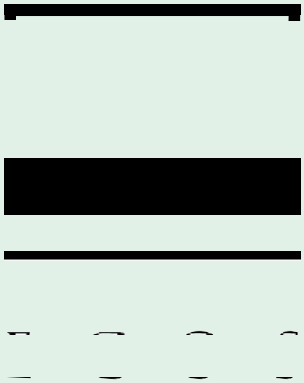
The Environmental Council of the States
Environmental Research Institute of the States



State Authorities and Practices Regarding Management of Wastewater Systems

December 2002

Table of Contents

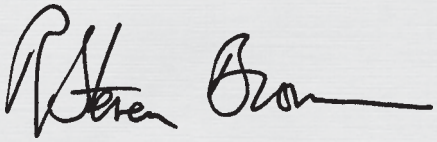
State environmental agencies are responsible for a very large portion of the environmental protection that occurs in this country. In recent years, the Environmental Council of the States (ECOS), has documented that States spend nearly twice as much as their federal counterpart on environment; that States conduct about 90% of the enforcement actions; that States collect about 94% of the national environmental quality data and that about 75% of the federal programs that can be delegated to the States have been so delegated.

Environmental protection by the States, however, is not a monolithic activity of the "state EPA." Instead, it is lead by the state environmental agency—or the health agency in three States and the natural resources agency in 12 States—in cooperation with the agriculture agency, the transportation agency, the public health agency, the local governments of the State, the regulated community, stakeholders and the public itself.

On-site wastewater systems fall into this system of oversight. Their creation is an oversight function of the environmental agency, the health agency, and local government, instigated by developers and/or home owners who need this wastewater treatment option.

This report delves into how States are organized to oversee on-site wastewater systems. Part of our environmental need to do so is public health, and part is our need to determine the pollutant impact of such "non-point" sources on our watersheds.

ECOS' hope is that this document will assist those persons and organizations interested in how on-site systems are regulated, and in how to improve both the oversight and the environmental performance of these systems.



R. Steven Brown
Executive Director
December, 2002

Environmental Research Institute of the States • 444 North Capitol Street, NW, Suite 445 • Washington, D.C. 20001
202-624-3660 • 202-624-3666 fax

Acknowledgements

The Environmental Council of the States
R. Steven Brown, *Executive Director*

Principal Investigators/Authors:

A. Christine Eppstein, *Senior Project Manager*
Carol Leftwich, *Senior Project Manager*
Gustavo A. Silva-Chávez, *Policy Analyst*

Advisory Committee:

Jean Caudill, *Ohio Department of Health*
Susan Sylvester, *Wisconsin Department of Natural Resources*
Frank Shephard, *Woods Hole Institute*
Linda Levy, *Louisiana Department of Environmental Quality*
Elsa Potts, *Florida Department of Environmental Protection*
Ed Woods, *Oregon Department of Environmental Quality*
Gary Edwards, *Southwest Utah Public Health Department*

Additional Assistance:

ECOS gratefully acknowledges the effort of many state environmental agencies' employees in providing their time, help and information. We thank the ERIS Board members for their support and guidance throughout the research process. We also thank the Small Flows Clearinghouse for sharing information that helped us design our surveys. We extend our appreciation to the reviewers of the drafts of this report, especially our Research Advisory Committee, and to the EPA Office of Wastewater Management, for sharing information with us.

This research was supported in part by the National Decentralized Water Resources Capacity Development Project (NDWRCDP) with funding provided by the U.S. Environmental Protection Agency through a Cooperative Agreement (EPA No. CR827881-01-0) with Washington University in St. Louis. This report has been reviewed by a panel of experts selected by the NDWRCDP. Comments and suggestions provided by the NDWRCDP review panel were not fully addressed in this report. EPA and Washington University have not reviewed this report. The views expressed in this report are solely those of ERIS. EPA, Washington University and the NDWRCDP do not endorse any products or commercial services mentioned in this report.

Additional copies can be requested from:

The Environmental Council of the States (ECOS)
444 North Capitol Street, NW
Suite 445
Washington, DC 20001

For more information about ECOS and the data in this report, see www.ecos.org.

About the Environmental Council of the States (ECOS)

The Environmental Council of the States (ECOS) is the national non-profit, non-partisan association of state and territorial environmental commissioners. ECOS was founded in 1993.

Officers, 2001-2002

Ron Hammerschmidt, President, *Kansas Division of Environment*
Dennis Hemmer, Vice-President, *Wyoming Department of Environmental Quality*
Karen A. Studders, Secretary–Treasurer, *Minnesota Pollution Control Agency*
George Meyer, ECOS Past President, *Wisconsin Department of Natural Resources*

Mission Statement

To improve the environment of the United States, the Environmental Council of States will:

- Champion the role of States in environmental management; and
- Provide for the exchange of ideas, views and experiences among States; and
- Foster cooperation and coordination in environmental management; and
- Articulate state positions to Congress, federal agencies and the public on environmental issues.

Vision Statement

To achieve its mission, the Environmental Council of the States will:

- Serve as the primary information clearinghouse and policy forum for management and implementation of environmental laws in the United States;
- Facilitate the sharing of innovative, progressive and effective ideas and programs;
- Encourage and recognize innovations and new approaches in state environmental management;
- Work as equal partners with the United States Environmental Protection Agency and other federal agencies on policy, regulations and implementation of environmental laws;
- Advocate, promote and publicize the role of States in environmental management;
- Provide Congress and federal agencies with state and territorial environmental agencies' perspectives in the development of environmental policies and laws and in the allocation of federal funds;
- Encourage the application of pollution prevention, multi-media, and regional approaches to environmental management;
- Explore options for expansion of state capacity and supporting efforts to implement expanded state capacity;
- Advocate further devolution of authority and responsibility, together with adequate resources, to state governments;
- Work with other public and private sector partners to preserve and protect the environment; and
- Work with Congress and federal agencies to assure adequate funding for core state programs based upon each other State's individual needs.

Chapter 1

Introduction

The past three decades have witnessed great progress in the protection of our nation's water resources. We have seen significant water quality improvements, as water pollution, which in the past contributed to a few rivers catching on fire and unsafe public water supplies, is now an important environmental policy and management issue in every State. This year marks the 30th year of the enactment of the Clean Water Act and has been designated the Year of Clean Water 2002. With the enactment of the Clean Water Act, our nation has seen significant reductions in point source pollution and many of the activities that contributed to water pollution problems of the past have been addressed. Yet some challenges remain and the issue is still with us today. Water pollution from nonpoint sources, including from the runoff of onsite wastewater systems (decentralized wastewater systems), still presents a dilemma, and local, state and federal mangers are faced with many policy options in their efforts to minimize the environmental impact of these systems.

There are several potentially adverse effects to human health and the environment if wastewater from households is collected, stored, treated and disposed of improperly. Nutrients and bacteria from wastewater are primary pollutants of water resources in the United States. There are two methods to treat and dispose of wastewater from human activities. One is via a centralized, publicly or privately owned and managed sewage treatment facility and the second is through the use of cluster or onsite decentralized wastewater systems. Toilets, bathing, laundry, kitchen and cleaning activities typical in most homes generate human activities that produce waste in form of sewage or wastewater.

Since the 1970s, many cities in the United States have used large centralized facilities to receive, treat and dispose of sewage. These types of facilities are best suited for densely populated areas and provide benefits such as having a centralized unit that can be easily monitored and has a large capacity for treating wastewater. The centralized approach also offers homeowners the added convenience of a privately or municipally managed system, which transfers wastewater to centralized locations away from their homes. Yet centralized systems have drawbacks that include significant capital investments to build the facility and specific geographical requirements for siting the facility. They have traditionally been located in high population density areas. As population density decreases and the geographical area expands, centralized systems become less well suited to treating wastewater at a reasonable cost, and other alternatives to wastewater treat-

ment must be used. Additionally, because of the large capacity, a malfunction in a centralized system may represent a greater impact to the environment than a malfunction in a single decentralized system or a small number of them.

Conversely, decentralized onsite systems can treat and dispose of human waste on a much smaller scale and require a smaller initial investment than the large financing required for building a centralized system. In addition, for some residences, especially those in low-density communities or rural areas that do not have access to centralized facilities, onsite systems offer the only way to safely and cost effectively dispose of wastewater in a manner that protects public health and the environment. Decentralized systems, if properly sited, constructed, operated and maintained, protect human health and the environment, and are currently used by about 25% of the US population.[1]

Under provisions in the 1977 amendments to the Clean Water Act (CWA), communities are eligible to receive federal funds if centralized systems are used. This financial incentive made many communities choose centralized facilities as the preferred method of dealing with wastewater, even though funding assistance for decentralized wastewater systems could be obtained via the Clean Water State Revolving Fund (SRF). In addition to regulations that mandate hooking up to the centralized pipeline system if it is, or becomes, available, there are other barriers to the implementation of decentralized wastewater systems. There is a widespread lack of knowledge about the benefits of decentralized systems and a perception that centralized systems are better at protecting human health and the environment.

There is also a problem with overlapping and sometimes vague language with regards to which state agency is in charge of regulating and managing decentralized systems. Improper management of wastewater affects public health and, in some States, the state public health agency has jurisdiction to regulate decentralized onsite systems. But wastewater also affects the environment, leading other States to give authority to the state health and environmental agencies as well as local governments, and complex rules and regulations further compound the problem.

Federal Efforts to Address Water Pollution

Originally passed by Congress in 1948, the Federal Water Pollution Control Act was significantly amended in 1972, in response to the water quality problems that had led to beach closings, polluted rivers and lakes and unsafe drinking water supplies. The Act was subsequently amended in 1977, when it was renamed Clean Water Act (CWA), and went through some revisions again in 1981 and 1987. The primary goal of this act was to maintain the chemical, physical and biological integrity of the nation's waters and to improve water quality. Initially the primary focus was to eliminate point source pollution, which is released from discrete sources such as pipes, while in recent years, more effort has been placed on addressing non-point sources from sources as varied as stormwater runoff, agricultural areas and urban areas and construction sites. The federal government, primarily through the Environmental Protection Agency (USEPA), has tried to achieve the Act's objectives by setting the

1 *See Response to Congress on Use of Decentralized Wastewater Treatment Systems*, Executive Summary, p i. http://www.epa.gov/OW-OWM.html/mtb/decent/response/exec.pdf (accessed December 10).

agenda and national standards on effluent limitations while the States carry out the implementation and enforcement activities.

In the 1970s, most of the efforts to clean up our nation's water resources targeted conventional pollutants (suspended solids and bacteria) while in recent years the focus has shifted to controlling toxic releases. CWA contains provisions that authorize federal financial assistance for municipal sewage treatment plant construction, and provisions that describe the regulatory requirements that apply to industrial and municipal dischargers. More importantly for the purposes of this report, section 319 of CWA allows EPA to provide grants annually to States for controlling non-point sources of pollution, including malfunctioning onsite septic systems.

EPA's Decentralized Wastewater Activities

In April 1997, the United States Environmental Protection Agency released the report *Response to Congress on Use of Decentralized Wastewater Treatment Systems*, which examined the feasibility of decentralized treatment as a lower-cost option for water treatment for communities across the United States. The report also provided an analysis of the benefits of onsite decentralized wastewater systems, including potential savings and costs, and EPA's ability to implement these systems. The report can be found at http://www.epa.gov/OW-OWM.html/mtb/decent/response/index.htm.

EPA's Report to Congress identified five major barriers to the successful implementation of decentralized wastewater technologies. (1) Misinformation and limited public knowledge about onsite systems; (2) legislative and regulatory constraints; (3) a lack of system management; (4) existing engineering practices; and (5) restricted access to funding. It also concluded that "adequately managed decentralized wastewater systems are a cost-effective and long-term option for meeting public health and water quality goals, particularly in less densely populated areas"[2].

The legislative and regulatory constraints included a division in legislative authority for the protection of public health and water quality between two or more levels of government. The findings of the report suggested that, in many States, there was a split in the legislative authority for regulating onsite systems. In several States, the jurisdiction was split between the state environmental protection agency and the public health agency.

EPA's Guidelines for Management of Onsite/ Decentralized Wastewater Systems—July 2000

Following the release of the 1997 report, EPA proposed a plan for new guidelines for the proper management of onsite systems. These guidelines are "a set of recommended practices needed to raise the level of performance of onsite/decentralized wastewater systems through improved management programs." EPA lists five sets of recommended practices, or model management programs, that include:

1) System inventory and awareness of maintenance needs,
2) Management through maintenance contracts,
3) Management through operating permits,

2 *Id.* at iii.

4) Utility operation and maintenance, and
5) Utility ownership and management.

These guidelines have two objectives. First, they are designed to create a comprehensive management program in order to improve water quality and protect public health. Second, they will help States, tribes and communities develop, modify and implement laws and regulations in areas of decentralized/onsite wastewater system management planning. The guidelines are not mandatory and provide a set of recommended approaches for the planning, siting, designing, performance, installation, operation, maintenance and monitoring of these systems. Finally, these guidelines are for new and existing communities and new areas of development that use onsite/decentralized wastewater treatment systems. They apply to systems that discharge to surface waters, as well as to systems that disperse wastewater below the ground surface. The guidelines were first published in the *Federal Register* on October 6, 2000 and EPA plans to release the final *Voluntary National Guidelines for Management of Onsite/Decentralized Wastewater Systems* in 2002. For more information on EPA's activities, go to the Office of Wastewater Management website at http://www.epa.gov/OW-OWM.html/index.htm.

Chapter II

Overview of the Issue

ERIS Role

The Environmental Council of the States (ECOS) is the national, non-partisan, non-profit association of state and territorial environmental commissioners. The mission of ECOS is to improve the environment of the United States by providing for the exchange of ideas, views and experiences among States, fostering cooperation and coordination in environmental management, and articulating state positions to Congress and EPA on environmental issues. Currently, fifty-two States and territories are ECOS members.

The Environmental Research Institute of the States (ERIS) is the research arm of ECOS and was chosen to conduct this study because of its unique relationships with state environmental commissioners and interest in water quality related issues. As a research institution, ERIS does not advocate policy positions, and does not endorse products. Therefore, this report should not be read as advocating for the use of decentralized systems or centralized systems.

In the past, an ERIS project regarding groundwater contamination (more specifically nitrate contamination), resulted in a technical guidance document, *Emerging Technologies for Enhanced In Situ Biodenitrification (EISBD) of Nitrate-Contaminated Ground Water*, available at www.itrcweb.org. During the summer of 2000, ERIS received a grant from the University of St. Louis-Washington and the National Decentralized Water Resources Capacity Development project (NDWRCDP). ERIS is a 501(c) 3 organization incorporated in the District of Columbia that focuses on educational and research issues. ERIS has no staff but uses staff from ECOS, on a reimbursable basis, to carry out its projects.

Under this grant, ERIS agreed to review some of the issues described in EPA's 1997 report and write a report examining the division of legislative authority between two or more levels of government for the protection of public health and water quality. In addition, the report will focus on other issues related to the relationships between state agencies responsible for managing decentralized onsite systems at the state level. Finally, we focused on opinions of state managers who work on this issue daily.

Aim of This Report

The objective of our report is to help ECOS members understand the existing state and local authorities, regulations and practices regarding onsite wastewater management systems, with a specific focus on the differences between state and local government authority

that was a key finding of EPA's 1997 report. When we began our research, we wanted to focus on state and local authorities. However, it quickly became clear that we could not establish a baseline from which we could compare local governments. State–local relationships are different due to a variety of reasons including different levels of municipal resources, geography, as well as population and economy size differences. However, the state agency comparison was realistic and reliable. As a research body, we do not advocate a centralized or decentralized system. Rather our goal is to explore how state agencies address their management authority of decentralized wastewater systems. A second goal of the project is to raise awareness of onsite wastewater management issues by publishing a State-focused national report on current practices for our members, Congress and EPA. We believe these two goals combined will address the barriers to implementation of decentralized wastewater systems described in EPA's 1997 report.

Research Methodology

The first step in this project was to gather the relevant regulations, statutes and/or guidelines for the management of decentralized wastewater systems in all fifty States. We then summarized them to include the most relevant information such as the terminology used to define a decentralized onsite system, which agency has jurisdiction and whether alternative systems are allowed. In order to supplement gaps in the data and highlight additional information, we conducted a telephone survey of onsite wastewater experts in all fifty States. Our focus for this part of the project was to take a closer look at the regulations and statutes relating to onsite wastewater management practices and to obtain some additional information. Specifically, we were most interested in the terminology for onsite wastewater particular to each State, the types of onsite systems allowed/regulated, the jurisdiction for the management of these systems (i.e., the environmental or health agency), and whether or not permits were needed to install, construct and operate these systems.

Following a preliminary analysis of the results from the first telephone survey, we wanted to supplement our information by looking at the types of relationships that exist between state agencies that deal with these issues, and between the state and local governments, additional spending information and changes that the state employees who work on this issue would like to see in order to become more effective onsite regulators and managers. We conducted this second telephone survey in January–March 2002.

What is a Decentralized Onsite System?

According to the definition used by EPA, decentralized wastewater systems are onsite or cluster wastewater systems that are used to treat and dispose of relatively small volumes of wastewater, generally from dwellings and businesses that are located relatively close together. They are commonly referred to as septic systems, private sewage systems, or individual sewage systems. Our research found that States have over thirty-five different definitions of what constitutes an onsite system.

Onsite systems offer several advantages over centralized wastewater treatment facilities that include:

1) Protection of public health and the environment comparable to centralized facilities.

2) If properly managed, onsite systems can provide the treatment necessary to protect public health and the environment. They can be sited, sized, designed, installed and operated to meet all federal, state and local water quality requirements.
3) They are appropriate for low-density communities and are usually the most appropriate technology and most cost-effective option for rural areas.
4) Decentralized systems can be designed for a variety of site and soil conditions.

Decentralized onsite systems need to be properly sited, sized, constructed, operated and maintained in order to effectively collect, treat and dispose of human wastes. A lack of proper maintenance is one of the most common reasons for a system failure that can have significant adverse effects to the public health and the environment. Problems with any of the above steps can lead to malfunction. Other problems, such as low-level leaking, are hard to detect and can linger for a time before the homeowner knows what is occurring.

The biggest documented problems involve contamination of surface waters and ground water with disease-causing pathogens and nitrates. Other problems include excessive nitrogen discharges to sensitive coastal waters and phosphorus pollution of inland surface waters, which increase algeal growth and lower dissolved oxygen levels.[3] All of these problems have a significant impact on human health and the surrounding ecosystems.

A septic system is usually made of concrete, fiberglass or plastic and at its most basic design consists of a rectangular container where the wastewater is routed and stored until it is ready for further treatment and disposal. A typical septic tank has three main functions that include removing as many solids as possible before the liquid, called effluent, is released into the drainfield, allowing solids to decompose in the tank, and storing solids that do not decompose. As solids accumulate, they will affect the proper functioning of the system and must eventually be removed.

Onsite Systems as an Important Environmental Issue

The 1990 U. S. Government Census indicates that in over 26 million households, almost 68 million people use decentralized systems.[4] In addition, about 40% of new development relies on decentralized onsite systems to handle wastewater. As the US population continues to grow from an estimated 281 million people in 2001,[5] more people may turn to onsite systems to manage wastewater. Therefore, the adverse environmental and public health effects of improper onsite system use on such a large scale may be felt in the future. For example, the US Census Bureau reports that at least 10 percent of onsite systems nationally have stopped working, with some areas reporting failure rates as high as 70 percent of existing systems.[6]

The Census Bureau reports that the distribution and density of onsite/decentralized sys-

3 US EPA Onsite/Decentralized Wastewater Systems, Frequently Asked Questions (FAQs) http://www.epa.gov/OW-OWM.html/mtb/decent/faqs.htm (accessed December 10, 2002).

4 *See Construction and Housing* §25 1990 U. S. Census http://landview.census.gov/prod/2001pubs/statab/sec25.pdf (accessed December 10, 2002).

5 2000 U.S. Census estimate http://eire.census.gov/popest/estimates.php (accessed December 10, 2002).

6 *See supra* note 3, at question 4.

tems vary widely by region and State, from a high of about 55 percent in Vermont to a low of around 10 percent in California. New England States have the highest proportion of homes served by onsite/decentralized systems: New Hampshire and Maine both report that about half of all homes are served by individual systems. More than a third of the homes in the southeastern States depend on these systems, including approximately 48 percent in North Carolina and about 40 percent in both Kentucky and South Carolina.

Small, rural communities represent about 10 percent of the total wastewater need in the country, but decentralized systems are not limited to these areas, since more than half of onsite systems are found in metropolitan areas. For example, in Iowa, thirty-six percent of homes (210,000 residences) use onsite septic systems to treat their sewage. But newer communities in urban and suburban areas that have expanded as a result of suburban sprawl increasingly favor decentralized onsite systems to treat their wastewater. About one-fourth of the total US population is served by onsite wastewater systems, and about one-third of new construction employs this type of treatment.[7]

Onsite systems are also an important issue because when used improperly, malfunctioning systems can cause contamination of ground water and nearby surface waters. Our telephone survey indicated that improper maintenance was the primary reason for system malfunction and failure. Failing systems can release pathogens into surrounding areas where they may affect human health and chronically endanger the local environment and ecosystems.

---

7 *See* US EPA Onsite/ Decentralized Wastewater Systems http://www.epa.gov/OW-OWM.html/mtb/decent/summary.htm (accessed December 10, 2002).

Chapter III

Current Status of State Statutes and Regulations

Origin of Legislative Authority over Decentralized Wastewater Systems

"The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people."[8]

In the United States, the States have the authority to manage decentralized wastewater programs. The source of authority is found in the States' statutes and regulations. All States in the USA have a Legislature with two chambers, except the State of Nebraska, which has a unicameral Legislature.[9] The Legislatures serve the same role in all States: to enact laws concerning issues in their own State. The state laws apply only within the State's boundaries, and serve as a mandatory framework for all the actions of the state executive branch.

The executive branch includes the Governor, the Cabinet and state departments and agencies. The role of the executive is to implement the laws issued by the federal and state government. This is accomplished by the enactment of administrative rules/regulations, guidelines and adjudications.[10] Rulemaking is very important in technical areas, like management of decentralized wastewater systems. Generally, for this issue, legislatures merely designate the state agencies responsible for oversight of decentralized wastewater systems and the extent of their authority, thus giving them broad discretion to implement the statutes.

