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Acid Rain APCP



Much of the following national information is from the U.S. Environmental Protection Agency (EPA). It is based on "EPA's Acid Rain Program: Charting a New Course in Environmental Protection."

1. What is acid rain?

Acid Rain is caused when sulphur dioxide (SO₂) and nitrogen oxides (NO_x) -- pollutants released from burning

coal, oil, and other fossil fuels -- chemically react with other substances in the atmosphere to form acidic compounds. When these acidic compounds are carried down from the atmosphere in rain, fog, snow or dust, they can end up in lakes and streams, on buildings and monuments or on trees and land. They can harm fish, damage high-altitude forests and can deteriorate buildings and historical monuments. The pollutants that cause acid rain also have been known to worsen asthma and other lung ailments and to impair visibility in many regions of the nation, including scenic vistas of our national parks.

2. Why is acid rain a problem?

Low levels of acid rain can cause health problems. Very high acid fallout in mid-Missouri from power plant smokestacks has damaged automobile paint. Missouri's limestone bedrock neutralizes acid rain very successfully, so this pollution is not a problem for most Missouri waters. In other parts of the country, acid rain can damage plant and animal life in streams and lakes. Some lakes in the eastern Appalachian Mountains and in Europe have been virtually sterilized by high acid levels. Acid rain can damage limestone or marble buildings and concrete structures.

3. How does acid rain affect public health?

High levels of sulfur dioxide in the air have been proven to cause and aggravate various types of lung disorders. These lung disorders, which affect some people's ability to breathe, have led to both increased disease rates and mortality in sensitive populations, such as young children and the elderly. Low levels of acidic compounds and acid mist commonly found in the air in the eastern United States also can pose health problems. EPA has been asked by a panel of outside experts to investigate this issue.

4. How does acid rain affect lakes and streams?

When acid rain passes through soils or falls directly into lakes and streams, it can increase the acidity of the water. Higher acidity can hinder some fish and water plants from reproducing, growing and surviving. In some acidified lakes and streams, entire fish populations have disappeared. For example, many lakes in the Adirondack Mountains of New York and many streams in the Appalachian mountain region have lost trout and other aquatic life due to acid rain. The effects of acid rain can be either "chronic" or "episodic." Chronic acidity occurs when lakes and streams cannot counteract the chemical changes brought about by acid rain. This results in constant high acidity levels in the water. Episodic acidity occurs only periodically, primarily as a result of storms or snowmelts that empty large amounts of acidic water into lakes and streams. In the case of episodic acidity, lakes and streams suffer from intense but short-lived increases in acidity. In the spring, when such episodes often occur, newly hatched fish can be killed. Some lakes and streams are naturally more sensitive to acid rain because they rest in soil that cannot neutralize acids. In the mid-1980s, the U.S. Environmental Protection Agency (EPA) and other federal agencies commissioned a National Surface Water Survey to examine the effect of acid rain in over 1,000 lakes and thousand of miles of streams. From this survey, EPA determined that acid rain was the primary cause of acidic bodies of water.

5. Where are the acidified lakes and streams located?

According to the National Surface Water Survey, about 14 percent of the lakes larger than 10 acres in the Adirondack Mountains in New York are chronically acidic. About 12 percent of streams are acidic in the mid-Atlantic Highlands (which include southeastern New York, most of Pennsylvania, and portions of Maryland, West Virginia, and Virginia) and the mid-Appalachians (which include Virginia, West Virginia, Maryland, Pennsylvania, and North Carolina). Other affected areas include Florida and the Upper Peninsula of Michigan. In addition, many lakes and streams throughout the United States are sensitive to episodic acidification. The Canadian government has estimated that 14,000 lakes in eastern Canada are acidic, in part because of sulfur dioxide emissions from U.S. utilities and industrial plants.

6. How does acid rain harm forests?

Acid Rain can contribute to forest damage by impairing the ability of some types of trees to grow and fight disease. Acid rain also can strip forest soils of essential nutrients, which hurts the productivity of forests.

7. Which forest regions are most affected by acid rain?

Acid rain has primarily impacted high-elevation spruce trees that grow on the ridges of the Appalachian Mountains from Maine to Georgia, including spruce trees in the Shenandoah National Park and the Great Smoky Mountains National Park.

8. How does acid rain affect visibility?

The chemical reactions that sulfur dioxide and nitrogen oxides undergo in the atmosphere lead to the formation of particles that can reduce the distance we see and the clarity of our scenic vistas. These particles account for over 50 percent of the visibility problems in the eastern United States. In the West, such particles also have been blamed for visibility problems in the Grand Canyon and other national parks in the Colorado River Plateau.

9. Does acid rain contribute to the decay of buildings and monuments?

Acid rain contributes to the corrosion of metals and to the deterioration and soiling of stone and paint on buildings, statues and other structures of cultural significance. The damage inflicted on cultural objects is especially costly since a loss of detail seriously depreciates the objects' value to society.

10. How are we solving the problem nationally?

Federal legislation will require substantial reductions in sulfur dioxide and nitrogen oxides emissions, which will help improve environmental and health conditions in the United States. Scientists project that emissions reductions will increase the visual range in the eastern United States by 30 percent and reduce the deterioration of buildings and monuments. In addition, scientists predict that the Acid Rain Program will virtually eliminate acidity in the lakes and streams of the Adirondacks and help bodies of water and forests throughout the United States recover from the effects of acid rain. The latest EPA information on the 256 largest power plants in the U.S. shows a 20 percent reduction in SO₂ emissions between 1990 and 1994, the first year that acid rain rules were in effect. Even larger reductions are expected as smaller power plants begin to make the SO₂ reductions required by the acid rain rules. Utilities have successfully reduced SO₂ emissions, but will need to do more work at some boilers to meet NO_x emission reduction targets that have not yet been set by EPA.

11. How do utilities control acid gas emissions?

Most Missouri utilities have converted from high sulfur midwestern coal (2.5- to 4.5-percent sulfur) to low sulfur coals largely produced in the West. Burning this low-sulfur coal (usually less than 1.5-percent sulfur) can reduce acid gas emissions by as much as 90 percent. Some utilities that used scrubbers to reduce SO₂ emissions have disconnected them because SO₂ emissions from Western coal are so low.

12. How does EPA keep track of acid gas emissions?

Utilities are required to install very accurate continuous emissions monitoring systems to record acid gas emissions every hour the plant is operating. These systems produce an annual report of SO₂ and NO_x emissions. Each report is sent electronically to EPA, where allowances and emissions are compared. Utilities that emit SO₂ or NO_x in excess of their allowances must pay \$2,000 for each ton of excess emissions. When a company emits less than its limit, it may trade or sell the difference to another company to use.

13. What responsibilities does the MoDNR have in regulating acid gas emissions?

MDNR Air Pollution Control Program staff share responsibility with EPA region VII to assure that monitoring systems are accurate. The monitoring systems in Missouri perform very well, generally averaging less than 5 percent error. EPA will gradually delegate to MDNR the responsibility for issuing permits to acid rain sources.

14. What can Missouri citizens do to help reduce acid rain?

The largest sources of acid rain are power plants. Citizens can make the greatest contribution by conserving energy, thereby reducing the workload of the plants.

15. Will controlling acid rain result in increased electricity costs?

The allowance trading system is designed to minimize utilities' cost of reducing acid rain. Although monitoring systems are costly, low sulfur coal is usually less expensive than high sulfur coal, and these savings limit cost increases for electricity.

16. Does controlling acid rain lead to other problems?

Power plants sometimes have difficulties adjusting their boilers and air pollution control equipment to handle low-sulfur coal, but these modifications usually reduce total air pollution levels. The solid wastes created by scrubbers are eliminated when a utility converts to low-sulfur coal and no longer needs to operate a scrubber for acid rain control. For more information on **Acid Rain** phone Peter Yronwode or Cliff Johnson at (573) 751-4817.

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Air Quality Complaints APCP

1. Where can I get information about air quality in my area?

The Division of Environmental Quality has a [regional office](#) in your local area. Call the one nearest you for information about air quality.

2. What is the department's procedure upon receiving a complaint?

The complaint investigator from the appropriate regional office inspects the site. If the investigator finds a violation of air quality, the office issues a violation notice and refers the matter to the enforcement section of the Air Pollution Control Program. The enforcement section takes appropriate action to return the violator to compliance. The complainant may be contacted for more information at any time.

3. What are the most common complaints received by the department?

Open burning, various odors and fugitive dust such as dust from quarry operations or grain elevators.

4. Are complaints confidential?

The only way that a complainant can be assured of confidentiality is to remain anonymous. The department investigates all complaints, anonymous or otherwise. While staff do not initiate giving out complainant information, state files are open to the public.

5. How many complaints does the department receive a year?

The department receives about 950 air pollution-related complaints each year.

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Asbestos EAO

1. How does asbestos become a hazard to human health? Asbestos becomes hazardous to human health when it is crumbled or broken and the fibers escape into the air to be inhaled. The fibers are extremely small and remain airborne for long periods. The physical properties of asbestos that give it its resistance to heat and decay are linked to adverse human health effects, such as asbestosis, lung cancer and mesothelioma (cancer of the chest and abdominal membranes).

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Asbestos (Health Effects) APCP

1. What is asbestos and why is it harmful?

Asbestos is a mineral that was processed and used in many different building materials. When these materials become worn or damaged, they may start releasing asbestos fibers into the air. These airborne fibers may become lodged in the respiratory or digestive tract and cause health problems.

2. Are the asbestos containing floor tiles, siding, and shingles on my home harmful?

Normally, these materials do not present a concern. They become a hazard only when they are damaged by fire or mechanical forces and have the potential to release fibers into the air.

3. Is asbestos used anymore?

Asbestos is still used in some materials such as brake pads.

4. How does asbestos cause disease?

Bundles of asbestos fibers break down into smaller and smaller fibers. These fibers lodge in the lining of the lungs causing scarring. The scarring continues even after exposure is stopped. The fibers also can lodge in the lining of the digestive tract. Asbestosis and mesothelioma are two diseases caused exclusively by asbestos exposure. A link has also been shown between asbestos exposure and lung cancer.

5. There seems to be quite a concern about asbestos in schools. Why?

A large percentage of schools across the country contain asbestos materials. Schools are required to monitor the condition of the asbestos in their building and have a management plan in place. The greatest concern is prevention of children's exposure to airborne asbestos fibers.

6. Are other factors related to development of asbestos disease?

A smoker who is exposed to asbestos is much more likely to develop asbestos-related disease than a non-smoker. For more information on **Asbestos Health Effects** phone (573) 751-4817.

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Asbestos (Control, Registration, Certification) APCP

1. Who can remove asbestos in Missouri?

All asbestos projects performed in Missouri must be performed by contractors registered with the Air Pollution Control Program of the Missouri Department of Natural Resources.

2. Is it safe to handle asbestos?

There are different types of asbestos material. Each type requires a certain degree of special handling and training. If you have questions about a particular type, you may contact the Air Pollution Control Program at (573) 751-4817.

3. What type of training is required for people who perform asbestos projects in Missouri?

Any person involved in an asbestos removal project must be certified by the Air Pollution Control Program of the Missouri Department of Natural Resources. This certification involves special training by a Missouri-accredited training provider and successfully completing the state asbestos exam. Some asbestos occupations have other requirements for certification. A complete list is available upon request from DNR.

4. Where does the waste from a removal project go?

All asbestos-containing waste must be placed in a sanitary landfill. For more information on **Asbestos (Control, Registration, Certification)**, phone (573) 751-4817.

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Burning Permits & Complaints (Open Burning) APCP

The open burning regulations are contained in Missouri Air Regulations Division 10 chapters 1 through 5. Chapter 2 deals with Kansas City and adjacent counties, chapter 3 deals with the outstate area, Chapter 4 deals with the Springfield area and Chapter 5 deals with the St. Louis (non-attainment for ozone) area. Each area has its own regulation for restrictions of open burning. St. Louis (10 CSR 10-5.070) and Kansas City (10 CSR 10-2.100) areas are the most restrictive and the outstate area (10 CSR 10-3.030) and Springfield/ Green County (10 CSR 10-4.090) is the least restrictive. In general, all these regulations prohibit open burning of trade wastes by businesses and open burning of materials for salvage. All but the St. Louis area allow open burning of residential refuse originating from the household. Open burning by anyone of tires, railroad ties or demolition waste, especially anything containing petroleum products or asbestos, is always prohibited.

1. Where can I get specific information regarding open burning rules in my area?

The Division of Environmental Quality has a [regional office](#) in your area. Call the one nearest you for specific information on open burning.

2. How would I submit a complaint about open burning in my neighborhood?

Contact the regional office nearest you and ask for the air pollution section or the complaint investigator. The office will investigate the situation and deal with any infractions.

3. How do I obtain a open burning permit?

Contact the regional office nearest you to request an open burning permit. A permit may not be necessary for the type and volume of open burning you plan, depending on the location.

4. Why does the Missouri Department of Natural Resources prohibit open burning?

Open Burning is a very incomplete form of combustion. The by-products of open burning are hydrocarbons, which contribute to ground-level ozone (smog) production. In addition, some hydrocarbons are known carcinogens.

5. Why does St. Louis area have the most restrictive open-burning regulations?

St. Louis has the most restrictive open burning regulations because of unhealthful levels of ground-level ozone pollution. The hydrocarbons released during open burning contribute to the formation of ozone when the climatic conditions are right. These conditions are intense sunlight, low or no wind, presence of hydrocarbons, presence of nitrogen oxides from internal combustion and industrial combustion, and others. This is the reason for the open burning ban in the St. Louis Ozone Non-attainment area during the hot summer months. For more information on **Open Burning**, phone (573) 751-4817.

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CAFO EAO

1. What can I do about a near by Confined Animal Feeding Operation (CAFO)? You may want to learn about the proper operation of the type of animal operation it is. For instance if it is a turkey grower, find out how such farms normally handle litter containing manure and how they dispose of dead animals on the farm. If a CAFO is large enough to need a permit from the Department of Natural Resources (DNR), there will be a permit application with design and operation information for the particular farm on file with the DNR Water Pollution Control Program. After a CAFO is built, if you notice environmental problems you should talk with owners and if you are not satisfied with the result you may make a complaint to the appropriate DNR regional office. Your complaint will be investigated and the farm will be required to correct the problem if a violation is found.

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Construction Permits

Construction permits may be necessary for any new addition or change to an existing facility that increases or has potential to increase outside air emissions of any regulated pollutant. If you are uncertain whether an air permit is required or you need a construction permit application packet, contact one of the staff listed below.

1. How much does it cost to get a permit?

A non-refundable \$100 filing fee is charged upon submittal of the application. An additional charge of \$50 an hour of processing time also will be assessed. These fees must be paid before the permit may be issued. Total cost varies from permit to permit.

2. How long does it take to get a permit?

The Missouri Air Law requires most permit applications to be processed within 90 days of receipt of the application and accompanying application fee. The length of the review period varies based on the complexity and scope of the permit applied for. In addition, the total number of permit applications under review within the permit section also impacts the length of time until the permit is issued.

3. How may I obtain a copy of the Rules for the Construction Permit Program?

Copies of the rules for the Construction Permit Program may be obtained for a \$25 fee through the Secretary of State's Office at (573) 751-4015. Please ask for Missouri State Rules Title 10, Division 10 (10 CSR 10).

4. How may I obtain an application for a construction permit?

Application forms for construction permits are available now by written request. The address is Missouri Department of Natural Resources, Air Pollution Control Program, Construction Permits, P.O. Box 176, Jefferson City, MO 65102-0176. For more information on **Construction Permits**, call the Air Pollution Control Program at (573) 751-4817; or call the Division of Environmental Quality toll-free line, 1-800-361-4827. Staff may also be

reached by calling Relay Missouri, 1-800-735-2966.

