may be more easily harmed by exposure to any number of factors in the environment;
- children eat more, drink more, and breathe more than adults in proportion to their body weight—their food, water, and air therefore must be especially safe;
- children play and learn by crawling and placing hands and objects in their mouths, increasing their chances of exposure to environmental contaminants;
- children have unique exposure pathways, such as through the placenta and breast milk; and,
- children have limited ability to communicate and urge action about their environment and their health; others must act on their behalf.

EPA's Children's Environmental Health Program

On April 21, 1997, the President signed the Executive Order on the Protection of Children from Environmental Health Risks and Safety Risks. This Executive Order requires all federal agencies to assign a high priority to addressing health and safety risks to children, coordinate research priorities on children's health, and ensure that their standards take into account special risks to children. In May 1997, EPA established the Office of Children's Health Protection (OCHP) to support the Agency as it implements the President's Executive Order as well as the national Agenda to Protect Children's Health from Environmental Threats. The mission of OCHP is to make the health protection of children and the aging a fundamental goal of public health and environmental protection in the United States and around the world. OCHP supports and facilitates Agency efforts to protect children's health from environmental threats.

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How can the Children's Environmental Health program benefit my community?

The children's environmental health program efforts to build community capacity in children's environmental health protection include:

1. providing information and tools to the public;
www.epa.gov/children
www.epa.gov/schools
2. supporting community actions to protect children;
<http://yosemite.epa.gov/ochp/ochpweb.nsf/content/grants.htm>
3. increasing the ability of health professionals to identify, prevent, and reduce environmental health threats to children;
http://yosemite.epa.gov/ochp/ochpweb.nsf/content/hcp_resources.htm
4. engaging youth in children's environmental health protection; and,
5. working with States and Tribes to develop programs to address children's environmental health issues.

Additional Information

- EPA Region 8 website: <http://epa.gov/region8/humanhealth/children/>
- EPA Region 8 Children's Environmental Health Contact:
Regional Children's Environmental Health Coordinator (303) 312-6967

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Climate Change

Climate change is a problem that is affecting people and the environment. However, there are many solutions for reducing greenhouse gases and adapting to this global challenge. EPA has various programs in which local governments, communities, individuals, and businesses can participate. Voluntary initiatives, such as ENERGY STAR[®], Green Power Communities, and Wastewise, encourage actions that result in reduced greenhouse gas emissions. EPA also provides training, guides, case studies, and has periodic funding opportunities that can help small communities develop and meet climate change and clean energy goals. For details on these, see EPA's State and Local Climate and Energy Program located at:

<http://www.epa.gov/statelocalclimate/local/index.html>.

Additionally, EPA has been working on various mandatory programs for large sources of greenhouse gas emissions. These programs include EPA's Greenhouse Gas Reporting Program, which requires sources of 25,000 metric tons per year or more of carbon dioxide equivalents (CO₂e) to report their emissions to EPA starting in 2011. EPA has also developed a regulatory program for stationary sources of 75,000 or 100,000 tons per year or more of CO₂e. These sources will be required to reduce their emissions using various control technologies or techniques starting in 2011. Most small communities will not have sources of this size. For details on these and other regulatory initiatives to address climate change, see:

<http://www.epa.gov/climatechange/initiatives/index.html>

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Emergency Planning & Community Right-to-Know Act

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

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

What is an Environmental Emergency?

An environmental emergency is a sudden threat to the public health or the environment arising from the release or potential release of oil, radioactive materials, or hazardous chemicals into the air, land, or water. These emergencies may occur as a result of transportation accidents, events at chemical or other facilities that use or manufacture chemicals, or as a result of natural or man-made disasters.

What are some of the requirements of EPCRA?

Section 304 requires immediate notification to authorized agencies for reportable releases of listed hazardous substances. Section 313 requires certain businesses to submit annual reports to the EPA and the State by July 1 of each year. These reports include the amounts of toxic chemicals their facilities release into the environment, either routinely or as a result of accidents. This information is entered into the EPA database known as the Toxics Release Inventory (TRI) that informs local governments and the public about releases of toxic chemicals.

EPCRA mandated the formation of State Emergency Response Commissions (SERCs), which must appoint Local Emergency Planning Committees (LEPCs). SERCs and LEPCs must be notified by facilities of chemical accidents subject to EPCRA requirements. LEPCs are required to analyze hazards and develop a local emergency plan to respond to chemical emergencies. Additionally, the LEPC must exercise, review and update its plan annually and make it available to the public. Businesses and industrial facilities must report annually to the SERC and LEPC on the chemical types, storage amounts and locations at their facilities. The SERC and LEPC must also make this inventory information available to the public.

In addition, if there is a chemical accident or other environmental emergency, responding organizations, such as the local fire department, will be prepared to deal effectively with the problem because of the EPCRA information and training. EPCRA enables state and local governments and the public to identify what needs to be done at the local level to better deal with pollution and chemical emergencies.

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Does the EPCRA apply to my community?

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

Compliance with EPCRA regulations can influence land use planning decisions for your community. For example, you would not want to locate a business or industry using chemicals that might present a hazard to individuals next to a school. EPCRA provides stiff penalties for facilities that do not comply, and it allows citizens to file lawsuits against companies and government agencies to force them to comply with the law.

If the EPCRA applies, what should I do?

As a member of the public, you should, first, be informed. TRI information is available to you on the Internet at <http://www.epa.gov/tri> . This includes EPA's Envirofacts Warehouse and other computer accessible data tools. With this information, you as an individual and as part of citizen groups can work to encourage reductions in TRI annual emissions by local industry and business.

As a local official, you should insist on complete planning and adequate preparation for environmental emergencies. You should review the membership list of your LEPC to make sure that it is representative of the community and includes individuals from citizen groups, fire departments, hospitals, schools, state and local governments, medical, industry and business groups, such as farmers. It is important for the LEPC not only to carry out the emergency planning process but also to communicate with the public about its activities.

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

Whom to notify in case of an environmental emergency

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

Additional Information

- Region 8 Environmental Information Service Center: (303) 312-6312
- Region 8 EPCRA Program website: <http://www.epa.gov/emergencies/index.htm>
- Toxics Release Inventory website: <http://www.epa.gov/tri/>

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ENERGY STAR®

Energy efficiency is a proven, practical solution to the critical issues facing the United States and the global community. It is the lowest cost, fastest, and largest untapped answer for reducing GHG emissions in the near future. At the same time, greater efficiency of the nation's housing, buildings, and industries will help Americans meet today's energy and environmental challenges, while creating new jobs and stimulating the U.S. economy.

Since its inception by EPA in 1992, the ENERGY STAR program has helped drive investment in energy efficient products, technologies, and practices that go well beyond existing appliance standards and building codes. EPA has used a variety of strategies to catalyze market transformation, including information dissemination; technical assistance; definition of specifications and verification of top performing products, buildings, and new homes; and recognition of organizations that have made substantial progress in reducing GHG emissions.

Many homeowners, businesses, and other consumers rely on the ENERGY STAR program as a trusted source of unbiased information to help them lower their energy bills while fighting global climate change. The program benefits have grown steadily since 1992 and will continue to grow as consumers and businesses leverage the ENERGY STAR program and take steps to:

- Select efficient products in more than 60 product categories
- Undertake home improvement retrofits
- Buy efficient new homes
- Improve the efficiency of public and private commercial buildings
- Design efficient buildings
- Improve the efficiency of industrial facilities

ENERGY STAR Qualified Products

Save energy and fight climate change with ENERGY STAR qualified products. They use less energy, save money, and help protect the environment. Learn more at: <http://www.energystar.gov/products>

ENERGY STAR Home Improvement

Making your home more energy efficient with ENERGY STAR can help to reduce high energy bills, improve comfort and help to protect the environment. Improving energy efficiency is also an important first step for homeowners interested in green remodeling. ENERGY STAR can guide you in making your home more efficient — whether you do-it-yourself or hire a qualified professional. Learn more at: <http://www.energystar.gov/homeimprovement>

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ENERGY STAR New Homes

To earn the ENERGY STAR, a home must meet strict guidelines for energy efficiency set by the U.S. Environmental Protection Agency. These homes are at least 15% more energy efficient than homes built to the 2004 International Residential Code (IRC), and include additional energy-saving features that typically make them 20–30% more efficient than standard homes. Learn more at: <http://www.energystar.gov/newhomes>

ENERGY STAR Buildings and Plants

Improving the energy efficiency of the places where we work, play and learn helps save energy, save money, and fight global warming. Look for facilities that have earned the ENERGY STAR – the national mark of excellence in energy performance – and know with confidence that the facilities are energy efficient and have a smaller carbon footprint. Learn more at: [http:// www.energystar.gov/buildings](http://www.energystar.gov/buildings)