8 U.S. CONST. amend. X.

9 Welcome to the Nebraska Legislature On-line http://www.unicam.state.ne.us/faq/index.htm (accessed December 10, 2002).

10 Administrative Procedure Act, 5 U.S.C. § 551
(4) "rule" means the whole or a part of an agency statement of general or particular applicability and future effect designed to implement, interpret, or prescribe law or policy or describing the organization, procedure, or practice requirements of an agency and includes the approval or prescription for the future of rates, wages, corporate or financial structures or reorganizations thereof, prices, facilities, appliances, services or allowances therefor or of valuations, costs, or accounting, or practices bearing on any of the foregoing;
(5) "rule making" means agency process for formulating, amending, or repealing a rule;
(6) "order" means the whole or a part of a final disposition, whether affirmative, negative, injunctive, or declaratory in form, of an agency in a matter other than rule making but including licensing;
(7) "adjudication" means agency process for the formulation of an order.

State agencies publish the proposed and adopted administrative rules and regulations in the state register.[11] The register is published regularly (the schedule varies from State to State, from every week to every month). The public has the opportunity to comment on the proposed rules. This notice must describe the proposed rule and give the public at least thirty days to provide comments. After receiving and assessing the comments, the agency can issue a final rule.

All state rules and regulation are binding, if they comply with state and federal law. State agencies may issue rules and regulations only under statutory authority granted by the legislature.

Differences in Definition and Terms Across the Country

Our research found that thirty-five terms are used across the States for decentralized wastewater systems. The term used by US EPA, "Onsite/Decentralized Wastewater Treatment System," is generally not used by States in their regulations. The most widely used terms are "Onsite (On-site) Sewage Disposal System," used in nine States, and "Individual Sewage Disposal System," used in five States. The following terms are each used in two different States only: "Individual Sewage Treatment System," "Onsite (On-site) Sewage Treatment and Disposal System," "Onsite (On-site) Wastewater System," and "(On-Site) Wastewater Treatment System." The most often word used is "onsite" (or its hyphenated version "on-site"), which appears in the regulatory terms of twenty-seven States.

In most cases, the definitions distinguish among conventional (standard), alternative (modified) and experimental (innovative, special engineered) decentralized wastewater systems. Sometimes, the regulations condense the later two types in one category, and the terms *alternative* and *innovative* are used interchangeably.

A conventional system is usually defined as a septic tank that treats sewage on-site, using demonstrated treatment and disposal technology in a manner specifically recognized by the administrative rules.

Unlike conventional systems, alternative systems do not meet the regulatory requirements for location, design or construction. However, they are permitted if it is demonstrated through field testing, calculations and other engineering evaluations that the they protect the public health and prevent pollution of the waters. The designated agency thus sets up different criteria (performance standards) for such systems. In addition, the applicant must comply with the codes and ordinances, and provide reasonable assurance that the system will work properly.

Our analysis found state agencies are more stringent with regard to experimental systems because such systems have a new device or design which needs further testing to provide sufficient information before approval. Systems that have a new device or method not yet evaluated and approved by the appropriate state agency also fall in this category. In all cases, experimental systems may not be utilized unless approval has been granted by the department that has jurisdiction over decentralized wastewater systems.

In addition, States use other criteria to clas-

11 The terms "rule" and "regulation" are used interchangeably among States. Both acts have the same level of binding authority.

sify decentralized systems, such as size; e.g. with a design flow lower or higher than 5,000 gallons a day (in Connecticut). In other States (Utah, Texas), a system is considered an onsite treatment system only if it has a design flow of 5,000 gallons per day or less.

Horizontal Split in Authority at State Level

For the purposes of this report, we define a horizontal split as the split in jurisdiction over decentralized wastewater programs between two or more state agencies. In almost all cases, the state agencies involved are the environmental and health departments. EPA's 1997 *Report to Congress on Use of Decentralized Wastewater Treatment Systems* concluded that one of the barriers in implementing decentralized wastewater systems is caused by legislative and regulatory codes that split the authority between at least two agencies in the same State.[12]

Nevertheless, ERIS found that in most States, the statutes authorize one state agency to have jurisdiction over decentralized wastewater systems (issue regulations, guidelines, permits, etc.). In twenty-four States that agency is the environmental department, and in fourteen States, the health department. In five other States the health and environmental agencies are combined in one department. Lastly in the other seven States, there is a split in authority over decentralized systems, as both the environmental and the health agency are assigned tasks related to the management of onsite wastewater.

Where a split in authority exists, the extent of each department's jurisdiction varies from State to State. In Connecticut, the Department of Public Health (DPH) has primary authority over decentralized systems, and the regulations are issued in the Public Health Code. However, the plans for wastewater systems must be submitted to DPH in a timely manner, in order to "allow review and comment of such plans to be directed to the Commissioner of Environmental Protection".[13] The Department of Environmental Protection does not have enforcement authority.

In Georgia, the Department of Human Resources has jurisdiction over on-site management systems, but it can share that jurisdiction via Memoranda of Agreement or other agreements. Some systems, however, remain under the jurisdiction of the Department of Natural Resources.[14]

In North Carolina, discharges below ground surface are under the jurisdiction of the Department of Human Resources, under rules and regulations adopted by the Commission for Health Services. Discharges to above ground, on ground surface and in surface waters are regulated by the Environmental Management Commission, and are under the authority of the Division of Environmental Health in the Department of Environment and Natural Resources.[15]

In Minnesota, the Pollution Control Agency has the authority to adopt rules that establish minimum standards and criteria for the design, location, installation, use, and maintenance of individual sewage treatment systems. All sys-

12 *See supra* note 1 at iii.

13 CT Reg. of State Agencies, Public Health Code 2000, 19-13-B103.

14 GA Rules of Department of Human Resources, 290-5-26-01.

15 1900 NC Admin Code, 10A.

tems that discharge to surface waters or above the ground surface must obtain either a State Disposal System (SDS) or a National Pollutant Discharge Elimination System (NPDES) permit.[16] The Department of Health (MDH) reviews and approves plumbing systems for facilities serving the public and designed for less than 10,000 gpd, including septic systems. MDH also issues variances to separation distances from wells and water supply pipes.[17] The Department of Natural Resources is responsible for the shoreland management act that requires septic systems to be inspected when any permit or variance is requested for the property.[18]

In Mississippi, the State Board of Health has the responsibility to adopt, modify, repeal and promulgate rules and regulations regarding the design, construction, operation and maintenance of individual on-site wastewater disposal systems. The State Department of Health and the Department of Environmental Quality have a memorandum of understanding that clearly defines the jurisdiction of each department with regard to wastewater disposal and procedures for interdepartmental interaction and cooperation. The State Department of Health is responsible for initial onsite inspection, recommendation of system types acceptable for installation, and—where requested by the developer or owner—approval of systems where the volume of wastewater produced is similar to that of a single-family residence.[19] All systems where a volume of wastewater larger than that of a single family residence is produced, and where not all proposed effluent or discharges are contained on the generator's property, are referred to the Department of Environmental Quality (DEQ). The health department must conduct a soil and site determination if flows are more than those produced by a single family, and provide the results to DEQ.[20]

In most States, no state agency other than the health and/or the environment department has jurisdiction over decentralized systems. Nevertheless, in some States without environmental agencies, like Wisconsin, Missouri, Iowa and Georgia, the environmental programs—including decentralized wastewater—are incorporated in the department of natural resources.

We found that only in Minnesota do three state agencies share jurisdiction of decentralized wastewater management: the Pollution Control Agency, the Department of Health and the Department of Natural Resources.[21]

In New Mexico, the Environment Department has exclusive jurisdiction over the management of decentralized systems. However, a valid contractor license issued by the Construction Industries Division of the New Mexico Regulation and Licensing Department is necessary for constructing, installing, repairing or modifying an on-site liquid waste system.[22]

16 MN Rules 9505.3640, Subp. 1a.

17 *Id.*

18 National Small Flows Clearinghouse, *A Guide to State-Level Onsite Regulations* (2000), p. 49.

19 MS Code of Rules, Regulation Governing Individual Onsite Wastewater Disposal, 300 2.5, subs.1.

20 *Id.*, subs.2.

21 *See supra* note 16.

22 20 4 NM Admin Code, 7.3. 201.A2.

Vertical Split in Authority between State and Local Agencies

Our research found a vertical split in authority exists in most States. This split entails the involvement of different local governments in the process of managing the decentralized wastewater systems. Specifically, we define the vertical split between one or more agencies at the state level and local governments which may include counties, groups of counties regarded as one entity for the purposes of wastewater management, and municipalities (cities and townships). This division of authority is more complex that the one at state level, and we found the extent of the split varies greatly from State to State.

Local governments are not directly defined by a constitution, but many state constitutions determine the process for creating a local government.[23] Local government structures typically include counties, cities, villages, and townships.[24] City governments usually include an elected mayor, who is the chief executive, and a city council that acts similarly to a legislature.[25] Generally, villages and townships are structures characteristic to rural areas; they may be structured similarly to a city or may be run by a commission.[26] Most States are divided into counties, administered by an elected board of commissioners or supervisors.[27] There may also be other elected county officials, including sheriffs or county executives. In addition, many special purpose delegates carry out such functions as education and sometimes environmental regulation.[28]

City governments function independently of the States in many respects, but they are limited by state charters, which describe the objectives and powers of the municipal governments.[29] Generally there are three types of city government—the mayor-council, the commission, and the city manager—or a combination of these.[30]

Municipal jurisdictions too small to qualify as city governments are towns or villages. This type of government is usually administered by an elected board or council, and deals strictly with local needs.[31]

The decentralized wastewater programs are generally local in nature, due to a variety of factors. The population number and growth trends, geographical layout, climate, type of soil and type of dwellings are factors that play a decisive role in selecting a wastewater management program suitable for the regional characteristics. Therefore, in most States, the local governments administer these programs because they are knowledgeable about the local characteristics and needs.

23 North American Commission for Environmental Cooperation, *Summary of Environmental Law in the United States* http://www.cec.org/pubs_info_resources/law_treat_agree/summary_enviro_law/publication (accessed December 10, 2002).

24 *Id.*

25 *Id.*

26 *Id.*

27 *Id.*

28 *See* U.S. Department of State, Richard C. Schroeder, *Outline of U.S. Government* http://usinfo.state.gov/products/pubs/outusgov/ack.htm (accessed December 10, 2002).

29 *Id.*

30 *Id.*

31 *Id.*

There are a variety of regulatory systems under which the local governments administrate the decentralized program. In all States, the local standards cannot be more lenient than the state standards, unless a variance is granted.

Based on our research, States can be classified in three categories based on the split in authority factor.

i. States where the state agencies play the main role in implementing the decentralized wastewater program (e.g. New Mexico);
ii. States where the state agencies have the general oversight, but the local governments have regulatory authority (e.g. Indiana);
iii. States where both the state and local agencies have jurisdiction and usually a delegation process from state to local agencies occurs (e.g. Pennsylvania).

Nonetheless this classification contains loopholes, because the regulatory framework is significantly different from State to State. In some States, one regulatory system has the characteristics of two of the above-mentioned categories (South Dakota).

In New Mexico, the Environment Department (NMED) is the state agency with jurisdiction over decentralized wastewater. Because the department was created after the establishment of the city of Albuquerque, the city and county around it (Bernalillo) have independent jurisdiction. The county regulations are currently more stringent than the State's. Bernalillo County has its own regulations and environmental health program. All other counties in New Mexico are under state jurisdiction and regulated directly by NMED through their field offices, as most counties are very sparsely populated.

New Mexico is one of the few States where the state agency runs the decentralized program. This system can be met in sparsely populated states (New Mexico has a 12.5 pop/ sq. mi.)[32] In South Dakota (with a population density of 9.2 per sq. mi.)[33] the Department of Environment and Natural Resources (DENR) operates through its regional offices, without a formal delegation process. Standard (conventional) systems installed by certified installers do not need any permit review from DENR, but counties may require it. Any system that is not standard (experimental and alternative systems) must go thorough DENR's review process.[34]

We also found the size of a State has an important role in the type of regulatory management systems used for wastewater. In Delaware (1954.6 sq. mi.), the Department of Natural Resources and Environmental Control (DENRC) is the only state agency that regulates decentralized wastewater systems. Counties may assume responsibility and authority for administering their own regulatory program, but so far none of the three counties in Delaware has done so. However, DNREC can issue permits and variances only if the county or municipality having land use jurisdiction has first approved the activity through zoning procedures provided by law. If county or municipal regulations prohibit construction of decentralized systems, DNREC cannot issue a permit.[35]

---

32 *See* US Census Bureau http://www.census.gov/population/censusdata/90den_stco.txt (accessed December 10, 2002).

33 *Id.*

34 SD Admin Rules 74:53:01.

35 DE Code of Regs 7 60 3.03000, 5.02050.

Similarly, in Hawaii (6,422.6 sq. mi. land) the Department of Health has sole jurisdiction over decentralized wastewater systems and administers the program from its central office in Honolulu and regional offices. Each county has the option of having a wastewater advisory committee nominated by the mayor and established by the director of the department. The committee may include, but is not limited to, representatives of the county water supply, public works, planning and land utilization departments, labor and industry. Its role is to review and make recommendations, upon the request of the director, of the application of the rules on matters unique to each county, on the establishment of critical wastewater disposal areas, on proposals which are not specifically addressed in the rules, and on request for variances.[36]

In Indiana, the management system is set up so that the local governments have more management authority. The state health department has oversight, but the local boards of health, through their health officers and authorized agents, are in charge of administering the rules, therefore no delegation process exists for standard systems. Only programs for innovative systems have to be delegated. However, local boards of health that wish to adopt or amend a local ordinance governing the design, construction, and operation of residential sewage disposal systems can do so only after the state health department has confirmed in writing that the ordinance does not violate the rules or statutes concerning sewage disposal.[37]

Pennsylvania has a similar system that allows the Department of Environmental Protection (DEP) to establish standards and gives it oversight responsibility. The local governments (57 county governments and over 250 municipalities) must develop and implement comprehensive official sewage plans that address existing sewage disposal needs or problems and account for future land development. DEP then accepts the planning proposal and municipalities are allowed to issue municipal permits. DEP evaluates the quality of permits and implementation periodically, and does not become involved in the permitting actions, which are the responsibility of the local governments.[38]

What Do State Decentralized Wastewater Program Managers Think about the Present Systems that Cause a Split in Authority?

ERIS contacted managers (directors, specialists) of the decentralized wastewater programs in twenty-one States, and asked them if they would like to see any changes in the regulatory authority for state agencies and local governments in their State. A few of them said the regulatory system works well for their States, regardless of the split in authority. The majority said they considered beneficial to delegate the programs to local governments, or have them more involved in the permitting, operation and maintenance system. Some managers considered that the state agencies lacked the direct authority to make local governments comply with the regulations, and would like this aspect of the relationship to be formalized.

A small number of those interviewed ex-

36 HI Admin Rules § 11-62.

37 410 IN Admin Code 6-8.1-1.

38 25 PA Admin Code § 71-73.

pressed their wish to share jurisdiction with the other state agency (the health agency or the environment agency), or to strengthen their relationship with that agency. A couple of managers would prefer that the State have sole jurisdiction over decentralized wastewater systems.

It is difficult to deduce a general conclusion based on these interviews. The responses varied greatly based on the needs and particular characteristics of the States. It is clear, however, that a uniform solution is not appropriate for all States. While some managers are content to share jurisdiction with the other agency, for some States this is not a practical answer. Similarly, some States are willing to give more authority to the local governments. Others do not consider a complete delegation process to be the best approach.

Chapter IV

Surveys

The second part of our analysis consists of information provided to us by state onsite wastewater specialists. After gathering the state decentralized onsite regulations and statutes, there was a need for complementary and additional information. We decided that a telephone survey of state onsite wastewater specialists would be the best way of obtaining the most up-to-date information and would be helpful in clarifying any issues raised during the first part of our analysis.

First Telephone Survey

Total Number of Regulated Decentralized Onsite Systems

Based on the results from the EPA report and the 1990 Census, the total number of households using onsite systems was 26 million that year.[39] We wanted to know if more recent data would show any changes in the use of onsite systems and to see the State-by-State breakdown of their use.

We wanted to determine the total number of regulated systems in each State to establish a pattern of increased or decreased usage of onsite systems following EPA's 1997 Report to Congress. Interestingly, only one State was able to give us an exact number of onsite systems in use. Nonetheless, thirty-three States were able to give us an estimate of the total number of permitted onsite wastewater systems in their State. The final estimate we were able to compute was 20,598,000 permitted decentralized systems in thirty-three States. In all but one case, these numbers were best estimates given by a state onsite wastewater specialist, not a definite and completely accurate number.

Seventeen States were not able to give us an estimate for the total number of permitted onsite systems. There were several reasons for this data not being provided. In some cases, it is not required by the state agency in charge of regulating onsite systems to keep individual system records. Several other States have record keeping only at the local level and this information is not known at the state level, indicating a gap in data sharing between the state and the local branches of government. Other States have split authority, addressed in this report, as two or more state agencies share jurisdiction over onsite systems. In Connecticut, the Department of Environmental Protection handles systems larger than 5,000 gpd while the Department of Public Health deals with smaller conventional onsite systems; New York also has

39 *See supra* note 4.

this arrangement. We found that when this split between state agencies occurred, it contributed to the inability to provide the total number of permitted systems in the State.

Finally, other States were able to tell us with certainty how many onsite system permits were given out per year but did not know what the original baseline number is. One State reported issuing permits for approximately 9,000 systems per year but did not know the baseline number and thus could only estimate that there were currently around 188,000 systems operating in the State. However, since this figure was based on the number of annual permits written, the number may not be accurate.

Most Common Types of Problems

A septic tank is a temporary reservoir for wastewater. In this tank, solids sink to the bottom as sludge and light solids, grease, paper and other light substances float to the surface. Bacteria digest any organic material present, and over time, solids accumulate at the bottom of the tank. Proper maintenance includes the periodic removal (usually every three years but dependent on use) of this solid waste in order not to overfill the tank, to allow sufficient space for incoming wastewater, to prevent wastewater backups into the dwelling and to prevent wastewater contamination of the surrounding area before it has been properly treated.

We asked onsite managers about their experience with these systems. The most prevalent problem mentioned by respondents was system failure due to improper, or lack of, maintenance. In some cases, systems are not regularly maintained as required, causing a reduced effectiveness in treating wastewater and consequent failure. Another problem mentioned was a lack of inspection by the state agencies in charge of regulating the systems. Some States do not require inspections while some that do have resource constraints that prevent them from doing as many inspections as they would like.

Other common problems mentioned include improper siting and excessive use. Improper siting occurs when the type of onsite system used is not properly matched with the type of soil and other environmental factors required for optimal performance. For example, an onsite system designed to work best in dry conditions might be used in an area that gets a lot of precipitation. Under such circumstances, the system will not function efficiently due to the excess levels of moisture and in the long run, the system may fail altogether. Excessive use comes about when a system is continually employed beyond its design capacity. Grease from restaurants was an important factor that influenced the effectiveness of onsite systems in several States such as Connecticut and Florida.

Groundwater contamination and problems related to aging systems were also frequently cited answers, as were effluent surfacing problems and an excessive level of nitrates in the surrounding ground and surface waters. Wastewater must be treated prior to being released into the surrounding area, or contamination will occur. Another problem mentioned was the inadequate level of coordination between regulatory agencies, an issue addressed by this report in an earlier chapter. Sometimes, the split in jurisdiction caused confusion and problems with coordination among state officials.

Are Decentralized Onsite Systems an Important Environmental Issue?

We also wanted to assess the level of interest in this issue across States. We asked if decentralized onsite wastewater systems, and the environmental and public health issues surrounding them, were an important environmental issue in their State, but we did not compare the level of attention versus other issues. We simply asked if it was or was not an important issue. Thirty-eight reported that onsite wastewater systems were an important environmental issue in their State. Twelve States said that it was not an important issue. Many States indicated that they were happy that this issue was getting more attention after years of not being on the environmental agenda.

Some States gave us an expanded response as to why they considered it an important environmental issue. A few States mentioned recent public interest in the issue as a reason for regarding this problem as important in their State. The adverse consequences of failing systems on public health and the environment made communities put pressure on elected officials to do something about the problem. One State reported that it was an important environmental issue because failing systems were the second leading cause of groundwater pollution. Another State estimated that at least 10% of systems were failing, especially in rural areas. Other States mentioned recent regulatory changes as signs that this issued had gained importance.

Suburban sprawl was mentioned by other States as a reason why onsite system use had greatly increased during the previous decade and as a result had become an important environmental issue. This issue of growing onsite system use due to suburban sprawl is further explained below. Other States cited statistics showing that onsite systems affect a large segment of the population. For example, 25% of the population in Alaska and 25% in Arkansas use onsite systems, and this makes it a significant issue for them. Finally, newly proposed state legislation helped elevate decentralized wastewater systems to a higher level from an environmental perspective.

A few States did mention that this was not an important issue or at least had a lower profile than other issues. Some States said that it is usually a non-issue until onsite systems malfunction, causing adverse effects to a local community and the environment.

Is Decentralized Onsite System Use Becoming More Common?

Forty States reported that the number of onsite systems is growing in their State; seven States reported the number is about the same as it was five years ago and one State said the number was declining. Two States were not able to give us an answer.

The primary reason given for this increase is that suburban sprawl occurs in areas where there is no centralized wastewater system. When faced with large, upfront costs for building centralized facilities versus much lower costs for onsite systems, many communities are opting for decentralized onsite systems for their wastewater treatment and disposal. In Oregon, people outside of urban areas with centralized facilities use onsite systems due to regulations and costs that make onsite systems cheaper and easier to install. Arizona, for example, had an increase of 3,000 new onsite systems between February and April of last year.

Another reason for the increase in onsite system use is that newer ones are replacing old systems. Michigan provides between 38,000-40,000 new permits every year; two thirds of these permits are for new system installations and one third are for replacement of old systems. In the States that have seen no change in the number of onsite systems used, as in Rhode Island, centralized sewer systems are being expanded to accommodate the recent population growth.

Recent Management Changes in State Agencies

Nineteen States said that there had been major management changes recently, which affect decentralized wastewater regulation, and twenty-nine States said there had been none in their state agency. Some of the States that said no management changes had been made did report that there has been a change in attitude, (such as the Alaska Department of Environmental Conservation), and approach to the problem of onsite wastewater pollution. One State did not provide an answer and another State said changes were anticipated within the year.

The effects of management changes varied across States. One State described the changes as causing a "larger burden" in the regulation of these systems. California recently drafted guidelines that attempt to standardize the language for consumers and industry and also standardize the location design criteria, installation practices and maintenance requirements. Other changes included requiring certification of contractors/inspectors/sole classifiers (Georgia, North Carolina), a more "hands-on" approach by the new Administrator (Idaho), heightened understanding on the part of the public and government officials about onsite systems (Illinois, Oregon), a loan program funded by USEPA for individuals who wanted to update their onsite system (Iowa), agency reorganization (Minnesota), increase focus on the issue (New Jersey), increased funding for staff (New York), a strong commitment by the agency director to focus on the issue (Ohio), new licensing of all system designers (Rhode Island), licensing of installers (Utah) and requirements that system owners have perpetual maintenance of their systems (West Virginia).