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Emission Inventory Questionnaires (EIQ) APCP

The EIQ consists of a set of forms designed to facilitate the reporting and estimation of air pollutant emissions from processes within a facility. Emission fees often are charged based on the amount of air pollutants emitted into the ambient air during a calendar year. Air Pollution Control Program staff use the EIQ to estimate the emissions for assessing fees. Staff base these emission calculations on information published by the U.S. Environmental Protection Agency.

1.

1. **Who must pay emission fees?**

Facilities that are required to hold or which already hold permits issued by the Air Pollution Control Program must pay fees. Each year, the technical support section of the Air Pollution Control Program sends a letter to all facilities that are required to pay fees. They must submit an EIQ and pay fees based on estimated emissions documented in the EIQ.

2. **Who must complete an EIQ?**

Any facility that is required to hold or already holds a permit issued by the Air Pollution Control Program must fill out an EIQ each year. In addition, inspectors may request that a facility fill out an EIQ to evaluate whether or not future submittals of EIQs are required.

3. **When must the EIQs be filled out?**

The Technical Support section sends out EIQs at the end of the year for which emissions must be reported. This usually occurs in mid-December. For example, EIQs that are to be used to report 1994 emissions are sent out in mid-December of 1994. The EIQs are sent to facilities via certified mail to ensure that facilities receive the EIQs. The completed EIQs must be returned to APCP by April 1. For example, the EIQs used to report 1994 emissions data must be returned to the APCP by April 1, 1995, along with emission fees based on the estimated emissions reported in the EIQ.

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Erosion EAO

1. How do I control erosion on my farm? Erosion is caused by several factors. Bare and disturbed soil, moving water or air and sloping land are the main causes. Practices that minimize each factor will tend to reduce erosion. Using no-till or reduced-till cropping methods can reduce bare soil. If you find it necessary to plow conventionally, plant a cover crop in the fall and plow it under before spring planting or leave as much stubble as possible after harvest and wait until close to planting time to do your plowing. Moving water usually starts as sheet flow but quickly cuts ruts that may in time produce deep gullies. The steeper the slope, the faster the water moves and this energy loosens and carries soil particles along with the water. One way to slow the flow of water on a slope is to install terraces. Terraces keep water from gaining momentum on a long tilled slope and often drain the water to a vegetated waterway. Call Environmental Assistance Office (EAO) to discuss your particular problem. Missouri's Soil and Water Conservation Districts administer a cost share program, which is geared to helping prevent agricultural erosion. You can check with your local county Soil and Water Conservation District office for further information. EAO has developed a soil erosion control training class for builders and developers to help them with preventing erosion on building sites. Call EAO to find out the schedule.

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Environmental Education EAO

1. Can I get in-service training in environmental education? (This is a question commonly asked by teachers.)Yes. The department offers graduate-level courses on environmental issues. In addition, the department offers in-service workshops, on Project WET (Water Education for Teachers), Project Learning Tree, and Project WILD.

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Fees EAO

1. If I withdraw an air application during review, are fees charged?Yes, technical review fees are charged regardless of whether an application is withdrawn, a permit is granted, or the permit is denied.I received a bill for review fees of \$1,250 and I don't think I will pay it. What happens?Permits are not issued until the fees are paid. Fees not paid within 90 days of invoicing begin accruing daily interest at a rate of 10% APR. Permit applications may be denied for reason of failure to pay fees. Future permits will not be issued until the existing fees are paid. EXCEPT: if the fees will be a hardship to the business and it can be documented, the business may appeal to the Air Conservation Commission for a waiver of fees no later than 30 days after receipt of the bill. You will have to document the hardship to the Air Conservation Commission with financial records.

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Gasoline EAO

1. How do I dispose of my old leftover gasoline?The best way to handle leftover gasoline is to use it up! If you can't use it, someone else may be able to. Gasoline that can't be used up must be disposed of properly through a household hazardous waste collection program. Until a program is available in your county or community, store the gasoline carefully – in an approved gasoline storage container and in an area away from heat, sparks and flame. For information on household hazardous waste collection, contact your solid waste district representative or the Department of Natural Resources' Environmental Assistance Office at 1-800-361-4827.Reduction Tips for Consumers:

-
- Buy unleaded gasoline for small engines when possible so you can use up leftover gasoline in your car.
- For small engines that use oil-mixed gasoline, buy and mix only the amount you will need to operate the engine to avoid having any mixture left over.
- Use up gasoline left in engines at the end of the season before storing. For example, run your lawn mower until the tank is empty before storing it for the winter.
- You may be able to use old gasoline by mixing with new gasoline at a 1:5 ratio. If necessary, filter the old gasoline first.

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Hazardous Waste Reports HWP

1. Why do I keep getting these Hazardous Waste Program (HWP) annual generator report forms when I closed my tanks over a year ago?Every generator needs to file at least one report. If you have you have any questions about your specific situation, please call the HWP at (573) 751-3204.

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Household Hazardous Waste HWP

1. How can I reduce household hazardous waste? Leftover products such as paint, paint thinner, pesticides, and oven cleaner become household hazardous waste when they are no longer usable or wanted. As a consumer, you can eliminate or reduce the amount of household hazardous waste produced by your household. Read labels carefully before you buy a product. Avoid buying products with labels containing words such as corrosive, danger, flammable, poison, toxic or warning. Look for safer products in the store, or check your local library to find recipes for making your own. Buy hazardous household products only in the amount you need for the job. Follow label directions on how to use a product safely. Use the product up entirely. Share what you cannot use with a friend, a neighbor, or a community organization. It's not a waste if someone else can use it. If you cannot eliminate a waste, such as used oil if you change your own, check with your local solid waste officials to find out what is being recycled in your area.

2. How can I find out about household hazardous waste (HHW) collection programs? Missouri has 20 solid waste management districts. Planners in the districts have information about upcoming HHW collections, or know of communities planning HHW collections. See the [list of district planners](#) and talk to your district planner to find out about collection programs. You can also call the Environmental Assistance Office at 1-800-361-4827 for information.

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Inventory control EAO

When is inventory control going to be banned? Inventory control will be phased out beginning December 22, 1998. It will continue to be allowed for the first 10 years of a tank's life or for 10 years from the date of the tank upgrade (which assumes the tank is upgraded by 12/22/98). EPA's study of tank failure rates in the 1980's indicated that the rate of failure for tanks increases significantly after the tank's tenth birthday. Inventory control is not considered a very sensitive method of detecting leaks, therefore; EPA rules require tank owners and operators to shift to a more sensitive method after the tank or tank upgrade reaches 10 years of age.

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Lead Exposure and Its Effects APCA

The most common source of lead exposure is through ingestion of lead paint and lead-contaminated soils. Paints manufactured before 1978 may contain lead. The effects of lead poisoning range from loss of appetite, fatigue, constipation, cramps and pain in the ankles and wrists to loss of power in the arms and legs, anemia, kidney disease, mental retardation, blindness and death. Exposure to lead is most dangerous to children. Lead poisoning can cause many long-term problems including learning disabilities, short attention spans, gross motor skill difficulties and aggressive behavior.

1. What are the health effects associated with high lead concentrations in the air we breathe?

A recent health study conducted by the Agency for Toxic Substances and Disease Registry for the Missouri Department of Health shows that residents in the Glover non-attainment area have blood lead levels that are twice the level of citizens from a control town. The report concludes, however, that the blood lead levels in the residents tested are not at a level requiring medical attention.

2. How do I know if my child has lead poisoning?

A blood test is the only sure way to detect lead poisoning. Children between the ages of six months and three years should be tested every six months if they live in an older home or in one of the lead non-attainment areas. Children from three to six should be tested annually.

3. What is the Lead State Implementation Plan (SIP)?

The Lead State Implementation Plan (SIP) is the plan drafted by the Air Pollution Control Program, adopted by the Missouri Air Conservation Commission, and approved by the U.S. Environmental Protection Agency that addresses lead air pollution in Jefferson and Iron counties. The SIP details the control strategy for bringing these lead nonattainment areas into compliance with the NAAQS. There are currently three small areas in the state designated as non-attainment for lead. Air monitoring data in these areas indicate that the concentration of lead

in the air exceeds the National Ambient Air Quality Standards (NAAQS) for lead. The lead standard is 1.5 micrograms per cubic meter averaged over a calendar quarter. A lead smelting facility is located in each of these areas.

4. Whom should I contact for more information?

St. Louis City - Lead Clinic	(573) 658-1036
St. Louis - Pediatric Clinic	(573) 854-6000
Poison Control Center (24hr Hotline)	(573) 772-5200
Missouri Department of Health	(573) 751-6080
Air Pollution Control Program	(573) 751-4817

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Local Government issues EAO

1. Our community wants to upgrade (or build) water and sewer systems. How do we pay for these projects?

If your community is a city, town, village, sewer or water district, or a similar municipal entity, you may qualify for a Missouri Department of Economic Development, Community Development Block Grant; a United States Department of Agriculture, Rural Development grant and/or loan; or a Missouri Department of Natural Resources grant or State Revolving Fund loan. Depending on the environmental need and financial capability of your community, you may qualify for a combination of these grants and loans. Municipal entities can also issue bonds on the open market and take loans from banking institutions. Consult the "Finance and Financial Assistance Providers" section of the [Resource Bibliography PDF](#) for Government Assistance for information and contacts to the funding providers. You should also call the Government Assistance Unit at 1-800-361-4827 for information on your specific situation.

2. Our rural subdivision has septic tanks and drainfields that don't work anymore. The water surfaces and runs into ditches, it smells bad and our children and pets play in it. How do we get a sewer system?

First of all, if the lots in your community are large enough (usually at least one acre in size, two or three acres are much better), and your soils are good (your grass grows well over the entire lawn with little watering or fertilizing), you may not need a sewer system. On site wastewater systems like septic tanks and drainfields may work just fine, given proper construction and maintenance. In that case, you should call your local or county health department for guidance. If you do not have a local or county health department, call the Missouri Department of Health at (573) 751-6095, or e-mail Percy Johnson at johnsp@mail.health.state.mo.us.

If you need a community-based collection and treatment system, you have a lot of work ahead of you, but hundreds of communities have gone before you so you won't have to invent anything new. A good start is to read the guide, [You Need Sewers in Your Community](#). 29K [PDF](#)

3. Our community does not bring in enough money to properly operate and maintain our sewer and water systems. How can we examine our financial condition and raise our rates?

You need to do two things. First, examine your operations and purchases and improve them if you can. Second, do a user charge analysis. For guidance on that process, see the "Rate Studies for Water and Sewer " section above. Start your analysis right away. It is likely that the longer you wait, the worse off your finances will become. Then, you will have to raise your rates even higher to catch up.

4. What is TMF?

TMF, or technical, managerial and financial capacity, is the demonstrated ability to dependably provide a service over the long term. That catch phrase is most often used when talking about water systems, but the principles apply to all services a community may provide to its citizens and customers. If your systems have poor TMF

capacity, it is likely that soon, you will not be able to provide good service. If your TMF capacity is bad enough, your system may even fail someday. You can assess your TMF capacity by using the tools described above in the "Technical, Managerial and Financial (TMF) capacity development assistance" section.

5. What is the Environmental Management Institute? Should I go?

The Environmental Management Institute (EMI) is a training program for local government officials and those who help them. This two-day workshop helps participants become better environmental decision-makers. EMI is becoming highly recognized having won the 1999 Governor's Award for Quality and Productivity. It was also a 1999 and 2000 semifinalist for the Council of State Governments' Innovations Award. If you are a local government official or someone who helps them, and you want to improve your decision-making power, **go to EMI**. You will be glad you did.

To see what we cover in EMI, click [EMI Topic Descriptions PDF](#) . To register for the session nearest you, print and fill out [registration form PDF](#) and return it to us, or register with a credit card on-line.

6. What is the Show-me Ratemaker Software?

The Show-me Ratemaker Software are Microsoft Excel-based spreadsheets that enable you to examine your sewer or water system rates and financial condition and develop new rates. You enter use, revenue and cost data into the spreadsheets and set your financial goals. Then, you will be guided through the spreadsheet process of developing new rates that will fund your system as you desire. If you want rates that are proportional to the amount of service your customers use, the spreadsheet will develop those rates almost automatically. Other rate structures take a few more steps. You can download these spreadsheets as part of the [EMI Software Suite](#). We also suggest you attend the Show-me Ratemaker Workshop to learn ratemaking and the software in depth.

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Abandoned Mine Lands LRP

1. Do you have any land for sale?

No. We neither own, buy, nor sell land. We recommend that you contact a real estate agent in your area of interest.

2. Will my property taxes increase after reclamation work is completed?

The answer is usually no. However, this is determined by the tax assessor of the county in which the property is located.

3. Who pays for the cost of reclaiming an abandoned coal mine project?

Active coal companies pay a fee for every ton of coal that is mined specifically to pay for the cost of reclaiming abandoned coal mines across the United States. This fund is provided to each qualifying state to pay for abandoned coal mine reclamation projects.

4. May I have a pond built on my property as part of the reclamation process?

Every effort is made to incorporate landowner requests if they are compatible with the project and are economically feasible.

5. Will I be able to farm my ground after reclamation?

Reclaimed land is fragile and should be treated as such. In those instances where sites contain adequate topsoil, the land can be farmed if proper farming techniques are practiced. For the most part, reclaimed, abandoned mine lands are not suitable for farming and landowners are cautioned against plowing or other practices (e.g. overgrazing) that could destroy the vegetation, cause erosion and subsequently expose buried acidic material.

6. Will the DNR fix my house if it is damaged by mine subsidence from an abandoned mine?

No. AML funds can be used to fill a subsidence hole or to stabilize the soils beneath the house to minimize further subsidence. Structural repair would be the responsibility of the home owner or the insurance carrier. If it is damaged by an active mine, contact the Land Reclamation Program at (573) 751-4041.

7. What if I don't want my property reclaimed. Do I have to give consent to have the reclamation done?

Under most circumstances the Land Reclamation Program will not enter onto a property to do reclamation if it is against the landowner's wishes. However, if the property contains a health and safety problem that poses a danger to the public, the Land Reclamation Program can enter onto the property to conduct reclamation work even if it is against the landowner's wishes.

8. If I reclaim my land, will the State pay me?

No.

9. How soon may I have full use of my property after the reclamation is completed?

The Land Reclamation Program requests reclaimed sites not be grazed for one year to allow vegetation to become established. The Land Reclamation Program will monitor the vegetation growth for an additional two

years. If the site has no additional problems after this, then the owner is free to use the land as desired. The Land Reclamation Program works with the landowners regarding use of the reclaimed land during the 1-3 year(s) period following reclamation. **10. If I know of an Abandoned Mine Lands (AML) site, how can I find out when it will be reclaimed?**

Most of the AML sites in Missouri have been identified and prioritized for reclamation according to their impact on the environment and the threat of danger to the health and safety of Missouri citizens. If you have a specific question about an AML site, you should call the Department's land Reclamation Program at (573) 751-4041. It would be helpful to have informatin pertaining to the site such as the name of the township, section number, township and range numbers, the mine name and when mined. **11. If I know of an abandoned mine site that was mined for lead, zinc or other noncoal product, what assistance can LRP provide to me?**

In May 2000, the Land Reclamation Commission granted approval for LRP to initiate the process that would allow AML funds to be utilized to close 19 extremely dangerous lead/zinc shafts in southwestern Missouri. Reclamation of these openings began in the fall of 2001 and should be completed by late spring 2002. Reclamation of additional dangerous noncoal shafts will most likely occur in upcoming years. Technical assistance is available to landowners and interested citizens who are concerned about noncoal problems. Although many noncoal shafts have been inventoried, the Land Reclamation Program invites citizens to report open shafts by contacting the Land Reclamation Program at (573) 751-4041.