ENERGY STAR for Local Governments

Partnering with ENERGY STAR is a commitment to your taxpayers as well as the environment. Local and state governments, as well as federal agencies, that partner with EPA and take the ENERGY STAR Challenge demonstrate their commitment to taxpayers as well as the environment. Learn more at: http://www.energystar.gov/index.cfm?c=government.bus_government_local

ENERGY STAR Challenge

The ENERGY STAR Challenge is a national call-to-action to improve the energy efficiency of America's commercial and industrial buildings by 10 percent or more. We can all do our part. Take the ENERGY STAR Challenge and use the Challenge Toolkit to help build a better world. Learn more at: http://www.energystar.gov/index.cfm?c=challenge.bus_challenge

ENERGY STAR for Small Business

Whether you own your building or are a tenant, you typically need lighting, heating, air conditioning, power for office equipment, and other services to stay in business. With free, unbiased information and technical support from ENERGY STAR, you can more easily improve your company's financial performance by reducing energy waste and energy costs, while protecting the earth's environment. Learn more at: <http://www.energystar.gov/smallbusiness>

Designed to Earn the ENERGY STAR

Designing commercial building projects to achieve the ENERGY STAR helps architects and their clients save money, save energy, prevent carbon emissions, and answer EPA's call to fight global warming. Learn more at: <http://www.energystar.gov/targetfinder>

For more information: <http://www.energystar.gov>

ENERGY STAR Hotline: (888) 782-7937 or hotline@energystar.gov

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Environmental Justice

What is Environmental Justice?

Environmental Justice (EJ) is focused attention on communities which are disproportionately impacted by environmental problems. In many cases these problems are found in minority and low-income communities. The objective of EJ is to ensure a quality environment for all citizens, regardless of race, ethnicity, or other socioeconomic factors and to promote equal access among low-income and minority communities to public information on, and public participation in, matters relating to human health and the environment.

EPA's Environmental Justice Program

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

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

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

How can the Environmental Justice program benefit my community?

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

- Raising awareness of Environmental Justice issues
- Awarding grants to communities to address environmental justice issues
- Identifying, assessing, addressing, and responding to inequitable environmental impacts
- Holding public meetings to receive public comments on local environmental protection activities
- Facilitating meetings bringing together all stakeholders to discuss local EJ issues
- Communicating with the public about opportunities for involvement in environmental decision-making

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- Providing information about EPA activities and assistance that EPA provides to communities

Environmental Justice Funding Opportunities

The Environmental Justice Grants program provides financial assistance (through its EJ Small Grants program) to community- based and other non-profit organizations, as well as state, local, and tribal governments to work on Environmental Justice projects. To assist communities and groups in understanding and applying for Environmental Justice Grants, the Region 8 Environmental Justice program provides grant training workshops both at the Regional office in Denver and on-site, at the request of states or municipalities.

Additional Information

- EPA Region 8 Environmental Justice Program: (303) 312-6053
- Environmental Justice Bibliography: Listings of websites, books, and journals specific to Environmental Justice and also includes lists of materials specific to EJ issues affecting Tribes and Latino communities
- The Resource Conservation Recovery Act's (RCRA) Expanded Public Participation Rule: This brochure explains the Expanded Public Participation Rule
- Brochure on the Model Plan for Public Participation: Developed by the National Environmental Justice Advisory Council as a guide for any organization or agency that addresses public participation
- EPA Environmental Justice Strategy: Publication highlights the goals, principles and objectives of the Executive Order on Environmental Justice
- Plan EJ 2014: A blueprint for the Agency's EJ strategy for the next several years
- National OEJ (Office of Environmental Justice) Website: <http://www.epa.gov/oecaerth/environmentaljustice/>
- Community Guide to EPA's Voluntary Programs, available online at: http://www.epa.gov/care/library/guide_vol_progs_2008.pdf

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Lead

Lead is a highly toxic metal that may cause a range of health effects and behavioral problems and learning disabilities. Children ages 6 years and under are at the most risk because their bodies develop rapidly and they frequently place their hands, toys, and other objects that could contain lead in their mouths.

Exposure to lead can result in lower intelligence in children and has been associated with behavioral and attention problems. Lead also causes kidney, liver, brain and nerve damage. At very high levels, lead can cause seizures, coma, and even death.

Before 1978, lead was commonly used in many different materials, such as leaded gasoline and lead-based paint. Lead is still found in many homes today. For example:

- If your home was built before 1978, there is a good chance it has lead-based paint. Paint chips and dust from deteriorating paint can contain dangerous levels of lead. Dust containing lead can be created by friction activities, such as when windows, doors, or drawers are opened and closed or during renovations, repair or maintenance jobs when painted surfaces are disturbed while sanding, demolishing or cutting.
- Lead dust can also be tracked into the home from soil outside.
- Some older or imported toys contain lead or lead paint, and toys can pick up lead from contaminated soil or house dust.
- Lead was also used in pipes, and in solder and plumbing fixtures that can corrode and release lead into drinking water.

Statutory Authority

The Residential Lead-Based Paint Hazard Reduction Act of 1992 (Title X) developed a comprehensive federal strategy for reducing lead paint hazard exposure. Specifically, Title X provided the authority for the following regulations by amending the Toxic Substances Control Act (TSCA) to include Title IV (Lead Exposure Reduction). The recent major rulemaking, entitled "The Renovation, Repair and Painting (RRP) Rule," was published April 22, 2008. Regulatory development for the lead-based paint program continues. On May 6, 2010, EPA promulgated the first of several anticipated amendments to the RRP Rule:

- **Residential Lead-Based Paint Disclosure Regulations(TSCA Section 1018 of Title X)** - Recognizing that families have a right to know about lead-based paint and potential lead hazards in their homes, disclosure requirements were developed for sales and leases of pre-1978 housing. These regulations require that buyers and renters must receive housing specific information on lead-based paint as well as a Federal pamphlet titled, *Protect Your Family from Lead in Your Home*, which provides practical, low-cost tips on identifying and controlling

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lead-based paint hazards. Sellers, landlords, and their agents are responsible for providing this information to the buyer or renter before sale or lease. The Federal requirements can be found at 40 CFR 745, Subpart F.

- **Lead-based Paint Activities Regulations (TSCA Sections 402/404):** These regulations ensure that individuals conducting lead-based paint activities in target housing and child-occupied facilities are properly trained and certified, that training programs are accredited, and that these activities are conducted according to reliable, effective and safe work practice standards. Child-occupied facilities are residential, public or commercial buildings built before 1978 where children under age 6 are present on a regular basis. Child care facilities, preschool and kindergarten classrooms are examples of child-occupied facilities. Lead-based paint activities include regulation of inspection, risk assessment and abatement. Abatement means any measure or set of measures designed to permanently eliminate lead-based paint hazards. Abatement can include the removal of lead-based paint and lead-contaminated dust, the permanent enclosure or encapsulation of lead-based paint, the replacement of lead-painted surfaces or fixtures, and the removal or covering of lead contaminated soil. The federal requirements can be found at 40 CFR 745, Subpart L.
- **Lead Renovation, Repair and Painting (RRP) Regulations:** If conducted improperly, renovations in housing with lead-based paint can create serious health hazards to workers and occupants by releasing large amounts of lead dust and debris. The RRP work practice standards requires that most upgrade, repair and maintenance activities that disturb paint in pre-1978 homes or childcare facilities must be performed by a certified firm, under the guidance of a certified renovator, with trained workers, using lead-safe work practices so that new lead hazards are not created during the renovation. The information distribution requirements require renovators to distribute a lead hazard information pamphlet to housing owners and occupants before conducting renovations on pre-1978 housing. Renovators are required to distribute a lead hazard information pamphlet to the owners and administrators of child-occupied facilities. Renovators must also make renovation information available to parents or guardians of children under age six that attend these facilities. Contractors must use the renovation-specific lead hazard information pamphlet entitled *Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools*. The complete federal requirements can be found at 40 CFR 745.83.
- **Pre-Renovation Lead Information Program (TSCA Section 406(b)) –** This Program requires renovators to distribute a lead hazard information pamphlet to housing owners and occupants before conducting renovations in pre-1978 housing. Renovators are required to distribute a lead hazard information pamphlet to the owners and administrators of

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child-occupied facilities before beginning renovations in these facilities. Renovators must also make renovation information available to the parents or guardians of children under age six that attend these facilities. As defined in the rule, child-occupied facilities are residential, public or commercial buildings built before 1978 where children under age six are present on a regular basis. Child care facilities and kindergarten and pre-kindergarten classrooms are examples of child-occupied facilities. Contractors must use the renovation-specific lead hazard information pamphlet, entitled *Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools*, to comply with these requirements.