Partnerships with Other State Agencies

Thirty-seven States said that they had a partnership with other state agencies, including local governments and public health departments, to regulate these systems. The most common partnership was with state environmental and public health agencies, followed by partnerships with local governments, usually because local governments are in charge of the permitting and inspection of onsite systems.

The respondents stated these partnerships are helpful in regulating onsite systems, although sometimes the split in jurisdiction that it caused created confusion and problems for state and local regulators, installers and citizens. Colorado has split jurisdiction with the Department of Public Health and the Environment and different local health agencies in 63 counties. In Connecticut, there is also a partnership between the DEP, the state Department of Public Health and local health agencies. Massachusetts has a larger partnership with the Watershed Management Division (regulatory and monitoring work), the Municipal Services Division (assists with the State Re-

volving Fund) and the Planning and Program Support unit in addition to working with local governments. Other States, like Delaware, handle everything at the state level through their statewide onsite program and have no partnerships.

Pending Onsite Legislation in the States

Fifteen States had pending legislation or legislation that had been submitted in the last year or so. Thirty-three States did not have pending legislation. North Dakota said that a new city ordinance in Rapid City had just been passed. Arizona has recently passed new decentralized onsite management regulations.

Alabama reported two bills last legislative cycle but neither was passed. Arizona reported a recently implemented rule and another one currently being worked out. Delaware was trying to get a performance-based bill passed. Hawaii had one attempt at passing a bill that failed last year. Illinois had drafts ready for proposal. Indiana and Missouri saw attempts this year at passing onsite legislation, both of which failed. Montana was rewriting its standards and New Mexico had a plan to collect fees and review/update technological standards. Oregon had new legislation concerning innovative/alternative systems. Rhode Island had a proposed tax credit bill that had failed but would be resubmitted while Tennessee had legislation that was put off until the next year and Texas had some minor bills that passed. Vermont answered that there had been legislative activity but gave no additional information. West Virginia was planning an update to its standards in 2003.

State Budgets for Onsite System Programs

Twenty-eight States gave us their estimates of the budget in their State for decentralized onsite wastewater systems. The total amount of state expenditures was $55,230,000 in 2000. This was the most difficult information to obtain from the state onsite system contacts. There are several reasons for this. One is that budget information tends to be known by budget specialists and not onsite wastewater specialists who made up most of the sample we interviewed. In other States, it is hard to say what exactly falls under "onsite wastewater systems budget." For example, an onsite wastewater specialist may work on onsite systems *and* other water issues, and thus it is hard to estimate how his/her time and resources should be factored into the budget. Finally, state budgeting procedures are not done line by line. "Onsite wastewater" is not a budget line that one would find in a state agency budget. Rather, it would be categorized under major program areas such as "public health," "water programs" or "groundwater."

Second Telephone Survey

After conducting and analyzing the results of the first telephone survey, there were still gaps in the information pertaining to decentralized wastewater management in the States. The most important piece that was missing was a clearer understanding of the division in legislative authority for the protection of public health and water quality between two or more

levels of government. We gathered and analyzed the regulations and statutes that had the theoretical component of how these systems were ideally supposed to be managed and what relationships must exist. We wanted to go beyond this and obtain a snapshot, from those people who work on this issue on a day-to-day basis, of how these systems are regulated and what actual relationships, successes and problems currently exist. This information could not be obtained from looking at rules and regulations and could only be obtained through follow-up interviews.

The methodology for this follow-up survey was the same as for the first. A nine- question survey was prepared (see Appendix B) and was administered to state employees who work on this issue. All fifty States were contacted; seventeen States completed the survey. This is a lower number of responses compared to the first telephone survey. We had a different audience in mind for this survey. We wanted to survey the senior staff in each State to obtain information. However, this sample population contains a variety of States (States with differing populations, geography, and from every region of the US) and thus can be used for the purposes of our analysis.

Relationships at the State Level

We were interested in finding out which agency had primary responsibility for the oversight of onsite wastewater regulation at the state level, and if they had a partnership with another state agency. We defined partnership as having a formal (MOU) or informal agreement (personal contact) in the day-to-day management and regulation of decentralized systems. The majority of States gave primary regulatory authority to the state environmental protection agency and in some cases, because of the nature of the public health effects of waste management, the state health agency. Fourteen States reported a relationship with another state agency. In all but one of the cases, the relationship was between the state environmental protection agency and the state health agency.

Management of Relationships

If States reported a relationship, we asked how it was managed. The majority of States reported that this relationship was managed by personal contact on a case-by-case basis. The second most common way of managing intrastate relationships was via a formal mechanism such as the use of a Memorandum of Agreement (MOA) between the state agency in charge of regulating onsite systems and other state agencies that also work on this issue, like the state health agency.

Intrastate Agency Relationships

We were also interested in finding out how state officials work with their state colleagues on this issue. Six States reported that they had a strong, well-organized, cordial and productive relationship with their state health/environmental agency colleagues. Seven other States had a relationship that varied but was mostly good. Almost all staff across the States reported that they knew each other and through work have developed professional friendships that enabled them to have solid and productive relationships.

Relationship with Local Governments

We also wanted to know what type of relationship state onsite system professionals had with local governments in charge of regulating

these systems. A large majority of States characterized their relationship with locals as strong and well organized, and four States described it as variable but mostly good. Two States reported that they had no relationship with locals due to the state agency having exclusive jurisdiction over the onsite program: Hawaii and Delaware.

Formal and Informal Partnerships

In addition to looking at the type of relationship that exists between state agencies and between the state and local governments, we also wanted to know if any partnerships exist, how extensive they are and what type —formal or informal— is most common. Some of the partnership activities we were looking for included education, legislative efforts and enforcement activities.

Only five States reported that their partnership activities were carried out in a formal manner while six States reported that they did not have formal agreements. Eight States reported their partnership activities as being informal and only two said they had no informal partnerships. We further narrowed down the type of partnerships to include any type of financial partnerships, and all States reported that they did not have this type of partnership. "Financial partnerships" included, but were not limited to, providing grants and additional FTE's/staff support to other state agencies.

Jurisdictional Conflicts

In EPA's *Response to Congress on Use of Decentralized Wastewater Treatment Systems*, one of the primary findings was a "division in legislative authority for the protection of public health and water quality between two or more levels of government." This suggested that there are conflicts in jurisdiction between two or more agencies that are in charge of regulating decentralized onsite wastewater systems. Nevertheless, in our survey we found that most States—ten out of seventeen—reported no conflict in jurisdiction. The main reason given was that the statutes and regulations clearly specified who was in charge and who had the authority to set standards and run the onsite program in each State. Three States reported conflicts in jurisdiction, but each State said that when this occurs, there is an effort made to get the conflicting parties together and to try to solve the problem through dialogue.

Local Government Management of Decentralized Systems

We also asked state people what their view was on how local governments managed their decentralized onsite program. Although many people praised the efforts of local governments and said that they were truly committed to this issue, the overwhelming response was that local governments often do not have resources and capacity to run their program, because they have small budgets and simply do not have the money to spend on this issue. Some States said that the problem also lies with a lack of training and education, where non-specialists are given the responsibility of doing technical work they are not trained to do.

Wastewater Budget Trends in the States

Eleven States were able to give us an estimate of the annual funding at the state level of decentralized wastewater systems. This is money spent on staff (FTE's), resources and activities

related to this issue. There was a large range in the amounts provided to ECOS, from a low of two FTEs to a high of $8 million, with most other figures in the $90,000 to $750,000 range. One State reported that although it does onsite wastewater system management at the state level, their earmarked budget is $0 and it relies on money from the Division of Water's overall budget to fund its activities.

We also asked States to describe their budgetary trend over the past five years. Five States reported that their state agency was spending more money on this issue as compared to five years before, nine reported that the level has remained the same and only two said their state was spending less. However, these numbers are probably changing this year as a result of the budget cutbacks in most States during FY2002.

The final budget question was to ask them to classify the state spending on this issue. The most common answer by far was that their State was underfunding their decentralized wastewater program (fourteen States). Only three States reported that their State was spending the right amount on this issue while no States said their State spent too much.

In order to inform our members, we asked state managers what changes or improvements they would like to make in their program but could not because of resource constraints. We had several responses to this question but the overwhelming answers were for increased funding, staff (FTEs) and resources in order to better manage this important issue.

Pending Legislation

In our first survey, we found that many States had currently pending legislation that dealt with this issue. Most of the proposals aimed to draft new and improved guidelines for the management of decentralized onsite systems. Nine States reported that they had pending legislation as of March 2002. Eight States said they had no pending legislation.

Suggested Changes to the Current System-Feedback from the States

Finally, we posed an open-ended qualitative question. We asked States what changes to the current system they would like to see in their State. However, we found that this vague question led to very consistent answers. Essentially, States need more money, bigger budgets and more legislative changes to their regulating authority to assist and support local governments, more staff and more staff resources.

Recommendations

It should be noted that overall we did not find the horizontal legislative and regulatory barriers that EPA cited in its 1997 report. Nor did we find a broken regulatory system that required urgent federal or state attention. Rather, our research found States have adopted terms, definitions and regulations for decentralized wastewater systems that match their individual needs. These regulatory management systems are as diverse as the geographic, economic, atmospheric, population and development characteristics found across the country. This unique patchwork provides States the regulatory flexibility they need to address the environmental and public health issues facing their citizens.

Nevertheless, this patchwork could be further enhanced and may offer additional benefits to the current and future communities that may utilize decentralized wastewater systems. As stated earlier, ERIS is a research institute that does not advocate policy positions. Based on our analysis and findings, and our interviews with state wastewater management official and specialists, we offer the following recommendations, which may improve some of the regulatory issues we found through our research.

First, there should be increased education for communities and homeowners regarding decentralized wastewater systems. Educational efforts should focus on the differences between, and the possible advantages offered by, currently available onsite wastewater systems; options for funding and maintaining systems; proper use and required maintenance based on the design of the systems; and the potential health and environmental impacts, and potential repair costs of improperly maintained or malfunctioning systems.

Second, there is a need for increased communication and coordination between state environmental and health departments. For example, we found state health and environmental agencies generally did not share data regarding the number of wastewater systems in use in the State, educational initiatives within an agency that pertain to how it may impact wastewater activities, and resources allocated for wastewater efforts. State managers may find benefit in a more coordinated effort.

Third, a national database should be developed to track the different types of wastewater systems in use around the country, the environmental conditions in which they operate and maintenance records. This database would benefit state and local decentralized wastewater officials, designers, builders and installers of wastewater systems, realtors and homeowners. This system could provide baseline information regarding the suitability and reliability of current wastewater systems, and may aid considerations regarding innovative approaches. Many state managers cited a lack of baseline information from which they could compare systems in operation and proposed for future use.

Fourth, local governments with resource constraints should receive more support. Although our research did not focus on local government officials, many state wastewater managers cited the need for additional resources at the local level. Some mangers suggested their local government colleagues did not have sufficient staff, training, expertise, or financial resources to properly administer the decentralized wastewater systems located within their jurisdiction. State managers also cited this resource issue is exacerbated in areas facing significant population growth pressures. Local government support could take several forms and may entail personnel support, such as a part-time engineer to review system installation, or a staff person to assist wastewater professionals with compliance, and where necessary, enforcement issues.

Appendix A

First Telephone Survey

Survey Questions

State_____ Date_____

Contact Person_____

Title_____

Phone_____

Email_____

1) Approximately how many regulated on-site systems are in your State?
2) What types of problems, if any, are most common with these systems?
3) Do on-site wastewater systems constitute an important environmental issue in your State?
4) To the best of your knowledge, is the number of on-site wastewater systems growing, declining or about the same?
5) Have there been any recent (in the last year) management changes in your agency that affect the regulation, inspection and/or permitting of on-site systems?
6) Does your agency have a partnership with other state agencies to regulate these systems (i.e.-local governments, public health departments, etc)?
7) Is there any pending legislation that deals with these systems currently before your legislature?
8) What is the budget in your State for on-site wastewater systems (will accept estimates)?
9) Any additional comments/questions

Appendix B

Second Telephone Survey

ERIS Decentralized Wastewater Management Survey

What is ECOS?

ECOS is the national, non-profit, non-partisan association of the state and territorial environmental commissioners. The Environmental Research Institute of the States (ERIS) is the 501 c(3) research branch of ECOS.

Relationships between Regulatory Agencies

ERIS received a grant from the University of Saint Louis-Washington and the National Decentralized Water Resources Capacity Development Project. Under this grant, ERIS is focusing on some of the barriers identified in EPA's 1997 report to Congress. In this report, EPA provided an analysis of the benefits of decentralized wastewater treatment systems, including potential savings and costs, and of EPA's ability to implement such systems. The report also identified state and local statutory and regulatory barriers to the use of decentralized wastewater treatment systems. These barriers included a lack of enabling legislation to support management of decentralized wastewater systems, a division in legislative authority between two or more levels of government concerning protection of public health and water quality, and the practice by state and local governments of enacting prescriptive regulatory codes, which limits the types of wastewater systems that can operate within their jurisdiction. EPA is following up on its findings and recently released its draft Guidance for Management of Onsite-Decentralized Wastewater Systems.

Under this project ERIS is specifically reviewing issues related to the division in legislative authority for the protection of public health and water quality between two or more levels of government. To that end, ERIS staff are collecting information about legislative authority for state and local governments, including environmental and health agencies. This information will be compiled in a national report for ECOS members and Congress.

ERIS is currently conducting a research project on decentralized wastewater management. As part of our research ERIS is collecting information regarding relationships between the different levels of government that have authority over decentralized wastewater systems. Understanding these relationships will help us better understand the current regulatory climate, and may highlight possible opportunities for better coordination.

As part of our effort, we are trying to prepare a snapshot of the current level of concern about the status of state health and environmental agency relationships regarding authority over and management of decentralized wastewater systems. This survey is designed to measure the current view of this issue.

Results of this survey will only be released in a composite form. ERIS will not release individual responses, and specific answers will not be attributed to specific States or territories.

State _____

Name of Survey Participant _____ Agency _____

Survey Conducted by _____ Date _____

Nature of Relationship

1) How is the relationship between your agency and the decentralized wastewater contact in the health or environmental agency managed? (a) By personal contact, more or less on a case by case basis. (b) Under a written Memorandum of Agreement. (c) There is no ongoing relationship.

2) How would you characterize your agency's relationship with your state health or environmental department colleagues with respect to decentralized wastewater issues? (a) Strong, well organized, cordial and productive. (b) It varies, but mostly good. (c) It varies, but mostly bad. (d) There is no ongoing relationship.

3) How would you characterize your agency's relationship with local health/environmental agencies with respect to decentralized wastewater issues? (a) Strong, well organized, cordial and productive. (b) It varies, but it's mostly good. (c) It varies, but it's mostly bad. (d) There is no ongoing relationship.

Partnerships

4) How do you work with your state agency colleagues? (this can include education, legislative efforts, enforcement, etc)

    a. Do you have formal agreements, mechanisms or working relationships that address decentralized wastewater issues? (if so, please explain and provide examples)

    b. Do you have informal agreements, mechanisms or working relationships that address decentralized wastewater issues? (if so, please explain and provide examples)

    c. Do you have a financial relationship with your colleagues? (i.e. does your agency provide grants, FTEs/staff support?)

Split Authority/Delegation Process

5) How are conflicts of jurisdiction resolved between your agency, your state counterparts and local governments? Can you provide an example?

6) Local governments must get approval from the State to run decentralized wastewater programs. In your opinion, how does that process work in your agency? (a) Strong, well organized, productive process. (b) Some problems but it's mostly good. (c) It varies, but it's mostly bad. (d) We need to completely overhaul the process. (please elaborate)

7) In your opinion, do your local governments have the resources and capacity to run their decentralized wastewater programs?

If not, are you seeing problems at the state level as a result (is it affecting other programs)?

Wastewater Budget Trends for State Agency

8) Looking at your current fiscal year budget and your projected FY03 budget, can you approximate how much money your State is spending on decentralized wastewater issues?

9) Looking at the general trend over the last 5 years would you say your State is spending (a) more on decentralized wastewater; (b) less on decentralized wastewater; (c) about the same?

10) Do you believe your State is spending 1) too much; 2) about right; or 3) too little on your decentralized wastewater program?

11) What changes or improvements would you like to make in your program, that you can't implement now because of resource constraints?

Changes and Innovations

12) Does your State have any recent or pending legislation regarding decentralized wastewater management? Was this a joint effort with the health or environmental department? (If so, please provide details –quick summary of legislative changes and citation or bill # for our reference).

13) Is your State currently involved in or considering innovative decentralized wastewater programs or projects? (this does not include design or construction) (if so provide details) Are other state or local agencies participating in this program (if so, how are they involved).

14) What changes to the current system or relationships do you think would be beneficial? And why?

Appendix C

Terms Used in the States

Terms used by States to refer to Onsite/Decentralized Wastewater Treatment Systems include:

1. Household sewage disposal system
2. Individual and Subsurface Sewage Disposal System
3. Individual Onsite Sewage Treatment System
4. Individual On-Site Wastewater Disposal System
5. Individual Septic Tank System
6. Individual Sewage Disposal System (5 States use this term)
7. Individual Sewage Treatment System (2 States use this term)
8. Individual Sewer System
9. Individual Sewerage System
10. Individual Subsurface Sewage Disposal System
11. Individual Wastewater System
12. Onlot Sewage Treatment Facilities
13. Onsite Liquid Waste System
14. Onsite Sewage Disposal System (2 States use this term)
15. On-site Sewage Disposal System (7 States use this term)
16. On-Site Sewage Facilities
17. On-Site Sewage Management System
18. On-Site Sewage System
19. On-site Sewage Treatment and Disposal System
20. Onsite Sewage Treatment and Disposal System
21. On-Site Subsurface Sewage Treatment and Disposal System
22. On-Site Wastewater Disposal System
23. Onsite Wastewater System
24. On-Site Wastewater System
25. On-Site Wastewater Treatment and Disposal System
26. Onsite Wastewater Treatment System
27. On-Site Wastewater Treatment System
28. On-Site Subsurface Sewage Treatment System
29. Private Onsite Wastewater Treatment System
30. Private Sewage Disposal System
31. Residential Sewage Disposal System
32. Sanitary System of Sewage Treatment and Disposal
33. Small Wastewater Facility
34. Subsurface Sewage Disposal System
35. Subsurface Waste Water Disposal System

Term used by USEPA:

Onsite/Decentralized Wastewater Treatment System

Appendix D

Summary of State Decentralized Onsite System Statutes and Regulations

ALABAMA

Rules of State Board of Health
AL Admin Code 420-3-1

Term

Onsite Sewage Disposal System

Types of Onsite Systems

The rules define three Types of Onsite Systems:

i. Conventional onsite sewage disposal system—consists of a septic tank with effluent discharging into a gravel effluent disposal field, where all portions of the field sidewalls are installed below the elevation of undisturbed native soil, and with no limiting site conditions.
ii. Alternative system (Board-approved)—varies from conventional construction and installation procedures, and requires an engineered design for methods of sewage handling, treatment or disposal, and the incorporation of specified procedures, methods or parameters for the operation of the system. The Board maintains a list with alternative treatment and disposal systems and system components.
iii. Innovative system—is not conventional, and has not met the requirements to be a Board–approved Alternative.

Permit Issues

The permits to install and repair onsite sewage disposal systems are issued by the local health departments, and the systems must be located at set minimum distances from certain sites. It is the responsibility of the installer to repair the system in accordance with the rules. In addition, a permit from the local health department is required for the sewage tank pumping. Raw sewage can be disposed of only by an approved sanitary sewer system. Septage may be discharged into a public sewer inspection hole or sewage treatment plant, upon written approval of the responsible official of that entity; applied on land; or discharged at surface, following adequate treatment, provided that a discharge permit is received from the Alabama Department of Environmental Management.

Intra-State Coordination Authority

The Board of Health may grant variances from requirements of the rules in order to avoid undue hardship and promote effective and reasonable application and enforcement of the rules. The Board has 60 days from the request to grant a variance. The Board may revoke it if the person is in violation of the variance or operation under the variance is threatening public health or the environment. Variances are not granted at local level.

Approval of any subdivision or lot by the local health department or the State Health Department does not constitute or imply approval by any county, municipality or other agency having planning, zoning or other legal jurisdictions.

The State Health Officer reports to the State Committee on Public Health, which in turn reports to the State Board of Health.

ALASKA

Alaska Administrative Code
18 AAC 72.215

Term

Domestic wastewater treatment works and disposal systems

Types of Onsite Systems

i. Conventional soil absorption system
ii. Alternative Systems

Permit Issues

A person who disposes of domestic wastewater into or onto land, surface water, or groundwater must have a permit from the Department of Environmental Conservation. The permit or approval must be obtained before beginning construction of a domestic wastewater treatment and disposal system. Before submitting a permit application or plan review and approval under this chapter, the applicant may request a preapplication conference to discuss the conceptual plan and to resolve any issues with the department.

Restrictions/Installation

A person may not use a cesspool for domestic wastewater treatment or disposal. A person may not install or modify an onsite system unless that person is a registered engineer, supervised by a registered engineer or a person whose work is inspected by a registered engineer. A homeowner may seek approval to install or modify a conventional onsite system that serves the homeowner's owner-occupied single-family home or owner-occupied duplex.

Holding tanks—a person may install or use a holding tank if the department finds that permafrost or other soil conditions preclude the use of a soil absorption system or other subsurface domestic wastewater disposal system.

Conventional onsite systems

A person may install a septic tank if:

- The design and construction of the septic tank, exclusive of tank capacity, meets the minimum specifications for septic tanks contained in Appendix A of the State's plumbing code.
- A septic tank serving a single-family home or duplex has a capacity of at least 1,000 gallons, plus 250 gallons per bedroom over three served by the tank.
- An authorized person completes the installation of a septic tank.

Discharge to sewers

As necessary to protect the public health, public and private water systems, and the environment, the department will require that flows to a domestic wastewater disposal system be pretreated and equalized to prevent overloading of, or damage to the sewer, domestic wastewater treatment works, or disposal system, or pollution of receiving waters.

Minimum treatment

A person may discharge domestic wastewater into or onto water or land if the discharge:

- To surface land has received secondary treatment, and if the discharge is a potential health hazard, the discharge has been disinfected;
- To subsurface land has received primary treatment and is discharged to a soil absorption system; the department will require additional treatment if the discharge is a potential health hazard.

Sludge Disposal

A person may dispose of sludge from a septic tank, holding tank, pit privy, or domestic wastewater treatment works only at a site or facility holding a department permit for that type of disposal.

Certified Operator

The owner or operator of a domestic wastewater system that has 100 or more service connections or that is used, or intended for use, by 500 or more people per day must ensure that the system is operated by a certified operator.