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Coal - Frequently Asked Questions (FAQ) LRP

1. Yes, the Land Reclamation Program regulates several aspects of the use of explosives at coal mines. These are:
 - **Certification of Blasters.** All persons in charge of blasting activities at coal mines must pass a certification test to show that they have the knowledge to safely handle explosives and conduct blasting activities. All blast designs shall be prepared by a certified blaster who shall also keep records of each blast that is conducted with the appropriate information regarding the date, time of day, pounds of explosives used, weather conditions and other pertinent information. These records are to be made available for inspection at the mine site and for at least three (3) years.
 - **Pre-Blast Surveys.** A pre-blast survey is a report, prepared at the expense of the mine operator, that documents the condition of public buildings, schools, churches, community or institutional buildings, dwellings, **dams** or other structures, located within one-half (1/2) mile of the mine permit area. The purpose of a pre-blast survey is to provide documentation to landowners and the mine operator of the condition of the structures prior to mining so that a visual determination may be made of any damage caused to these structures that might be attributed to the blasting activities. All owners or residents who have such structures are required to be notified in writing at least forty (40) days before initiation of blasting by the operator of a coal mine, that they may request a preblast survey. This survey is made at no cost to the property owner. Copies of the report will be promptly provided to the person requesting the survey and the Land Reclamation Program. The operator is responsible for ensuring that any surveys requested more than ten (10) days before the planned initiation of blasting shall be completed before the initiation of survey. There are specific requirements in the state regulations regarding pre-blast surveys. If a landowner has any questions, they should contact the Land Reclamation Program at (573) 751-4041.
 - **Blasting Schedules.** The mine operator is responsible for submitting a schedule listing when blasting will occur at the mine site, or permit area. The schedule is to be published in a newspaper of general circulation in the locality of the blasting site at least ten (10), but not more than thirty (30), days before beginning a blasting program. In addition to the newspaper publication the mine operator must send a copy of the blasting schedule to local governments, public utilities, to each local residence within one-half (1/2) mile of the proposed blasting site described in the schedule and the Land Reclamation Program as soon as it has been published. The operator is limited to conducting blasting operations between sunset and sunrise, unless specifically approved by the Land Reclamation Program. Any unscheduled blasting requires special notification to all residents with one-half (1/2) mile of blasting site along with the specific documentation of why the unscheduled blast occurred.

- **Signs.** Signs are required to be placed in conspicuous locations which state "Warning! Explosives in Use!" The signs must also explain the audible signals that are used to warn the public that a blast is about to be conducted and when it is safe to assume that the blasting activity has ceased along with how to spot areas where blasting is being conducted.
 - **Warnings.** Warning and all-clear signals must be audible for at least a distance of one-half (1/2) mile from the point of the blast.
 - **Access Control.** The mine operator must control access within the blasting to prevent the presence of livestock or unauthorized persons from entering the blast area during blasting and until it has been determined that no unusual hazards exist and access to and travel within the blasting area can be safely resumed.
 - **Control of Adverse Affects.** Generally speaking, blasting shall be conducted to prevent injury to persons, damage to public or private property outside the permit area, adverse impacts on any underground mine, and change in the course, channel or availability of surface or ground water outside the permit area. The operator is required to control the amount of noise, vibration and flyrock from the permit area. Flyrock is material that is cast from the blast area when the explosives are detonated. The operator is required to maintain records of each blast for at least three (3) years. These records are available to the public for review.
1. Grazing of livestock can occur on mined and reclaimed ground, but is subject to approval by the Land Reclamation Program (LRP). The mine operator, or permit holder, must submit a request to graze an area and this request is reviewed by the LRP. This is because the mine operator is ultimately responsible for the condition of the reclaimed ground and must be careful to ensure that nothing is done that might prevent the final reclamation from being approved. The request must include such information as how many head of livestock will be present, how long they will graze, upon what areas, how they will be kept from locations where grazing would not be appropriate, like wildlife management areas.
 2. Send in a letter to: Land Reclamation Program, P.O. Box 176, Jefferson City, Missouri, 65102-0176 stating the name of the company and mine name, nature of your complaint, with clear directions concerning the nature of and location of the violation. You must state that you are requesting confidentiality if you wish for your identity to remain anonymous. The Land Reclamation Program will investigate the complaint and report the results to you. If you are dissatisfied with the results of the investigation you will have the right of appeal. Details on appeal rights will be sent to you in writing along with the results of the inspection.
 3. Coal mine operators are required to reclaim areas affected by their operations to an "equal or better land use." This phrase has been interpreted to mean the land use with the highest economic value. In other words a pre-mining land use of wildlife habitat may be replaced by a post-mining land use of pasture, since there are greater economic gains to be realized for pasture, as a rule. However, under a memorandum of understanding between the Land Reclamation Program and the Department of Conservation, we attempt to convince coal mine operators to mitigate the loss of wildlife habitat and ensure that they are replacing, as close to possible, acre-for-acre the wildlife habitat that existed on site prior to mining.
 4. The answer to this question is rather subjective. Mined spoils are not well compacted when compared to the undisturbed layers of rock, shale and other geologic materials. This means that there is a greater potential for random settling of foundations to occur on lands that have been mined and reclaimed. This could result in cracked floors and foundations. While it may be "safe" in terms of the lack possibility for injury to occur, it may not be advisable to build on mine spoil from a standpoint of structural stability.
 5. As of January 2, 2001, there were two operating coal mines and seven in the process of reclaiming, one that has a permit but has yet to begin mining coal, along with twelve that had their permits revoked and the Land Reclamation Program is overseeing the reclamation work.
 6. This can vary. Once coal has been removed from the ground the grading of the spoil, topsoil replacement and reseeding are supposed to be done in 450 days. However, the coal company is also required to ensure that the vegetation is sufficient to control erosion and that a minimum five year liability period has

passed during which measurements are taken of the vegetation to ensure that it is at least as productive as it was prior to the initiation of mining operations. They also have to show, through continued monitoring of surface and groundwater locations that there has been no significant impact to water resources of the area, during the entire mining process and continuing through the five-year liability period. So it usually takes, at minimum, just over six years from the time coal is removed to clear the mine operator of continuing liability in a manner that will allow the landowner to have full control of the site. This time frame (six years) is dependant on the permittee doing everything perfectly. It is, of course, rare for everything to go perfectly, without setbacks, and it is common for final reclamation to take 7-10 years to complete. There are instances where it has taken even longer.

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Non-Coal

1. Does any agency, either state or local, regulate blasting at mining operations?

The Land Reclamation Program does regulate blasting at coal mine sites, but has no laws or regulations for other types of mining. There are a few county governments and municipalities (St. Louis County, St. Charles County, City of Sugar Creek) who regulate blasting activities. There are no state level agencies who are involved in the regulation of blasting at surface or underground mines, however, other than coal mining as noted above. The Mine Safety and Health Administration, (MSHA), who has an office in Rolla, Missouri, (573) 364-8282, does regulate blasting at mining operations from the standpoint of worker safety. They can get involved if there are dangerous occurrences at mine sites, such as blasted rock being thrown off site onto neighboring property. They usually won't get involved in the case of blasting activities that damage to water wells, window breakage, cracked walls, etc.

2. Can I take sand or gravel out of a stream or do I need a permit from anyone?

The answer can depend upon several things. First, if it is a commercial operation, that is if sales of the gravel are occurring, a permit from the Land Reclamation Program is required. If it is related to another type of commercial venture, such as supplying gravel for roads of a trailer park as an example, a permit would be required. It is NOT required to have a Land Reclamation Permit if the removal is occurring for personal use, such as farm roads or a driveway. A permit from the U.S. Army Corps of Engineers is required if material is put back into the stream, between the stream banks. This activity would include stockpiling gravel or placing stripped material into the stream area. If there are any questions about this, please contact the U.S. Army Corps of Engineers.

3. Can a mine operator take gravel from the flowing water in a stream?

This can occur, however, the DNR and Army Corps of Engineers strongly discourages such activities from occurring. This activity can cause problems by creating downstream sediment and destroying stream habitat as well as creating erosion problems within the stream itself.

4. What can I do about truck traffic from a mining operation?

Truck traffic is not an activity that is regulated by the Missouri Department of Natural Resources. It is best to contact local law enforcement agencies or the Missouri State Highway Patrol if you believe that laws relating to these activities are being violated. You may also wish to contact the Missouri Department of Transportation if the trucks are using state maintained roads.

5. What can be done to keep the dust under control at a mine site?

Dust issues are regulated by the Missouri Department of Natural Resources, Air Pollution Control Program, through their local regional offices. There are six [Regional Offices](#), located in, Jefferson City, Kansas City, Springfield, Macon, Poplar Bluff and St. Louis. (Their telephone numbers are available at the above link.)

6. What can be done to control runoff and sediment from leaving a mine site and entering a nearby stream?

Mining companies are required to keep sediment controlled in such a way that it does not cause a problem to either the mine site or any adjacent land including streams that receive the runoff. If you notice that such a problem is occurring you should contact the DNR's Land Reclamation Program and the regional office that serves the county in which the mine is located. The DNR, Water Pollution Control Program has an inspector in

each regional office who will investigate the matter as well as an inspector from the Land Reclamation Program.

7. **What can be done about the noise created from a mining operation?**

There are at present no laws or regulations that deal with noise which are administered by the Department of Natural Resources. You should contact your county or municipal governments to see if there are local restrictions on noise.

8. **Who can tell me about the history of mining or mining companies in my area?**

The Department of Natural Resources, [Geological Survey and Resource Assessment Division](#) maintains some information related to mining operations. However, if you have a county historical society, they may also be able to provide information related to mining history.

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Oil Filters EAO

1. Can spent oil filters be placed in the trash? Spent Oil filters can be placed in the trash provided the filters have been dismantled, crushed or the filter dome is punctured, and hot-drained for at least 12 hours.

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Oil Space Heaters EAO

1. Are used oil space heaters allowed in Missouri? Generators of used oil may burn their own used oil, as well as used oil received from household do-it-yourselfers and exempt farmers, in used oil-fired space heaters which have a design capacity of 0.5 million Btu or less per hour and are vented to the ambient air.

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Operating Permits ACP

The federal operating permit program for air pollution sources is one of the more significant additions to the Clean Air Act as a result of the Amendments of 1990. For significant stationary sources, this permit program will be a primary mechanism to identify and record the various pollution control requirements established by the Clean Air Act. The permits themselves are intended to identify all relevant requirements applying to the various emission units at a plant, site or facility. The permits also will establish detailed provisions for testing, monitoring, recordkeeping and reporting to demonstrate compliance. Operating permits are intended to be vehicles for defining existing compliance obligations; they are not intended to impose new requirements. The operating permits identify and explicitly state all existing requirements that are applicable to regulated sources; this will facilitate compliance with these existing requirements since they now will be identified both for the regulated source and for the regulatory agencies themselves.

1. **When is my operating permit application due? - Application Deadlines**

- First-Year Part 70 Operating Permit Application Deadline
 - - July 15, 1996
- Second and Third-Year Part 70 Operating Permit Application Deadline
 - - May 13, 1997
- Intermediate Operating Permit Application Deadline (proposed)
 - - July 15, 1996 for those Intermediate Installations whose actual emissions are greater than 50 percent of the Part 70 thresholds.

- - May 13, 1997 for those Intermediate Installations whose actual emissions are 50 percent or less of the Part 70 thresholds.

- **Basic State Operating Permit Application Deadline**

- - May 13, 1998.

2. When will EPA approve Missouri's Operating Permit Program?

EPA published approval of Missouri's Operating Permit Program on April 11, 1996. Missouri's Operating Permit Program became effective 30 days after the publication date, on May 13, 1996. It is this effective date that determines when operating permit applications are due.

3. Why do I have to get an operating permit when my company emits below the de minimis levels?

Even if your facility has emissions below the de minimis level, it may still be required to have an operating permit. This is because determinations of who is required to have an operating permit are based on the POTENTIAL to emit, rather than on actual emissions. Potential emissions are calculated under the assumption that the equipment and processes at your facility are operated at the maximum design rate and that they are operated at this level continuously throughout the year.

4. What do we have to do to modify our permit once it is obtained?

Modifications to the permit may be made through the construction permit process. However, this is subject to change. Please call the program for updated information.

5. Are there any forums where I can learn more about the operating permit program?

The Environmental Assistance Office offers informational seminars covering Missouri's Operating Permit Program. The Environmental Assistance Office is a part of the Department of Natural Resources, and is located in Jefferson City. It also has individuals located in the St. Louis Regional Office and the Kansas City Regional Office. The statewide number for the Environmental Assistance Office is (800) 361-4827, or (573) 526-6627. If your facility is located within the St. Louis metropolitan area, call (314) 301-7100; if your facility is located within the Kansas City metropolitan area, call (816) 622-7000.

6. How many businesses throughout Missouri will be subject to the operating permit program?

The number of sources involved in the Operating Permit Program are:

- Part 70 Installations ----- 565
- Intermediate Installations ----- 225
- Basic State Installations ----- 942
- Total Installations ----- 1,732

7. What are Part 70, Intermediate and Basic sources?

A Part 70 source is any installation in Missouri with potential emissions in excess of 100 tons per year of any air pollutant, or potential emissions in excess of 10 tons per year of any one hazardous air pollutant, or 25 tons per year of all hazardous air pollutants combined. An Intermediate source is any installation whose potential emissions qualify the company as a Part 70 source. But the company has volunteered to restrict operations so the actual annual emissions from the source fall below the trigger levels of 100/25/10 tons per year. A Basic source is any installation whose potential emissions are less than the 100/25/10 tons per year trigger levels. For More Information on **Operating Permits**, phone the Air Pollution Control Program at (573) 751-4817.

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Ozone Pollution APCP



Some of the following information is from the American Lung Association's "Outdoor Air Pollution Fact

Sheet."

1. What is ozone air pollution?

Ozone is a highly reactive gas that is a form of oxygen (O₃). It is the main component of the air pollution known as smog. Ozone reacts chemically ("oxidizes") with internal body tissues that it comes in contact with, such as those in the lung. It also reacts with other materials such as rubber compounds, breaking them down.

2. What's the difference between good ozone and bad ozone?

"Good" ozone in the upper atmosphere occurs naturally. It is a protective layer that screens out harmful ultraviolet rays. "Bad" ozone at ground-level results from pollution that reacts in the presence of sunlight. It can harm people with respiratory disease, children and healthy adults that exercise outdoors. It also can harm vegetation and break down materials with rubber compounds.

3. How is ozone formed?

In basic terms, Hydrocarbons + Nitrogen Oxides + Sunlight = Ozone

Ozone is formed by the action of sunlight on carbon-based chemicals known as hydrocarbons, acting in combination with a group of air pollutants called oxides of nitrogen. Hydrocarbons are emitted by motor vehicles, oil and chemical storage and handling facilities, and a variety of commercial and industrial sources such as gas stations, dry cleaners and degreasing operations. Oxides of nitrogen are a by-product of burning fuel in sources such as power plants, steel mills and other heavy industry and in motor vehicles.

4. How does ozone pollution affect people?

Ozone acts as a powerful respiratory irritant at the levels frequently found in most of the nation's urban areas during summer months. Symptoms include shortness of breath, chest pain when inhaling deeply, wheezing and coughing. Tests carried out on healthy adults and children undergoing heavy exercise have found that exposure to ozone at a level equal to the current federal health-based air quality standard of 0.12 parts per million results in a decrease in the normal function of the lungs.

5. How does ozone pollution affect the environment?

Ozone reacts with vegetation. Ozone may be seen as a haze, which limits visibility.

6. How can we reduce ozone pollution?

The greatest source of hydrocarbons, one of the precursors to ozone pollution, is the automobile. We can limit these emissions by cutting down on individual driving. We can carpool, vanpool, bike, walk or take public transportation. The following practices also help reduce hydrocarbons:

- Not topping off gasoline tanks.
- Waiting until after 7 p.m. to fill gasoline tanks.
- Waiting until after 7 p.m. to mow lawns.
- Avoiding use of charcoal lighter fluid.

State and federal regulations limit hydrocarbon emissions that may be emitted from industry.

7. How do we know there is an ozone problem?

Haze in city air is a common indicator. Also, state, federal and local air monitors record elevated ozone levels in the St. Louis area, the Kansas City area and the Springfield area. For More Information on Ozone Pollution, phone the Air Pollution Control Program at (573) 751-4817.