Lead Program Delegation of Authority

States or Tribes can become authorized to implement all or parts of these programs as long as their programs are at least as stringent as EPA's. As of 2010, the EPA Region 8 States of Colorado, North Dakota, and Utah have authority to implement the Lead-based Paint Activities regulations. The States of Colorado and Utah are authorized to implement the information distribution requirements of the Pre-Renovation Lead Information Rule. The State of Utah has authority to implement the Lead Renovation, Repair and Painting regulations. The authority to implement the Residential Lead-Based Paint Disclosure Program presently remains with EPA.

Additional Information

- EPA Region 8 Lead Program: (303) 312-6966
- EPA Region 8 Lead Program website - <http://www.epa.gov/region8/toxics/leadpnt>
- EPA's National Lead Program website - <http://www.epa.gov/lead>
- National Lead Information Center (NLIC): (800) 424-LEAD (5323)
- The Lead-Free Kids Campaign – a joint effort of the Ad Council, EPA, U.S. Department of Housing and Urban Development, and Coalition to End Childhood Lead Poisoning - <http://www.leadfreekids.org>

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National Environmental Policy Act

The National Environmental Policy Act (NEPA) requires federal agencies to integrate environmental values into their decision making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. NEPA also established the Council on Environmental Quality (CEQ), which oversees NEPA compliance.

The NEPA process consists of an evaluation of the environmental effects of a federal undertaking including its alternatives. There are three levels of analysis depending on whether or not an undertaking could significantly affect the environment. These three levels include: categorical exclusion determination; preparation of an environmental assessment/finding of no significant impact (EA/FONSI); and preparation of an environmental impact statement (EIS).

At the first level, an undertaking may be categorically excluded from a detailed environmental analysis if it meets certain criteria which a federal agency has previously determined as having no significant environmental impact. A number of agencies have developed lists of actions which are normally categorically excluded from environmental evaluation under their NEPA regulations.

At the second level of analysis, a federal agency prepares a written environmental assessment (EA) to determine whether or not a federal undertaking would significantly affect the environment. If the answer is no, the agency issues a finding of no significant impact (FONSI). The FONSI may address measures which an agency will take to reduce (mitigate) potentially significant impacts.

If the EA determines that the environmental consequences of a proposed federal undertaking may be significant, an EIS is prepared. An EIS is a more detailed evaluation of the proposed action and alternatives. The public, other federal agencies and outside parties may provide input into the preparation of an EIS and comment on the draft EIS when it is completed. If a federal agency anticipates that an undertaking may significantly impact the environment, or if a project is environmentally controversial, a federal agency may choose to prepare an EIS without having to first prepare an EA.

After a final EIS is prepared and at the time of its decision, a federal agency will prepare a public record of its decision addressing how the findings of the EIS, including consideration of alternatives, were incorporated into the agency's decision-making process. EPA reviews and comments on EISs prepared by other federal agencies, maintains a national filing system for all EISs, and assures that its own actions comply with NEPA.

EPA Region 8's NEPA program works with federal, state and tribal agencies to ensure that environmental analyses for major federal actions provide a solid basis for the collaborative management and mitigation of environmental impacts in our states and tribal nations. Region 8's NEPA program formally reviewed and commented on more than 120 proposed federal actions related to land

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management, energy development, water, transportation, and other issues in 2007. These projects include new highway alignments and expansions, oil and gas development activities, water development projects, federal land management actions, power generation projects, and more.

Additional Information

- Region 8 NEPA Program: (800) 227-8917 or (303) 312-6004
- To find EISs filed with EPA for review and public comment and EPA comment letters visit the National EIS database:
www.epa.gov/compliance/nepa/eisdata.html

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Pesticides

The mission of EPA's National Pesticide Program is to protect human health and the environment from unreasonable adverse effects resulting from pesticide use, and ensure pesticides are available for safe use.

The primary statutes regulating pesticide use in the United States are the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug, and Cosmetic Act (FFDCA). FIFRA gives EPA the authority to register pesticides and to regulate the sale, distribution and use of pesticides. Pesticides are registered if EPA determines that they do not cause unreasonable adverse effects to human health, the environment, or non-target species, when used according to the label's directions. Pesticide registration decisions are based on EPA review of a comprehensive set of data requirements for each pesticide, as well as economic, social, and environmental costs and benefits, and human risk resulting from pesticide exposure.

FFDCA gives EPA the authority to regulate pesticides used by growers on crops and set limits for the amount of pesticide residues that may remain in or on foods and animal feed that are marketed in the United States. These residue limits on food are called "tolerances."

FFDCA contains specific requirements related to children as a result of the Food Quality Protection Act (FQPA). FQPA requires that EPA apply an additional tenfold safety factor to protect children when setting tolerances for food, unless acceptable data indicate that a lesser safety factor would be protective. Periodically, EPA will re-check the risk assessments used to set tolerances to ensure that tolerances are based on the most up-to-date data and accurately reflect actual or anticipated residue levels in food.

EPA is also responsible for reviewing and approving pesticide product labels. EPA reviews pesticide labels to ensure that they provide specific directions for use, safety information for applicators and agricultural workers, and environmental precautions. It is a violation of federal law for anyone to use an EPA registered pesticide in a manner inconsistent with its label, or to distribute or sell an unregistered pesticide product in the U.S.

The field program is another important component of the National Pesticide Program and is carried out by states, Indian tribes, EPA Regional pesticide programs and associated partners. The pesticide field program includes: worker protection, certification and training of pesticide applicators, endangered species protection, water quality protection, and pest management education, research and demonstration projects to support adoption of Integrated Pest Management (IPM). IPM is an effective and environmentally sensitive approach to managing pests by combining common sense practices that minimize economic, health, and environmental risks.

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Worker Protection

EPA is continually working to address the safety of agricultural workers and pesticide handlers through the implementation and enforcement of the Worker Protection Standard or WPS. The WPS is EPA's primary program to protect agricultural workers and pesticide handlers from occupational pesticide poisoning and exposures.

Certification and Training

EPA classifies pesticides as either "general use" or "restricted use." Those pesticides that are not yet classified by EPA are referred to as "unclassified". Pesticides that are classified as restricted use can only be sold to and used by or under the direct supervision of a certified applicator. EPA works with State Departments of Agriculture to provide certification and training for users of these pesticides in order to achieve applicator competence and ensure proper use of such products. Applicators must meet competency requirements to become certified and to use restricted use pesticides.

Endangered Species

EPA's Endangered Species Protection Program (ESPP) helps promote the recovery of listed species and limits any potential effects from pesticide use to federally listed, threatened or endangered species, while not placing any undue burden on agriculture or other pesticide users. The ESPP is a program designed to determine whether pesticide use in a certain geographic area may affect any listed species. If limitations on pesticide use are necessary to protect listed species in that area, the information is relayed through Endangered Species Protection Bulletins.

Water Quality

The goal of EPA's Water Quality Program is to make sure that pesticides do not adversely affect the nation's water resources. EPA, the states and tribal lead agencies collaborate to develop and carry out management programs to protect ground and surface water resources, as well as aquatic organisms, from pesticide risks.

Integrated Pest Management

Integrated Pest Management relies on a combination of pest management evaluations, decisions and practices and not just the use of pesticides. IPM strategies make use of information regarding the biology of pests in combination with available pest control technologies to manage pests economically and with the least possible hazard to people, property, and the environment. IPM programs take advantage of all appropriate non-pesticide pest management strategies, with the judicious and careful use of pesticides when necessary.

EPA emphasizes the importance of IPM through initiatives such as IPM in Schools and the Strategic Agricultural Initiative (SAI). Through EPA's IPM in Schools initiative, the Agency seeks to obtain a significant reduction in both pest complaints and pesticide use in schools. To promote IPM in schools, and

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thereby expand the protection of children from pesticide exposures, EPA has partnered with a team of IPM experts from across federal, state, tribal, and local governments, as well as non-governmental organizations and the academic community.

Through the SAI, EPA works with agricultural growers to adopt farm pest management practices that enable growers to decrease reliance on agricultural chemicals while maintaining economical outcomes, by developing, demonstrating and/or applying reduced-risk alternatives and ecologically-based integrated approaches to pest management. Like IPM in Schools, SAI plays an important role in reducing children's risks from pesticides.

Summary of EPA's National Pesticide Program

EPA's National Pesticide Program's responsibilities include educating and protecting consumers, and pesticide users or workers who may be exposed to pesticides, and protecting eco-systems, including non-target plants and animals. Because many pesticides are potentially hazardous, the agency serves an important role as a selective gateway to the pesticide market and an effective steward of pesticides already on the market. However, achieving these protective outcomes requires activities not just by EPA, but also by registrants, states, tribes, pesticide users and citizens.