Plan Review

In reviewing and approving a system, the department will determine whether the system design meets the applicable approval criteria in 18 AAC 72.245-18 AAC 72.275, conforms to standard sanitary engineering principles and practices or state-of-the-art technology, and whether the design adequately protects the public health, public and private water systems, and environmental quality.

ARIZONA

Arizona Administrative Code R18-9-3

Term

Individual Septic Tank System—means a method of sewage disposal consisting of a covered settling tank and subsurface disposal field or seepage pit.

Types of Onsite Systems

i. Conventional systems
ii. Alternative Systems

Permit Issues

An application to construct or reconstruct a septic tank system, earth-pit privy, or any other method of disposal of human excreta must be submitted to the local health department, or other authority having jurisdiction, for approval prior to construction.

Owner responsibility

The owner of each device, method, or system used for the storage, collection, transportation, and disposal of human excreta shall be responsible for the proper construction, maintenance, and operation of the facilities.

Jurisdiction

Onsite wastewater regulations are under the jurisdiction of the Department of Environmental Quality; however, the department may delegate an onsite program to a county agency.

Storage & Disposal

An individual septic tank disposal system may be used when an adequate supply of water under pressure is available and when, in the opinion of the department, a connection to a public sewer is not practicable. Each septic tank system must be designed, constructed, and maintained in accordance with criteria contained in Engineering Bulletin Number 12. The systems must also meet any additional criteria as required by the local health department or in accordance with any local ordinance or code provided they are as stringent as the criteria contained in the bulletin.

Forbidden Uses of Onsite system

Where soil conditions, topography, or other conditions are such that a septic tank system cannot be expected to function adequately, or where ground water or soil conditions are such that septic tank systems may cause pollution of waters of the State, other methods of sewage disposal satisfactory to the department must be used.

Abandoned Systems

Whenever a septic tank system is discontinued, the system shall be thoroughly and carefully disconnected from the building sewer and the inlet to the tank sealed with cement grout. Any other work to be done on the tank shall be in accordance with the requirements of the local health department, or other authority having jurisdiction.

ARKANSAS

Arkansas Code Title 14, Chapter 236—Arkansas Sewage Disposal Systems Act

Term

Individual Sewage Disposal Systems

A single system of treatment tanks, disposal facilities, or both, used for the treatment of domestic sewage, exclusive of industrial wastes, serving only a single dwelling, office building, or industrial plant or institution.

Types of Onsite Systems

i. Alternate and experimental system—means a nonstandard individual sewage disposal system or treatment system that is classified as experimental in order to evaluate its potential effectiveness.
ii. Conventional (single) system

Jurisdiction and Intra-State Authority Issues

Responsibility for regulating onsite systems is split between the Arkansas Department of Environmental Quality (ADEQ) and the Division of Environmental Health Protection, Department of Health. The Division of Environmental Health Protection reviews the submission to determine if septic tank systems or alternate systems of individual sewage disposal could effectively dispose of sewage from a subdivision.

Every effort should be made to connect to an existing public sewer system. When connection to an existing system is not feasible and a large number of residences are to be built in an area, consideration should be given to the construction of a community sewer system and treatment plant. When installation of a private residential sewage disposal system cannot be avoided, the rules and regulations of the Arkansas Department of Health designating representatives and installers should be followed.

The Division of Sanitarian Services of the Department of Health or its authorized agent is authorized and directed to review proposals for individual sewage disposal systems and to make inspections of individual sewage disposal systems as may be necessary to determine substantial compliance with this chapter and regulations adopted hereunder. The systems must not be used unless approved by the Division of Sanitarian Services of the Department of Health or its authorized agent.

The Division of Sanitarian Services of the Department of Health or its authorized agents have general supervision and authority over the location, design, construction, installation, and operation of individual sewage disposal systems, and is responsible for the administration of this chapter and of the rules and regulations adopted pursuant to this chapter.

Permit Issues

The Department issues individual septic system permits that include review of the design, soil suitability, and installation of a septic system. Permits are $30.00 for new installation, repair, or alteration of a septic system. Permits are issued through the local county health unit.

It is unlawful for any person, firm, corporation, association, municipality, or governmental agency to construct, alter, repair, extend, or operate an individual sewage disposal system or alternate and experimental system installed after July 1, 1977, unless a valid permit has been issued by the Division of Sanitarian Services of the Department of Health or its authorized agent for the specific construction, alteration, repair, extension, or operation proposed. Emergency repairs may be undertaken without prior issuance of a permit, provided a permit is subsequently obtained within ten (10) working days after the repairs are made.

It is unlawful for any person, firm, corporation, or association to begin construction, alteration, repair, or extension of any individual sewage disposal system or alternate and experimental system, owned by any other person, firm, corporation, association, municipality, or governmental agency until the owner first obtains a valid permit issued by the Division of Sanitarian Services of the Department of Health or its authorized agent.

There are two kinds of permits for sewage systems. A permit for construction is first obtained; after approval of the inspection, the authorized agent will approve and issue a permit for operation.

Installers

Registration of all installers of individual sewage disposal systems is required by the Division of Sanitarian Services of the Department of Health, with the individual homeowner retaining all rights to install and repair his/her system in accordance with the provisions of this chapter.

Homeowners

The Division of Environmental Health Protection of the Department of Health or its authorized agent is authorized to require the property owner to take the necessary action to correct the malfunctioning individual sewage disposal system within thirty (30) working days of being notified. Failure to take corrective action constitutes a violation of this chapter.

Alternative Systems

The Division of Environmental Health Protection, Arkansas Department of Health, encourages studies and submission of plans for alternative methods of treating and disposing of wastes generated by individual residences. All plans for alternative and experimental sewage treatment or disposal systems serving individual residences are reviewed by the Environmental Program Services (EPS), Division of Environmental Health Protection staff.

Funding

The Individual Sewage Disposal Systems Improvement Fund consists of that portion of those special revenues as specified in subdivision (58) of § 19-6-301, there to be used by the Division of Sanitarian Services of the Department of Health for, and in the manner recommended by, the Advisory Committee on Individual Sewage Disposal Systems for implementation of the utilization and application of alternate and experimental individual sewage disposal systems.

CALIFORNIA

No state-wide regulations
Water Code Section 13290-13291.7 mandates the adoption of statewide guidelines or regulations by 2004.

Term

Onsite Sewage Treatment Systems

Includes individual disposal systems, community collection and disposal systems, and alternative collection and disposal systems that use subsurface disposal.

On or before January 1, 2004, the state board, in consultation with the State Department of Health Services, the California Coastal Commission, the California Conference of Directors of Environmental Health, counties, cities, and other interested parties, must adopt regulations or standards for the permitting and operation of all of the following onsite sewage treatment systems in the State and shall apply those regulations or standards commencing six months after their adoptions:

(1) Any system that is constructed or replaced.
(2) Any system that is subject to a major repair.
(3) Any system that pools or discharges to the surface.
(4) Any system that, in the judgment of a regional board or authorized local agency, discharges waste that has the reasonable potential to cause a violation of water quality objectives, or to impair present or future beneficial uses of water, to cause pollution, nuisance, or contamination of the waters of the State.

Regulations or standards must include, but shall not be limited to, all of the following:

(1) Minimum operating requirements that may include siting, construction, and performance requirements.
(2) Requirements for onsite sewage treatment systems adjacent to impaired waters identified pursuant to subdivision (d) of Section 303 of the Clean Water Act (33 U.S.C. Sec. 1313(d)).
(3) Requirements authorizing a qualified local agency to implement those requirements adopted under this chapter within its jurisdiction if that local agency requests that authorization.
(4) Requirements for corrective action when onsite sewage treatment systems fail to meet the requirements or standards.
(5) Minimum requirements for monitoring used to determine system or systems performance, if applicable.
(6) Exemption criteria to be established by regional boards.
(7) Requirements for determining a system that is subject to a major repair.

These provisions do not diminish or otherwise affect the authority of a local agency to carry out laws, other than this chapter, that relate to onsite sewage treatment systems. In addition, they do not preempt any regional board or local agency from adopting or retaining standards for onsite sewage treatment systems that are more protective of the public health or the environment than this chapter. Each regional board shall incorporate the regulations or standards adopted into the appropriate regional water quality control plans.

Funding

It is the intent of the Legislature to assist private property owners of existing systems by encouraging the state board to make loans under

Chapter 6.5 to local agencies to assist private property owners whose cost of compliance with these regulations exceeds one-half of one percent of the current assessed value of the property on which the onsite sewage system is located.

COLORADO

Colorado State Board of Health Guidelines on Sewage Disposal Systems as authorized and required by Article 10, Title 25 of Colorado Revised Statutes

Term

Individual Sewage Disposal System

Permit Issues

The local health departments issue individual sewage disposal system permits, as well as repair and emergency use permits. Operating permits are not issued when the property is located within a municipality or a special district that provides public sewer service, unless such municipality or district determines that the service to the property is not feasible.

The health officer (the chief administrative and executive officer of a local public health or environmental department) may require the owner or user to provide for maintenance and cleaning of an individual sewage system, and may issue an order to cease and desist from the use of any system that is found to be in noncompliance. The owner and user are jointly and severally responsible for the operation and maintenance of the system, unless jurisdiction has been transferred to a public, quasi-public, or political subdivision.

Upon application by a systems contractor, manufacturer or registered professional engineer, the Division of Administration of the Department of Health may hold a public hearing to determine if a system employing new technology has established a record of performance that justifies approval of permit (if the system bears the National Sanitation Foundation Standard 40 Certification or meets the standards of an equivalent-testing program). The Division may certify the system and notify each local board of health to consider a permit application for the certified system in the same manner as the applications for systems that treat and dispose of effluent through an absorption system. The Division's determination constitutes final agency action.

Disposal of waste materials removed from a system must be performed at a site approved by the local county officials, in a manner that complies with state and local regulations, and does not create a nuisance, hazard to public health or risk of pollution.

Intra-State Coordination Authority

Situations when local health departments have jurisdiction to adopt regulations:

- In a county that is not part of a district or regional health department, and which has established and maintains a county health department or environmental health department, the board of health in said department has jurisdiction over the unincorporated portion of the county and all municipalities within, unless any municipality has a population of over 40,000 and maintains its own health department;
- In a county that has joined with other counties in establishing a district health department, together with a municipality over 40,000 that agreed to merge in the said district;

- County and district health departments may be organized in a regional health department and become subject to the regional board of health, that has authority to adopt local ordinances, rules and regulations;
- If a county does not have a health department and is not part of a district or regional health department, the board of county commissioners of the county function as the county board of health.

The board of trustees in towns and the mayor and council in cities have jurisdiction as boards of health in counties where the boards of county commissioners have not established their respective counties within a county or district health department.

State and local boards of health have the authority to issue guidelines that govern all aspects of permits, performance, location, construction, alteration, installation and use of individual sewage disposal systems of less than 2,000 gallon per day design capacity. Local boards of health may adopt rules and regulations that provide for the licensing of systems contractors and cleaners.

The State Board of Health adopted a procedure that allows it to consider variances from the design and/or siting requirements of the guidelines. The local boards of health may adopt this or a more stringent procedure, and have the authority to impose requirements and conditions on any variance granted. Local boards of health are not required to adopt any variance procedure, but only those that adopt and implement a state approved variance procedure may consider variances.

CONNECTICUT

CT Reg. of State Agencies Public Health Code 2000 (19-13-B103a–f)

Term

On-Site Sewage Disposal Systems

Types of On-Site Sewage Disposal Systems

The rules distinguish between two categories:

i. On-Site Sewage Disposal Systems with Design Flows of 5,000 Gallons per Day or Less and Non-Discharging Toilet Systems; and
ii. On-Site Sewage Disposal Systems with Design Flows Greater than 5,000 Gallons per Day.

Permit Issues

Requirements and methods of disposal of sewage system contents:

1. Disposal on land of the owner: by burial or other method that does not present health hazard or other nuisance
2. Disposal on other land: only by a licensed cleaner, upon application and issuance of written permit from the local director of health
3. Disposal on a public water supply watershed: only upon application and issuance of written permit by the Commissioner of Health Services.

Intra-State Coordination Authority

The local director of health issues and administers construction approvals for sewage disposal systems, upon site investigation and evaluation of the plan submitted by the applicant. The local director of health issues dis-

charge permits after inspection to determine compliance with the submitted plan and the regulations. Such permit can be revoked, suspended, modified or otherwise limited if compliance is not attained. Only the Commissioner of Health Services may grant an exception from the location condition (which requires that buildings be served by separate disposal systems, and each system be located on the same lot as the building served). The local director of health may grant an exception from any other minimum requirement.

On-site sewage disposal systems with design flows greater than 5,000 gallons per day have to meet some additional requirements. The plan for the disposal system must be submitted to the Commissioner of Health Services and the local director of health in a timely manner, in order to allow review and comments to be directed to the Commissioner of Environmental Protection.

DELAWARE

Regulations Governing the Design, Installation and Operation of On-site Wastewater Treatment and Disposal Systems
DE Code of Regs. Title 7, Chapter 60

Term

On-site Wastewater Disposal Systems

Types of Onsite Systems

i. Conventional—Any installed on-site wastewater treatment and disposal system constructed in conformance with the rules, laws and local ordinances in effect at the time of construction, or which would have conformed satisfactorily with system design provided for in Department regulations.

ii. Alternative—A wastewater treatment or disposal system not specified in these regulations which has been proven to provide at least an equivalent level of treatment as the conventional systems included in these regulations.

Permit Issues

No person can engage in the construction, repair, installation or replacement of a septic tank system or any part thereof except as or under the supervision of a licensed septic tank installer.

The Secretary of the Department of Natural Resources and Environmental Control or the duly authorized designee has the exclusive power to grant or deny any license required. The Secretary may adopt regulations setting forth requirements, including an acceptable performance or an examination for obtaining and retaining any such license.

No permit may be issued by the Department under these Regulations unless the County or Municipality having land use jurisdiction has first approved the activity through zoning procedures provided by law.

Installers

No person can conduct percolation tests or soil evaluations or design or install on-site wastewater treatment and disposal systems without first having obtained a license from the Secretary. As a prerequisite of licensing, the Secretary may require the person to demonstrate familiarity with test procedures and applicable regulations, and to sign a statement under penalty of perjury that s/he will abide by all statutes and regulations governing the design and installation of on-site wastewater treatment and disposal systems. In addition, the Secretary may require each licensee or class

of licensees to show proof of surety to cover liability for such risks and in such amounts as the Secretary may establish by regulation after public notice.

Jurisdiction

Any county may assume responsibility and authority for administering its own regulatory program for on-site wastewater treatment and disposal systems, if the delegated program establishes standards no less stringent than the standards established in these regulations.

Funding

DNREC has dedicated a portion of the State Revolving Fund (SRF) to help Delawareans pay for the cost of repairing on-site wastewater disposal systems that are malfunctioning. Low interest loans are available to low-to-moderate income homeowners. As these loans are repaid, the money is returned to the revolving fund to make more low interest loans to other Delawareans.

FLORIDA

Florida Administrative Code R64E-6
Standards for Onsite Sewage Treatment and Disposal Systems

Term

Onsite Sewage Treatment and Disposal Systems

Types of Onsite Systems

i. Standard subsurface drainfield systems have all portions of the drainfield sidewalls installed below the elevation of undisturbed native soil.
ii. Alternative systems—approved systems used in lieu of, including modifications to, a standard subsurface system.
iii. Innovative systems employ, in whole or in part, materials, devices or techniques that are novel or unique, and that have not been successfully tested under sound scientific and engineering principles under climatic and soil conditions found in Florida.

Permit Issues

The county health department issues the system construction permit and the operating permit, and carries out inspections. If the department, considering individual circumstances, requires detailed construction plans, the engineer who prepares the plans must be registered in Florida.

Alternative systems may be utilized where standard subsurface systems are not suitable, or where alternative systems are more feasible.

Operating permits are not transferable; if the owner remains the same but the tenancy of the building changes, a survey form must be completed and submitted to the health department for review.

In addition, the code has provisions for performance-based treatment systems, which must meet certain operational criteria to fall under this category. Upon application, performance levels must be indicated in the design, as secondary or advanced secondary treatment standards, advanced wastewater treatment standards, or baseline treatment. Within 15 working days from receiving an application, the county health department must issue a permit for the system, or notify the applicant that the system does not comply with the performance criteria, and refer the application to the Bureau of Onsite Sewage Programs for review. The determination of the engineer for the Bureau of Onsite Sewage Programs shall prevail over the

action of the department. Person using a performance-based treatment system must obtain an annual permit from the county health department and test the system with a frequency specified in the annual operating permit. The permit also designates the maintenance entity responsible for the operation and maintenance of the system.

Intra-State Coordination Authority

When the use of an onsite system is discontinued following condemnation, demolition, removal, destruction of the property, or replacement with another tank, the property owner or agent must apply for a permit to abandon the system. The responsible person must ensure that the tank is pumped out and prevented from retaining water, and fill the tank with a suitable material and cover it with soil. However, the tank does not need to be abandoned if the Department of Environmental Protection or its designee approves the use of the retention tank, when the tank is to become an integral part of a sanitary sewage system or a stormwater management system.

Florida Key includes the island of the State located in Monroe County. Onsite systems in this area must meet specific requirements. Florida Administrative Code, corroborated with the Memorandum of Understanding between Monroe County, the Department of Community Affairs, the Department of Environmental Protection and the Department of Health, establish a permit allocation system for development and a coordinated permit review process that prohibits new permits for new residential development that would contribute to development in excess of the number of permits that the county may issue under its policy.

GEORGIA

GA Rules and Regs
Chapter 290-5-26: On-Site Management Systems

Term

On-Site Sewage Management Systems

Types of Onsite Systems

i. Conventional and chamber septic tank systems and privies
ii. Alternative on-site management systems
iii. Experimental on-site management systems

Permit Issues

A construction permit must be obtained from the County Health Department before the installment of an on-site sewage management system. The County Board of Health (Board) can approve or disapprove an application for a construction permit within twenty days. Before issuing the constructing permit, the Board must conduct an inspection to determine the absorption rates, soil characteristics, groundwater, rock and any other factors that would affect the acceptability of the lot. The Board may deny or revoke a construction permit upon finding the lot unsuitable, or for failure to comply with the rules. The issuance of a construction permit is not a guarantee that the system will function satisfactorily, and the Board representatives are not liable for damages that may be caused by the malfunction of the system.

Grease traps are required for commercial or industrial establishments with on-site systems where the Board determines that the amount of grease introduced into the system is in excess of 50 mg/l.

Any person seeking approval of septic tanks must submit a detailed plan and specifications for tank manufacture and other information as may be required by the Department of Human Resources (Department); the septic tanks must be in compliance with the Manual for On-Site Sewage Management Systems (Manual).

On-site sewage management systems are approved where public or community sewage treatment systems are not available. A connection to the public system must be made if such system is available within 200 ft of the property line. If an existing on-site sewage system fails, immediate connection must be made to a public or community sewage treatment system, if such a system is available. A septage removal permit from the Department the Board is required before removal or disposal of the contents of onsite sewage management systems. Such permit is renewed annually, and can be suspended or revoked for failure to comply with the regulations or the Manual. The approved methods of pumping and disposal are discharge to a public or community sewage treatment system, treatment at separate septage handling facilities, or direct land application.

Jurisdiction and Intra-State Authority Issues

The Department appoints and maintains a technical review committee consisting of maximum fifteen individuals with relevant technical or scientific knowledge. The duties of the committee are to approve new systems, periodically review systems' performance, assist the Department with the development of standards and guidelines for new technology, assist with the periodic updating of the manual, revisions to standards, and maintain a list of approved systems.

The alternative on-site systems must be designed and constructed in accordance with the criteria established by the Department's manual for On-Site Sewage Management Systems. Experimental on-site sewage management systems upon being tested and observed, can be provisionally accepted by the Department's technical review committee. The Board may grant variances in the cases of hardship where existing systems are malfunctioning.

Chapter 290-5-26 does not apply to facilities or systems under the jurisdiction of or regulated by the Department of Natural Resources, or under shared jurisdiction by Memoranda of Understanding or other agreements.

HAWAII

Hawaii Administrative Rules § 11-62
Wastewater Systems

Term

Individual Wastewater Systems

Types of Onsite Systems

Individual wastewater systems include, but are not limited to, septic tanks and household aerobic units with disposal systems and cesspools. Each individual system must be independent and have all of its plumbing, treatment and disposal components separate from any other wastewater system.

Permit Issues

The Director of the Department of Health (Director) must approve each wastewater sludge disposal plan. Off-site treatment and disposal systems are followed in priority by on-site systems. All building generating wastewater and located within or proximity of an avail-

able public sewer system as determined by the Director must connect to the public sewer. Individual wastewater systems may be utilized in remote areas and in areas of low density, or, under certain conditions, as a temporary on-site means of wastewater disposal in lieu of treatment works. Holding tanks or privies are not acceptable wastewater systems, except in areas where subsurface disposal of wastewater is prohibited.

After year 2000, construction of wastewater disposal systems depositing untreated sewage into the environment is not allowed.

Jurisdiction and Intra-State Authority Issues

Each county has the option of having a wastewater advisory committee nominated by the mayor and established by the Director. The committee may include, but is not limited to, representatives of the county water supply, public works, planning and land utilization departments, labor and industry. Its role is to review and make recommendations, upon the request of the Director, of the application of the rules on matters unique to each county, on the establishment of critical wastewater disposal areas, on proposals which are not specifically addressed in the rules, and on request for variances.

The Department of Health provides technical and support services for the committee. The Director may establish critical wastewater disposal areas on a county-by-county basis, where he or she can impose more stringent requirements than those specified in the rules. In such areas, proposed cesspools are severely restricted or prohibited.

IDAHO

Idaho Administrative Code
Chapter 58.01.03: Individual/Subsurface Sewage Systems

Term

Individual and Subsurface Sewage Disposal Systems

Definitions

i. Alternative system—any system for which the Department of Environmental Quality (Department) has issued design guidelines, or which the Director of the Department judges to be a simple modification of a standard system.
ii. Individual system—any standard, alternative or subsurface system which is not a central system.

Summary

Idaho's seven health districts are in charge of regulating individual and subsurface sewage disposal systems. In 1999, these health districts issued over 6,100 permits for new septic systems. Plans for the installation of septic tanks must be approved by the State.

Permit Issues

It is unlawful for any person to cause or to perform the modification, repair or construction of any individual or subsurface sewage disposal system within the State of Idaho unless there is a valid installation permit authorizing that activity. The owner of the system or the owner's authorized representative must apply to the Director in writing and in a manner or form prescribed by the Director. If approved, the Director must issue an Individual and Subsurface System Installation Permit is valid for

one year. A valid permit authorizes the construction of an individual or subsurface system and requires that the construction be conducted in compliance with plans, specifications, and conditions contained in the approved permit application.