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Paint EAO

1. How do I dispose of my old paint? The best thing to do with usable paint is to use it up! If you can't use your leftover paint, give it to someone who can. Some good suggestions for reuse would be:

- Friends and neighbors
- Community service organizations
- Recreation departments
- Theater groups
- Local or state parks

Proper disposal depends on whether your paint is latex or oil-based. Oil-based paint contains solvents, the container label may say "combustible", and the instructions on the can recommend cleanup with mineral spirits or solvents. Latex paint contains water, and the instructions recommend cleanup with water. Paint Drying Techniques Disposal: Oil-based paint Large amounts of oil-based paint (more than one cup or one inch in the bottom of a can) should not be disposed of in the trash. The paint should be taken to a household hazardous waste collection program for proper disposal. Until a collection is available in your county or community, store the paint with the lid tightly sealed in an area away from children and pets. For information on household hazardous waste collections for your area, contact your solid waste district representative (link to SWMP list of district planners) or the Department of Natural Resources' Environmental Assistance Office at 1-800-361-4827. Disposal: Latex and small amounts of oil-based paint

- Remove the lid and let the paint dry in the can. Stir the paint occasionally to speed drying; or
- Brush paint in layers on newspaper or cardboard; or
- Fill the can and its remaining product with a non-flammable absorbent, such as clay-based cat litter.

Disposal: Larger amounts of latex paint only

- Mix paint with sand, clay-based cat litter or other non-flammable absorbent until all the product is dried up. Then recycle the paint can if possible; if not, dispose of in the trash along with the dried up paint remains.

Reduction Tips for Consumers:

- Use up all leftover paint before you buy more.
- Buy only the amount of paint you need.
- Buy mercury-free latex paint (all paint manufactured after August 1990). Check the label to be sure it does not contain mercury.
- Avoid purchasing unusual colors that you will not be able to use for another project.
- Store cans of leftover paint with the lid side down. Be sure the lid is tightly closed. The paint will seal the can to prevent hardening or moisture damage. Store cans in a dry area where the paint won't freeze.

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Permits EAO

1. How long does it take to get a construction permit? Time frames are set in state statutes and depend on the potential emissions. All applications are allowed 30 calendar days for administrative completeness determination (all the paper work, and the filing fee check, is there). For most Air Pollution Control Program (APCP) permits, an engineer allows up to 90 calendar days for technical review. The review time clock begins after an application is determined to be administratively complete. If the review engineer needs additional information, the review time clock stops until the applicant provides the requested data. On average, applicants need 30 additional days to supply information. Very large sources are allowed 184 calendar days for technical review. These sources may also be required to monitor air quality around the proposed facility for up to one year

before the application can be reviewed. For all applications, if the review takes longer than 90 or 184 days, whichever applies, the review fee of \$50 per hour is not charged.

2. How much does a permit cost? There is a non-refundable \$100 application fee. The technical review is charged at \$50 per hour. Most permits will range between \$500 to \$1,500.

3. What is the term of a construction permit? For the life of the installation. New construction at, or modifications to, the permitted source may require another construction permit.

4. After I receive a construction permit, how long do I have to complete the project? Construction must commence within two years of the permit issuance date. If you are unable to start construction within 2 years, you may petition the Air Pollution Control Program (APCP) for an extension of time to construct. The APCP may grant the extension after review of the request. Generally, these extensions are granted. However, if pollution activity has increased in your area, a new construction permit may be required.

5. Can a "bad actor" be denied a construction permit? Yes. The Missouri Air Conservation Law requires that the permitting authority determine whether a company will comply and will continue to comply with any permits issued (Chapter 643 RSMo.). Companies that show a pattern of unresolved and repeated noncompliance with the laws and regulations demonstrate that they have difficulty complying and that there is a likelihood that the company would be unable or unwilling to comply with any terms and conditions of a permit.

6. Is there public input on my permit application? Only the "very large source" permit applications require a public notice. After public notice for these applications, a hearing may be requested. Public protest must relate to the air pollution potential or effects to be given any consideration. If the proposed installation is in compliance with all regulations, they will receive a permit, unless they are determined to be a "bad actor". (See previous question about "bad actors"). A citizen may comment on any permit application received by the Missouri Air Pollution Control Program (APCP). However, only affected citizens or groups representing affected citizens may appeal permits issued by APCP. There is no formal public notice process, but the Missouri Air Conservation Commission briefing document contains a list of permits issued or completed since the last Commission meeting. These briefing documents are printed almost every month, before Commission meetings. All appeals must be received by the APCP within 30 days of the issuance of the permit.

7. We want to add a new process with emissions controls. There will be no emissions increase. Do we need a permit? Before constructing any source of air pollution, you must determine whether a construction permit is required. You may either request a permit determination by letter or file an application. Permit determination requests go through the same review as permit applications. When there are conflicts for a reviewer's time, permit applications take priority over permit determination requests, so many businesses file applications anyway. This way, the business has an answer within the time frame for application review, rather than an indefinite wait.

8. Are the EIQ forms the same for the permit application as for the annual EIQ? No. They are similar but not the same. Use only the EIQ forms that come with the application package.

9. I have a construction permit limiting production. Business has increased so I need to exceed the limit. What should I do? File an Application for Authority to Construct (construction permit application) requesting to increase production. Remember that you may not operate at the requested, new production level until the new permit is issued. Note: if your permit limited actual emissions to less than the de minimis level and the new limit produces actual emissions exceeding de minimis, an operating permit will be necessary. A new Part 70 operating permit application will be needed for sources with Intermediate or Basic State operating permits where the new limitation would cause the installation to exceed the major source levels. If your previous permit limited emissions to below the "very large source" levels, then you may be subject to a more stringent construction permit review than was previously done.

10. What is meant by the term de minimis? This is the amount of annual emissions from an installation (all emissions units on site), which is the threshold for when a permit is required. The de minimis amounts are found in a table in rule 10 CSR 10-6.020.

11. Do I need a permit to install a bag house or cyclone? No, because the emissions will decrease, and the

off-site pollution concentration will also decrease. When an air pollution control device is installed, the Air Pollution Control Program requests you notify them by letter, unless it is done as a condition of a permit. In that case, the notifications required by the permit itself are sufficient to cover the control equipment.

- 12. I want to put a hood over a process to exhaust through a stack rather than into the building. Is a permit required?**A permit may be required if the process was previously considered not emitting (e.g. particulate matter) because it was in the building. However, for sources emitting volatile organic compounds (VOCs), the emissions should have already been reported on the Emissions Inventory Questionnaire (EIQ), therefore no permit would be required. If a Hazardous Air Pollutant (HAP) is involved, and the new vent is much closer to the property line, an air quality analysis may be necessary. No permit is generally required, unless a construction permit was issued with the building enclosure being considered as a control measure to reduce air emissions. A permit is not required to move equipment inside a building.
- 13. We have a lab with two benches and hoods used for QC testing. Is a permit needed?**No. Laboratory equipment used exclusively for chemical and physical analysis or experimentation, except equipment used for controlling radioactive air contaminants, is listed in the regulation as an exempt activity.
- 14. I am building a new facility and have applied for a construction permit. Can I operate my facility while I wait for the permit?**No. Operating without a permit is a violation. Commencing construction without a permit is also not allowed. For certain sources, a waiver may be granted to allow construction but not operation. A fact sheet is available from EAO on request.
- 15. I removed some old equipment and now need a permit to put in a new process. Can I use the same emission point numbers as the equipment I took out?**No. Show only the new process or equipment on your application. Begin numbering the new processes/equipment with the next sequential emission point number.
- 16. No published emission factors were found for my process, but I have test data from a similar facility. Can I use that?**The Air Pollution Control Program Permits Section must determine if that data can be used or if emission factors from a similar process should be substituted. If your data is accepted, you might be required to conduct tests to confirm that the data is representative of your process as built.
- 17. An air stripper is to be used for a ground water remediation project. Is a permit required?**A permit is necessary if the source will continue to operate during remediation (unless the remediation falls below certain thresholds). If the source has been shutdown, then before putting equipment on site, write a letter to the Air Pollution Control Program for approval of the project. Describe the site, equipment and processes to be used in detail. Estimate the total air pollution to be emitted over the life of the project, and how long the project will last. A temporary authorization will be granted provided air quality does not exceed standards.
- 18. I plan to start an auto body shop. Do I need a permit?**Probably. However, potential emissions could be less than de minimis if the parts are painted and dried in the same area. Cycle time for paint to dry can be considered. In other words, the upper limit of production capability can be considered in determining the maximum hourly rate, not simply how much paint a spray gun can spray. The need for a permit also depends on the type of spray equipment, paints and cleaning method used. High volume, low pressure spray equipment (HVLP) emits less pollutants than conventional spray guns.
- 19. I need to replace a piece of worn out equipment. Do I need a permit?**If the new equipment does the same job, has equal or less capacity and emissions do not increase, no permit or permit determination is required. You may write to the Air Pollution Control Program's Permits Section detailing the proposed replacement and request "like for like" replacement determination. You will receive a letter, which must be kept on file at the facility, that it is "like-for-like" replacement. Even though a construction permit would not be required, you may be subject to a new regulation such as the federal New Source Performance Standards. You may contact the Air Pollution Control Program if you need a determination on this.
- 20. I purchased an existing plant which had been shut down. Do I need a permit?**If the facility was begun after May 13, 1982, or has been modified after that date, and a permit was not obtained, a construction permit could be required depending on potential emissions, no matter how long it is shut down. If the facility began construction before that date and there have been no subsequent modifications, no permit is required providing it has been shut down less than five years. If the facility has a construction permit, no permit is needed if shut

down less than five years where no additions or modifications were/are made to the facility. For the situation where the facility was granted a construction permit, but the project was not started within the two-year deadline, the new owners may apply to the Air Pollution Control Program Director to reactivate the permit. See time to begin construction in a previous question.

21. I got a permit for a new machine at one facility but before it was delivered, it was decided to put it in a different facility in another town. Do I need a new permit?Yes. Permits are location specific.We need an emergency generator.

22. We have no other emissions. Is a permit required?[Air Pollution Control Program](#) and [U.S. Environmental Protection Agency](#) guidelines allow you to calculate potential emissions operating 500 hours per year. Compare those emissions to the de minimis level of emissions to determine if a permit is needed. Be sure to operate 500 hours or less per year.

23. I am a veterinarian and need to put in a small animal crematorium. One manufacturer said I don't need a permit. Is that correct?No. It is considered an incinerator and all incinerators must get a construction permit. An operating permit is also required of all incinerators.

24. I have a permitted portable asphalt plant and don't have another job site to go to. Can I leave it there without getting a fixed permit? (There is a 2-year limit per location for portables).Yes. Write the Air Pollution Control Program with details, and do not operate beyond the two years at that site. Then put in a relocation request when the next job becomes fact.

25. What is a "synthetic" de minimis permit and why would I want one?De minimis permits may be granted to facilities whose potential emissions require a construction permit when actual emissions as the facility will operate are below de minimis. The facility requests and is granted a voluntary limit on all of the facility's emissions. The permit will contain limitations to keep emissions below de minimis including additional record keeping to insure compliance with the limit. The significance of this type of permit is that no operating permit is required (unless the source is subject to a federal standard or is an asphalt plant or incinerator). For more information on whether your business needs an operating permit regardless of construction permit requirements, contact the Environmental Assistance Office (EAO).

26. I plan to lease a complete shop which has been permitted by the owner. Do I need a permit?No, as long as you comply with all terms of that permit. Notify the Air Pollution Control Program you are leasing/operating the facility, as you become responsible for required reports.

27. Our old feed mill burned down and we want to rebuild on the same site. Do we need a permit?Yes. It is a reconstruction because the replacement cost exceeds 50% of new, which is the definition of reconstruction. Any reconstruction where potential emissions exceed de minimis requires a construction permit.

28. What jurisdictions issue air permits, besides the Air Pollution Control Program?The Missouri Air Conservation Commission delegates permitting authority to the City of Kansas City, the City of St. Louis, St. Louis County, and the City of Springfield.

29. I operate an aluminum recycling plant and want to add a sweat furnace. Do I need a permit?The emission unit would be considered an incinerator if the unit is used to "recover" aluminum from "wastes". However, if the emission unit is used to meltdown "clean" aluminum, then construction permit applicability would be based on whether the installation triggered the emission thresholds requiring a permit for any other source.

30. We are acquiring a company with several permitted quarries in Missouri. Do we need new permits?No. However, you need to write the Air Pollution Control Program to inform them of the ownership change of all facilities. If any quarry began operation after May 13, 1982 and did not get a construction permit, you must apply for a construction permit for those operations.

31. How do I obtain the permit I was told that I needed?Get a copy of the regulation requiring the permit to find out what is required to be contained in the application. Contact the appropriate DNR program and ask for a set of application forms and instructions. In some cases your application will have to be prepared by a Professional Engineer certified in Missouri. Ask your prospective engineer if he/she has ever prepared an

application for the type of permit you need. Experienced engineers can often get a permit done in a shorter period of time and with fewer revisions. Be prepared to wait. Many regulations provide a time frame for you to plan on such as requiring you to submit your application 180 days before you plan to start construction. These time frames are often the result of laws requiring public notice and shortcuts are not allowed. The majority of permit applications will result in DNR issuing at least one "comment letter" back to the engineer. This letter will require specific revisions of the application. Your engineer has a time limit for returning the requested revisions. A second comment letter and engineer's response can add to the time the permit takes to be issued. When you get your permit, read through it. Your entire application is usually considered to be part of the permit so whatever your engineer said you would do is part of your permit. If you don't understand anything in the permit ask either your engineer or the permitting program to explain. Look for an expiration date on your permit and if there is one, remember that it is your responsibility to renew the permit before the expiration date. Last, you must return a copy of your permit and have it available for inspections.

32. Are there any permits or notices required prior to upgrade? No, except special circumstances apply in the St. Louis area. The department must receive updated tank information within 30 days of completing the upgrade. In the St. Louis ozone nonattainment area (St. Louis City & County, Franklin, Jefferson and St. Charles counties), special requirements do apply with regard to the vapor recovery system. Any activity, except for permanent closure, which breaks concrete or otherwise disturbs the vapor recovery system, requires a construction permit from the Air Pollution Control Program **before** starting work.

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Pesticides EAO

1. How do I dispose of old pesticides? First, you need to decide what kinds of pesticides you have. Write down the names of the pesticides by brand name and active ingredients and estimate how old they are. Then you can call EAO or your county Extension office to help you identify the pesticides. If you have general use pesticides that you bought recently for home use and have kept stored properly, they may still be usable. Using up pesticides that are still good according to their label instructions is the best means of disposal. You can give such pesticides to a friend or neighbor to use up too. If you can't find anyone that wants them, you may be able to locate a household hazardous waste collection that will take them although such programs do not always take pesticides. If the pesticides are very old or are Restricted Use pesticides, they may be more toxic and difficult to dispose of. Old containers of pesticide may also be deteriorated and at risk of breakage. Some old pesticides may still be usable but many will not have good instructions for use. Restricted Use pesticides, which you need an applicators license to purchase, cannot be transferred to another person for use even if the other person has the appropriate license to use them. If a person has some usable restricted use pesticide that has not been cancelled or damaged, the original owner can use it up for any purpose that is on the label. If it cannot be used for any reason, it is very likely it will need disposal of as a hazardous waste. The new Universal Waste rule can make collection and disposal of waste pesticides easier than it has been in the past. Call EAO for more information on pesticide disposal and the Universal Waste rule.

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Petroleum spills EAO

1. What is the problem (with petroleum spills)? The problem is that petroleum has been a major cause of groundwater contamination in the United States. Groundwater is, for many people in this country, a major source of drinking water. In addition, petroleum releases cause other bad things to happen, such as fish kills when petroleum reaches surface water, taste and odor problems when buried water supply lines are surrounded by contaminated soil, fire and explosion hazards when petroleum vapors reach buildings, basements and other confined spaces, and property damage.