Additional Information

- EPA Region 8 Pesticide Program: (800) 227-8917
- EPA Region 8 Pesticide Program Website:
<http://www.epa.gov/region8/toxics/pests/>

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Pollution Prevention

The Pollution Prevention Act of 1990 establishes pollution prevention as national policy, that is, EPA's preferred approach for protecting human health and the environment. Pollution prevention refers to any practice that reduces or eliminates the creation of pollutants through increased efficiency in the use of raw materials, energy, water, or other natural resources, or protection of natural resources by conservation activities.

Pollution prevention does not include any practice that alters the physical, chemical, or biological characteristics or the volume of a hazardous substance, pollutant, or contaminant through a process or activity which itself is not integral. Pollutants that cannot be prevented should be recycled whenever possible. Pollutants that cannot be prevented or recycled should be treated in an environmentally safe manner. Disposal or other release of pollutants into the environment should be used only as a last resort and should be conducted in an environmentally safe manner.

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

Actions for Communities:

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

Additional Information

- EPA Region 8 Pollution Prevention Program: (303) 312-6385
- EPA Region 8 Pollution Prevention Program website:
http://www.epa.gov/region8/conservation_recycling.htm

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Polychlorinated Biphenyls (PCBs)

Federal Regulation of PCBs

Concerned about industrial chemical toxicity and persistence in the environment, Congress enacted the Toxic Substances Control Act (TSCA). Under TSCA, Congress mandated the regulation of PCBs from manufacture to disposal, or from cradle to grave throughout the U.S. The PCB regulations are found at 40 CFR Part 761.

TSCA Section 6(e) required EPA to promulgate rules which included prohibitions on the manufacture, processing, distribution in commerce, marking, storage, and disposal of PCBs. The most recent rule, "Disposal of Polychlorinated Biphenyls (PCBs)," was published on June 29, 1998. However, on April 7, 2010, EPA issued an advance notice of proposed rulemaking (ANPRM) in the Federal Register concerning the reassessment of the use authorizations for PCBs which may result in substantial changes.

What are PCBs?

The term "PCB" is an acronym for polychlorinated biphenyls. PCBs are a group of 209 structurally related chemicals with varying degrees of chlorination, none of which occur naturally. They were legally manufactured from about 1930 through 1977 when manufacture of PCBs was voluntarily discontinued. Manufacture was prohibited July 2, 1979.

Due to their non-flammability, chemical stability, and electrical insulating properties, PCBs were used as dielectric fluid in various types of electrical equipment. PCBs were manufactured as resins, oils, or viscous liquids called Aroclors and, when diluted with trihalobenzene and tetrachlorobenzene, were sold under various trade names such as Inerteen, Pyranol, Askarel, Chlorextol, and many others. PCBs are mostly odorless but the chlorinated benzenes give high concentration PCBs their distinctive odor. PCBs were also used as plasticizers in paints, rubber products, pigments, dyes, and many other applications.

Where might you encounter PCBs?

You can expect to encounter PCB containing electrical equipment in any industry with high power requirements. PCBs can be legally used today in carbonless copy paper, transformers, capacitors, voltage regulators and fluorescent light ballasts along with other types of electrical equipment. A common misunderstanding of the regulations is that the July 2, 1979 Manufacturing, Processing, Distribution in Commerce and Use Bans resulted in no PCB containing electrical equipment remaining in service. This is not true. The regulations authorized a continuation of these major non-totally enclosed uses for the useful life of the equipment so that much of this equipment remains in service. Equipment manufactured after 1979 should not contain PCBs. PCBs were recently discovered illegally used in high concentrations in caulk in schools and public buildings constructed or renovated between 1950 and 1979.

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How can you identify PCBs?

Contaminated mineral oil dielectrics: Virtually every municipality and utility in the U.S. may be in possession of equipment containing PCBs. Manufacturers and servicers inadvertently introduced PCBs into a large proportion of mineral oil-filled electrical equipment in use before 1979, primarily through mixing PCBs and mineral oil during servicing operations. To determine the PCB concentration of PCBs in mineral oil dielectrics that have been contaminated, chemical analysis may be necessary. An acceptable method in the regulations for analysis of PCB extracts is SW 846-8082. Field test kits are not acceptable for documentation of compliance with the regulations transformers.

Trade name PCBs Electrical equipment with high concentration PCBs can be identified by a PCB trade name on the manufacturer nameplate. However, nameplates may not identify the dielectric, may be missing, or replaced during rebuilding with inaccurate information. A mineral oil transformer with $\geq 0.05\%$ (500 ppm) PCBs is regulated the same as a PCB trade name transformer with 60 % PCB. They are both PCB transformers. For a list of PCB trade names see Health Effects at <http://ww.epa.gov/pcb>

According to the regulations, any person must assume that a **transformer or capacitor** manufactured before July 2, 1979 and whose PCB concentration is not established contains ≥ 500 ppm PCBs. If the date of manufacture and the type of dielectric fluid are unknown, any person must assume the transformer or capacitor contains ≥ 500 ppm PCB. See 40 CFR Part 761.2(a)(3) & (4) for further information. Voltage regulators may contain an internal PCB capacitor.

Fluorescent light ballasts Manufactured before July 2, 1979 each contained a thimble sized capacitor filled with pure PCBs that was surrounded with potting compound some of which contained regulated quantities of PCBs.

Be aware of the meaning of “non-PCB transformer” According to the regulations, a non-PCB transformer means any transformer that contains < 50 ppm PCB. The term “non-PCB” does not mean “no PCBs” or that the contained fluid is not regulated for use or disposal. PCB fluids < 50 ppm when removed from transformers may only be used or burned for heat recovery in specified space heaters and industrial furnaces. There are no other permissible uses, and the fluids must be disposed of according to regulation.

Beware of hidden sources and prohibited uses of PCBs

The largest single hidden PCB source resulting in improper disposal is transformer bushings. The dielectrics in bushings have no fluid connections with the dielectrics in the transformers to which they are attached so that analysis of the transformer dielectric will not reveal anything about PCBs in the bushing.

“Pot heads,” cable termination apparatus that connect transformers to incoming power breakers, and enclosures should also be suspect.

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Dilution of PCBs, even if inadvertent, does not allow anyone to avoid more stringent management requirements established for higher concentrations of PCBs introduced into the diluted mixture.

Health effects of PCBs

Studies indicate that exposure to PCBs may cause cancer, nerve damage, damage to the reproductive system, immune system suppression, liver damage, and endocrine disruption. PCBs can enter the body through the lungs, gastrointestinal tract, and skin. They circulate throughout the body and are stored in the body's fatty tissue. Studies indicate that prenatal exposure to PCBs can result in developmental abnormalities. Postnatal effects, for example, memory and learning disabilities, have been documented following exposure to PCBs via breast milk. These same disabilities have been documented in adults having consumed contaminated fish from the Great Lakes.

Environmental Effects of PCBs

PCBs have become a worldwide contaminant. They are one of the 12 chemicals targeted by the global Stockholm Convention on Persistent Organic Pollutants (POPs). POPs are chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of living organisms, and are toxic to humans and wildlife. POPs circulate globally and can cause damage wherever they travel.¹⁷

PCBs are among the most stable organic compounds known; they remain in the environment and bioaccumulate in the fatty tissue of living organisms. Studies indicate that PCBs affect the productivity of phytoplankton and the composition of phytoplankton communities; phytoplankton can absorb PCBs directly from water by factors up to 1,000,000, are the foundation of the entire ocean food chain, and produce about 50% of the oxygen in the atmosphere.

The transfer of PCBs up the food chain from phytoplankton to invertebrates, fish, bird, and mammals can result in human exposure through consumption of PCB-containing food sources. The consumption of PCB-contaminated fish is a major source of human exposures. PCBs have become so ubiquitous that FDA has been compelled to issue tolerances for PCBs in fish, meat, eggs, and dairy, soap, and food packaging.

Additional Information

- EPA PCB website: <http://www.epa.gov/pcb>
- U.S. EPA Region 8 contacts:
Information Center: (800) 227-8917
Technical Assistance: (303) 312-6027 or (303) 312-6036
Enforcement: (303) 312-6973

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School Chemical Cleanout

EPA's School Chemical Cleanout Campaign (SC3)

From elementary school maintenance closets to high school chemistry labs, schools use a variety of chemicals. An estimated 33,000 (75 percent) middle and high schools across the country have unnecessary or mismanaged chemicals. If left unchecked, mismanaged chemicals can put students and staff at risk from spills, fires, and other accidental exposures. Chemical accidents disrupt school schedules and can cost thousands of dollars to repair. As many as 4,500 of the 6,000 schools in EPA Region 8 may be in need of some form of chemical management or proper chemical removal. The Schools Chemical Cleanout Campaign (SC3) aims to ensure that all schools are free from hazards associated with mismanaged chemicals and provides tools to responsibly manage chemicals at: <http://www.epa.gov/wastes/partnerships/sc3/>

By using these tools and pulling together a team with a variety of perspectives, expertise, and resources you can develop a successful chemical management program. Schools, parents, and local organizations can partner to create a chemical management program that meets the unique needs of their schools. The Pollution Prevention and Toxics Unit is available to provide technical assistance to schools to properly remove and dispose of hazardous chemicals and establish chemical management programs.