Installer Permits

Every installer must secure an installer's registration permit from the Director.

Responsibilities

Every owner of real property is jointly and individually responsible for:

- Storing, treating, and disposing of blackwaste and wastewater generated on that property.
- Connecting all plumbing fixtures on the property that discharge wastewaters to an approved wastewater system or facility.
- Obtaining necessary permits and approvals for installation of individual or subsurface blackwaste and wastewater disposal systems.
- Abandonment of an individual or subsurface sewage disposal system.

Inspections

One or more inspections are required in order to determine compliance with any requirement or provision of these rules.

Penalties

Failure to comply with the permitting, licensing, approval, installation, or variance provisions of these rules is deemed a misdemeanor.

ILLINOIS

IL Compiled Statutes
Private Sewage Disposal Licensing Act
225 ILCS 225

Term

Private sewage disposal system—any sewage handling or treatment facility receiving domestic sewage from less than 15 people or population equivalent and having a ground surface discharge, or any sewage handling or treatment facility receiving domestic sewage and having no ground surface discharge.

Types of Onsite Systems

i. Conventional
ii. Experimental

Jurisdiction

Illinois Department of Public Health (Department) has sole responsibility for onsite wastewater regulations.

Permits (only required for installation/pumping contractors)

The Director of the Department can issue a private sewage system installation contractor license or a private sewage disposal system pumping contractor license to persons applying for such license who successfully pass a written examination prepared by the Department and who pay the required annual license fee. Each person who holds a valid plumbing license issued under the Illinois Plumbing License Law is not required to pay the annual license fee required by this Section, but they must comply with all other provisions of this Act, including the requirement for examination for licensure.

Any person who constructs, installs, repairs, modifies, or maintains a private sewage disposal system, other than a system which serves his/her own single family residence, is licensed by the Department as a Private Sewage System Installation Contractor. Similarly, any person who cleans or pumps waste from a private sewage disposal system, other than a system which serves his/her own single family residence, or hauls or disposes of wastes removed therefrom is licensed by the Department as a Private Sewage Disposal System Pumping Contractor.

After January 1, 1974, no person or private sewage disposal system contractor may construct, install, modify, repair, maintain, or service a private sewage disposal system or transport and dispose of waste removed therefrom, in such a manner that does not comply with the requirements of this Act and the private sewage disposal code promulgated hereunder by the Department. A person who owns and occupies a single family dwelling and who constructs, installs, maintains, services or cleans the private sewage disposal system which serves his/her single family residence is not required to be licensed under this Act. However, such person must comply with all other provisions of this Act and the private sewage disposal code set by the Department.

Installation of system

No new private sewage disposal system is to be installed by any person until drawings, specifications and other information requested by the Department are submitted to and reviewed by the Department and found to comply with the private sewage disposal code, and until approval for the installation of such system is issued by the Department.

Inspections

The Department of Public Health has the power to make such inspections as are necessary to determine satisfactory compliance with this Act and the private sewage disposal code.

Alternative/Experimental Systems

The Department may set conditions that authorize the trial or experimental use of new innovative systems for private sewage disposal.

Local Jurisdiction

This Act does not prohibit the enforcement of ordinances of units of local government establishing a system for the regulation and inspection of private sewage disposal contractors and a minimum code of standards for design, construction, materials, operation and maintenance of private sewage disposal systems, for the transportation and disposal of wastes and for private sewage disposal systems servicing equipment.

Advisory Commission

The Advisory Commission on Private Sewage Disposal consists of 17 members appointed from time to time by the Director. Of the initial appointments, 5 members are appointed to serve a one-year term, 5 members to serve a 2-year term and 7 members to serve a 3-year term. The Advisory Commission is to be comprised of at least one representative of each of the following: the Illinois Public Health Association, the Home Builders Association of Illinois, the Illinois Association of Realtors, the Illinois Environmental Protection Agency, the Illinois Environmental Health Association, the Onsite Wastewater Professionals of Illinois, Inc., the Illinois Association of Local Environmental Health Administrators, the Illinois Precast Concrete Association, the Illinois Land Improvement Contractors Associa-

tion, the Illinois Soil Classifier Association, and the Illinois Onsite Wastewater Association. The Director also appoints one member to serve as chairperson.

The Advisory Commission advises and aids the Director in:

- Reviewing and suggesting changes to the State code, including but not limited to proposing performance-based standards for the design, construction, operation, and maintenance of private sewage disposal systems;
- Proposing methods for funding private sewage disposal services and for reimbursement of units of local government for expenses incurred in administering this Act as agents of the State;
- Examining the need for more stringent licensing requirements under this Act, including but not limited to an apprenticeship program as a condition of original licensure and the issuance of advanced skill licenses.

Penalties

Any person who violates this Act or any rule or regulation adopted by the Department or who violates any determination or order of the Department under this Act is guilty of a Class A misdemeanor and is fined a sum not less than $100.

INDIANA

Indiana Administrative Code
410 IAC 6-8.1: Residential Sewage Disposal Systems

Term

Residential Sewage Disposal Systems—all equipment and devices necessary for proper conduction, collection, storage, treatment, and on-site disposal of sewage from one or two family dwellings. Included within, but not limited to the scope of this definition, are residential sewers, septic tanks, soil absorption systems, temporary sewage holding tanks, and sanitary vault privies.

Types of Onsite Systems

i. Conventional
ii. Alternative

Jurisdiction and Intra-State Authority Issues

Local boards of health, through their health officers and authorized agents, are in charge of administering this rule. Local boards of health that wish to adopt or amend a local ordinance governing the design, construction, and operation of residential sewage disposal systems can do so only after the commissioner has confirmed in writing that the ordinance does not violate this rule or state sewage disposal statutes.

Permit Issues

The owner or agent of the owner must obtain a written permit, signed by the health officer, for construction of a residential sewage disposal system prior to:

- Construction of a residence or placement of a mobile home that will not be connected to a sanitary sewerage system.
- Any replacement, reconstruction of, expansion or remodeling of a residence which may increase the number of bedrooms.
- Any addition to, alteration of, or repair of an existing residential sewage disposal system.

The permittee must notify the health officer or his/her designee when the work is ready for

final inspection and at least forty-eight (48) hours or two working days before any subsurface portions are to be covered. If these conditions are not met, the health officer may revoke the permit for the residential sewage disposal system. Requirements of permits issued for the construction of systems will not be considered fulfilled until the installation is completed to the satisfaction of the health officer or his/her duly authorized representative.

Discharge

Surface discharge from onsite septic systems is not allowed.

IOWA

Iowa Administrative Code
567 IA Admin Code 69: On-site wastewater treatment and disposal systems

Term

On-site wastewater treatment and disposal system—all equipment and devices necessary for proper conduction, collection, storage, treatment, and disposal of wastewater from four or fewer dwelling units or other facility serving the equivalent of 15 persons (1,500 gpd) or less. This includes domestic waste whether residential or nonresidential but does not include industrial waste of any flow rate. It includes building sewers, septic tanks, subsurface absorption systems, mound systems, sand filters, constructed sand filters, constructed wetlands and individual mechanical/aerobic wastewater treatment systems.

Types of Onsite Systems

i. Conventional—a soil absorption system involving a series of trenches containing a pipe to convey the sewage effluent
ii. Alternative

Permit Issues

An application for a permit must be submitted and the administrative authority must issue a permit before an on-site wastewater treatment and disposal system is installed or altered.

Jurisdiction and Intra-State Authority Issues

In Iowa, local boards of health (administrative authority) have primary responsibility for regulation of septic tanks serving less than 15 people, while DNR has primary responsibility for larger (public) systems. In conducting their activities, counties must comply with the minimum state standards developed by DNR. If counties fail to adopt or enforce DNR standards for smaller systems, DNR has concurrent authority to force compliance by individuals and the counties with the minimum standards for on-site wastewater treatment and disposal.

The DNR also licenses all commercial pumpers of septic tanks and livestock holding tanks. Although the DNR is responsible for licensing and regulation of commercial septic tank cleaners, the county boards of health are responsible for enforcement of the regulation.

Connections to Approved sewer system

No on-site wastewater treatment and disposal system can be installed, repaired or rehabilitated if there is an available connection to a public sanitary sewer or if there is a local ordinance that requires such a connection. When a public sanitary sewer becomes available within 200 feet, any building served by an on-site wastewater treatment and disposal system must be connected to such a system within a time

frame or under conditions set by the administrative authority.

Discharge Permits

Any onsite wastewater treatment system that discharges treated wastewater to the ground surface must be monitored to ensure that it continues to meet secondary treatment standards. To monitor this assurance, all surface discharging onsite systems must be registered under the NPDES General Permit #4 and meet all the monitoring requirements of that permit. A Notice of Intent (NOI) form must be filed with the Water Supply Section of the Department of Natural Resources. Upon receipt of the NOI form, the DNR will send a copy of the permit to each system owner. The owner is then required to follow the monitoring and record-keeping requirement of this general permit. This requirement is in addition to any county construction or operating permit requirements for onsite systems.

Alternative Systems

Alternative or innovative systems are to be designed and operated in accordance with approved standards and operating procedures established by individual administrative authorities. Plans and specifications, meeting all applicable rule requirements, should be prepared and submitted to the administrative authorities by a licensed professional engineer. Included with the engineering submittal should be adequate supporting data relating to the effectiveness of the proposed system.

Funding: Onsite Wastewater Assistance Fund

The onsite revolving fund is used to provide low-interest loans to homeowners for improving and rehabilitating onsite wastewater treatment systems and consists of two accounts: a financing account and an administration account.

KANSAS

Kansas Administrative Regulations
K.A.R. 28-5-2 through 9

Term

Onsite wastewater treatment system—a system that treats wastewater generated by a single-family home or one business. The wastewater is treated and returned to the environment within the boundaries of the property.

Types of Onsite Systems

i. Conventional system
ii. Alternative (Enhanced) system—provides treatment for the removal of organic material and some pathogens from the wastewater before discharge or absorption.

Permit Issues

Permits to discharge wastewater from private onsite systems are required and are given by the Department of Health and Environment.

Jurisdiction and Intra-State Authority Issues

The Kansas Department of Health and Environment (Department) is authorized to establish minimum standards for septic tank-lateral fields. Local governments have the authority to adopt minimum requirements (codes) for onsite wastewater management systems, to approve individual plans, to issue permits for construction, to issue permits for operation, and to grant variances. County sanitary (environmental) codes specify local design and permitting

requirements. Sanitary codes are adopted and administered by local government usually through county health departments. In counties that have adopted a sanitary code, the county establishes these minimum standards. For counties that have not adopted a sanitary code, Kansas Administrative Regulation 28-5-2 through 9 provides the minimum standards, and technical assistance may be available through the Local Environmental Protection Program (LEPP).

Discharges

All domestic wastes from sanitary fixtures located in any dwelling must be discharged into a community sewer approved by the department or into a private sewer system operating under a permit, or a septic tank located, designed and operated in accordance with standards set by the department.

Maintenance

The homeowner has responsibility for maintaining the system.

KENTUCKY

Kentucky Administrative Regulations
902 KAR 10

Term

On-site Sewage Disposal System

Types of Onsite Systems

i. Conventional system
ii. Modified system—enhanced to overcome site limitations
iii. Alternative system—has necessary site and wasteload modifications, and a subsurface soil absorption system using other methods and technologies than a conventional or modified system to overcome site limitations.

Permit Issues

The Cabinet for Health Services and its authorized agents (Cabinet) regulates the construction, installation and alteration of the on-site disposal systems, except for those with a surface discharge. Commercial manufacturers and suppliers of materials, components and equipment designed or intended for use in the construction of on-site disposal systems must obtain approval from the cabinet prior to their sale or use. New or experimental equipment, materials or components are subject to additional requirements and restrictions.

An application for site evaluation must be submitted to the local health department for installation on an on-site system on an individual site. A certified inspector must evaluate each proposed site. The permit to construct or install such system must be obtained prior to construction of any portion of that system. Permits to construct, install or alter on-site sewage systems are issued to certified installers and, under certain conditions, to the homeowner. In a five-year period, only one homeowner permit to construct or alter a system may be issued, except for necessary repair or alteration of the originally permitted on-site system.

The Cabinet mandates certification of installers of on-site systems. Certification is valid only for the person to whom it is issued, and it is non-transferable. Certified installers are required to attend training workshops offered by the Cabinet to maintain certification and improve competency.

Jurisdiction and Intra-State Authority Issues

The Cabinet may grant a variance to waive

certain requirements of the regulation, as long as the waiver cannot reasonably be expected to result in the system contaminating groundwater supplies or creating a health hazard or nuisance. If a local health department takes an administrative action against an installer, the Cabinet must be notified so that other local health departments can be alerted to that installer's status.

For the disposal of domestic septage (liquid or solid), an application for site evaluation must be submitted to the local health department. For operating a site for domestic septage disposal a permit from the Cabinet is necessary. The operator of a septage disposal system must refuse types of waste for which the site is not approved, use only approved methods for disposal, and apply certain access restrictions to the disposal sites. Experimental disposal methods are allowed, unless they are likely to have an adverse environmental impact, in which case the Cabinet must submit the application for review by the Natural Resources and Environmental Protection Cabinet. The Cabinet may obtain an injunction if immediate action is necessary to prevent the creation or continuation of a health hazard, damage to the environment, or to compel compliance.

The Natural Resources and Environmental Protection Cabinet has authority over the construction, installation and alteration of the onsite disposal systems with a surface discharge, for which an NPDES permit is required.

LOUISIANA

LA Admin Code 51.XIX
Sewage Disposal

Term

Individual Sewerage System—any system of piping (excluding the building drain), and/or collection and/or transport system which serves one or more connections, and/or pumping facility, and treatment facility, all located on the property where the sanitary sewage originates, and which utilizes the individual sewerage system technology which is set forth in Chapter 7, or a commercial treatment facility which is specifically authorized for use by the state Health Officer.

Individual Mechanical Plant—a treatment facility that provides primary and secondary treatment of sanitary sewage by use of aerobic bacterial action which is sustained by mechanical means.

Types of Onsite/Individual Systems

i. Conventional Septic Tank System—a septic tank system that consists of a septic tank(s) followed by a subsurface absorption field.
ii. Limited Use Sewerage System—a sewerage system which may be authorized by the state Health Officer for installation or use for a structure or dwelling which is occupied less than four days in a week, and the use of which generates less than 100 GPD of sanitary sewage.

Permit Issues

A person can install, cause to be installed, alter subsequent to installation, or operate an individual sewerage system after having obtained a permit from the state Health Officer,

and in accordance with the plans and specifications for the installation which have been approved as a part of a permit. Such a permit is issued in a two-stage process.

Upon receipt of a request for a permit, and approval of plans and specifications for the proposed individual sewerage system, a temporary permit, authorizing the installation of said system, may be issued. A final permit approving the installation is issued only upon verification that the individual sewerage system has been installed in compliance with this Code.

The verification of such installation is determined by means of an on site inspection conducted by a representative of the state Health Officer and/or in the form of a completed "Certification by Installer" form submitted to the state Health Officer by the licensed installer. The installer shall notify the appropriate local Parish Health Unit prior to the installation of an individual sewerage system.

The sanitarian may not issue final approval for this system unless he/she has received a completed and signed certification by installer form. The certification by installer is submitted to the state Health Officer within fifteen (15) days after completion of the installation. A final permit is issued and provided to the owner/occupant of the premises to be served by the individual sewerage system.

Installers

A person who wishes to engage in the business of installing or providing maintenance of individual sewerage systems must obtain a license for such activity prior to making any such installations or providing maintenance. Such a license is not be required, however, for an individual wishing to install an individual sewerage system, other than an individual mechanical plant, for his/her own private, personal use.

Disposal of Sewage

A person may not directly or indirectly discharge, or allow to be discharged, the contents or effluent from any plumbing fixtures, vault, privy, portable toilet, or septic tank, into any road, street, gutter, ditch, water course, body of water, or onto the surface of the ground. Disposal of the contents of septic tanks, cesspools, vaults, or similar facilities is made in accordance with the arrangements, approved in the permit, for disposal at an approved sewage treatment facility.

Maintenance & Operation

Individual sewerage systems are to be kept in service and in a serviceable condition sufficient to insure compliance with this Code and in order to avoid creating or contributing to a nuisance or a public health hazard.

Licenses

A person who wishes to engage in the business or practice of constructing an Individual Mechanical Sewerage Treatment System, and who is responsible for having the system evaluated in compliance with this Chapter, must first obtain a license for each approved tested design of plant manufactured, from the state Health Officer.

A person who wishes to perform installations or maintenance of individual sewerage systems must first obtain the appropriate type of Individual Sewerage Installer License. Two types of licenses are offered:

1) a basic license for installation and maintenance of facilities other than individual mechanical plants, and;
2) a combination license which allows the installation and maintenance of indi-

vidual mechanical plants as well. A combination license may be obtained only in conjunction with a basic license, and is considered to be a separate license.

Experimental Systems

Where a person proposes innovative processes or design features other than those described in Chapter 7, a limited number of experimental or developmental installations may be approved where: either failure of the installation or insignificant benefits to performance and cost is not expected, based on current engineering data and literature. The total number of such installations shall not exceed three throughout the State, and may be approved under the following conditions:

- Each installation is installed only in accordance with plans and specifications and testing procedures which have been specifically approved for each installation as a part of a permit issued by the state Health Officer prior to the installation.
- The permit for each installation is for a period of one year and may be renewed.
- If an innovative process fails, the owner of the premises and the person proposing the innovative process must upgrade or replace the installation to bring it into compliance. After the experimental or developmental use of an installation is completed, the permit issued under this Section may be revised to remove the restrictions if the state Health Officer determines that the available data show that continued use of the installation will not result in noncompliance. Such a revision of a permit applies only to the individual installation approved under that permit, and should not be construed as being an approval of the system design for other existing or future installations.

MAINE

Maine Subsurface Wastewater Disposal Rules
144A Code of Maine Regulations 241

Term

Subsurface Wastewater Disposal System—any system for the disposal of waste or wastewater on or beneath the surface of the earth.

Jurisdiction and Intra-State Authority Issues

The Department of Human Services (Department) is responsible for ensuring the proper administration of the subsurface wastewater disposal rules and permitting processes by municipalities. The department may assist municipalities in their compliance efforts.

The department must review the administration of subsurface wastewater disposal rules and laws in each municipality for compliance. This review must be made on a regular basis and may be made in response to a written complaint from any person as necessary. The department shall inspect the municipality's records and discuss the administration of the program with the local plumbing inspector. The local plumbing inspector is available during the department's review and must cooperate in providing all necessary information. The department must report the results of its review in writing to the municipality and, when applicable, to the complainant. The written notice must set forth the department's findings of

whether the municipality is in compliance.

If after review the department finds any violation, it must notify the municipality that it has 30 days in which to take enforcement action and must specify what action it will take. The municipality must file a plan acceptable to the department setting forth how it will attain compliance. The department is to notify the municipality that it will review the municipality for compliance within 60 days of accepting the plan and shall conduct that review. Any municipality which fails to file an acceptable plan with the department or which remains in violation at the expiration of the 60-day period is subject to a civil penalty of at least $500. The department must enforce this section in any court of competent jurisdiction. Every 30-day period that a municipality remains in violation after review and notification constitutes a separate offense.

Any person who installs or orders the installation of any plumbing or subsurface wastewater disposal system without the permit required by this section or who otherwise violates this section must be penalized. The municipality or the department may seek to enjoin violations of this section.

Permit Issues

A permit is required for the installation of a subsurface wastewater disposal system or components.

Fees

The plumbing inspector issues any permit(s) under this section upon receipt and approval of a completed application form as prescribed by the commissioner and payment by the applicant of the fee established by the municipality. The fee must be at least the minimum amount determined by rule of the department. One-quarter of the amount of the minimum fee must be paid through the department to the Treasurer of State to be maintained as a permanent fund and used by the department to implement its subsurface wastewater disposal rules, to administer the receipt and collation of completed permits and to issue plumbing permit labels to the municipality and by the State Planning Office for training and certification of local plumbing inspectors. The remainder of the fee must be paid to the treasurer of the municipality.

MARYLAND

Maryland Code of Regulations
Title 26, Subtitle 04, Chapter 02

Term

Individual sewerage system or **On-site sewage disposal system**—a sewage treatment unit, collection system, disposal area, and related appurtenances.

Types of Onsite Systems

i. Conventional on-site sewage disposal systems meet current regulatory requirements and consist of a septic tank or aerobic treatment with standard trench or deep trench subsurface irrigation or seepage pit on-site disposal or sand mound system.
ii. Non-conventional on-site sewage disposal systems are experimental systems and innovative technologies not currently described in these regulations, and which are undergoing evaluation by the Department of the Environment and the Approving Authority (i.e.: Secretary of the Environment or his/her designee).

General Requirements

An individual water supply or individual sewerage system may not be permitted to be installed where an adequate community water or sewerage facility is available. If an existing community water or sewerage facility is inadequate or is not available, an interim individual water and sewerage system may be used.

When a community sewerage system is adequate and economically available to the building to be served, the Approving Authority may require a connection to the public system.

Holding tanks may be used to resolve existing on-site sewage disposal failures when community sewer facilities are not available or on-site repair is not possible. They may not be permitted to serve new construction, or for the purpose of adding capacity to an existing disposal system in order to accommodate a change to an existing disposal system in order to facilitate a change in property use. They may be permitted to serve essential public buildings as determined by the Approving Authority and the Department of the Environment on a case-by-case basis.

Jurisdiction and Intra-State Authority Issues

The Department of the Environment may approve an on-site disposal system for a lot approved by the Department as of November 17, 1985, if it meets the Department's regulations and policies that were in effect on November 17, 1985, and has at least one replacement system area. However, if a lot was approved subject to a 10,000 square foot or greater disposal area, this disposal area is maintained.

If, in the opinion of the Approving Authority, the lot cannot provide for a safe and adequate water supply and an on-site waste disposal system, a permit is denied.

Permit Issues

A person may not construct or alter any residence, floating home, or commercial establishment served or to be served by an on-site sewage disposal system or private water supply system, and a county or municipality may not issue, if applicable, a building permit for the desired new construction or alteration, until the Approving Authority has:

(1) Issued both an on-site sewage disposal permit and a well construction permit for facilities served by an on-site sewage disposal system and a private water supply system;
(2) Issued an on-site sewage disposal permit for facilities served by an on-site sewage disposal system and a public water supply system;
(3) Issued a well construction permit for facilities served by a private water supply system and public sewerage; or
(4) Certified the existing on-site sewage disposal and water supply systems as capable of handling the existing sewage flows or water demand and any reasonable foreseeable increase in sewage flows or water demand.