2. I heard that petroleum just naturally breaks down, so why bother doing all this work? Under the right conditions, bacteria in the soil can break down petroleum. In order to do so, the bacteria need the right conditions in terms of oxygen, moisture and nutrients. In addition, the petroleum must not be concentrated. Unfortunately, in

many cases, these conditions do not exist in the subsurface. Actually, the process you speak of is known as 'remediation by natural attenuation (RNA).' DNR is willing to consider RNA as a cleanup strategy or part of a cleanup strategy at certain sites. RNA requires that you gather enough information to know that: a) the conditions for RNA exist; b) that RNA is actually occurring at the site; and, c) that the plume isn't moving off site or into groundwater. This generally means that an extensive site characterization study is necessary to establish site conditions and that ongoing sampling of monitoring wells will be needed to ensure that the plume behaves as expected.

3. I am planning to replace my existing piping with new piping in either a new trench or the same trench). Do I have to file a closure notice for removal of the old piping?No. Replacement of piping during upgrade is not a closure activity, so no closure notice or closure sampling or reporting is required. However, if evidence of a release of petroleum to the environment is discovered, then it must be reported (to the spill line, (573) 634-2436), then an appropriate cleanup must be done.

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PSTIF EAO

1. If I have a question dealing with the Petroleum Storage Tank Insurance Fund (PSTIF) and payment approvals, how can I get a hold of them? You may contact Carol Eighmey at 573-522-2352 or the PSTIF representative at 1-800-765-2765. The website for the PSTIF is located at <http://www.pstif.org/>.

2. What types of FR mechanisms are available to me?Several mechanisms are in place to meet the FR requirements: the Petroleum Storage Tank Insurance Fund, self insurance, letter of credit, standby trust fund, surety bond, insurance or risk retention group. For a complete copy of the rules and specific wording required, you may contact the Secretary of State's office at 573-751-4015. The Environmental Assistance Office has a technical bulletin at: <http://www.dnr.state.mo.us/oac/pub218.pdf>

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Public Drinking Water PDWP

Available Grants and Loans¹.

What financial assistance is available to water systems?

Several types of construction assistance are available. Please contact the Public Drinking Water Program at (573) 751-5331.

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- State Revolving Fund (SRF) Leveraged Loan Program - Drinking Water subsidized loans to any community water system and nonprofit noncommunity water system not federally owned for construction of drinking water facilities. Amounts are based on ability to repay debt. Application deadline is around November 15th each year. Administered jointly with the Environmental Improvement and Energy Resources Authority, the Clean Water Commission and the Safe Drinking Water Commission.
- Rural Water and Sewer Grants - The department has a small grant program that makes funds available to public water supply districts and rural communities under 10,000 population. Rural water grants are limited to \$1,400.00 per connection or 50% of the total project cost, whichever is less.

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Fees Paid PDWP

1. What is the Primacy Fee?

This fee pays for the administration of the Safe Drinking Water Act in Missouri. The amount paid depends on two

things. The first is the number of connections served by the water system. The second is the size of water meters serving each connection. The fee for unmetered customers and those having meters of one inch or smaller range from \$0.66 to \$2.00 per connection per year. The fee for customers having meters larger than one inch ranges from \$5.00 to \$50.00.

2. What is the Laboratory Services and Program Administration Fee?

This fee partly funds the administration costs of the laboratory services and the PDWP. The fee ranges from \$100.00 to \$500.00 depending on the number of connections, type of water source, and the transient or nontransient status of the system.

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Public Drinking Systems Defined PDWP

1. What water systems are regulated by the Public Drinking Water Program (PDWP)?

Only public drinking water systems are regulated by PDWP. They are defined in the Missouri state regulation, 10 CSR 60-2.010. A public drinking water system must have at least 15 service connections or regularly serve an average of at least 25 people per day for at least 60 days out of the year.

2. What components make up a drinking water system?

The system includes any collection, treatment, storage or distribution facilities used in connection with the system.

3. How many types of public drinking water systems are there?

There are five types of public drinking water systems.

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- Community Water System: Serves at least 15 service connections and is operated on a year-round basis or regularly serves at least 25 residents on a year-round basis.
- Nontransient Noncommunity Water System: A public water system that is not a community water system and that regularly serves at least 25 of the same persons over six months per year.
- Primary Public Water System: A public water system which obtains its source of water directly from a well, infiltration gallery, lake, reservoir, river, spring or stream.
- Secondary Public Water System: A water system which obtains all its water from an approved public water system(s), consists of a water distribution system and resells the water, or is a carrier which conveys passengers in interstate commerce. Parts of a primary public water system may be classified as being a secondary public water system if they meet this definition and are physically separated from those parts served by the source for the primary public water system.
- Transient Noncommunity Water System: A public water system that is not a community water system, which has at least 15 service connections or regularly serves an average of at least 25 people daily at least 60 days out of the year.

4. How many water systems are regulated in Missouri?

The PDWP regulates over 2,700 public drinking water systems.

5. How many people get their water from these systems?

More than 90 percent of the state's population, approximately 4.7 million people get their drinking water from public drinking water systems.

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Available Maps

1. Where can I get a map of my public water supply?

Maps of every public water supply are available on the Internet at www.cares.missouri.edu/va/reconmap.html.

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Required Permits PDWP

1. What kind of permits are required for public water systems?

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- Construction Permit: A construction permit is required for any of the following activities: Construction of a public water system, a water supply source, or treatment facility, also an expansion or modification of an existing system, source, or treatment facility.

There is no fee. It requires the completion of an application form, an engineering report, detailed plans and specifications. The length of permit is for two years. It takes approximately 45 days to process an application. No public participation is required.

- Dispense Permit: A permit to dispense is required for the operation of a new, improved, or existing public water system. There are annual laboratory services fees, based on the type of facility and the population served. It requires the completion of an application form with supporting documentation as to reliable water system operation, water quality meeting applicable maximum contaminant levels, acceptable water system construction, and completion of an emergency operating plan.

The permit is effective until revoked. It takes approximately 30 days to process an application. No public participation is required.

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Safe Drinking Water PDWP

1. How can I find out if my drinking water is safe?

Your water supplier receives the results of all of the tests conducted by the department on the water samples from your water system. Each year the water system is required to produce a consumer confidence report to inform its customers of contaminant detects and violations. You should contact your supplier first. If they do not have the information, you can call the PDWP at (573) 751- 5331.

2. How can I get a sample of my water tested?

You can call the PDWP at (573) 751-1077 to get a list of laboratories that are certified to test water samples.

3. How can I get a sample from a private well tested?

The Missouri Department of Health is responsible for testing water samples from privately owned wells. For assistance contact your local city or county health agency, a Department of Health district office, or by calling the Department of Health at (573) 751-6095.

4. What should I do if I have a problem with my drinking water?

If you have concerns or complaints about the quality of your drinking water, contact your water supplier first. The department also has a [regional office](#) in you local area. Contact the one nearest you for additional information.

5. Will my water system tell me when they find something in our drinking water?

Water systems routinely monitor for many contaminants, including bacteria, chemicals, and radioactive materials. When the results of this testing indicate a level of contamination that could threaten public health, the water system must provide specific notice to the public about the level of contamination and the possible health risks. This public notice must be completed soon after the contamination is discovered with the exact time period determined by the degree of health risk. When a level of contamination is discovered that poses an immediate acute health risk, the water system must notify their customers immediately through radio and television. Even when there are no health risks associated with the drinking water, community public water systems must notify their customers annually of the quality of the drinking water. This is done through a report

called a Consumer Confidence Report (CCR). Your water system may choose to use a different name like Water Quality Report or Consumer Report, but they must still prepare a CCR every July and make it available to their customers. These reports will cover the previous calendar year and will include information on drinking water sources, detects of contaminants, violations of drinking water regulations, and general information on drinking water and health. If you have never received a CCR, please contact your water system.

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Regulations EAO

1. I want to read the regulations myself. How do I get them?

Order Missouri's state air pollution control regulations (called 10 CSR 10) for \$25.00 from the [Secretary of State](#) by calling (573) 751-4015. Also, your library may have the regulations. Federal regulations (40CFR) referenced in the CSR's must be ordered from the [Government Printing Office](#) (202) 512-1800, or FAX (202) 512-2250.

Phone order hours are 7:30 – 4:30 p.m. (EST) weekdays. FAX orders may be placed 24 hours per day. Phone or FAX orders must give a VISA or MASTER CARD or DISCOVER credit card number. Mail orders to: Superintendent of Documents, P.O. BOX 371954, Pittsburgh, PA 15250-7954. You must include check or money order payable to the Superintendent of Documents.

2. Where can I find a copy of the regulations? You can find the state regulations in several ways. Many libraries have a set in book form. Ask the librarian for The Missouri Code of State Regulations. Ask if they get the update service so you can be sure that the information is complete. You can also contact the Secretary of State's Administrative Rules Division by calling 573-751-3367 or writing P.O. Box 778, Jefferson City, MO 65102. If you have Internet access you can get the regulations at <http://www.sos.state.mo.us>.

3. What types of activities are regulated? Farmers are not heavily regulated by DNR for their traditional farming activities. Crop farmers can plow and apply pesticides without needing any permits from DNR. They can even burn field stubble after notifying their DNR regional office without needing permits. Animal producers of the larger sizes (for example 2,500 feeder hogs or 30,000 layer hens and up) are required to get a Concentrated Animal Feeding Operation (CAFO) permit. There are approximately 350 permitted farms in all of Missouri. Many animal producers farms do not fit into the CAFO category because they are smaller and they are not regulated unless they allow contaminated water to run off their property. Farms are regulated if they have pesticide and fertilizer stored in bulk quantities for over 30 days. A few farms may have large underground storage tanks of fuel over 1,100 gallons or be engaged in some unusual activity that necessitates a Hazardous Waste Program permit. The Air Pollution Control Program regulates the very large farms of 7,000 animal units or more for odor control. There are about 21 farms that have 7,000 animal units or more and these are also part of the 350 CAFO permitted farms above. If you are thinking of starting a new venture on your farm, talk to EAO about which regulations, if any, will affect you.

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Releases EAO

1. What is evidence of a release? Any discovery of petroleum in the environment is evidence of a release. Therefore, contaminated soils or free product in the piping trench (or anywhere else for that matter) would be considered a release.

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Risk Management Plans - CAA 112(r) APCP

1. What Responsibilities does Missouri's Air Pollution Control Program have in regulating RMP's?

Section 112(r) of the Clean Air Act Amendments of 1990 (CAA) provides authority for the

Environmental Protection Agency (EPA) to implement Accidental Release Prevention Program rules found in 40 CFR 68. The Missouri Department of Natural Resources' Division of Environmental Quality, will be implementing 112(r), also known as Risk Management Programs (RMP), as a compliance assistance-focused program.

The Air Pollution Control Program (APCP) is the permitting authority for part 70 (Title V) permits in Missouri. As such, the APCP has the authority to "assure compliance by all sources required to have a permit under (Title V) with each applicable standard, regulation or requirement under (the CAA)." This includes 112(r). Therefore, prior to granting a permit under Title V, the APCP will verify that the applicant has submitted a Risk Management Plan (RMP) that meets the requirements of 112(r). Without an appropriate RMP, a Title V permit will not be issued. [More information about the Division of Environmental Quality's implementation of 112\(r\) regulations.](#)

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Soil and Water Conservation

1. **What is soil erosion?**

Soil erosion is the movement of fine soil particles by wind and water. The top layer of soil is the most productive layer as this is the layer where crops get their nutrients. There are many different kinds of soils but for most soils, the top layer is only a few inches thick. Loss of these particles of this layer of soil reduces the productive abilities of the soil to grow crops. Soil erosion can be controlled through soil conservation measures.

2. **Is soil erosion a serious problem in Missouri?**

Unfortunately, Missouri has a very serious soil erosion problem. In fact, Missouri has the fourth highest rate of erosion in the United States. Agriculture is one of Missouri's most important industries and soil erosion is detrimental to the long-term future of agricultural production. Soil erosion is serious for other reasons, too. Losing topsoil causes environmental problems by filling rivers, lakes and streams with sediment. Soil erosion is a major cause of non-point source pollution which can contaminate community water supplies and degrade wildlife habitat.

3. **Why is soil conservation important?**

All living things depend on the soil for food. Everything we eat and most of what we wear come from the soil. Soil is a fragile natural resource. Today, soils are farmed intensively to produce food and fiber for a growing population. Controlling erosion will help to keep food priced reasonably and supplies plentiful for future generations.

4. **What does a soil and water conservation district do?**

In Missouri, soil and water conservation districts provide technical and financial assistance to help landowners better care for their land. These districts are governed by locally elected boards and have employees available to help landowners design conservation plans to determine how to best use the resources on their farms. These plans include the conservation measures needed to solve the soil and water conservation problems.

5. **How are Natural Resources Conservation Service (NRCS), Univ. of Missouri Extension Service and DNR involved with soil and water conservation districts?**

There are several partners that work together to promote soil and water conservation in the district. NRCS provides the technical information to assist landowners on their farms. A University Extension specialist serves as the secretary on the board of supervisors. DNR provides staff to assist the district boards and grants for the operation of the district. DNR also provides financial incentives to assist landowners in their investment for expensive practices to control erosion.

6. **What is the Parks and Soils Sales Tax?**

Missouri is the only state to fund programs to support soil conservation efforts through a retail sales tax. This one-tenth of one percent tax is divided equally between the state park system and soil conservation.

It was originally approved by the voters as an amendment to the Missouri Constitution in 1984 for five years. It was renewed for another ten years in 1988. In November 1996, Missouri voters approved a ten-year extension of the tax by a margin of 66 percent. This extends the tax for another ten years.

7. What soil and water conservation work remains?

Missouri has made much progress since the Parks and Soils Sales Tax was first approved. Soil erosion has been reduced almost in half. However, there is still much soil and water conservation work to do. We also need to maintain the investment that the state has in the practices already constructed to control erosion. Missouri still needs to address erosion and other resource concerns on 3.5 million acres of agricultural land to reach its goal by 2006. The Missouri Soil and Water Districts Commission has a Plan for the Future for the use until its new sunset in 2008.

8. How do landowners participate in the programs available?

Any private agricultural landowner that would like to apply conservation practices to his/her farm is welcome to participate in the program. All programs through the Soil and Water Conservation Program are voluntary; there is no regulatory directive through our programs to require soil conservation. The commission believes that landowners will quickly learn the importance of land stewardship and ethical land management as they see the effects of conservation practices.