Maintaining Your Chemical Inventory

Chemical management begins with a complete, accurate and up to date inventory of all chemicals. You should establish and implement a plan for purchasing and managing laboratory chemicals to prevent accumulating excess and undesirable ones. Inventories enable you to determine the existence of a specific chemical, its location, and approximate shelf age, thus helping to control the hazards in your laboratory. Inventories should be updated at least once a year and when chemicals are purchased or used up. Colorado has a list of prohibited and restricted chemicals that should be eliminated, reduced in volume, or used only by the teacher for demonstration purposes.

Chemical Cleanout

When used responsibly, chemicals enable students to make scientific discoveries, create works of art and develop vocational skills. But when they are improperly stored, outdated, unknown or unnecessary, chemicals can create serious health and safety problems for children and school staff. A large majority of middle and high schools have chemicals that, when mismanaged, put students and staff at risk. Across the country, chemical hazards can be found in areas such as:

- School chemistry laboratories
- Art classes
- Vocational classes
- Facility maintenance areas; and Janitorial closets

OTHER PROGRAMS

Once your inventory is complete you should develop a list of those chemicals that are inappropriate, prohibited, restricted, and dangerous, outdated, unknown, unwanted, or in excess quantities. Only chemicals that are regularly used in a 2 year period should be retained. A cost estimate for proper disposal of these chemicals should then be obtained from a company capable of handling hazardous waste. A list of capable companies in your area can be provided by the Pollution Prevention and Toxics Unit.

RCRA regulations may apply to those facilities generating more than 220 pounds of hazardous waste or 2.2 pounds of acutely hazardous waste, as detailed in this document under RCRA – Hazardous Waste.

Chemical Management

While one-time chemical cleanouts have an immediate and positive impact on student and staff health, they are not a long-term solution to chemical management problems. For a sustainable solution, schools need to implement a chemical management program. A chemical management program should include a one-time cleanout of outdated, accumulated chemicals, a long-term plan for managing chemicals, and implementation of prevention practices. It helps to ensure that the school is purchasing, storing, using, and disposing of its chemicals in a responsible manner.

Key components of a chemical management program:

- Establish a chemical management plan
- Conduct periodic chemical inventories
- Plan and budget for chemical purchases, management and disposal
- Establish environmentally preferable purchasing practices
- Encourage school staff to use the smallest amounts of the least hazardous chemicals
- Offer chemical management and safety training for school staff.

Chemical management programs must be flexible to meet the needs of schools and school districts. Schools can make a positive difference by implementing components of a program that meet their current needs and resources.

Additional Information

- School Chemical Cleanout Coordinator, EPA Region 8 (303) 312-6284
- EPA's School Chemical Cleanout Campaign website
<http://www.epa.gov/wastes/partnerships/sc3/>
- EPA Region 8, Solid and Hazardous Waste Program under the Resource Conservation and Recovery Act (303) 312-6424
- Colorado's list of prohibited and restricted chemicals
<http://www.cdphe.state.co.us/regulations/consumer/101006schools.pdf>

OTHER PROGRAMS

Tribal Assistance Program

The EPA Region 8 Tribal Assistance Program (TAP) office was created in 1995. It was formed in response to expanding tribal environmental needs and to fulfill Agency responsibility of ensuring public health and environmental protection on Indian reservations. TAP serves as a central coordination point for tribal environmental issues among EPA staff, tribal representatives and the public within Region 8. Typical services provided to Region 8 tribes include: grants management, training, technical assistance, coordination and liaison services with other EPA programs. There are six Tribal Program Managers (TPM's) in the Region 8 Denver Office and two TPM's in the Helena, Montana Office. There is also a Director who along with management responsibilities of TAP staff is also the Special Advisor to the Regional Administrator for Region 8 Indian country.

The Mission of the TAP is "to provide leadership in protecting public health and the environment within Indian country; respecting the sovereignty of each tribe; and recognizing our Federal trust responsibilities." The TAP Office serves as a first point of contact for tribes seeking delegation of federal environmental programs and/or financial and technical assistance relating to the development of tribal environmental programs. The TAP Office also provides a coordination point for tribal environmental issues among EPA staff, tribal representatives, and the public.

Region 8 TPM's serve as project officers on cooperative agreements and grants under the General Assistance Program, Clean Water Act Sections 106 & 319, Clean Air Act Sections 103 & 105, Brownfields 128 (a) Tribal Response Solid & Hazardous Waste, and Pesticide Enforcement and Initiatives. They also work with other project officers on several other grant programs including: Community Action Renewed Environment, CWA Set-Aside Program, Wetlands, Diesel Emissions Reductions Act Program, Environmental Education, Environmental Workforce Development and Job Training, Indoor Air Program Competitive Funding, Leaking Underground Storage Tank (LUST and UST Programs, National Hazardous Waste Management Grants, Radon, Safe Drinking Water Set-Aside Program and Solid and Hazardous Waste grants. If a tribe chooses to have a Performance Partnership Grant (PPG), then TPM's may serve as a project officer for grant programs traditionally managed by other EPA programs.

EPA's national tribal program (American Indian Environmental Office) is housed in the International and Tribal Affairs Program Office. AIEO leads and coordinates the Agency-wide effort to strengthen public health and environmental protection in Indian country throughout the United States. AIEO places a high priority on building tribal capacity with a special emphasis on administering the General Assistance Program. AIEO also oversees development and implementation of the Agency's Indian Policy and strives to ensure that all EPA Headquarters and Regional Offices implement EPA's Indian program in a manner consistent with the Agency's established policy of working with tribes on a government-to-government basis.

OTHER PROGRAMS

Key Services Provided by TAP

Tribal Program Managers are responsible for a myriad of activities including:

- Establish strong effective working relationships with tribal staff and leadership;
- Establish clear expectations regarding tribal program performance and productivity;
- Provide technical and programmatic assistance to assigned tribes;
- Assist R8 tribes with developing comprehensive work plans & budgets;
- Ensure tribal grant compliance with programmatic and fiduciary requirements;
- Create or maintain effective dialogue with other federal agencies and within EPA;
- Carry out the liaison functions on behalf of tribal or EPA requests;
- Assume the responsibility of tribal advocate for all Region 8 tribes;
- Continue to develop approaches to work effectively with high risk grantee tribes;
- Provide leadership and strategic planning to foster tribal program progression;
- Provide funding opportunity notices for EPA grant programs managed by TAP;
- Provide technical assistance to EPA programs regarding EPA's and Region 8's Tribal Policies; and
- Facilitate the development of EPA and Tribal program guidance, policy and procedures documents.

Additional Information

- EPA Region 8 Tribal Assistance Program: (800) 227-8917 or (303) 312-6296 or online at: www.epa.gov/region8/tribes
- EPA Region 8, Montana Office: (800) 227-8917 or (406) 457-5000
- EPA American Indian Environmental Office: www.epa.gov/aieo
- AIEO Office: (202) 564-0303

ABBREVIATIONS

Abbreviations

AHERA:	Asbestos Hazard Emergency Response Act
ASHARA:	Asbestos School Hazard Abatement Reauthorization Act
CAA:	Clean Air Act
CERCLA:	Comprehensive Environmental Response Compensation and Liability Act, also known as Superfund
CFR:	Code of Federal Regulations
CORP:	Army Corps of Engineers
CRT:	Cathode Ray Tube (under RCRA)
CWA:	Clean Water Act
EJ:	Environmental Justice
EPA:	Environmental Protection Agency
EPCRA:	Emergency Planning and Community Right-to-Know Act
ESA:	Endangered Species Act
ESPP:	Endangered Species Protection Plan
FFDCA:	Federal Food, Drug and Cosmetic Act
FIFRA:	Federal Insecticide, Fungicide and Rodenticide Act
FQPA:	Food Quality Protection Act
HAPs:	Hazardous Air Pollutants (for CAA)
HSWA:	Hazardous and Solid Waste Amendment
LEPC:	Local Emergency Planning Committee (under EPCRA)
MCL:	Maximum Contaminant Level (under SDWA)
NEPA:	National Environmental Policy Act
NESHAP:	National Emissions Standards for Hazardous Air Pollutants
NPDES:	Non-point Discharge Elimination System
NPDWS:	National Primary Drinking Water Standards
NPL:	National Priority List (for CERCLA/Superfund)