Application for an on-site sewage disposal permit is in a form required by the Approving Authority and shall include a site plan, which identifies percolation and other test locations, proposed system design, and the location of existing and proposed wells to serve the property, along with any relevant datum concerning wells or disposal systems within 100 feet of the property line, and any additional information the Approving Authority may request. An on-site sewage disposal permit may not be issued unless the project is in conformance with the approved county water and sewer plan.

The Approving Authority must issue a permit for an on-site sewage disposal system if it determines that the site and proposed design can safely dispose of sewage and conform to applicable laws and regulations. When a permit is denied, the applicant is notified in writing within 30 days as to the reason for denial.

A person may not construct or attempt to construct an on-site sewage disposal system without first receiving a permit from the Approving Authority. A person may not alter an on-site sewage disposal system or cause it to receive any increase in flow unless permitted by the Approving Authority.

Disposal

A person may not dispose of sewage, body, or industrial wastes in any manner that may cause pollution of the ground surface, the waters of the State, or create a nuisance. A person may only dispose of sewage, body, or industrial wastes in accordance with an approved on-site sewage disposal permit or other method of disposal approved by the Approving Authority. Every person engaged in the business of removing and disposing of the solid and liquid contents of on-site sewage disposal systems shall obtain an annual permit from the Approving Authority.

Installation

The Department of the Environment may award to the installer a certificate upon successful completion of a course and examination.

Liability

Building and floating home contractors, septic contractors, plumbers, licensed well drillers, drivers, and diggers, along with any person for whom the work is being performed, are responsible for compliance with the regulations.

Experimental Systems

The Department of the Environment and the Approving Authority will consider all possible methods for correcting existing system failures and providing facilities for homes that lack indoor plumbing and, based on a case-by-case evaluation, provide the best technical guidance in attempting to resolve existing pollution or public health problems. When a public sewer is not available and a conventional on-site system design cannot alleviate the problem or does not provide the best method of correction, new technology or experimental systems may be used.

Innovative and alternative technology or experimental designs may also be used for new construction. The use of non-conventional on-site sewage disposal systems on new construction where site limitations preclude the use of conventional on-site disposal systems is reviewed and approved using professional judgment. The soil properties and ground water condition at the proposed site shall demonstrate adequate support for successful use of the proposed system as an alternative to a conventional on-site sewage disposal system.

The county environmental health office may elect to perform the site evaluation or to request the applicant to retain a professional consultant. In either case, the site evaluation should be performed with the assistance of the Residential Sanitation's Regional Consultant of the Department of the Environment. Any available information on the effectiveness of the proposed system in use in similar settings should also be obtained. This information, as well as the hydrogeological report, should be submitted to both the local health department and the Department of the Environment. The system design may commence once both county and

State approval of the site and proposed system has been granted. The applicant should arrange for a professional consultant or an environmental health official to design the proposed system. One set of drawings must be submitted to the county environmental health office, and one set to the Department of the Environment, Innovative and Alternative team, for concurrent review and approval.

The number of experimental non-conventional disposal systems approved for use on new construction are limited by:

- The availability of personnel and equipment required for the extensive monitoring and evaluation associated with the installation of these systems;
- A system's potential to provide data required to adequately evaluate system operation on a site experiencing one of the major restrictions for conventional on-site sewage disposal systems found in Maryland.

Non-conventional on-site sewage disposal systems that require specialized operation or extensive maintenance may also require a satisfactory agreement among local health, State Health, and the systems' owners to assure proper operation and adequate maintenance. For example, a service contract may be required.

MASSACHUSETTS

310 MA Code of Regs 15.000
Statutory Authority: Chapter 21A, Section 13.

Term

On-site Sewage Disposal Systems—a system or series of systems for the treatment and disposal of sanitary sewage below the ground surface on a facility.

Any violation of the state environmental code is:

- punishable by a fine of not more than twenty-five thousand dollars for each day that such violation occurs or continues, or by imprisonment for not more than one year, or both such fine and imprisonment; or
- subject to a civil penalty not to exceed twenty-five thousand dollars for each day that such violation occurs or continues.

Types of Onsite Systems

i. Alternative System-designed to provide or enhance on-site sewage disposal which either do not contain all of the components of an on-site disposal system or which contain components in addition to those specified in 310 CMR 15.100 through 12.293 and which are proposed to the local approving authority and/or the Department for remedial, pilot, provisional, or general use.
ii. Conventional System-not defined

Jurisdiction and Intra-State Authority Issues

Local boards of health must enforce the code in the same manner in which local health rules and regulations are enforced but, if any such local boards fail after the lapse of a reasonable length of time to enforce the same, the Department of Environmental Protection (department) may enforce the code against any violator. The superior court shall have jurisdiction to enforce the provisions of the code and any action brought to enforce the provisions is advanced for speedy trial.

The local approving authority carries out the approval of any system, including the issuance

of Disposal System Construction Permits, Local Upgrade Approvals, and Certificates of Compliance. The local approving authority is the board of health, its authorized agent or an agent of a health district acting on behalf of the applicable board of health, except with regard to systems owned or operated by an agency of the Commonwealth or of the federal government.

Local approving authorities may enact more stringent regulations to protect public health, safety, welfare and the environment. Local approving authorities may also issue orders requiring the owner or operator of a facility to come into compliance or to take any other action to protect public health, safety, welfare or the environment.

Permit Issues

Permits are needed for the disposal of sewage and for the construction of a system (Disposal System Construction Permit). No one may engage in the construction, upgrade or expansion of any on-site system without first obtaining a Disposal System Installer's Permit from the approving authority. These permits are issued for a period of not more than two years.

A duly registered sanitarian or a professional engineer registered in the Commonwealth may prepare plans for subsurface systems for disposal of domestic sewage of not more than two thousand gallons per day. Any other plans for a sewage disposal system are prepared by a professional engineer registered in the Commonwealth.

The preparation of plans for the repair of subsurface systems for disposal of domestic sewage of not more than two thousand gallons per day is allowed by any agent of the owner provided that such plans are reviewed and approved by the local health authority and by a licensed sanitarian.

MICHIGAN

Michigan Administrative Code
R 299.2901—299.2974
Natural Resources and Environmental Protection Act, Part 17, Section 324 (1994 PA 451)

Note: This summary is only for commercial systems with flows up to 10,000 gallons per day. Michigan does not have a statewide regulation for single and two family on-site wastewater disposal systems. Private single and two family residential sewage systems are constructed pursuant to local sanitary codes.

Term

On-site Sewage Treatment and Disposal System

Types of Onsite Systems

i. Conventional System—an on-site sewage treatment and disposal system that contains a watertight septic tank with nonuniform distribution of effluent to subsurface soil trenches or an absorption bed on sites meeting the regulatory criteria.
ii. Alternative Systems—a treatment and disposal system that is not a conventional system and provides for an equivalent or better degree of protection for public health and the environment than a conventional system.

Jurisdiction and Intra-State Authority Issues

Jurisdiction is split between local and district health departments.

The Department of Environmental Quality

(department) is given power and control as limited in this part over persons engaged in furnishing sewerage or sewage treatment service, or both, and over sewerage systems. The department may promulgate and enforce rules, as it considers necessary, governing and providing a method of conducting and operating all or a part of sewerage systems including sewage treatment works. The department must classify sewage treatment works with regard to size, type, location, and other physical conditions affecting those works and according to the skill, knowledge, experience, and character that the person who is in charge of the active operation of the sewage treatment works has to possess in order to successfully operate the works, to prevent the discharge of deleterious matter capable of being injurious to the health of the people, or to other public interests.

The department may enter at reasonable times the sewerage systems and other property of a person for the purpose of inspecting a sewerage system and carrying out the authority vested in the department by this part.

Use of Alternative Systems

A person may install and use in a structure an acceptable innovative or alternative waste treatment system or an acceptable innovative or alternative waste treatment system in combination with an acceptable alternative greywater system. The installation and use is subject to regulation by the local health department in accordance with the ordinances and regulations of the local units of government in which the structure lies.

A local health department may inspect each acceptable innovative or alternative waste treatment system within its jurisdiction at least once a year to determine if it is being properly operated and maintained. A local health department may charge the owner a reasonable fee for such an inspection and for the plan review and installation inspection. A copy of the approved application or permit to install and use an alternative system and a copy of each maintenance inspection report is forwarded to the department and to the local unit of government in which the structure lies. The department must maintain a record of approved alternative systems and their maintenance and operation.

The department, after consultation with the state plumbing board, must adopt guidelines to assist local health departments in determining what are acceptable alternative greywater systems and what are acceptable innovative or alternative waste treatment systems. The department must advise local health departments regarding the appropriate installation and use of acceptable innovative or alternative waste treatment systems and acceptable innovative or alternative waste treatment systems in combination with acceptable alternative greywater systems.

MINNESOTA

Minnesota State Rules
Chapter 7080

Term

Individual Sewage Treatment Systems (ISTS): An individual sewage treatment system serving a dwelling, or other establishment and using sewage tanks followed by soil treatment and disposal or using advanced treatment devices that discharge below final grade. An individual sewage treatment system includes holding tanks and privies.

Types of Onsite Systems

i. Conventional (standard) system -an individual sewage treatment system
ii. Alternative system—an individual sewage treatment system employing methods and devices presented in part 7080.0172.

Jurisdiction and Intra-State Authority Issues

The Minnesota Pollution Control Agency has the authority to adopt rules that establish minimum standards and criteria for the design, location, installation, use, and maintenance of individual sewage treatment systems. The Department of Health (MDH) reviews and approves plumbing systems for facilities serving the public and designed for less than 10,000 gpd, including septic systems. The Department of Natural Resources (DNR) is responsible for the shoreland management act that requires septic systems to be inspected when any permit or variance is requested for the property.

All subsurface discharging systems that are designed to receive a flow from a dwelling or group of dwellings with ten or more bedrooms, or to receive any substance not included in the definition of sewage are regulated under Title 40 of the Code of Federal Regulations, parts 144 and 146, and minimum state requirements described in part 7080.0600.

Use of systems designed for new construction or replacement of systems that serve establishments licensed or otherwise regulated by the Minnesota Department of Health are allowed only in areas where a standard system cannot be installed or is not the most suitable treatment and only where allowed and enforced under ordinance and permit of the local unit of government. Any individual sewage treatment systems requiring approval by the State must also comply with applicable local codes and ordinances. Plans and specifications must receive the appropriate state and local approval before construction is initiated.

Advisory Committee

There is an advisory committee on individual sewage treatment systems (ISTS). The committee must, subject to the approval of the commissioner, review and advise the agency on:

A. Revisions of standards and legislation related to ISTS;
B. Technical data related to ISTS;
C. A technical manual on ISTS;
D. Educational materials and programs for ISTS;
E. The administration of standards and ordinances pertaining to ISTS at the state and local level; and
F. Other ISTS activities considered appropriate by the committee.

Permit Issues

The agency issues State Disposal System (SDS) and National Pollutant Discharge Elimination System (NPDES) permits. All systems that discharge to surface waters or above the ground surface must obtain either an NPDES/SDS or an SDS permit from the agency and must comply with all permit requirements.

A local unit of government with a local ordinance to regulate individual sewage treatment systems must have a permit program that specifically addresses the following:

(1) Permit application requirements;
(2) Permit review and approval requirements and procedures;
(3) Recordkeeping; and
(4) Reporting.

Operating permit

Local units of government must issue and enforce an operating permit for systems as follows:

At a minimum, the operating permit shall include:

A. Maintenance requirements;
B. Monitoring and mitigation plans as described in subpart 7;
C. Compliance limits and compliance boundaries;
D. Reporting frequency, not less than annually;
E. Requirements that the permittee notify the local unit of government when monitoring plan requirements are not met; and
F. Disclosure of the status and condition of replacement ISTS.

Local Ordinances

All counties that did not adopt ordinances by May 7, 1994, or that do not have ordinances, must have adopted ordinances that comply with individual sewage treatment system rules by January 1, 1999, unless all towns and cities in the county have adopted such ordinances. County ordinances must apply to all areas of the county other than cities or towns that have adopted ordinances that comply with this section and are as strict as the applicable county ordinances. Any ordinance adopted by a local unit of government before May 7, 1994, to regulate individual sewage treatment systems must be in compliance with the individual sewage treatment system rules by January 1, 1998.

Inspection

An inspection is required for all new construction or replacement of a system to determine compliance with agency rule or local standards. The manner and timing of inspection may be determined by the applicable local ordinance. The inspection requirement may be satisfied by a review by the designated local official of video, electronic, photographic, or other evidence of compliance provided by the installer.

Local units of government must have an inspection program to enforce requirements and must specify the frequency and times of inspections, the requirements of an inspection, an inspection protocol if an inspection cannot be completed in a timely manner, and, at a minimum, the requirements for a compliance inspection.

Disclosure of individual sewage treatment system to buyer

Before signing an agreement to sell or transfer real property, the seller or transferor must disclose in writing to the buyer or transferee information on how sewage generated at the property is managed. The disclosure must be made by delivering a statement to the buyer or transferee that either:

- the sewage goes to a facility permitted by the agency; or
- the sewage does not go to a permitted facility, is therefore subject to applicable requirements, and describes the system in use, including the legal description of the property, the county in which the property is located, and a map drawn from available information showing the location of the system on the property to the extent practicable.

If the seller or transferor has knowledge that an abandoned individual sewage treatment system exists on the property, the disclosure must include a map showing its location. In the disclosure statement the seller or transferor must

indicate whether the individual sewage treatment system is in use and, to the seller's or transferor's knowledge, in compliance with applicable sewage treatment laws and rules.

Maintenance of system

The individual sewage treatment system and all components must be maintained in compliance with this chapter and manufacturer's requirements. The owner of an individual sewage treatment system or the owner's agent must regularly, but in no case less frequently than every three years:

A. Assess whether the sewage tank leaks below the designed operating depth and whether sewage tank tops, riser joints, and riser connections leak through visual evidence of major defects; and
B. Measure or remove the accumulations of scum, which includes grease and other floating materials at the top of each septic tank and compartment along with the sludge, which includes the solids denser than water.

Funding

A funding program exists to assist homeowners in replacing their failing systems or installing new ones.

MISSISSIPPI

Mississippi Code of Rules § 41-67-1
2.0 Regulation Governing Individual Onsite Wastewater Disposal Systems

Term

Individual on-site (onsite) wastewater disposal system

Types of Onsite Systems

By design standard:

i. Design based systems (eight types)
ii. Performance based systems, which must be certified by a professional engineer, may be approved after a soil/ site evaluation, on lots with restrictions precluding the use of a design based onsite system.

By level of novelty:

i. Conventional subsurface disposal system
ii. Alternative systems – must be reviewed by the Division of Sanitation to verify compliance with standards
iii. Experimental

Permit Issues

An individual onsite wastewater disposal system can be installed only where a system of centralized sanitary sewers is not available. Temporary individual systems may be approved in otherwise unapprovable areas only after a contract has been awarded for the construction of centralized sewers that would serve the property upon completion. The water supplier has the responsibility of requiring a proof of submission of the Notice of Intent to the county health department before providing water service connection. Repairs to wastewater disposal systems do not have to be approved by the Department of Health; however, the Department may require the owner to repair a malfunctioning system.

Performance based systems must be authorized on an annual basis.

Jurisdiction and Intra-State Authority Issues

The State Board of Health has the responsibility to adopt, modify, repeal and promulgate rules and regulations regarding the design, con-

struction, operation and maintenance of individual on-site wastewater disposal systems. The Board also appoints the state Health Officer. The State Department of Health and the Department of Environmental Quality have a memorandum of understanding that clearly defines the jurisdiction of each department with regard to wastewater disposal and procedures for interdepartmental interaction and cooperation. The State Department of Health is responsible for initial onsite inspection, recommendation of system types acceptable for installation, and, where requested by the developer or owner, approval of systems where the volume of wastewater produced is similar to a single-family residence.

All systems where a volume of wastewater larger than that of a single family residence is produced, and where all proposed effluent or discharges are not contained on the generator's property, shall be referred the Office of Pollution Control in the Department of Environmental Quality (DEQ). The health department must provide the DEQ with a soil and site determination if flows are more than those produced by a single family.

MISSOURI

Missouri Code of State Regulations, 19 CSR 20-3
Revised Statutes: Title XLI, Chapter 701, Sections 25 to 59

Term

On-site sewage disposal system—any system handling or treatment facility receiving domestic sewage which discharges into a subsurface soil absorption system and discharges less than three thousand gallons per day. Also includes maximum daily flows of sewage of three thousand gallons or less and to sewage treatment facilities that have a designed maximum daily flow or an actual maximum daily flow of three thousand gallons or less.

Types of Onsite Systems

- Conventional systems
- Innovative systems—sewage system of new design, construction and/or operation that could be utilized in place of a conventional system.

Operation of an On-Site sewage disposal system

No person or property owner may operate an on-site sewage disposal system or transport and dispose of waste removed therefrom in such a manner that may result in the contamination of surface waters or groundwater or present a nuisance or imminent health hazard to any other person or property owner and that does not comply with the requirements of the on-site sewage disposal rules.

Permit Issues

Property owners may install, modify or clean their own on-site sewage disposal system in compliance with requirements; no permit is required for cleaning.

1. Property owners can install modify or repair their own on-site sewage disposal system as long as they comply with the provisions of sections 701.025 to 701.059.
2. Property owners are not required to obtain a permit or to obtain registration as an on-site sewage disposal system contractor in order to clean that property owner's on-site sewage disposal system.

When a discharge occurs from any facility other than a single-family residence, a National

Pollutant Discharge Elimination System (NPDES) permit must be secured.

Disposal of sewage

The owner of a single-family residence lot consisting of three acres or more, or the owner of a residential lot consisting of ten acres or more with no single-family residence on-site sewage disposal system located within three hundred sixty feet of any other on-site sewage disposal system, and no more than one single-family residence per each ten acres in the aggregate, is excluded from provisions relating to the construction, operation, major modification and major repair of on-site disposal systems, when all points of the system are located in excess of ten feet from any adjoining property line and no effluent enters an adjoining property, contaminates surface waters or groundwater or creates a nuisance as determined by a readily available scientific method.

Jurisdiction and Intra-State Authority Issues

The department may:

(1) Cause investigations to be made when a violation of any provision of sections 701.025 to 701.059 or the on-site sewage disposal rules promulgated under sections 701.025 to 701.059 is reported to the department;

(2) Enter at reasonable times, after receiving a complaint and determining probable cause that a violation exists, upon private or public property for the purpose of inspecting and investigating administration and enforcement conditions.

(3) Authorize the trial or experimental use of innovative systems for on-site sewage disposal, after consultation with the staff of the Missouri Clean Water Commission.

The Clean Water Commission can take appropriate action under Missouri Revised Statutes (RSMo) chapter 644, on violations of that chapter or regulations promulgated under that chapter. The rules and regulations promulgated under sections 701.025 to 701.059 must not conflict with rules and regulations promulgated under chapter 644, RSMo.

These rules do not prohibit the enforcement of ordinances of political subdivisions establishing a system for the regulation and inspection of on-site sewage disposal contractors and a minimum code of standards for design, construction, materials, operation and maintenance of on-site sewage disposal systems, for the transportation and disposal of wastes therefrom and for on-site sewage disposal systems servicing equipment, provided that such ordinance establishes a system at least equal to state regulation and inspection. In any jurisdiction where a city or county has not adopted the state standard, the department of health shall enforce the state standard until such time as the city or county adopts the standard.

Enforcement

No person may, on or after September 1, 1995, construct or make a major modification or major repair to an on-site sewage disposal system without first notifying the city, county or department and completing an application, upon a form provided by the department, and submitting a fee in the amount established by the city, county or department.

Whenever the director determines, after receipt of a complaint, that there are reasonable grounds to believe that there has been violation, the director shall give notice of such alleged violation to the person responsible, as herein provided. The notice shall:

(1) Be in writing;
(2) Include a statement of the reasons for the issuance of the notice;
(3) Allow reasonable time as determined by the director for the performance of any act it requires;
(4) Be served upon the owner, operator or contractor, as the case may require;
(5) Contain an outline of remedial action that is required to achieve compliance.

Fees/Funding

1. All monies collected by the department, except any administrative penalties, are deposited in the state treasury to be credited to the Missouri public health services fund; notwithstanding, any balance in the fund exceeding five hundred thousand dollars shall revert to general revenue. All interest earned on the fund shall accrue to the fund.
2. The director may, upon appropriations from the general assembly, use money from the Missouri public health services fund for development of innovative sewage systems and pilot programs.

MONTANA

Montana Administrative Rules, Chapter 36, Subchapter 9; Circular DEQ—4 2000 Edition—Standards for Onsite Subsurface Sewage Systems

Term

On-site Subsurface Sewage Treatment System—a system for the collection, transportation, treatment, and disposal of wastewater within the boundary of each lot or parcel.

Types of Onsite Systems

i. Conventional Individual System—an on-site wastewater treatment system serving no more than 2 single-family residences.
ii. Standard Alternative System—an on-site wastewater treatment system that is not considered standard, but available information indicates that adequate treatment and disposal are achieved when designed and constructed properly.
iii. Experimental Alternative System—a new device for which further testing is required in order to provide sufficient information regarding its ability to adequately treat and dispose of wastewater. These systems include elevated sand mound, evapotranspiration, aerobic package plant, artificially drained site, subsurface sand filter, nutrient removal, and fill systems.

Jurisdiction

Local boards of health must adopt regulations no less stringent than this subchapter for on-site wastewater treatment systems for private and public buildings installed after October 1, 1991. These regulations are for the construction, alteration, or extension of onsite wastewater treatment systems.

Permit Issues

Permits are needed for construction and maintenance of onsite systems. If the system is to be located in a new subdivision, a permit is issued by the Montana Department of Environmental Quality (department) and by the local/county government.

Connections to Centralized System

If a department-approved public collection and treatment system is readily available for

connection to a new source of wastewater or as a replacement for a failed treatment system, and the owner of the public collection and treatment system approves the connection, wastewater must be discharged to the system.

Discharge of wastewater

Surface discharge for onsite systems is an option but an NPDES permit from the Department of Environmental Quality is required for surface discharge from onsite septic disposal systems.

NEBRASKA

NE Admin Rules and Regs, Title 124
Rules and Regulations for the Design, Operation and Maintenance of On-site Wastewater Treatment Systems

Term

On-Site wastewater Treatment Systems—any system of piping, treatment devices, or other appurtenances that convey, store, treat, or dispose of wastewater on the property where it originates, or on nearby property under the control of the user, where the system is not connected to a public sewer system. All systems except septic systems are limited to a maximum size of 1000 gallons per day to be considered an on-site wastewater treatment system.

Types of Onsite Systems

i. Septic tanks
ii. Wastewater lagoon systems

Permit Issues

An on-site wastewater treatment system is subject to the regulatory design requirements if it is endangering public health, failing, conducting unauthorized discharges, or being replaced or modified.