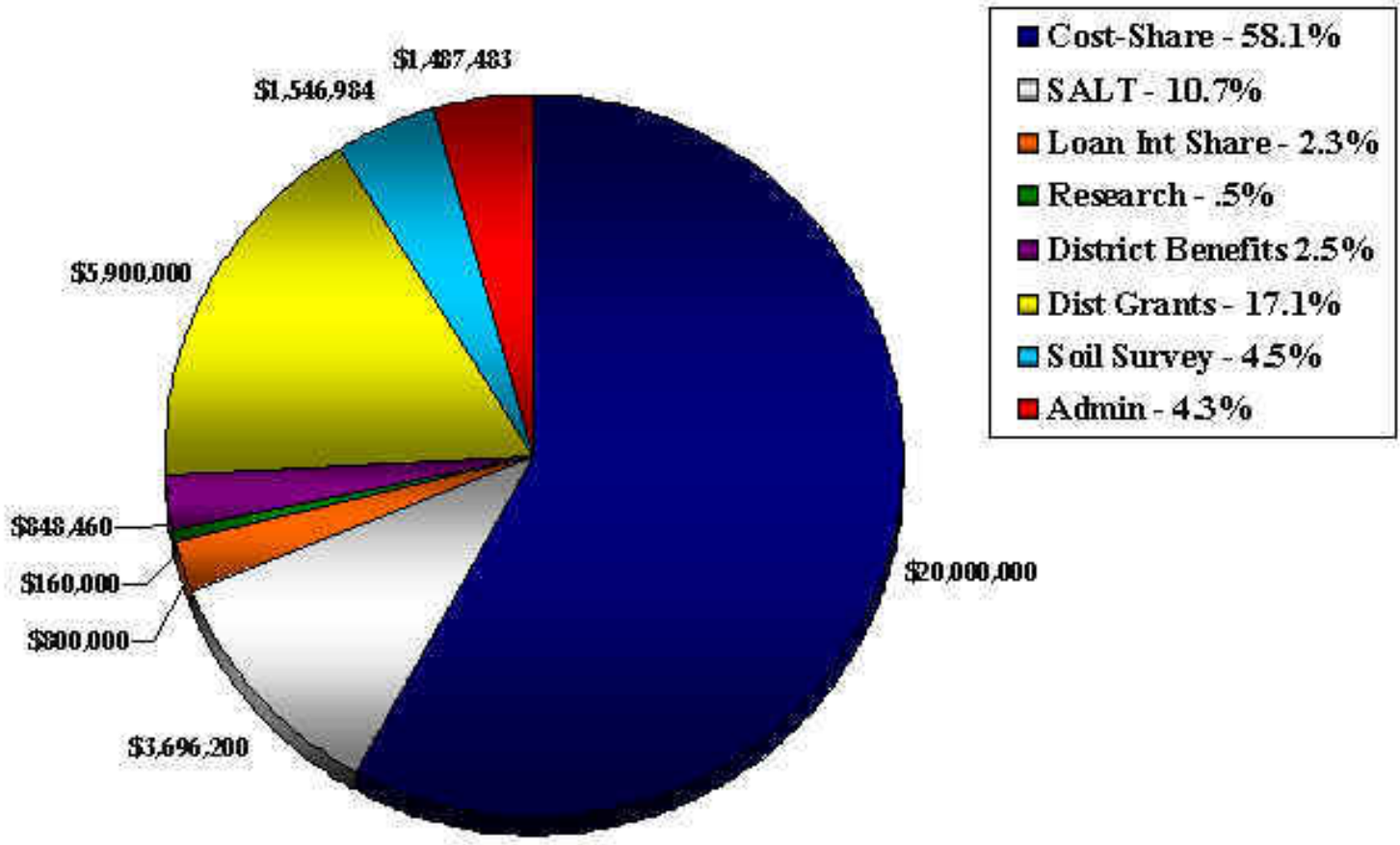
9. What is the [Plan for the Future?](#)

The Soil and Water Districts Commission has a specific plan to broaden the scope of the programs it administers to move soil and water conservation efforts forward in Missouri. Under this plan, the state will:

- continue soil erosion treatments and maintain them;
- move the Special Area Land Treatment (SALT) Program into agricultural non-point water source pollution control work;
- promote total resource management systems for agricultural land;
- strengthen the ability of local people to solve their local resource problems by strengthening the role of the soil and water conservation districts; and
- complete field work on the first generation of the soil survey.

10. What is the annual budget of the Soil and Water Conservation Program?

FY-2001 Budget



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Solid Waste EAO

1. What are the rules on managing solid waste on a farm? In out-state or rural Missouri, the farmer can dispose of his or her household waste on the farm. The disposal site should not be in a gully or creek bed that water runs through. It should not create a nuisance to others, either visually or by creating odors and should not be hazardous to health. The farmer should not dispose of things like used pesticide containers or any type of hazardous material like waste oil or chemicals at the disposal site. Some counties or towns may have ordinances that would take precedence over the state requirements with stricter requirements. Check to find out if there are any such requirements in your area.

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General Questions SWMP

1. What is solid waste? Solid waste means garbage, refuse and other discarded materials including, but not limited to, solid and semisolid waste materials resulting from industrial, commercial, agricultural, governmental and domestic activities, but does not include hazardous waste, recovered materials, overburden, rock, tailings, matte, slag or other waste material resulting from mining, milling or smelting.

2. What is the difference between a sanitary landfill and a dump? A landfill is a permitted disposal area employing an engineered method of disposing of solid wastes on land in a manner that minimizes environmental hazards by spreading the solid waste in thin layers, compacting the solid wastes to the smallest practical volume and applying cover at the end of the operating day. A dump is an unpermitted solid waste disposal area at which solid wastes are disposed of in a manner that does not protect the environment, are susceptible to open burning and are exposed to the elements, vectors and scavengers.

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3. Can I take my trash to the landfill or do I have to use a trash hauler? You do not have to use a waste hauler to take waste to a landfill. A fee will be charged by the landfill for accepting the waste.

4. Can I take my trash to the transfer station or do I have to use a trash hauler? You do not have to use a waste hauler to take waste to a transfer station. A fee will be charged for accepting the waste at the transfer station.

5. Where can I get a copy of the Solid Waste Management Law? The [Solid Waste Management Law](#) is found in sections 260.003 – 260.345 of the [Revised Statutes of Missouri](#). A hard copy of the Solid Waste Law may be purchased from the Solid Waste Receptionist at P.O. Box 176, Jefferson City, MO, 65102. Local libraries may also have copies of the Revised Statutes available for copying.

6. Where can I get a copy of the Solid Waste Management Regulations? View our Internet version of the [Solid Waste Management Regulations](#) 10 CSR 80. Official copies of the Solid Waste Management Regulations can be purchased from the Office of the Secretary of State, Administrative Rules Division, P.O. Box 770, Jefferson City, MO, 65102. Local libraries may also have copies; please check for their availability.

7. What is considered "clean fill" in Missouri? In Missouri, clean fill means uncontaminated soil, rock, sand, gravel, concrete, asphaltic concrete, cinderblocks, brick, minimal amounts of wood and metal, and inert solids as approved by rule or policy of the department for fill, reclamation or other beneficial use. If you have any questions about the suitability of a particular material for use as clean fill, please contact the Solid Waste Management Program.

8. Why do "they" want to locate a landfill, or any other solid waste facility, in my community? Each of us produces waste. These wastes need to be properly disposed of. Local planning and zoning, when it exists, can limit where facilities can be located. Natural factors such as geology and available land can limit where landfills are located. When siting a landfill, many different items are taken into consideration. The department does not play a role in the selection of a particular site to place a solid waste facility; we are only involved in evaluating its suitability after a site has been chosen by the applicant. The actual construction permit application is subject to careful investigation and a lengthy review process.

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9. What is the difference between "Type C" and "Type F" fly ash? Type C fly ash is produced from coal found in the western United States and has a lime content of typically 20 percent or more. It hardens when exposed to moisture. Type C fly ash is sometimes used as an ingredient in the manufacture of cement. Type F fly ash, is produced in the eastern United States where the coal is higher in sulfur content with a lime content of less than 10 percent and it does not harden when exposed to moisture.

[Back to Top](#)**Infectious Waste SWMP**

1. What is an infectious waste? Missouri's Solid Waste Regulations define infectious waste as waste capable of producing an infectious disease because it contains pathogens of sufficient virulence and quantity so that exposure to the waste by a susceptible human host could result in an infectious disease. These wastes include isolation wastes, cultures and stocks of etiologic agents, blood and blood products, pathological waste, other contaminated wastes from surgery and autopsy, contaminated laboratory waste, sharps, dialysis unit waste, discarded biological materials known or suspected to be infectious. Infectious waste that has been treated to department specifications is no longer categorized as infectious waste.

2. What is not an infectious waste? Items soiled or spotted, but not saturated, with human blood or body fluids, such as gloves, gowns, dressings, bandages, surgical drapes, and feminine hygiene products. Items containing non-infectious body fluids, such as diapers. Containers, packaging, waste glass, laboratory equipment or other

materials which have had no contact with blood or body fluids. Animal manure and bedding. Tissue, blood or body fluids from animals not known to be carrying an infectious agent that can be transmitted to humans.

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3.Are infectious waste and medical waste the same thing?No, medical waste is comprised of all items that are generated at a medical facility. These wastes can include packaging and paper. Infectious waste is the portion of this waste stream which poses a health threat to exposed individuals.

4.Are bandages considered infectious waste?Bandages and dressings are not considered infectious waste unless the material is completely saturated with blood and blood products or the fluid is from a patient with a communicable disease.

5.Is infectious waste a hazardous waste?No, infectious waste in Missouri is regulated as a non-hazardous solid waste under the Missouri Solid Waste Management Law.

6.How do I dispose of infectious waste?All infectious waste must be treated prior to disposal in Missouri, except waste generated at individual residences. Once treated, infectious waste is considered solid waste and can be disposed of in a sanitary landfill. Acceptable methods of treatment include chemical sterilization and autoclaving. Infectious waste can also be incinerated.

7.What do I do with infectious waste at home?The only requirements for infectious waste generated at an individual residence is that sharps be packaged in rigid, leakproof and puncture resistant containers prior to disposal with regular household waste.

8.What is a "sharp"?Sharps include hypodermic needles, syringes and scalpel blades. Broken glass or other sharp items that have come in contact with material considered infectious by definition are also included.

9.What is an example of a "rigid, leakproof and puncture resistant" container?Examples would be the thick gauge plastic laundry detergent or laundry softener bottles. A metal coffee can with the plastic lid duct taped on would also be acceptable.

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Project Grants SWMP

What kinds of grants are available and for what?Solid Waste Management Fund Planning and Organizational Grants are available for district plan development, district plan implementation and district administrative or operational expenses. Demonstration grants and capital expenditure grants are available for finding alternative markets for waste tires. Waste Reduction and Recycling Targeted Project Grants are available to support projects involved with waste reduction and recycling. Project loans are also available to support these activities. District grants are available to support projects contained in solid waste management district's that are in compliance with solid waste management planing requirements.

Can you tell me if my project will qualify for a Waste Reduction and Recycling Project Grant?Basically any project that reduces or diverts material from going to a landfill, processes or reduces materials legally banned from a landfill, any activity that stimulates or increases the demand for materials otherwise disposed of as waste, or any process by which combustible waste materials are burned and energy is recovered may be acceptable projects. Since there will be specific targeted areas or materials for each grant call, your application must also meet the criteria set out in the Target Announcements. These are general guidelines for what types of projects may be considered for funding. To be sure that your project is appropriate, consult with the Program's Financial Assistance Unit at (573) 751-5401 for more information

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Who can apply for the Waste Reduction and Recycling Targeted Project grant?Any individual, group (public or private), company, unit of government, public or private institution can apply for these grants as long as the

project activities take place in Missouri or the benefits accrue to the citizens of Missouri or to the state. The project activities must also meet the criteria set out in the Target Announcements.

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Sanitary Landfill SWMP

What is a Subtitle D landfill? A subtitle D landfill is a landfill that meets certain specific criteria for location, design and operation. These criteria can be found in Title 40, part 258 of the Code of Federal Regulations. Criteria specific to Missouri can be found in 10 CSR 80-3.010 in the Code of State Regulations.

What kinds of wastes can be taken to a sanitary landfill? Depending on the conditions of each landfill's permit document, any of the following may be accepted: municipal waste; bulky waste; demolition and construction waste; brush and wood wastes; cut, chipped or shredded tires as defined in 10 CSR 80-8; soil; rock; concrete; and related inert solids relatively insoluble in water.

Do you have to get a permit for a landfill? Yes, all landfills must have a solid waste sanitary landfill operating permit prior to accepting waste. The steps for permitting a landfill are listed below.

What are the steps to getting a sanitary landfill permit? There are five steps. Each step involves gaining an approval before the next step can be taken.

1. Preliminary Site Investigation. Representatives of the Geological Survey and Resource Assessment Division (GSRAD) will come to the site and perform a general site evaluation upon receiving a request. They will investigate the soils, geology and hydro-geology of the site. In addition, GSRAD will also look for geologic structures such as faults, springs, etc.
2. Detailed Site Investigation Workplan. After receiving approval of the preliminary site investigation the applicant must prepare a detailed site investigation workplan. This workplan will outline the steps to be taken to thoroughly and adequately characterize the site for hydrologic and geologic interpretations.
3. Geologic and Hydrologic Site Characterization Report. After the workplan is approved, the applicant must investigate and characterize the geology and hydrology of the site in accordance with the workplan. The applicant must interpret and summarize the geologic and hydrologic characterization of the site in a detailed site investigation report.
4. Construction Permit Application. After the detailed site investigation report is approved, the applicant can now apply to DNR for a construction permit. The application contains the details of how the landfill will be constructed and specifications on equipment, soils and procedures.
5. Operating Permit Application. After construction of all pre-operational features, the applicant must then apply to DNR for an operating permit. An inspection will be conducted by the department to make sure that all features were constructed in accordance with the approved plans and permit.

How long does it take to get a permit? Each step has specific time frames which must be met. The department (GSRAD) has 60 days to approve or disapprove a Preliminary Site Investigation, 30 days to approve a Detailed Site Investigation Workplan and 60 days to approve a Detailed Site Investigation Report. The department has 12 months to issue or deny a Construction Permit and 60 days to issue or deny an Operating Permit. From initial investigation to acceptance of waste takes approximately five years.

What does it cost to apply for a permit? A Construction Permit for a sanitary landfill has an application fee of \$2,000. The Department is also reimbursed for review costs of up to \$8,000. The rest of the steps in the permitting process do not have associated costs.

What kinds of information or concerns can the department take into consideration in reviewing an application for a landfill permit? The department reviews the design of the facility to determine compliance with the Missouri Solid Waste Management Law and regulations. Items covered in the regulations can be considered. For example, location relative to a flood plain or an airport, the geology and the hydrology of the site

and whether the site can be adequately monitored.

What kinds of information or concerns can the department not take into consideration in reviewing an application for a landfill permit? The department does not have the authority to consider the location of the facility if it complies with local planning and zoning nor can we consider whether or not the facility will affect property values.

How does a landfill monitor the groundwater to verify that it is not leaking? All operating sanitary landfills must have a groundwater monitoring system with at least four monitoring wells, at least one up gradient (a point from where the groundwater is flowing toward the landfill) and at least three down gradient (points from where the groundwater has already flowed beneath the landfill). The actual number of monitoring wells varies from facility to facility. Some landfills in Missouri have up to 40 groundwater monitoring wells. The owner/operator of the landfill hires a laboratory to sample the groundwater from the wells twice a year for naturally occurring and other possible parameters. The parameters of the downgradient wells are compared to those for the upgradient wells to see if contamination is occurring. The department periodically collects its own samples as a quality control check.

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Special Waste SWMP

1. What is a special waste? Special waste is a waste that is not a regulated hazardous waste, but has physical or chemical characteristics, or both, that are different from municipal demolition, construction and wood waste and which potentially requires special handling

2. If I have a special waste, do I need to hire a special hauler to transport the waste? No. However, the hauler should be able to transport the waste in a manner to keep the waste secure. The Department of Transportation may have additional requirements relating to weight limits.

3. What do I have to do to dispose of a non-hazardous special waste in Missouri? Contact the landfill you propose to take the waste to and ask them what their requirements are for acceptance of a special waste. The procedure usually involves filling out a special waste disposal form, which is an agreement between the generator and the landfill that states what the waste is, where it was generated and that it is not a hazardous waste. The landfill has the right to request additional testing and the right to refuse any load.

4. What sort of testing is necessary before my waste can go to a sanitary landfill? The generator must determine whether or not the waste is hazardous. This is usually done by the toxicity characteristic leaching procedure (TCLP) or by providing Material Safety and Data Sheets (MSDS).

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Transfer Stations SWMP

1. What is a transfer station? A transfer station is a site or facility which accepts solid waste for temporary storage or consolidation, and further transfer to a waste disposal, processing or storage facility. Transfer station includes, but is not limited to, a site or facility where waste is transferred from: a rail carrier, motor vehicle or water carrier to another carrier, if the waste is removed from the container or vessel.

2. How long can a transfer station store trash on site? A transfer station can store putrescible waste (garbage) for no more than 24 hours on site. Non-putrescible waste (recyclables) can be stored for up to one week.