ABBREVIATIONS

NPS:	Non-point Source
NRS:	New Source Review (under CAA)
OTAQ:	Office of Transportation and Air Quality
PCB:	Polychlorinated biphenyls
POTW:	Publicly Owned Treatment Works (under CWA)
PWS:	Public Water System (under SDWA)
RAA:	Radon Abatement Act
RCRA:	Resource Conservation and Recovery Act
SARA:	Superfund Amendments and Reauthorization Act
SDWA:	Safe Drinking Water Act
SERC:	State Emergency Response Committee (under EPCRA)
SRF:	State Revolving Fund (loan funds under SDWA and CWA)
SWAP:	Source Water Protection Program
SWMP:	Storm Water Management Plan
TAP:	Tribal Assistance Program
TRI:	Toxics Release Inventory
TSCA:	Toxic Substances Control Act
UIC:	Underground Injection Control (under SDWA)
UST:	Underground Storage Tank
WHPP:	Wellhead Protection Plan
WQS:	Water Quality Standards (part of the CWA)

GLOSSARY OF TERMS

Glossary of Terms

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

Antimicrobial - An agent that kills microbes

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

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

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

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

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

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

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

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

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

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

GLOSSARY OF TERMS

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

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

Micronutrient - A nutrient found in relatively small amounts «100 mg/kg) in plants. Municipal separate storm sewer systems (MS4s):

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

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

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

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

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

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

Pesticide Benefits - The economic and social benefits of the pesticide

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

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

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

GLOSSARY OF TERMS

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

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

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

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

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

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

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

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

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

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

Storm Water Facility (Storm Sewer) - A system of pipes (separate from sanitary sewers) that carries water runoff from buildings and land surfaces

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

GLOSSARY OF TERMS

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

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

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

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

RESOURCES

Resources

<u>State</u>	<u>Air</u>	<u>RCRA/Hazardous Waste</u>
Colorado	Air Pollution Control Division Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3442	Solid Waste & Incident Mgmt. Sect. Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3300
Montana	Air Program Dept of Environmental Quality 1520 East Sixth Ave. P.O.Box 200901 Helena, MT 59620-0901 (406) 444-3490	Solid & Hazardous Waste Bureau Dept. of Environmental Quality 1520 East Sixth Ave P.O. Box 200901 Helena, MT 59620-0901 (406) 444-1435
N Dakota	Air Quality Program Department of Health 918 East Divide Avenue Bismarck, ND 58501-1947 (701) 328-5188	Div of Waste Management Department of Health 918 East Divide Drive Bismarck, ND 58501-1947 (701) 328-5166
S Dakota	Air Quality Program S.D. Dept. of Env. & Natural Res. Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-3151	Div of Environmental Regulations Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3182 (605) 773-3153
Utah	Utah Division of Air Quality Dept. of Environmental Quality 195 North 1950 West Salt Lake City, UT 84114-4850 (801) 536-4000	Div of Solid & Hazardous Waste Dept. of Environmental Quality P.O.Box 144880 Salt Lake City, UT 84114-4820 (801) 536-4000
Wyoming	Air Quality Division Dept. of Environmental Quality Herschler Building 122 West 25 th Street Cheyenne, WY 82002-0600 (307) 777-7391	Solid Waste Program Dept. of Environmental Quality Herschler Building, 4 th Floor 122 West 25 th Street Cheyenne, WY 82002-0600 (307) 777-7752
U.S.EPA	U.S.EPA (8P-AR) 1595 Wynkoop Street Denver, CO 80202-1129 (303) 312-6312	U.S.EPA (8P-HW) 1595 Wynkoop Street Denver, CO 80202-1129 (800) 227-8917
		Waste Minimization Program (303) 312-6403
		RCRA Hotline (800) 424-9346

RESOURCES

State Solid Waste

Colorado Solid Waste & Incident Mgmt. Sec
Dept. Public Health & Environment
4300 Cherry Creek Drive South
Denver, CO 80246-1530
(303) 692- 3300/3348

Montana Solid & Hazardous Waste Bureau
MT Dept. of Environmental Quality
1520 East Sixth Ave.
P.O.Box 200901
Helena, MT 59620-0901
(406) 444-1435

N Dakota Division of Waste Management
Department of Health
918 East Divide Drive
Bismarck, ND 58501-1947
(701) 328-5166

S Dakota Div of Environmental Regulations
Dept. of Env. & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, SD 57501
(605) 773-5027

Utah Div. of Solid & Hazardous Waste
Dept. of Environmental Quality
195 North 1950 West
Salt Lake City, UT 84114-4880
(801) 538-6170

Wyoming Solid & Hazardous Waste Division
Dept. of Environmental Quality
Herschler Building, 4th Floor
Cheyenne, WY 82002-0600
(307) 777-7752

U.S.EPA U.S.EPA (8P-HW)
1595 Wynkoop Street
Denver, CO 80202-1299
(800) 312-7008

Recycling

Solid Waste Section
Dept. Public Health & Environment
4300 Cherry Creek Drive South
Denver, CO 80246-1530
(303) 692-3348/3337

Recycling & Mkning Dev
MT Dept. of Environmental Quality
1520 East Sixth Ave
P.O.Box 200901
Helena, MT 59620-0901
(406) 841-5253/5217

Recycling
Department of Health
918 East Divide Drive
Bismarck, ND 58506-5520
(701) 328-5166

Waste Mgmt.
Dept. of Env. & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, SD 57501
(605) 773-4985/3153;

Recycling Program
Dept. of Environmental Quality
195 North 1950 West
Salt Lake City, UT 84114-4880
(801) 538-6341
FAX (801) 538-6715

Recycling
Dept. Environmental Quality
303 Energy Lane
Casper, WY 82604
(307) 473-3668/3487

U.S. EPA (8P-HW)
Waste Minimization Program
1595 Wynkoop Street
Denver, CO 80202-1299
(303) 312-6974/600

RESOURCES

State Underground Storage Tanks

Colorado State Oil Inspection Prog Manager
 Division of Oil & Public Safety
 633 17th Street, Suite 500
 80202-3660
 (303) 318-8500

Montana UST Section Supervisor
 Dept. of Env. Quality
 520 East Sixth Ave.
 P.O.Box 200901
 Helena, MT 59620-0901
 (406) 444-5300

N Dakota UST Program Manager
 Waste Management Division
 Department of Health
 1200 Missouri Avenue
 Bismarck, ND 58506-5520
 (701) 328-5166

S Dakota Storage Tanks Section Manager
 Dept. of Env. & Natural Resources
 Joe Foss Building
 523 East Capitol
 Pierre, SD 57501-3182
 (605) 773-3296

Utah UST Section Manager
 Dept. of Env. Quality
 195 North 1950 West
 Salt Lake City, UT 84114-4840
 (801) 536-4100

Wyoming UST Program Manager
 Solid & Hazardous Waste Div.
 Dept. Of Env. Quality
 Herschler Building, 4th Floor
 122 West 25th Streets
 Cheyenne, WY 82002-0001
 (307) 777-7244

U.S.EPA U.S.EPA (8P-W-GW)
 1595 Wynkoop Street
 Denver, CO 80202-1129
 (303) 312- 6354
 (800) 227-8917

Brownfields

Colorado Brownfields
 Dept. of Public Health & Env.
 4300 Cherry Creek Dr. South Denver, CO
 Denver, CO 80246-1530
 (303) 692-3398

Brownfields Program
 Dept. of Env. Quality
 1520 East Sixth Ave
 P.O. Box 200901
 Helena, MT 59620-0901
 (406) 841-5071

Brownfields Program
 Department of Health
 1200 Missouri Avenue
 Bismarck, ND 58506-5520
 (701) 328-5166

Brownfields Program
 Dept. of Env. & Natural Res.
 Joe Foss Building
 523 East Capitol
 Pierre, SD 57501-3181
 (605) 773-3296

Voluntary Clean-up/Bronwfields Program
 Dept. of Env Quality
 195 North 1950 West
 Salt Lake City, UT 84114
 (801) 536-4100

Brownfields Assistance
 Dept. Of Env. Quality
 Herschler Building
 122 West 25th Streets
 Cheyenne, WY 82002-0600
 (307) 777-7752/ (307) 332-6924

U.S.EPA (8EPR-B)
 1595 Wynkoop Street
 Denver, CO 80202-2466
 (303) 312-6943

RESOURCES

State Drinking Water

Colorado Water Quality Protection Section
Dept. of Public Health & Env.
4300 Cherry Creek Dr. South
Denver, CO 80246-1530
(303) 692-3500

Montana Public Water Supply Section
Dept. of Environmental Quality
1520 East Sixth Ave.
P.O.Box 200901
Helena, MT 59620-0901
(406) 444-4400