Discharge to surface water is prohibited without a NPDES permit, and discharge to ground water or land surface is prohibited without the approval of the Department of Environmental Quality (Department). Only domestic wastewater can be directed to an on-site system.

There are two authorization procedures. One is the authorization by rule, when the owner of an establishment with less than 1,000 gallon per day can construct and operate an on-site system without a permit from the Department. The owner must maintain a copy with information regarding the owner, contractor and designer, location of the system, the number of bedrooms or gallons/ day of wastewater flow, appropriately scaled drawing of the system, and soil percolation test results. For all other on-site systems a construction permit from the Department is mandatory, and a professional engineer licensed in Nebraska must prepare the documents. The permit is valid for one year, and may be extended.

Upon completion of the system the Department must be notified in order to issue an operating permit. The Department may require groundwater monitoring where potential for groundwater pollution exists. Transfer of ownership automatically authorizes the new owner to operate under the existing permit, with the same obligations and conditions and the original or previous permittee or authorization by rule holder.

External grease traps are required for all establishments involved in food preparation.

When the use of a septic tank is discontinued, all existing liquids and solids must be pumped, and the tank must be filled with earth. As an alternative, the abandoned tank

must be removed after being pumped. If the abandoned system is a lagoon, the liquids must be drained, the solids properly scraped and disposed, and the lagoon are must be leveled and filled with dirt.,

Permit Issues

A construction permit shall be issued in the name of the facility, facility's owner, or its cognizant official, along with its legal location. It is valid for one year. The on-site wastewater treatment system must be constructed according to the Department approved design.

An operating permit shall be issued when the Department is notified, on a signed form prescribed by the Department, that construction of the system is complete, in compliance with the approved design, and has satisfied all construction permit conditions.

The Department may require, as a permit condition, ground water monitoring for any on-site wastewater treatment system if there is a potential for ground water pollution. The Department may require, as a permit condition, an operation and maintenance manual to ensure proper operation of the on-site wastewater treatment system.

A dwelling or establishment that generates wastewater shall have an on-site wastewater treatment system in accordance with these regulations or be connected to a wastewater works.

Jurisdiction and Intra-State Authority Issues

A temporary modification to a failing on-site wastewater treatment system not meeting the regulations' requirements may be performed if the modification is to prevent a surface discharge or reduce a threat to public health. The temporary modification may operate for no more than four months without the approval of the Department.

A septic tank system may also be required to have a permit under Title 122 Rules and Regulations for Underground Injection and Mineral Production Wells, upon Department's determination.

Nothing in this Title shall prevent more stringent local requirements from being adopted.

NEVADA

Nevada Administrative Code
Chapter 444—Sanitation

Term

Individual Sewage Disposal System—is a single system of sewage treatment tanks and effluent disposal facilities serving a single-family dwelling, or, in the case of a commercial system, one or more buildings that are not used as single-family dwellings.

Types of Onsite Systems

i. Conventional Systems—such as mound and soil absorption systems;
ii. Alternative treatment system—a system, or a receptacle other than a septic tank, that is designed and constructed to:
   - Receive the discharge of sewage from a building sewer
   - Partially or completely treat such sewage; and
   - Discharge effluent for final disposal.

Commercial system means an individual sewage disposal system that serves one or more buildings that are not used as single-family

dwellings. The term includes, without limitation, an individual sewage disposal system serving offices, watchmen's quarters, bunkhouses, labor camps, parking facilities for recreational vehicles, factories, multiple-dwelling structures, hotels and shopping centers.

Jurisdiction and Intra-State Authority Issues

The state board of health must adopt regulations to control the use of an individual system for disposal of sewage in this State. Those regulations are effective except in health districts in which a district board of health has adopted regulations to control the use of an individual system for disposal of sewage in that district.

Permit Issues

Administrative authority—the official, board, department or agency established and authorized by this State, or by a county, city or other political subdivision of this State, to administer and enforce regulations governing individual sewage disposal systems.

Health authority—the officers and agents of the health division, or of the local boards of health.

Application is sent for approval to the health authority. Approval must be obtained from the administrative authority to construct, alter or extend an individual sewage disposal system. This approval for new construction is required before any building permit may be issued for any structure that requires an individual sewage disposal system. Only the Nevada Division of Environmental Protection permits NDEP Permits for surface discharge for onsite septic disposal systems.

A permit to operate an individual sewage disposal system is deemed to be temporary. The operating permit is valid until:

(a) The individual sewage disposal system fails; or
(b) A community sewerage system is installed to service the area.

A person cannot engage in the operation of removing and disposing of the solid and liquid contents of septic tanks, holding tanks, grease traps, grease interceptors, portable toilets or other sewage treatment or disposal facilities without an annual permit from the health authority.

Inspections

Inspections may be required of the system materials and the trench before the trench is filled with aggregate or rock. Inspections by the administrative authority may be required before the sewer line, septic tank and soil absorption system may be covered. Inspections of alternative systems are required at intervals. If an engineer verifies that an individual sewage disposal system was constructed according to the plans approved by the administrative authority, the administrative authority may waive its inspection of the system.

NEW HAMPSHIRE

New Hampshire Code of Administrative Rules
Chapter Env-Ws 1000

Term

Individual Sewage Disposal System

Types of Onsite Systems

i. Conventional system (small and large)
ii. Alternative Systems

Permit Issues

Plans for small disposal systems must be pre-

pared by a permitted designer except in the instance of a single family residence in which case the owner may prepare the design for his or her own household. Plans and specifications are to be submitted in duplicate to the Department of Environmental Services' (department) Division of Water, Subsurface Systems Bureau. Systems serving non-commercial buildings may be repaired or replaced "in-kind" without submission of plans, subject to restrictions. "In-kind" means that the size location, depth and type of design that existed before repair and/or replacement and that the proposed use will not change or the flow increase. Septic tanks may be replaced with one or more tanks of the same size or larger, in the same location, without department approval.

All repair and replacement work will be done by a state permitted installer, except a person may do the work for the person's own private domicile. Installers must obtain required local authorization and permits before repairing or replacing a system.

Surface discharge is not allowed for onsite septic disposal systems.

Connection to a Public Water Supply

Where a municipal or other public water supply is used, written verification from the owner of the water system that connection will be allowed must be submitted by the applicant before a construction approval for an individual sewage disposal system must be issued.

Alternative Systems

If the system will require ongoing professional maintenance, a service contract for such maintenance must be executed before operational approval is granted.

In exchange for obtaining the benefit of an operational approval based on innovative/alternative technology, the owner must agree to replace the innovative/alternative system with a conventional system should the innovative/alternative system fail to operate lawfully. The covenant must be recorded by the owner at the registry of deeds where the property is located.

Before an innovative/alternative waste treatment system may be used, the technology must be evaluated and approved in an ITA (Innovative/Alternative Technology Approval). The Department evaluates the ITA and approves the proposed system if, based on its evaluation of the available information, it makes its best engineering judgement that:

- The proposed system will be at least as protective of the environment as a conventional system; and
- The proposed system will function as well or better than a conventional system.

Funding

No funding program exists for replacing failing systems or installing new ones.

NEW JERSEY

State of New Jersey Administrative Code
N.J.A.C. 7:9A

Term

Individual Subsurface Sewage Disposal System

Types of Onsite Systems

i. Experimental System-an individual subsurface sewage disposal system which does not conform in location, design,

construction or installation to standard engineering practice as set forth in this chapter.

ii. Individual Subsurface Sewage Disposal System-a system for disposal of sanitary sewage into the ground which is designed and constructed to treat sanitary sewage in a manner that will retain most of settleable solids in a septic tank and to discharge the liquid effluent to a disposal field.

Standards

This chapter outlines standards for the location, design, construction, installation, alteration, repair and operation of individual subsurface sewage disposal systems.

Jurisdiction

The rules of the New Jersey Department of Environmental Protection are regarded as uniform standards, in force throughout the State, governing individual subsurface sewage disposal systems. The administrative authority is the board of health having jurisdiction or its authorized agent acting on its behalf.

Permit Issues

A person may not install, construct, alter or repair an individual subsurface sewage disposal system without first obtaining the necessary permits, approvals or certifications as required by this chapter. The administrative authority must not issue a permit to construct, install, or alter an individual subsurface sewage disposal system until an application has been submitted. A professional engineer who is licensed in the State of New Jersey must design all individual subsurface sewage disposal systems. The location and design of the system must be in conformance with the requirements of this chapter.

Individual subsurface sewage disposal systems which serve single-family dwelling units and which are located, designed, constructed, installed, altered, repaired and operated in conformance with requirements set forth in these standards are exempt from NJPDES permit requirements. The use of a subsurface sewage disposal system for more than one property is prohibited unless a treatment works approval or a NJPDES permit has been issued by the Department.

Experimental Systems

The Department encourages the development and use of new technologies that may improve the treatment of sanitary sewage prior to discharge or allow environmentally safe sanitary waste disposal in areas where standard sewage disposal systems might not function adequately.

Funding

No funding program for homeowner assistance to replace failing systems or install new ones.

NEW MEXICO

Statutory Authority: NMSA 1978, Sections 74-1-6, 74-1-7(A)(3), 74-1-8(A)(3), and 74-1-9(Repl. Pamp 1993 and Cum. Supp. 1997)
New Mexico Administrative Code, 20 NMAC 7.3

Term

Onsite liquid waste systems: A liquid waste system serving a dwelling, establishment or group, and using a liquid waste treatment unit designed to receive liquid waste followed by either a soil treatment or other type of disposal system. On-site liquid waste systems include enclosed systems and privies but do not include

systems or facilities designed to receive or treat mine or mill tailings or wastes.

Types of Onsite Systems

i. Alternative system—any on-site liquid waste system utilizing a method of liquid waste treatment and disposal that is not recognized and allowed by this Part or by the New Mexico Design Standards;
ii. Conventional system

Permit Issues

A permit issued by the New Mexico Environment Department (Department) is mandatory prior to installation or modification of a liquid waste system, as well as prior to the construction, modification, or transportation of a dwelling on a lot for which such permit is required.

Only a person who holds a valid contractor license issued by the Construction Industries Division of the Regulation and Licensing Department can construct, install, repair or modify an on-site liquid waste system. However, a single family residential property owner may construct, install, repair or modify permitted septic tanks and conventional trench or bed disposal fields on his or her own property after obtaining a permit without such a license.

Obtaining a permit from the Department for installation or modification of an on-site liquid waste system does not relieve any person from the responsibility of obtaining any other approval, license or permit required by state, city or county regulations or ordinances or other requirements of state or federal laws.

New and Innovative Technology and Alternative Systems

New and innovative technology must be significantly different from technology recognized and allowed by the New Mexico Design Standards and must offer potential benefits in terms of public health, the environment, or energy or resources conservation. This type of technology is defined as liquid waste treatment technology, processes, equipment or components which are not fully proven in the circumstances of their intended use, but, based upon documented research and demonstration, appear to offer benefits which outweigh the potential risks of failure. The Department may issue a permit, on an individual basis, for the installation of an alternative on-site liquid waste system, including a system employing new and innovative technology, if the permit applicant demonstrates that the proposed system will not cause a hazard to public health or degradation of a body of water, and that the proposed system will provide a level of treatment at least as effective as that provided by on-site liquid waste systems—except privies and holding tanks—that meet the requirements of the rules and the New Mexico Design Standards.

Discharges

Untreated liquid waste can be discharged into a permitted enclosed system, a permitted liquid waste treatment unit, or a public sewer system, but not into a cesspool or effluent disposal well. A privy may be used for the disposal of human excreta and toilet paper, but not for the disposal of other liquid wastes.

Maintenance

The owner of an on-site liquid waste system must operate and maintain the system according to the recommendations of the manufacturer or installer of the system.

Liquid waste treatment additives must not be used as a means to reduce the frequency of

proper maintenance and removal of septage from a treatment unit.

Funding

No funding program exists for aiding homeowners with replacing failing systems or installing new ones.

NEW YORK

10 NY Comp Codes Rules and Regs §75, 75-A Standards for Individual Water Supply and Individual Sewage Treatment Systems

Term

Individual Sewage Treatment Systems

Types of Onsite Systems

i. Conventional system
ii. Alternative (Experimental) system

Jurisdiction and Intra-State Authority Issues

Whenever possible, individual residences must be connected to municipal sewers. The State Department of Health has jurisdiction over systems located on the watersheds or wellhead areas of public water supplies. The approval of the New York City Department of Environmental Protection, Division of Water Resources, must also be obtained when systems are located on the watershed of any stream or body of water from which the City of New York obtains its water supply.

Other agencies or local health departments may establish more stringent standards. Where such standards have been established, or approval by another agency is required, the more stringent standards must apply.

A local health department may not adopt standards less stringent than the state standard unless the state Commissioner of Health or his/her designated representative has issued a General Waiver, or the local health department is otherwise legally authorized to adopt such standards.

Surface Discharge

All effluent from septic tanks or aerobic tanks must be discharged to a subsurface treatment system. However, in situations where a surface discharge may be necessary at an existing residence, administrative flexibility may be granted.

Alternative Systems

Alternative systems must be designed and submitted by a design professional. The design professional must certify to the local health department that the site/soil evaluation and the plans meet the minimum requirements of the standards. Construction must be supervised by the design professional, and certification of construction in conformance with the approved plans must be provided by the design professional to the local health department. The local health department that provides that particular service may waive any of these requirements.

NORTH CAROLINA

NC Administrative Code, Title 15A, Chapter 18, Section 1900
15A NCNC 18A. 1900

Term

Sanitary System of Sewage Treatment and Disposal

Note: this is a broad term that defines a complete system of sewage collection, treatment and disposal, and includes approved privies,

septic tank systems, connection to public or community sewage systems, incinerators, mechanical, composting and recycling toilets, mechanical aeration systems, or other such systems.

Types of Onsite Systems

The regulations identify four types of systems:

i. Conventional
ii. Alternative—other than an approved privy or tank system.
iii. Innovative systems must be reviewed and approved by the Division of Environmental Health in the Department of Environment and Natural Resources (DENR)
iv. Experimental systems may be approved for use as an experimental system as part of a research or testing program conducted by a third party research or testing organization, and approved by the DENR Division of Environmental Health.

Permit Issues

Permitting of wastewater systems is the responsibility of local health directors, as authorized by the DENR, Division of Environmental Health. The process involves the issuance of an Improvement/ Construction Authorization Permit for each site, followed by an Operation Permit. An authorized agent of the DENR must determine that the site is suitable before issuing an Improvement/ Construction Authorization Permit. The person who controls or owns the system is responsible for assuring compliance with the laws, rules and permit conditions.

For maintenance purposes, the systems are classified in six categories (Types I-VI). For system types I-III, the owner has maintenance responsibility; for types IV-VI, a management entity is responsible for maintenance. The owner and the management entity must have a contract before the issuance of an Operation Permit. A local health department may be the public management entity for some systems only when authorized by resolution of the local board of health. The minimum system review frequency varies from 5 years to 6 months. For Types I and II, no frequency is stipulated.

No specific rules govern the abandonment of subsurface wastewater systems, although the Division of Environmental Health has recommendations on abandonment procedures.

Intra-State Coordination Authority

The DENR regulates all wastewater systems under rules adopted by the Commission of Health Services, with a few exceptions when DENR regulates the systems under rules adopted by the Environmental Management Commission; the latter situation occurs when the systems are designed:

- to discharge effluent to the land surface or surface waters,
- for groundwater remediation or injection, or landfill leachate collection and disposal,
- for the complete recycle or reuse of industrial process wastewater.

Wastewater systems can be reviewed and approved under rules of a local board of health only if the Department finds that the rules of the board are at least as stringent as rules adopted by the Commission, and that they are sufficient and necessary to safeguard public health.

Note: the regulations were amended in January

1999, and the new/revised provisions may refer to the same entity using a different term than the old provisions (e.g. the Department of Environment, Health and Natural Resources became the Department of Environment and Natural Resources, but both terms are used throughout the document.)

NORTH DAKOTA

ND Administrative Code § 62-03-1

Term

Individual Onsite Sewage Treatment System

Types of Onsite Systems

- Conventional systems
- Alternative systems—mounds, lagoons with total containment, and systems with alternate complying with the intent of the code, which must be submitted to the administrative authority for approval.

Disposal

All domestic sewage is disposed of by an approved method of collection, treatment, and effluent discharge. Domestic sewage or sewage effluent shall not be disposed of in any manner that will cause pollution of the ground surface, ground water, bathing area, lake, pond, watercourse, or create a nuisance. It shall not be discharged into any abandoned or unused well, or into any crevice, sinkhole, or other opening either natural or artificial in a rock formation.

Permit Issues

The building contractor, owner, plumbing contractor, or disposal system installers are jointly responsible for compliance with this chapter.

Individuals or business contractors may be required by the administrative authority to have or obtain a license or permit to install individual onsite sewage treatment systems as described in this chapter. Where required by the administrative authority, installers of septic systems must obtain at least eight contact hours of suitable continuing education that pertains to onsite septic system installation every two years. Reciprocity for training in other States can be made on an individual basis by the administrative authority.

Jurisdiction and Intra-State Authority Issues

The administrative authority is the North Dakota state plumbing board, state department of health, district health units, county or city health departments which have expertise in onsite sewage treatment systems, or individual official, board, department, or agency established and authorized by a state, county, city, or other political subdivision created by law to administer and enforce the provisions of this chapter.

OHIO

Ohio Administrative Code
Chapter 3701-29 and 3745-33
Ohio Revised Code § 6111.46

Term

Household Sewage Disposal System: any sewage, disposal or treatment system or part thereof for a single family, two family, or three family dwelling that receives sewage.

Types of Onsite System

- Conventional systems
- Experimental systems

If a person shows that because of practical

difficulties or other special conditions strict application of the code will cause unusual and unnecessary hardship, a variance may be granted for an experimental system, provided the board of health concurs in writing with the design and evaluation plan.

Jurisdiction and Intra-State Authority Issues

The local boards of health in cities and general health districts, or the authorities having the duties of a board of health in any city, have regulatory jurisdiction over household sewage disposal systems. The local boards of health issue the relevant permits for the installation and operation of household disposal systems, and license the installers. In addition, the Ohio Environmental Protection Agency (OEPA) is statutorily mandated to exercise general supervision of the treatment and disposal of sewage and industrial wastes, and the operation and maintenance of works or means installed for the collection, treatment, and disposal of sewage and industrial wastes. This general supervision applies to all features of construction, operation, and maintenance of the works that may affect the proper treatment and disposal of sewage and industrial wastes.

Installing household sewage disposal systems in new subdivisions is prohibited, unless the local board of health and the OEPA consider impracticable or inadvisable to install a central sewage system.

Permit Issues

An installation permit issued by the board of health is required for installing or altering a household sewage disposal system. The owner or his/her designated agent must obtain such installation permit from the board of health prior to the start of construction of a dwelling. In addition, no person may maintain or operate a household sewage disposal system installed after the effective date of this rule without an operation permit obtained from the board of health. An installation permit remains in force until the completion of the household sewage disposal system or for one year from the date of issuance, whichever occurs first. The permit may be revoked or suspended by the board of health. An operation permit remains in force until it expires, is revoked, or suspended by the board of health.

To perform the services of an installer or a sewage tank cleaner, a person must hold valid registrations issued by the board of health. Registrations expire annually, and every registrant must maintain and submit to the board of health such data and records as may be required for determining compliance with the Ohio Sanitary Code. The owner is not required to have a registration for performing work on the household sewage disposal system for the dwelling he/she occupies. Whenever the board of health finds that an installer or a sewage tank cleaner is in violation of the Ohio Sanitary Code or terms of any permit under which installation or cleaning is performed, the board of health gives notice in writing to the registrant describing the alleged violation, and state that an opportunity for a hearing will be provided.

For discharges in the waters of the State, an NPDES permit from OEPA is required for operation of the sewage system. Any person who holds a federal NPDES permit issued under Section 402(a) of the Clean Water Act is not required to obtain an Ohio NPDES permit until its expiration date. General NPDES permits are usually issued for up to five years. Upon expiration, the permit is revised if necessary and renewed. NPDES permits are not is-

sued for a disposal system whenever the sewage system of a publicly owned treatment works is available and accessible.

OKLAHOMA

Department of Environmental Quality Rules
OK Admin Code 252:641

Term

On-site Sewage Disposal Systems—an individual or small public sewage disposal system which serves one individual residence or duplex and is not available for use by the general public.

Types of Onsite Systems

i. Conventional System—a sewage disposal system that treats sewage on-site.
ii. Alternative System—an on-site sewage system disposal system that does not meet the requirements of on-site sewage disposal systems, but the applicant complies with all local codes and ordinances and provides reasonable assurance that the system will work properly, and waste is treated and disposed of properly to protect the public health and the environment, with no discharges to the waters of the State.

Operation, repairs and maintenance

On-site sewage disposal systems must be maintained and operated properly so that sewage or effluent from the system does not surface, pool, flow across the ground or discharge to surface waters. The person owning or otherwise responsible for a system must take prompt action to repair a failing system, prevent further violations and remediate the site.

Permit Issues and Intra-State Coordination Authority

These rules apply to any person who owns, constructs, installs or operates an on-site sewage disposal system and any person who seeks certification from the DEQ to install individual sewage disposal systems.

For a permit to construct, repair or modify an individual or small public on-site sewage disposal system the applicant must submit a completed and signed Form "Report for On-Site Sewage Disposal" to the local Department of Environmental Quality (DEQ) office for approval before construction. The detail needed varies with each system design; the local DEQ offices provide guidance in this respect.

DEQ certifies installers of individual sewage disposal systems, and can revoke or suspend certification for procedural violations, any violation of the Environmental Quality Code, the rules or the terms of the certificate or any final DEQ order, gross inefficiency or incompetence, and fraud or misrepresentation used to obtain the certification. Certified installers can inspect systems they install, depending on their classification. However, self-inspection may be prohibited by municipal or county ordinances.

OREGON

Oregon Administrative Rules for
On-site Sewage Disposal
Chapter 340 Division 071

Term

On-site sewage disposal system—any existing or proposed on-site sewage disposal system including, but not limited to, a standard subsurface, alternative, experimental or nonwater-carried sewage disposal system, in-

stalled or proposed to be installed on land of the owner of the system or on other land where the owner of the system has the legal right to install the system. Does not include systems designed to treat Industrial waste.

Types of Onsite Systems

i. Standard Subsurface System—an on-site sewage disposal system consisting of a septic tank, distribution unit, and absorption facility constructed in accordance with state regulations.
ii. Alternative System—any on-site sewage disposal system approved by the Environmental Quality Commission and identified within this division, for use in lieu of the standard subsurface system. Includes aerobic systems, Evapotranspiration/Absorption Systems, holding tank system and tile dewatering systems.
iii. Experimental System—it is the policy of the Commission to allow the Department to pursue a program of experimentation for the purpose of obtaining sufficient data for the development of alternative sewage disposal systems; experimental systems are only permitted on sites that meet certain requirements.