3. What are the steps to getting a transfer station permit? There are two steps to obtaining a permit to operate a transfer station. 1. Construction Permit Application. Apply to the DNR for a construction permit. This application listed the details of how the facility will be constructed and specifications on equipment and procedures. 2. Operating Permit Application. After construction of all pre-operational features the applicant shall

apply to DNR for an operating permit. An inspection will be conducted to ensure that all features were constructed in accordance with the approved plans and permit.

4.How long does it take to get a permit? The department has six months to issue or deny a Construction Permit for a transfer station and 60 days to issue or deny the Operating Permit.

5.What does it cost to apply for a permit? A Construction Permit for a transfer station has an application fee of \$1,000. The Department is also reimbursed for review costs of up to \$4,000.

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Waste Tires SWMP

1.What can I do with the waste tires that I have accumulated?The best thing to do is to always leave your old tires with the retailer. If you have accumulated some old tires over the years, you have the following options:1. Carefully cut them up into at least three pieces or in half, like cutting a bagel. These pieces can then be disposed of with your normal household trash. The sidewalls can be cut out with a utility knife or jig saw. Be sure to check with your local trash hauler first to make sure that they will allow the cut tires in your trash.2. Contact a local tire retailer who would accept them. Tire retailers will probably charge you a disposal fee.3. Contact a [waste tire hauler in your area](#).4. You can use up to 100 tires for erosion control purposes. They can also be used for other beneficial purposes such as sand boxes, tree rings and plant containers. Be aware that the use of over 100 waste tires requires that you apply for and receive departmental approval before beginning a project using waste tires.

2.What happens to the extra amount of money I pay the tire store when I buy new tires? There are two separate fees charged by tire retailers.The first is a fee that tire retailers are required by law to charge on each new tire sold. This fee is 50 cents per tire. The retailer keeps a small portion for collecting the money. The retailers then sends the money to the Missouri Department of Revenue. The Department of Revenue keeps a small portion to pay their expenses for collecting the money. The remainder is deposited into the Scrap Tire Subaccount. This money is then available to the Solid Waste Management Program for the following purposes related to waste tires:1. Paying contractors to clean up illegal tire dumps (65 percent);2. Providing grants for using tire materials (five percent);3. Paying for department staff to: conduct inspections and initiate enforcement actions against illegal activities; manage the clean up of illegal tire sites; and manage the grants program; and4. Paying for public educational material and programs related to solid waste.The second fee that you may be charged is a disposal fee. Tire retailers make sure that waste tires are disposed of properly. They may charge any amount up to \$2 per car tire to cover their expenses for properly disposing of the tire.Tire retailers are inspected periodically by department staff to ensure that they comply with the waste tire law and regulations.

3.How many waste tires can a person have before they are regulated?Anyone can have up to 25 waste tires and be exempt from the waste tire law and regulations.

4.Can I burn waste tires or use them to burn brush?No. It is against the law to burn even one waste tire in Missouri.

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Stage I and Stage II Vapor Recovery APCP (Gasoline Dispensing Facilities)

1. What is Stage I and Stage II Vapor Recovery?Stage I vapor recovery is the capture and control of gasoline vapors which would normally be emitted to the atmosphere during the storage of gasoline, at a terminal or bulk plant, or during the loading of a gasoline delivery vessel and the subsequent delivery and unloading of a gasoline delivery vessel into another storage tank, usually at a gasoline dispensing facility (gas station). Stage II vapor recovery is the capture and control of gasoline vapors, at a gasoline dispensing facility, which would normally be emitted during the refueling of motor vehicles. When you refill your automobile gas tank the fresh gas forces out, and releases to the atmosphere, the gas vapors left in the tank from the past tankful. Stage II vapor recovery,

recognized by the black boots on the gas nozzles at St. Louis area stations, captures the vapors from the automobile tank and returns these vapors to the underground storage tank at the station. These vapors are held there until the underground tank is refilled by a gasoline delivery vessel using Stage I vapor recovery. These vapors are then returned, by way of the gasoline delivery vessel, back to the terminal for processing or destruction.

2. Where is Stage I and Stage II employed? Stage I and Stage II required by Missouri regulation, 10 CSR 10-5.220, "Control of Petroleum Liquid Storage, Loading and Transfer" are utilized in the St. Louis ozone non-attainment area. This area includes St. Louis City, St. Louis County, St. Charles County, Franklin County, Jefferson County. Stage I, required by Missouri regulation, 10 CSR 10-2.260, "Control of Petroleum Liquid Storage, Loading and Transfer", alone is currently utilized in the Kansas City ozone maintenance area. This area includes Kansas City, Jackson County, Platte County and Clay County.

3. Why is Stage I and Stage II necessary? Stage I and Stage II programs have been enacted by the state in response to the USEPA's designation of St. Louis Metropolitan area as non-attainment for ozone. This means that the concentration of harmful ground level ozone is sometimes too high in the St. Louis area. This high level of ozone concentration is unhealthy for people, animals and plants as well as being corrosive to buildings, bridges, and infrastructure. Ozone is a major constituent of what is more commonly called smog. Gasoline vapors, along with other volatile organic compounds like paint solvents, printing solvents, and other industrial and combustion materials are grouped together as Volatile Organic Compounds or VOCs. VOCs, along with Nitrogen Oxides, in the presence of intense sunshine, are the precursors for formation of ozone. In an effort to block unhealthy ozone development the State has chosen to control the release of VOCs in the non-attainment and maintenance areas. Controls include Stage I and Stage II vapor recovery regulations which require gasoline dispensing facilities to control their emissions. Other VOC control measures are regulations to control industrial VOC emissions, automotive inspection & maintenance tests, and open burning restrictions. VOC control measures reduce the emission, in the St. Louis non-attainment area, of more than fifty (50) tons per day of VOCs, thereby reducing potential for ozone creation.

4. Where can I get a copy of the Stage I and Stage II regulations for St. Louis and Kansas City? You may contact the Missouri Secretary of State's office at (573) 751-4015 and ask for copies of 10 CSR 10-5.220 for St. Louis and 10 CSR 10-2.260, for Kansas City.

5 How do the booted Stage II nozzles work in capturing gasoline vapors? The boot on the outside of the gasoline nozzle seals against the automobile fuel port neck and makes a continuous pathway from the automobile fuel tank back to the gasoline dispensing facility's gasoline storage tank. When you begin to fuel your car the increased pressure in your car tank, caused by the gasoline coming into the car tank, along with the decreased pressure caused by the removal of liquid gasoline from the gasoline dispensing facility's storage tank is equalized by drawing the vapors from the car tank back to the storage tank. This happens on approximately a one to one volume basis. That is if you fuel your car with ten (10) gallons of gasoline then the equivalent volume of 10 gallons of gasoline vapor is returned to the storage tank.

6. How does the state insure that the vapor recovery systems are maintained in working order? Stage II Gasoline stations are inspected twice a year by their local Air Pollution Control Agency. These inspections look for defective equipment, required permits, and general compliance with Stage I and II regulations. If defects are found that would significantly effect the efficiency of the vapor recovery system, these nozzles or equipment are tagged out of service by the inspector. The tagged equipment cannot be used by the station until it is repaired and reinspected by the inspector and the inspector removes the tag out. If the equipment is used by anyone before all these requirements are met the station is fined for illegal pumping. It is the station owner/operator's responsibility to "lock down" the defective equipment until cleared by the inspector. At this time no penalties are levied on stations owners for Notice of Violations issued for defective equipment unless the station pumps or utilizes the tagged out equipment before inspector clearance.

7. How can a Stage II station owner get the tags removed from his nozzles after an inspection? The station owner need to immediately repair or replace the defective equipment. After repair or replacement you should contact your local Air Pollution Control agency, either St. Louis City, St. Louis County, or MoDNR, St. Louis Regional Office, Stage II Unit inform them the repairs have been made and request a reinspection. After reinspection and confirmation that all repairs have been made in an appropriate manner the inspector will remove the tag out. The station owner/operator may return that equipment to service at that time.

St Louis City, Division of Air Pollution Control, Stage II Unit, (314) 664-7877
 St Louis County, Air Pollution Control Section, Stage II Unit, (314) 854-6923
 MoDNR, St. Louis Regional Office, Stage II Unit, (314) 822-0101

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Stage II Construction and Operating Permits ACP

1. Is there a requirement for a construction permit or an operating permit before building a gasoline dispensing facility in St. Louis? CONSTRUCTION PERMIT DETERMINATIONS

DETERMINATIONS

December 15, 1995 **NOTE: Replacing "like for like" means exchanging a component from manufacturer x for manufacturer y's component having an equivalent stock number.**

Construction Permit Required	Construction Permit Not Required
Replacement and/or updating spill buckets to comply with UST requirements.	Replacement of hoses, breakaways, nozzles, retractors or any components thereof.
Replacing any dispenser not "like for like." Example: Replacing a multi product dispenser with a blended dispenser requires a permit.	Updating from remote vapor check valves to nozzles with internal check valves. Example: Exchanging Emco Wheaton 4001 nozzles which require remote vapor check valves for new Emco Wheaton 4005 nozzles which have internal vapor check valves
Any modification of the vapor and/or UST plumbing.	Extension of the drop fill tube or replacement of float valves with no other modification.
Any addition of one or more islands, dispensers, nozzles, USTs, etc.	Replacement of UST caps, collars, seals, adapters, P/V valves with same or "like for like" components.
Any modification of the vapor recovery system which may affect the overall efficiency of that system.	Addition of pressure/vacuum valve and/or extending a vent pipe.
Any modification that would increase product dispensing rate above the maximum in CARB certifications	Replacement of plumbing and/or components inside the dispenser with the same or "like for like" component.
Any modification to a system not specifically in the CARB certification or (if applicable) in MDNR approval documents	Replacement of components in manholes or access ports with same or "like for like" components.
*Any time the facility breaks concrete for any reason including UST updates Note: Agency discretion determines permit applicability . Refer to note at * below.	Replacement of vapor line/fillport adapters Examples: 1. Replacing OW611-AV-3" with OPW 61-AS or 633-T 2. In vapor assist and processor systems, replacing processor or electronic control parts with "like for like".

*If the modification does not fall clearly into Column I or Column II, the Issuing Agency (City, County or SLRO) must determine the permit requirement consistent with the spirit and intent of the policies outlined in Columns I and II and APCP policy. When the determination is "No Permit Required", **then the issuing agency is responsible for ensuring that the facility is in complete compliance with all requirements of department policy and 10 CSR 10-5.220.** Verbal determinations are not acceptable. All determinations must be transmitted via written correspondence and copied to APCP. Yes, you must obtain a construction permit from the appropriate Air Pollution Control agency before construction and then subsequently obtain an operating permit. Facilities proposed for construction within the St. Louis City Area must apply to the City of St. Louis, Division of Air Pollution Control, 1415 North 13th Street, St. Louis Missouri, 63106, phone (314) 613-7300. Facilities constructing within the St. Louis County area must apply to the St. Louis County Department of Health, Air Pollution Control Section, 111 South Meramec, Clayton, MO 63105, phone (314) 854-6923. Facilities intending to construct within the areas of St. Charles, Jefferson, Franklin Counties must apply directly to the Missouri Department of Natural Resources' St. Louis Regional Office, Stage II Unit, 10805 Sunset Office Drive, St. Louis, MO 63127, phone (314) 822-0101.

2. Do Gasoline Bulk Loading Plants have to have Stage I vapor recovery? Yes, both the Kansas City and the St. Louis area regulations require Stage I vapor recovery on the storage tanks and the delivery vessels which transfer gasoline into them. Bulk plants must also have Stage I vapor recovery on their loading racks and delivery vessels which they send out to their customers. If, however, the bulk plant has a average monthly throughput of less than one hundred and twenty (120) thousand gallons per month, the plant can apply for a Low Throughput Exemption from the requirement for Stage I vapor recovery on their loading rack and outgoing delivery vessels. This exemption does not apply to the incoming delivery vessels or to the vapor recovery on their storage tanks. The application for a Low Throughput Exemption must be completed and arrive in the Missouri Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City MO 65102, before February 1 of each year.

3. Do Gasoline Dispensing Facilities have to conduct performance testing? Yes, station must conduct a Pressure Decay test on their system and either a Backpressure Blockage test or an Air / Liquid (A/L) test depending on the type of vapor recovery system employed. The vapor recovery system employed by the station must be California Air Resources Board (CARB) Certified and Missouri Department of Natural Resources (MDNR) approved.

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Tanks EAO

1. Is manual tank gauging going to be banned? Manual tank gauging will be allowed for monitoring tanks up to 1,000 gallons capacity.

2. Do I have to buy an automatic tank gauge (ATG)? No. There are several options or methods for monitoring your USTs. Every method has its advantages and disadvantages. You need to choose the method and equipment that you are able to best use and that best fits your business because, in the final analysis, it will be up to you to make this equipment work properly.

3. Can I landfarm the contaminated soil from my used oil tank? No. Landfarming is a method of cleaning up contaminated soil that consists of spreading the soil into a relatively thin (8 – 12 inch) layer on top the ground, adding moisture and nutrient, then tilling the soil periodically to maintain aeration. Used oil can contain traces of heavy metals and other contaminants that will not break down or 'go away' when landfarmed.

4. Do used oil tanks have to be upgraded with spill or overfill devices when they are filled from an aboveground drainpipe in the service bay? No. Any tank that receives transfers of no more than 25 gallons at a time does not require spill and overfill prevention devices. This, of course, does not imply that you can simply spill the oil over the ground or wait until the oil bubbles out of the fill pipe before you stop adding oil. What it means is that if you are manually dumping oil into the tank, you should be checking the tank periodically to make sure there's still storage space for the oil and that you should be careful when adding the oil (use a funnel, etc.).

5.Does the metal piping on my waste oil tank have to be upgraded with corrosion protection?No. Most piping on waste oil tanks does not routinely contain product and therefore does not require corrosion protection.

6.What should I do if I find abandoned tanks during closure? Do I have to stop the approved closure of the known tanks and submit another closure notice for the previously unknown tanks? No. Simply notify the regional office and include an amended registration along with the other closure report documentation to list the additional tanks.

7.Can I substitute a lead test for the methyl tertiary butyl ether (MTBE) analysis for tanks that have not been in service since the early seventies?If you know that was the operational history of the tank, yes. In most cases, you should run some tests to verify that was the case because MTBE was introduced earlier and used more widely than one would currently guess. MTBE these days is associated with air quality requirements, reformulated gasoline and all that; but, historically, MTBE was developed and introduced into fuel for octane enhancement.This brings up another issue, which is lead. If you know or suspect that the tank stored leaded gasoline, then you should test some representative samples of any soil that will be disposed off site for lead content. The reason for doing this is to ensure that the soil being disposed of in a sanitary landfill or other non-hazardous treatment is not, in fact, a hazardous waste.Now, this raises another problem. In the 'old lead belt', some sites have existing high lead levels. In these cases, an uncontaminated (with petroleum) soil sample will need to be analyzed to determine what the 'background' lead levels are.

8.Can I use a ball float overflow device if my system has a coaxial fill to meet vapor recovery requirements?Ball float valves should work in dual point delivery systems where product is delivered via one port and vapor is recovered via a separate port. If you are unsure about your specific system, please contact your equipment supplier or MoDNR.

9.If I have an existing fiberglass UST and I am replacing my old steel product lines, do I have to sample the existing line trench if my new lines are going to be installed in the same trench? Do I have to prepare a closure report on the lines? What if I am abandoning the old product piping in place and installing lines in a new trench?Piping replacement does not trigger closure requirements. If you discover evidence of a petroleum release, it must be reported to the spill line, then appropriate cleanup must be undertaken.Upon permanent closure of the tanks, all current and former tank system components must be assessed for releases. This would include sampling of the former piping trenches.