U.S. EPA (8MO)
Federal Office Building
Drawer 10096, 301 S. Park
Helena, MT 59626-0096
(406) 441-1140

N Dakota Drinking Water Program
Department of Health
1200 Missouri Avenue
Bismarck, ND 58506-5520
(701) 328-5259

S Dakota Office of Drinking Water
Dept. Env. & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3181
(605) 773-3754

Utah Division of Drinking Water
Dept. of Environ. Quality
195 North 1950 West
Salt Lake City, UT 84114-4870
(801) 536-4200

Wyoming (See U.S. EPA)

U.S.EPA U.S.EPA (8P-W-DW)
1595 Wynkoop Street
Denver, CO 80202-1129
(303) 312-6812
or (800) 227-8917
FAX: (877) 876-9101

Drinking Water Hotline (800) 426-4791

Capacity Development

Water Quality Protection Section
Dept. of Public Health & Environ
4300 Cherry Creek Dr. South
Denver, CO 80246-1530
(303) 692-3500

Public Water Supply Section
Dept. of Environmental Quality
1520 East Sixth Ave
P.O. Box 200901
Helena, MT 59620-0901
(406) 441-4806

Drinking Water Program
Department of Health
1200 Missouri Avenue
Bismarck, ND 58506-5520
(701) 328-5210

Office of Drinking Water
Dept. Env. & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3181
(605) 773-3754

Division of Drinking Water
Dept. of Environmental Quality
195 North 1950 West
Salt Lake City, UT 84114-4830
(801) 536-4200

Water Quality Division
Dept. of Environmental Quality
Herschler Building
122 West 25th Streets
Cheyenne, WY 82002-0600
(307) 777-7781

U.S.EPA (8P-W-DW)
1595 Wynkoop Street
Denver, CO 80202-2466
(303) 312-6625

RESOURCES

<u>State</u>	<u>Injection Wells</u>	<u>Source Water Assessment & Protection</u>
Colorado	Shallow Injection Wells (See U.S. EPA)	Dept. of Public Health & Environ. 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3598
Montana	U.S. Federal Building 10 W. 15 th St. Suite 3200 Helena, MT 59626 (406) 457-5015	Pollution Prevention Bureau Dept. of Environmental Quality Helena, MT 59620-0901 (406) 441-4806 U.S. EPA (8MO) Federal Office Building 10 West 15 th Street, Suite 3200 Helena, MT 59626-0096 (406) 441-1123
N Dakota	Water Quality Division Department of Health 918 East Divide Ave., 4 th Floor Bismarck, ND 58501-1913 (701) 328-5213	Division of Water Quality Department of Health 1200 Missouri Avenue Bismarck, ND 58506-5520 (701) 328-5210
S Dakota	(See U.S. EPA)	Ground Water Quality Program Dept. of Env. & Natural Resources Joe Foss Building 523 East Capital Pierre, SD 57501-3181 (605) 773-3296
Utah	Water Quality Division Dept. of Environmental Quality 195 North 1950 West Salt Lake City, UT 84114-4870 (801) 538-6146	Division of Drinking Water Dept. of Environmental Quality 195 North 1950 West Salt Lake City, UT 84114-4870 (801) 536-4195
Wyoming	Water Quality Division Dept. of Environmental Quality Herschler Building, 4 th Floor 122 West 25 th Street Cheyenne, WY 82002-0600 (307) 777-5623	Water Quality Division Dept. of Environmental Quality Herschler Building, 4 th Floor 122 West 25 th Street Cheyenne, WY 82002-0600 (307) 777-5985
U.S.EPA	U.S.EPA (8P-W-GW) 1595 Wynkoop Street Denver, CO 80202-1129 (303) 312-6137	U.S.EPA (8P-W-GW) 1595 Wynkoop Street Denver, CO 80202-2466 (303) 312-6719
	SDWA Hotline (800) 426-4791	SDWA Hotline (800) 426-4791

RESOURCES

State Water Quality Standards

Colorado Water Quality Control Division
Dept. of Public Health & Env.
4300 Cherry Creek Dr. South
Denver, CO 80246-1530
(303) 692-3500

Montana Water Quality Division
Dept. of Env. Quality
1520 East Sixth Ave.
P.O.Box 200901
Helena, MT 59620-0901
(406) 444-2406

N Dakota Division of Water Quality
Department of Health
1200 Missouri Avenue
Bismarck, ND 58506-5520
(701) 328-5201

S Dakota Division of Water Quality
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3181
(605) 773-3153

Utah Division of Water Quality
Dept. of Env. Quality
195 North 1950 West
Salt Lake City, UT 84114-4870
(801) 538-6146

Wyoming Water Quality Division
Dept. of Environmental Quality
Herschler Building, 4th Floor
122 West 25th Street
Cheyenne, WY 82002-0600
(307) 777-7072

U.S.EPA U.S.EPA (8EPR-EP)
1595 Wynkoop Street
Denver, CO 80202-1129
(303) 312-6943

Protection of Water Bodies

Dept. of Natural Resources
1313 Sherman St. Room 718
Denver, CO 80203
(303) 866-4901

Wetlands Program
Water Quality Bureau
Dept. of Env. Quality
1520 East Sixth Ave
P.O. Box 200901
Helena, MT 59620-0901
(406) 444-2406

ND Water Commission
900 East Boulevard Ave.
Bismarck, ND 58505-0850
(701) 328-4940

Dept. Agriculture/Wetlands Prog.
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3181
(605) 773-4432

Governor's Office Plan. & Budget
State Capitol, Room 116
Salt Lake City, UT 84114-4870
(801) 538-1548

Dept. Of Environmental Quality
Herschler Building, 4th Floor
122 West 25th Street
Cheyenne, WY 82002-0600
(307) 777-7081

U.S.EPA (8EPR-EP)
1595 Wynkoop Street
Denver, CO 80202-2466
(303) 312-6340

Public Outreach
(303) 312-6056

RESOURCES

<u>State</u>	<u>Non-Point Source</u>	<u>Water Quality Permits</u>
Colorado	Water Quality Control Division Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3512/5385	Water Quality Protection Section Dept. of Public Health Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3500
Montana	Water Quality Division Department of Environmental Quality 1520 East Sixth Ave. P.O.Box 200901 Helena, MT 59620-0901 (406) 441-5319/5317	Div Permitting & Compliance Water Dept. of Environment Quality 1520 East Sixth Ave. P.O.Box 200901 Helena, MT 59620-0901 (406) 444-3080
N Dakota	Division of Water Quality Department of Health 1200 Missouri Avenue Bismarck, ND 58506-5520 (701) 328-5210	Division of Water Quality Department of Health 918 East Divide Avenue Bismarck, ND 58501-1947 (701) 328-5200
S Dakota	Division of Water Quality Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-4254/2813	Division of Surface Water Quality Dept. Of Env. Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-3351
Utah	Division of Water Quality Dept. of Environmental Quality 195 North 1950 West Salt Lake City, UT 84114-4830 (801) 536-6146/7177	Division of Water Quality Dept. of Environmental Quality 195 North 1950 West Salt Lake City, UT 84114-4870 (801) 538-6146
Wyoming	Dept. of Environmental Quality Herschler Building, 4 th Floor 122 West 25 th Street Cheyenne, WY 82002-0600 (307) 777-5622/7079	Water Quality Division Dept. of Environmental Quality Herschler Building, 4 th Floor 122 West 25 th Street Cheyenne, WY 82002-0600 (307) 777-5985
U.S.EPA	U.S.EPA (8P-W-MS) 1595 Wynkoop Street Denver, CO 80202-1129 (303) 312-6835/6237	U.S.EPA (8P-W-WW) 1595 Wynkoop Street Denver, CO 80202-2466 (303) 312-6373
CWA Hotline (800) 227-9441		

RESOURCES

<u>State</u>	<u>Biosolids</u>	<u>Pretreatment</u>
Colorado	Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3613	(See U.S.EPA)
Montana	U.S. EPA (8MO) Federal Office Building 10 West 15 th Street, Suite 3200 Helena, MT 59626-0096 (406) 441-5486	U.S. EPA (8MO) Federal Office Building 10 West 15 th Street, Suite 3200 Helena, MT 59626-0096 (406) 441-1140
N Dakota	(See U.S. EPA)	(See U.S. EPA)
S Dakota	Division of Water Resource Mgmt. Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-3351 – Technical Assistance	Division of Water Resource Mgmt Dept. Of Env. Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-3351
Utah	Division of Water Quality Dept. of Environmental Quality 195 North 1950 West Salt Lake City, UT 84114-4870 (801) 538-6146 – Technical Assistance	Division of Water Quality Dept. of Environmental Quality 195 North 1950 West Salt Lake City, UT 84114-4870 (801) 538-6146
Wyoming	Water Quality Division Dept. of Environmental Quality Herschler Building, 4 th Floor 122 West 25 th Street Cheyenne, WY 82002-0600 (307) 777-7775 – Technical Assistance	(See U.S. EPA)
U.S.EPA	U.S.EPA (8P-W-WW) 1595 Wynkoop Street Denver, CO 80202-1129 (303) 312-6373	U.S.EPA (8P-W-WW) 1595 Wynkoop Street Denver, CO 80202-2466 (303) 312-6373
	U.S.EPA (202) 260-7077	

RESOURCES

<u>State</u>	<u>Storm Water</u>	<u>Clean Water State Revolving Fund</u>
Colorado	Water Quality Control Division Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3500	Outreach & Assistance Unit Water Quality Control Division Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3374
Montana	Permitting & Compliance Division Department of Environmental Quality 1520 East Sixth Ave. P.O.Box 200901 Helena, MT 59620-0901 (406) 444-3080	Technical & Financial Assistance Bureau Department of Environmental Quality 1520 East Sixth Ave. P.O.Box 200901 Helena, MT 59630-0901 (406) 444-5321
N Dakota	Division of Water Quality Department of Health 918 East Divide Avenue Bismarck, ND 58501-1947 (701) 328-5210	Div.of Municipal Facilities Department of Health 918 East Divide Avenue Bismarck, ND 58501-1947 (701) 328-5220
S Dakota	Division of Environmental Services Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-3351	Div of Financial & Technical Assistance Dept. Of Env. Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-3128
Utah	Division of Water Quality Dept. of Environmental Quality P.O.Box 144870 Salt Lake City, UT 84114-4830 (801) 538-6146	Division of Water Quality Dept. of Environmental Quality P.O.Box 144870 Salt Lake City, UT 84114-4870 (801) 530-4340
Wyoming	Division of Water Quality Dept. of Environmental Quality Herschler Building, 4 th Floor 122 West 25 th Street Cheyenne, WY 82002-0600 (307) 777-7781	Division of Water Quality Dept. of Environmental Quality Herschler Building, 4 th Floor 122 West 25th Streets Cheyenne, WY 82002-0600 (307) 777-6371
U.S.EPA	U.S.EPA (8EPR-EP) 1595 Wynkoop Street Denver, CO 80202-1129 (303) 312-6234	U.S.EPA (8P-W-TF) 1595 Wynkoop Street Denver, CO 80202-2466 (303) 312-6277

RESOURCES

<u>State</u>	<u>Drinking Water State Revolving Fund</u>	<u>EPCRA</u>
Colorado	Water Quality Protection Section Water Quality Control Division Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3500	Office of Env. Intergration & Sustainability Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80222-1530 (303) 692-2977
Montana	Tech. Financial Assistance Bureau Dept. of Environmental Quality 1520 East Sixth Ave P.O.Box 200901 Helena, MT 59620-0901 (406) 994-5325	Dept. of Environmental Quality 1520 East Sixth Ave. P.O. Box 200901 Helena, MT 59620-0901 (406) 444-6780
N Dakota	Division of Municipal Facilities Department of Health 1200 Missouri Avenue Bismarck, NO 58506-5520 (701) 328-5259	Dept. of Emergency Services P.O. Box 5511 Bismarck, NO 58502-5511 (701) 328-8100 or (800) 472-2121
S Dakota	Water & Waste Water Funding Asst Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (605) 773-3754	Dept. of Env. & Natural Resources Joe Foss Building 523 East Capitol Pierre, SD 57501-3181 (800) 433-2288
Utah	Division of Drinking Water Dept. of Environmental Quality 168 North 1950 West Salt Lake City, UT 84116 (801) 536-0048	Div. of Env. Response & Remediation Dept. of Environmental Quality 168 North 1950 West Salt Lake City, UT 84116 (801) 536-4242
Wyoming	Office of State Lands & Investments Herschler Building 122 West 25 th Street Cheyenne, WY 82002-0600 (307)777-6371	State Emergency Response Comm. WY Office of Homeland Security 122 W. 25 th Street Cheyenne, WY 82002 (307) 777-4900
U.S.EPA	U.S.EPA (8P-W-TF) 1595 Wynkoop Street Denver, CO 80202-1129 (303) 312-7823	Toxics Release Inventory: U.S.EPA (8P-PRT) 1595 Wynkoop Street Denver, CO 80202-2466 SARA Title III U.S. EPA (EPR-SA) Same Address as Above EPCRA Hotline (800)424-9346

RESOURCES

<u>State</u>	<u>Asbestos</u>	<u>Indoor Environments/Radon</u>
Colorado	Air Pollution Control Division Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3164 Denver Sept. of Health & Hospitals 605 Bannock Street, Room 333 Denver, CO 80204 (303) 285-4057	Hazardous Material & Waste Mgmt Div Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-3442
Montana	Air & Waste Management Bureau Dept. of Environmental Quality 1520 East Sixth Ave. P.O.Box200901 Helena, MT 59620-0901 (406) 444-2690	Dept. of Environmental Quality 1520 East Sixth Ave. P.O.Box200901 Helena, MT 59620-0901 (406) 444-6836
N Dakota	Div.of Environmental Engineering Department of Health 918 East Divide Avenue, 3 rd Bismarck, ND 58501-1947 (701) 328-5188	Department of Health 918 East Divide Avenue Bismarck, ND 58501-1947 (701) 328-5188
S Dakota	Div.of Environmental Regulations Dept. of Env.& Natural Resources Joe Foss Building, 523 East Capitol Pierre, SD 57501-3181 (605) 773-3153	Dept. of Env. & Natural Resources Joe Foss Building, 523 East Capitol Pierre, SD 57501-3181 (605) 773-3151
Utah	Division of Air Quality Dept. of Environmental Quality P.O.Box 144820 Salt Lake City, UT 84114-4820 (801) 536-4173	Division of Radiation Control Dept. of Environmental Quality P.O.Box 144850 Salt Lake City, UT 84114-4850 (801) 536-0091
Wyoming	Air Quality Division Dept. of Environmental Quality Herschler Building 122 West 25th Street Cheyenne, WY 82092-0600 (307) 777-7394	Department of Health 6101 Yellowstone Qwest Building, Suite 510 Cheyenne, WY 82002-0600 (307) 777-6015
U.S.EPA	U.S.EPA (8P-P3T) 1595 Wynkoop Street Denver, CO 80202-1129 (800) 227-8917	U.S.EPA (8P-AR) 1595 Wynkoop Street Denver, CO 80202-1129 (303) 312-6312
Hotline	ASHAA (Schools) (800) 462-6706	(800) 767-7236

RESOURCES

<u>State</u>	<u>Pesticides</u>	<u>Pollution Prevention</u>
Colorado	Department of Agriculture Division of Plant Industry 700 Kipling Street, Suite 4000 Lakewood, CO 80215-8000 (303) 239-4100 http://www.colorado.gov	Office of Environ. Integration & Sustainability Program Dept. of Public Health & Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 (303) 692-2977
Montana	Department of Agriculture 302 North Roberts Street Helena, MT 59620-0901 (406) 444-3144 http://agr.mt.gov	MT St. University Ext. Service 102 Taylor Hall Bozeman, MT 59717-3580 (406) 994-6948
N Dakota	Department of Agriculture 600 E Boulevard Dept 602 Bismarck, ND 58505-0020 (701) 328-2231 (800) 242-7535 http://www.agdeptment.com	Division of Waste Management Department of Health 918 East Divide Avenue, 3 rd Floor Bismarck, ND 58501-1947 (701) 328-5266
S Dakota	Department of Agriculture Division of Agricultural Services Joe Foss Building, 523 East Capitol Pierre, SD 57501-3182 (605) 773-4432 http://www.state.sd.doa.das	(See U.S. EPA)
Utah	Department of Agriculture & Food 350 N Redwood Road P.O.Box 146500 Salt Lake City, UT 84114-6500 (801) 538-7100 http://ag.utah.gov/	Dept. of Environmental Quality 122 West 25 th Street Salt Lake City, UT 84114-4820 (801) 536-4108
Wyoming	Department of Agriculture Technical Services Division 2219 Carey Avenue Cheyenne, WY 82002 (307) 777-7324 http://wyaagric.state.wy.us/	Dept. of Environmental Quality 122 West 25 th Street Cheyenne, WY 82002 (307) 777-7347
U.S.EPA	U.S.EPA 1595 Wynkoop Street Denver, CO 80202-1129 (800) 227-8917	U.S.EPA (8P-P3T) 1595 Wynkoop Street Denver, CO 80202-1129 (800) 227-6385



U.S. EPA Region 8
Office of Partnerships and Regulatory Assistance
EPA 908K10003
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