10.Do I have to do release detection on an emergency generator tank after December 1998 or is release detection still deferred?Release detection remains deferred under the technical rule. However, the tank is still subject to financial responsibility requirements. If you choose to meet financial responsibility by participation in the PSTIF, current participation rules and law will require leak detection data.

11.Do I have to add spill buckets if my fill pipes stick up above the ground?Yes.Do I have to strap my new tanks down with some type of anchors? What if my facility is in a flood plain area?Not necessarily, installation must follow industry practice, either API – 1615 or PEI RP-100. Most existing tanks seem to be held down sufficiently by the weight of the overlying backfill, soil and pavement. For example, we know that some tanks that were completely empty and located in the Missouri River flood plain survived the flood of '93 with no apparent movement. In other cases, tanks on high ground have floated up after a heavy rain.If you have a concern with a particular installation, you should consult an engineer with experience in this area.

12.Can I close my tanks myself? Yes, you may. The guidance that the department has prepared is intended for use by anyone. You may obtain the Closure Guidance Document from the Environmental Assistance Office at (phone number) or (web link). However, you may find that related requirements for employee training and equipment on issues such as health and safety may be beyond what you want to take on in terms of responsibility.DNR's State Parks Division handled this issue by hiring an outside consultant for site supervision, but used its own heavy equipment and operators.

13.Can I still use manual tank gauging as the sole method of release detection for my 500-gallon UST after December 1998? Yes.

14.Do I have to have financial responsibility for my used oil UST? Yes. The PSTIF does insure used oil

tanks and can be one of the methods of proving financial responsibility.

15. Do I have to remove tanks from the ground or can I close them in place? What if there is contamination? You may either remove them or close them in place, both options are allowed. Generally, removal will be, in the long run, your best option. This is because it is easier to document closure and cleanup; and to assure others that such was done adequately (i.e., when selling the property to others). All contamination found during closure activities must be addressed in accordance with the Closure Guidance Document.

16. Will adding cathodic protection (CP) to my tanks cause a leak? A properly designed and installed cathodic protection system will not create a leak in a tank. There have been some concerns with tanks that may seem to be 'tight' but actually have some corrosion holes, but the holes are temporarily plugged with soil or rust. When CP is added the rust plug is softened and the existing hole is opened. This is why a tightness test is required 6 months after installing a CP system.

17. If my STI P-3® tanks were installed in 1988 and I am upgrading with fiberglass reinforced plastic (FRP) product lines, can I still use inventory control and tank tightness testing every 5 years until 10 years after I replace the product lines and add spill and overfill devices? No, the ten-year limit expired ten years after the tanks were installed. The ten year limit is based on when the tanks met the corrosion protection requirements (either new or upgraded).

18. Do I have to add monitoring wells when I install my new tanks? No, however you must have some form of release detection.

19. Does my double wall piping require leak detection? Yes. Double wall piping requires an automatic line leak detector that can detect a three (3) gallon per hour leak at 10 psi within one hour. This requirement may be met by sensors in the sumps if they can meet the performance standard listed above. However, most double wall piping systems, do not require annual line tightness testing.

20. I have fiberglass piping but they installed metal flex connectors. Do I have to upgrade them? Yes, if they are in contact with the ground they must be protected from corrosion. The corrosion protection may be handled in a couple of ways. You may isolate the flex connectors from the ground with an approved isolation boot or you may cathodically protect them. If you add sacrificial anodes to cathodically protect your metal flex connectors, DNR has determined that this does not require design by a corrosion expert like all other cathodic protection systems, however, you must still test the cathodic protection every three years.

21. Does my metal suction piping require corrosion protection? Yes, if it is in contact with the ground.

22. Do double wall steel tanks require corrosion protection? Yes, however if they are protected by a cathodic protection system the monitoring requirements may be relaxed if certain conditions are met. You may contact the Tanks Section of the HWP at 573-751-6822 for specifics. You may also check the U.S. Environmental Protection Agencies website for FAQ's at: <http://www.epa.gov/swerust1/faqs/index.htm>

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[Toxics Release Inventory](#) EAO

1. What is the Toxics Release Inventory? The Toxics Release Inventory (TRI), is a national database that contains data about more than 600 chemicals being released into the environment. The U.S. Environmental Protection Agency (EPA) collects and publishes this information on an annual basis to help communities with their emergency planning efforts. If a facility has over 10 full time employees and manufactures, processes or otherwise uses over a specified amount of listed chemicals, they are required to report the amounts they release into the air, land or water. Since 1991, the TRI also includes information about chemicals transferred offsite for treatment, recycling, energy recovery or disposal. The EPA maintains an electronic copy of the Toxics Release Inventory at their Environfacts web site, the latest year's data can also be downloaded from the [TRI home page](#). DNR also maintains an electronic version for Missouri. To obtain electronic or paper copies of the state database contact the Environmental Assistance Office at 1-800-361-4827.

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Used Oil EAO

1.Can I self transport my used oil?Generators of used oil are allowed to self-transport up to 55 gallons of used oil to approved used oil collection centers or to aggregation points owned by the same generator, so long as they use their own vehicle or an employee's vehicle to self-transport the used oil.

2.Where can I recycle used motor oil when I change my own oil?Call EAO at 1-800-361-4827 or call your solid waste district planner (link to SWMP district planners list) for locations to recycle do-it-yourselfers used oil. There are many service stations and automotive retail stores that voluntarily accept used oil from the public.

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Water Quality EAO

1.What can I do to protect water quality?You have taken the first step by being concerned and realizing that each person has responsibility for their own actions, which can have adverse effects. The things each of us do at home, at work or when enjoying recreational activities can add up to very large amounts of pollution if we and our neighbors act without adequate knowledge.You can be careful of how you dispose of household hazardous wastes. Very few things can be safely poured down a sink or spread on the ground. EAO can send you a chart on household hazardous waste disposal or you can talk to a EAO representative about your particular question.You can also be careful in managing your home's exterior and yard work. Fertilizers and pesticides should always be used following label directions. If you have gardens and flower beds, design them to prevent erosion with techniques such as raised bed gardening and use mulches. Keep your grass thick and healthy by setting your mower at the highest level recommended for your grass type. Using a mulching mower will decrease the amount of fertilizer you need to spread because grass clippings have fertilizer nutrients in them. Don't burn your leaves which can leave a bare spot but run over them with a lawn mower and then compost them for next year's mulch.When using equipment with petroleum engines like boats, four wheelers and chainsaws, handle fuels with care. Relatively small amounts of gasoline will contaminate a huge volume of water. Store your gas cans carefully and use funnels to avoid spills.Use the University of Missouri Outreach and Extension's Home A Syst program to analyze your activities and get more ideas for preventing pollution.

Water Quality WPCP

1. Is the water in a particular stream or lake safe for swimming and fishing?

A: Because most waters of the state are meeting Whole Body Contact and Fish Consumption criteria, the answer is yes in almost all cases. This would often not be true for waters in highly urbanized watersheds, in watersheds with high concentrations of livestock and at times when bodies of water are affected by stormwater runoff.

2. I am considering buying property on a particular lake. What environmental problems does this area have?

A. The major concern is eutrophication (green water) due to nutrients coming into the lake from human or agricultural activity in the watershed, including wastewater, lawn maintenance and construction. There is no real evidence of bacterial problems due to development.

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Water Quality Standards Questions WPCP

1. What is the difference between [classified](#) and unclassified waters according to Missouri water quality standards?

A: Streams that maintain permanent pools during dry weather and have identifiable beneficial uses are considered classified. During the [triennial review](#) process citizens and agencies have the opportunity to request

that a stream, river, or lake be added to the list of classified waters located in tables G and H of [10 CSR 20-7.031](#).

2. What is a critical period and how does it relate to water quality standards?

A: A critical period is the period of time when attainment of water quality standards is the most difficult. This is usually due to one or more environmental variables such as low flow, warm weather, or heavy rain. For many pollutants, such as ammonia, warm weather low flows represent conditions where toxicity of the NH₃ (un-ionized) form poses the greatest threat to aquatic life.

3. What is a 7Q10 flow and how is it measured?

A: The 7Q10 flow is the average minimum flow for seven consecutive days that has a probable recurrence interval of once in ten years. It is generally measured in cubic feet per second (cfs) and determined by graphical or mathematical methods.

4. What is a gaining or losing stream?

A: A losing stream distributes thirty percent or more of its flow during low flow conditions through natural processes, such as through permeable geologic materials into a bedrock aquifer. A gaining stream does not lose flow to groundwater sources during low flows but rather gains flow from underlying layers. Table J in [10 CSR 20-7.031](#) lists losing streams that have been identified by the Missouri Department of Natural Resources.

5. How are water quality standards developed?

A: Implementation of water quality standards is ultimately the responsibility of the U.S. Environmental Protection Agency (EPA). However, the EPA grants states and tribes the authority to develop their own water quality standards framework. A water quality standard is composed of three parts: (1) Beneficial/energy-designated Uses, (2) Criteria, and (3) Antidegradation. Criteria are adopted to protect beneficial uses identified by state or tribal agencies (ex. 50 ug/l manganese for protection of aquatic life uses). The antidegradation requirement set forth provides protection of existing uses and allows maintenance of water quality above applicable criteria. Numeric criteria are scientifically derived from toxicity studies and cause/effect relationships. States and tribes are not allowed to adopt any standard that is less protective than those prescribed by EPA. Please view [EPA's water quality standards homepage](#).

6. How and when are water quality standards changed? How can I participate?

A: Missouri's water quality standards are reviewed every three years. Suggested changes are made by the U.S. Environmental Protection Agency (EPA), other state/federal agencies, and citizens. Following public meetings proposed changes are voted upon by the Clean Water Commission. The current status of Missouri's triennial review process is located at http://www.dnr.state.mo.us/energyq/wpcp/wqstandards/wq_tri_process.htm. If you wish to have an issue placed on a public meeting agenda scheduled in 2001 send an e-mail to nrzellc@mail.dnr.state.mo.us.

7. How can I increase the level protection for a stream, river, or lake?

A: Often the best way to qualify a [classified water](#) for a higher level of protection is by adding an additional [beneficial use](#) that has more stringent criteria associated with it. If the body of water in question is unclassified, then evidence of permanent pools during drought conditions must be validated. Once classified, a stream, lake, or river is subject to numeric criteria in addition to general criteria.

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Water Quality Definitions WPCP

1. What is a watershed?

A: A watershed is a land region draining into a single river or other body of water. A watershed is smaller than a river basin. Missouri has 11 river basins containing 77 major watersheds.

2. What is a river basin?

A: A river basin, like a watershed, is the area of land that drains into a specific river. The term basin is usually

used when referring to larger areas such as the Grand River or Meramec River basins, while the term watershed usually refers to land surrounding smaller rivers, streams or lakes, such as the Platte River or Moreau River watersheds.

3. What is nonpoint source pollution?

A. Typically, nonpoint source pollution cannot be traced back to a specific point of discharge. Nonpoint source water pollution includes pollutants in water that runs off crop land, forest land or other diffuse sources. It also comes from failing septic systems, parking lot runoff, construction site runoff, irrigation systems and drainage systems.

4. What is dissolved oxygen (DO)?

A. Dissolved oxygen is oxygen gas molecules that are dissolved in water. While the atmosphere is about 20 percent oxygen, or 200,000 parts per million (ppm), only a small amount of oxygen, typically 7-14 ppm, can be dissolved in water.

5. What is Biochemical Oxygen Demand (BOD)?

A. Biochemical oxygen demand is a measure of the amount of material in water that uses up oxygen as it decomposes, typically organic matter. Microorganisms in the water use the organic matter as food and take dissolved oxygen from the water to turn the food into energy. If there is too much organic matter in the water, dissolved oxygen levels can become depleted and aquatic life suffers.

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Water Quality Grants and Loans WPCP

Several types of construction assistance are available. Please contact the Water Pollution Control Program, Financial Services Section at (573) 751-1192 or fax (573) 751-9396.

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- **State Revolving Fund (SRF)**
Low interest loans of up to 100 percent of eligible cost for construction of wastewater treatment facilities, interceptor sewers, major pump stations, and some wastewater collection systems.
- **State 40 percent Grants**
Grants of up to 40 percent of eligible cost for construction of wastewater treatment facilities, interceptor sewers, major pump stations and some wastewater collection systems.
- **Rural Water and Sewer Grants (Sewer portions administered by Water Pollution Control)**
Grants of up to \$1,400 per connection for wastewater collection systems, not to exceed 50 percent of the project cost. Water pollution control portions of the grants are intended specifically to provide wastewater collection facilities in areas without sewers.
- **Stormwater Grants**
Grants of up to 80 percent of eligible costs for the construction of stormwater conveyance systems, retention basins, and flood control. Funds are distributed based on the applicant cities' and counties' populations.
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- **Non-point source grants**
Grants are available for up to 60 percent of eligible costs for projects related to the control of non-point source pollution. Contact the Water Pollution Control Program, Planning Section, at (573) 751-7528, or fax to (573) 526-5797.

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Water Quality Permits WPCP

1. Do I need a water pollution control permit?

A. If you build, erect, replace, operate, etc., a water contaminant, point source or treatment plant in Missouri, you must obtain water pollution control construction and operating permits from the Water Pollution Control Program. In addition, if you disturb five or more acres of land, or are listed as an industrial activity with stormwater concerns, you must obtain water pollution control stormwater construction and operating permits.

2. I already have a water pollution control permit. Are stormwater permits a new requirement?

A. The federal Clean Water Act was amended in 1991 to include permitting requirements for storm water. Any activity that will disturb five acres or more of property is required to obtain a permit for this activity. In addition, many industrial activities, currently identified by Standard Industrial Classification (SIC) code, are subject to permitting requirements. These industrial activities are identified in Missouri regulations 10 CSR 20-6.200.

3. Are all of my competitors required to obtain this permit?

A. All facilities subject to storm water requirements, or persons who put or place water contaminants where they will or are reasonably certain to cause pollution to the waters of the state, are required to obtain a water pollution control permit.

4. Is the Water Pollution Control Program going to approve the large concentrated animal feeding operation someone wants to put in our neighborhood?

A. All applications are reviewed in accordance with criteria of the Missouri Clean Water Law and Clean Water Commission regulations. The Missouri Department of Natural Resources is required to approve all applications for animal waste management systems that meet the requirements of federal and state laws and regulations.

5. How soon can you approve the application I submitted for an animal waste management system?

A. Staff review these applications as quickly as possible, most within 60 days or less. Often the review results in a comment letter outlining additional information needed prior to approval.

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Clean Water Law Questions WPCP

1. How do I find out about the new septic tank law?

A. Contact the Department of Health at (573) 751-6095 or your local county health department.

2. What are the maximum penalties under the Clean Water Law?

A. For civil violations the maximum penalty is \$10,000 per day or partial day of violation. For criminal violations, the maximum is \$25,000 per day with possible imprisonment of up to two years.

3. I didn't intend to do it, so why are you doing this to me?

A. The definition of a civil violation is based on the fact that violation of a law or regulation occurred, and does not require an element of intent or negligence. If elements of intent or negligence exist, then a criminal action could be taken.

4. Why don't you just go after the really big violators?

A. Violations by small operators have a huge cumulative effect on the environment statewide. Facilities of all sizes must be addressed to ensure all responsible parties remain aware of and concerned about their respective responsibilities with regard to the environment.

5. I'm not the one who first started up this operation or development, why don't you go after the person who sold it to me?

A. Circumstances may allow enforcement efforts involving a prior operator. However, remedial actions will usually require the currently responsible party to address any continuing violation. In most cases, the current owner is not protected by prior judgements regarding acquisition of the operation.

6. Present state and federal laws and regulations against pollution have been in effect for over 20 years; why is there still so much pollution and why isn't there more enforcement?

A. State and Federal environmental laws and regulations have had a dramatic effect on the environment. What

has changed is that today there is greater environmental awareness, enabling citizens to more clearly see environmental impacts. While many problems remain, regulatory programs are limited by the authority to act under the law and the resources made available to address pollution.

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