Implementation

The Director of the Department of Environmental Quality (DEQ) forms a Technical Review Committee that may include on-site sewage disposal experts from local government, DEQ, equipment manufacturers, consultants, installers and pumpers, and other appropriate persons or groups, to assist DEQ in implementing the on-site sewage program.

Jurisdiction and Intra-State Authority Issues

DEQ is authorized to enter into agreements with local governmental units for those units to perform the duties of the Department and become the Department's Agent in the permitting of on-site sewage disposal systems, including receiving and processing applications, issuing permits and performing required inspections for all on-site systems. DEQ will assume those responsibilities in non-agreement counties.

Permit Issues

Permits are needed for using, installing and constructing on-site systems.

Owners of real property are jointly and severally responsible for:

- Disposing of sewage on that property according to Department rules;
- Connecting all plumbing fixtures to the on-site sewage disposal system;
- Maintaining, repairing and/or replacing the system as necessary to assure proper operation of the system.

Permits are needed for installers and pumpers. Pumpers shall dispose of septage only in disposal facilities approved by the Department.

No person can construct, alter or repair a system without first applying for and obtaining a permit.

PENNSYLVANIA

PA Administrative Code
Title 25, Chapter 71-73

Term

Onlot Sewage Treatment Facility—an individual or community sewage system which uses a system of piping, tanks or other facilities for collecting, treating and disposing of sewage into a [subsurface] soil absorption area or spray field or by retention in a retaining tank.

Types of Onsite Systems

i. Alternate sewage system—a method of demonstrated onlot sewage treatment and disposal not described in this part.
ii. Conventional sewage system—a system employing the use of demonstrated onlot sewage treatment and disposal technology in a manner specifically recognized by this chapter. The term does not include alternate or experimental sewage systems.
iii. Experimental sewage system—a method of onlot sewage treatment and disposal not described in this title which is proposed for the purpose of testing and observation.

Jurisdiction and Intra-State Authority Issues

Department of Environmental Protection (DEP) can delegate to a municipality, local agency, multimunicipal local agency, county or joint county department of health, the authority to review and approve subdivisions for new land developments as supplements to the official plan of a municipality in which the subdivision is located.

Permit Issues

A sewage enforcement officer, who is an official of the local agency that issues and reviews permit applications and sewage facilities planning modules, and conducts the investigations and inspections that are necessary to implement the act, may issue permits. Municipalities having authority or jurisdiction over the provision of the systems are responsible for issuing their own official comprehensive plan for the provision of adequate sewage systems. The plan must be submitted to, and approved by DEP. Official plans and official plan revisions proposing individual and community onlot sewage systems must evaluate general site suitability to establish their use as a feasible alternative.

Whenever the local agency issues permits for retaining tanks, the municipality or local agency may impose other conditions it deems necessary for operation and maintenance of the tanks to prevent a nuisance or a public health hazard. A municipality, sewer authority or sewage management agency may delegate or contract for the collection and disposal of the contents of the retaining tanks except that the ultimate responsibility for the proper collection and disposal of the contents shall remain with the municipality, authority or agency.

Individual residential spray irrigation systems must be designed by a registered professional engineer with expertise in sanitary sewage system design or by a currently certified sewage enforcement officer who has successfully completed a department-sponsored course on design of this system. Individual residential spray irrigation systems require periodic maintenance. Without proper maintenance, system components will fail and pollution or a public health hazard will occur. This may result in costly repairs and civil penalties. The system designer must provide the permittee with an operation and maintenance manual, which may be supplemented with manufacturer's manuals and instructions.

Disposal of sewage

A sewage system may not discharge untreated or partially treated sewage to the surface of the ground or into the waters of the Commonwealth except as specifically permitted under sections 202 and 207 of the Clean Streams Law (35 P. S. § 691.202 and 691.207) and indi-

vidual residential spray irrigation systems permitted by local agencies under section 7.3 of the act (35 P. S. § 750.7c). The discharge of inadequately disinfected effluent or the discharge of effluent in a manner inconsistent with the system design specifications from an individual residential spray irrigation system constitutes a nuisance.

Alternative and Experimental Systems

DEP recognizes the existence of technologies for onlot sewage disposal that are not specifically addressed in this chapter as well as technologies from other disciplines which may be applied to the design or construction of an onlot sewage disposal system. Alternative systems are permitted only where it is demonstrated that the proposed system will protect the public health and prevent pollution of the waters.

Experimental sewage system permits provide a method for the testing and evaluation of new concepts and technologies applicable to onlot disposal in the Commonwealth. Experimental permits may be limited in number on a statewide basis. The Department will determine the number of experimental permits that may be issued for a specific experimental technology or design. An experimental onlot sewage disposal system permit is required for all technologies, methods, system components, systems and designs the department deems experimental.

RHODE ISLAND

Rules and Regulations Establishing Minimum Standards Relating To Location, Design, Construction and Maintenance of Individual Sewage Disposal Systems—SD 1-27

Term

Individual Sewage Disposal System (ISDS)—any system of piping, tanks, disposal areas, alternative toilets or other facilities designed to function as a unit to convey, store, treat and/or dispose of sanitary sewage by means other than discharge into a public water system.

Types of Onsite Systems

The rules define three types of systems:

i. Alternative System—any ISDS that does not meet the location, design or construction requirements as provided by these regulations, but has been demonstrated through field testing, calculations and other engineering evaluations to comply with performance standards consistent with these regulations.
ii. Conventional System—a traditional ISDS with a septic tank, pump chamber with pump or siphon (if needed), distribution box and a leach field with gravity distribution.
iii. Specially Engineered System—any ISDS which does not meet the location, design or construction requirements as provided by these regulations but which, through additional field testing, calculations and other engineering evaluations, may be demonstrated to comply with the intent of these regulations.

Permit Issues

No person is allowed to install, construct, alter, or repair an individual sewage disposal system, or begin construction of any improvement to the property from which sewage will have to be disposed of by means of an individual sewage disposal system, until he or she has obtained the written approval of the director of

the Department of Environmental Management (DEM)of the plans and specifications for the work.

A municipality may only grant a building permit where the person applying for the permit presents to the municipality the written approval of the director as required by departmental regulations on the individual sewage disposal systems. Upon completion of the installation, construction, alteration, or repair of the individual sewage disposal system, the owner must submit a copy of the certificate of conformance from DEM to the building official prior to the issuance of a certificate of use and occupancy.

No person can engage in any building construction, building renovation and/or change of use of any structure from which sewage is being or will have to be disposed using an individual sewage disposal system, including improvements which will result in increased sewage flow, without first obtaining the DEM Director's written approval. Whenever an applicant proposes to construct a new structure from which sewage will be disposed of by means of an individual sewage disposal system, an application for a new system is made. One may begin construction of any new structure in a subdivision located in an area where sewage will have to be disposed by means of an ISDS only after obtaining a Certification of Site Suitability from DEM.

Whenever an applicant proposes any building renovation or change of use of an existing structure from which sewage is disposed using an ISDS, an Application for a System Suitability Determination must be made. "Building renovation" includes any addition, replacement, demolition and reconstruction, or modification of an existing structure on the subject property that results in an increase in sewage flow into the system, or affects 50% or more of the floor space of the existing structure.

Jurisdiction and Intra-State Authority Issues

The Environmental Standards Board and the Director of the Department of Environmental Management have statutory authority over the individual sewage disposal systems.

Individual sewage disposal systems discharging more than 5,000 gallons per day and surface impoundment systems (pits, ponds and lagoons) having no surface water discharge may be subject to approval by the Department of Environmental Management, Division of Groundwater and Freshwater Wetlands, Underground Injection Control Program (UIC).

SOUTH CAROLINA

SC Code Regs 61-56 and 61-57

Term

Individual Sewage Treatment and Disposal Systems: An individual sewage treatment and disposal system under multiple ownership (i.e. serving more than one piece of deeded) is considered a public collection and treatment facility.

Types of Onsite Systems

i. For initial treatment
   - Septic tank
   - Alternate Collection System—a system that deviates from the conventional system, and for which the health authority has established standards

ii. For final treatment and disposal

- Conventional Soil Absorption Trench
- Alternate System—a system that deviates from the conventional system, and for which the health authority has established standards

Jurisdiction

Department of Health and Environmental Control (Department) and its authorized representatives (health authority).

Permit Issues

State law and regulation require submission of plans and specifications and a written permit before a wastewater system may be constructed or modified. The health authority may require a permit for the repair, extension or alteration of an individual sewage system. The permit is void if any of the original conditions upon which it was issued are changed. Wastewater systems regulated by the Department include sewer lines, wastewater pretreatment facilities, wastewater treatment facilities, and sludge handling and treatment facilities. Permits for new individual systems are not issued where a public sewer is accessible for connection.

Facilities needing a construction permit include: main sewers, wastewater collection and transmission systems, pump stations and force mains, wastewater treatment facilities, and components. Activities not requiring a construction permit include replacement of a component (same or similar), as long as there is no change in capacity, routine maintenance, and the construction of buildings. However, for all other modifications, including relocation of sewers and revisions to existing construction permits, the Department must be contacted for a decision on whether or not a construction permit is required.

A State permit or National Pollutant Discharge Elimination System (NPDES) permit authorizing a category of discharges or activities under the Pollution Control Act (PCA) and CWA within a geographical area is needed. A public entity must own the system and be responsible for the operation, maintenance and replacement of all components unless otherwise approved by the Department. The Department may consider a request for a private entity or person, however the proposal must be evaluated on a case-by-case basis. If a private entity or person owns the project, the Department requires financial assurances for the operation and maintenance of the system. This financial assurance would typically be required for residential or domestic wastewater sources.

The permit holder is required to properly operate and maintain in good working order and operate as efficiently as possible all facilities and systems which are installed or used to achieve compliance with the terms and conditions of the permit. No construction permit may be issued for a wastewater treatment facility, including effluent disposal lines, unless the applicable effluent disposal permit has been issued and has not been appealed. Individual Sewage Treatment and Disposal Systems serving one piece of deeded property discharges do not require Land Application permits or state permits.

SOUTH DAKOTA

South Dakota Administrative Rules 74:53:01

Term

On-Site Wastewater Systems—a system or device for the collection, storage, treatment, neutralization, stabilization, and dispersal of

wastewater from dwellings or other facilities that serve 30 or fewer individuals or produce 7,500 gallons or less of wastewater per day.

Jurisdiction

The Secretary of the Department of Environment and Natural Resources (Secretary) must certify individuals that are directly responsible for the supervision of the alteration, repair, construction and installation of such systems.

Types of Onsite Systems

The rules define three types of on-site systems:

i. Alternative water-carriage system—an on-site water system, other than a conventional septic tank and absorption system, designed to provide adequate wastewater treatment.
ii. Conventional individual on-site system—composed of a septic tank followed by an absorption system.
iii. Experimental system—a new device or design which needs further testing to provide information before approval;

Permit Issues

Plans and specifications for all installations must be submitted to the Secretary for review and approval prior to construction. Installation and operation of these systems must occur in accordance with the approved plans and specifications. On-site wastewater systems existing prior to February 28, 1975 are not subject to these rules unless the systems are changed, the systems cause groundwater pollution or they allow wastewater to surface.

On-site wastewater systems are prohibited when public wastewater systems are available except when:

- The system is located within the jurisdictional boundaries of a municipality or sanitary district;
- The sewer collection system is located within 400 feet of a dwelling; and
- The municipality or sanitary district requests to provide service to the premises.

The Secretary is authorized to inspect on-site wastewater systems. Inspection includes the installation, equipment and operation of an on-site wastewater system. All applications for certification (installer must obtain a certificate before he/she can install an on-site wastewater system) must be submitted to the Secretary for consideration.

Discharge

Wastewater is to receive primary treatment prior to discharge to absorption system and is not allowed to surface on ground or enter state waters. It is not to be discharged into unused wells, gravel pits or rock formations, drainage is not to enter wastewater systems and cesspools and pit privies are prohibited. Final disposal of contents may be made into a public system if specific permission has been obtained from local government officials and the public system has the equipment and facilities to provide at least secondary treatment to the contents.

Funding

The Secretary shall set aside an amount equal to one percent or $100,000 of each year's state allotment, whichever is greater, for the purpose of water quality management planning.

TENNESSEE

TN Comp Rules and Regs 1200-1-6
Regulations to Govern Subsurface Sewage Disposal Systems

Term

Subsurface Sewage Disposal System—a system, other than a public or community system, that receives sewage. Included in this definition are septic tank absorption systems, privies, chemical toilets, and other similar systems.

Types of Onsite Systems

i. Conventional system—a system that pretreats sewage by use of a septic tank and applies effluent to the soil.
ii. Alternative/Experimental system—a system, the construction, installation and operation of which varies from that of a conventional subsurface sewage disposal system.

Permit Issues

A permit issued by the Commissioner of the Department of Environment and Conservation is required to license the construction, alteration, extension or repair of a subsurface sewage disposal system, or the removal and disposal of accumulated wastes from subsurface sewage disposal systems. Persons engaged in such businesses need a valid annual permit. This does not apply to the property owner or the property owner's tenant doing work on property that is the residence of the owner or tenant. It is the property owner's responsibility to maintain the system in a safe and sanitary manner.

The Commissioner may refuse to grant a permit where there is an accessible public sewerage system.

Jurisdiction

Department of Environment and Conservation has jurisdiction over subsurface disposal systems.

Alternative and Experimental Methods of Treatment and Disposal

Any alternative subsurface sewage disposal system that has a wastewater flow greater than 600 gallons per day, other than a large diameter gravelless pipe system, is considered a large alternative subsurface sewage disposal system. A site-specific design for each large system must be submitted to the department for review.

Experimental methods of treatment and disposal in lieu of those provided herein may not be utilized unless the department has granted approval. Prior to issuance of an experimental sewage system permit, a restrictive covenant must be completed, notarized and recorded at the Register of Deeds Office in the county where the system will be located. A copy of such must be submitted to the department.

Domestic Septage Disposal

When permission for use is obtainable, a public, community, or private wastewater treatment facility must be used to dispose of domestic septage. When permission to use wastewater treatment facilities cannot be obtained, then a permitted domestic septage disposal site may be used after a domestic septage disposal permit is obtained from the Commissioner. Land application of domestic septage may be approved under certain requirements.

TEXAS

Texas Commission on Environmental Quality
Texas Administrative Code Title 30, Chapter 285

Term

On-Site Sewage Facility (OSSF) or **On-site Sewage Disposal System**—one or more systems of treatment devices and disposal facilities that:

- Produce not more than 5,000 gallons of waste each day; and
- Are used only for disposal of sewage produced on a site on which any part of the system is located.

Types of onsite system

i. Standard treatment systems (e.g. septic tanks)
ii. Non-standard treatment systems—must be designed by a professional engineer or a professional sanitarian, and the planning materials must be submitted to the permitting authority for review. Upon approval of the planning materials, the permitting authority issues an authorization to construct.

Intra-State Coordination Authority

The Texas Commission on Environmental Quality (Commission) or authorized agents (a local governmental entity authorized by the commission to implement and enforce rules under this chapter) have general authority over the location, design, construction, installation, and proper functioning of on-site sewage disposal systems, and must administer the administrative rules. The commission or an authorized agent may impose a penalty for the violation of the rules.

Local governmental entities that want to become authorized agents of the commission must make a request in writing to the executive director of the commission. Upon request, the executive director shall forward to the entity a description of the process of delegation and a copy of the model order, ordinance, or resolution. The executive director is the sole and final authority in determining the acceptability of proposed changes from the model order/ordinance. Authorized agents may impose stricter designed standards.

Not more than once a year, the executive director reviews an authorized agent's program for compliance with requirements established by the Texas Health and Safety Code, these rules, and the order, ordinance, or resolution adopted by the authorized agent. The executive director may investigate matters concerning on-site systems, apprentices, installers of on-site systems, site evaluators, designated representatives or authorized agents and may take appropriate enforcement action, as necessary. The executive director may require a property owner to initiate repair of a malfunctioning OSSF on the owner's property not later than the 30th day after the date on which the executive director notifies the owner of the malfunctioning system.

The commission, an authorized agent, or a designated representative is not liable for damages resulting from the commission's or authorized agent's approval of the installation and operation of an on-site sewage disposal system.

Permit Issues

A person must hold a permit and an approved plan to construct, alter, repair, extend, or operate an on-site sewage disposal system. If the on-site sewage disposal system is located in the jurisdiction of an authorized agent, the permit

is issued by the authorized agent; otherwise, the commission issues the permit. A person may not begin to construct, alter, repair, or extend an on-site sewage disposal system that is owned by another person unless the owner or owner's representative shows proof of a permit and approved plan from the commission or authorized agent.

The commission or authorized agent reviews a proposal for an on-site sewage disposal system and makes inspections of the system as necessary to ensure that the system is in compliance. An on-site sewage disposal system may not be used unless it is inspected and approved by the commission or the authorized agent. A holder of a permit issued under this chapter must notify the commission, the authorized agent, or a designated representative that the installation is ready for inspection, but not later than the fifth working day before the proposed date of the operation of the installation.

Approval for a non-standard treatment system is limited to the specific system described in the planning materials. Approval is on a case-by-case basis only.

The executive director of the Texas Commission on Environmental Quality issues certificates (permits). An installer, designated representative, or site evaluator certification is issued to individuals only and is not transferable. The individual owner of a single-family dwelling is not required to be a licensed installer in order to install or repair an OSSF on his/ her property. An installer must provide the owner of an OSSF with maintenance and management practices. These regulations are meant primarily for installers who engage in the planning, installation, construction, alteration, extension, repair, operation, and maintenance of OSSFs.

Operation and Maintenance

The owner of an aerobic treatment system for single-family residence located in a county with a population of less than 40,000 must either maintain the system directly or through a maintenance contract upon conclusion of any such maintenance provided under a warranty. If the owner elects to maintain the system directly, the owner must, prior to performing any maintenance, obtain training for the system from an installer who has been certified by the manufacturer.

To properly abandon an on-site system, the owners must remove the wastewater from tanks, boreholes, cesspools, seepage pits, holding tanks, and pump tanks, with a waste transporter, holding a current registration with the executive director of the Commission. Then the system must be filled to ground level with fill material free of organic and construction debris.

UTAH

Utah Administrative Code
Environmental Quality Title 317, Chapter 4

Term

Onsite Wastewater System—a system consisting of a building sewer, a septic tank, and an absorption system for underground treatment and disposal of domestic wastewater, which is designed for a capacity of 5,000 gallons per day or less, and is not designed to serve multiple dwelling units which are owned by separate owners, except condominiums.

Types of Onsite Systems

i. Conventional System—an onsite wastewater system that consists of a building sewer, a septic tank, and an absorption

system consisting of a standard trench, a shallow trench with capping fill, a chambered trench, a deep wall trench, a seepage pit, or an absorption bed.

ii. Alternative Onsite Wastewater System—a system for treatment and disposal of domestic wastewater or wastes which consists of a building sewer, a septic tank or other sewage treatment or storage unit, and a disposal facility or method which is not a conventional system; but not including a surface discharge to the waters of the State, unless all applicable effluent discharge requirements are met. The definition includes at-grade systems and mound systems.

iii. Experimental Onsite Wastewater System—onsite wastewater treatment and disposal system that is still in experimental use and requires further testing in order to provide sufficient information to determine its acceptance.

Permit Issues

A person may not design, inspect, maintain, or conduct percolation or soil tests for an underground wastewater disposal system, without first obtaining certification from the board.

An individual is not required to obtain certification from the board to maintain an underground wastewater disposal system that serves a noncommercial, private residence in which the individual, a member of the individual's family, or an employee of the individual resides without payment of rent.

No discharge to surface waters or ground surface is allowed. Sewage shall not be discharged into any abandoned or unused well, or into any crevice, sinkhole, or similar opening, either natural or artificial.

Jurisdiction and Intra-State Authority Issues

The Department of Environmental Quality assumes all the policymaking functions, regulatory and enforcement powers, rights, duties, and responsibilities of the Division of Environmental Health, the Air Conservation Committee, the Solid and Hazardous Waste Committee, the Utah Safe Drinking Water Committee, and the Water Pollution Control Committee previously vested in the Department of Health and its executive director:

- including programs for individual wastewater disposal systems, liquid scavenger operations, and vault and earthen pit privies; but
- excluding all other sanitation programs, which are administered by the Department of Health.

Plans and specifications for the construction, alteration, extension, or change of use of onsite wastewater systems that receive domestic wastewater must be prepared at the owner's expense by, or under the supervision of a qualified person, such as a licensed environmental health scientist, or a registered civil, environmental or geotechnical engineer, and certified by the regulatory authority. The plans are submitted to, and approved by the local health department having jurisdiction before construction of either the onsite wastewater system or building to be served by it the before onsite wastewater system may begin.

Plans and specifications for the construction, alteration, extension, or change of use of onsite wastewater systems that receive nondomestic wastewater are submitted to and approved by the Division of Water Quality. The local health department having jurisdiction, or the Division, reviews the plans and specifications for adequacy

of design for the intended purpose, and, if necessary, require changes under the rules.

Where unusual conditions exist, experimental methods of onsite wastewater treatment and disposal may be employed provided they are acceptable to the Division and to the local health department having jurisdiction.

The local health department having jurisdiction must obtain approval from the division to administer an alternative onsite wastewater system program, as outlined in this section, prior to permitting alternative onsite wastewater systems. Alternative onsite wastewater systems are only to be installed where site limitations prevent the use of conventional onsite wastewater systems.

The Water Board adopts and enforces rules for the certification and recertification of individuals who design, inspect, maintain, or conduct percolation or soil tests for underground wastewater disposal systems.

System Abandonment

When a dwelling served by an onsite wastewater system is connected to a public sewer, the septic tank must be abandoned and disconnected from and bypassed with the building sewer unless otherwise approved by the regulatory authority. The owner of the real property on which a wastewater system has been abandoned or discontinued must render it safe by having the septic tank wastes pumped out or otherwise disposed of in an approved manner, and the septic tank filled completely with earth, sand, or gravel within 30 days. The septic tank may also be removed within 30 days, at the owners' discretion. The contents of a septic tank or other treatment device shall be disposed of only in a manner approved by the regulatory authority.

VERMONT

VT Environmental Protection Rules, Chapter 1

Term

On-site (subsurface) Sewage Treatment and Disposal System

Types of Onsite System

i. Innovative System—a sewage system not permitted on the effective date of these rules but which is designed to achieve the purposes of these rules.
ii. Conventional system

Permit Issues

Surface discharge of wastewater is not allowed. Permit applications are to be submitted to the appropriate regional office of the Agency of Natural Resources (Agency). The Department encourages innovation and the director may exempt projects from specific criteria mandated by rules if the design is expected to perform with the same level of reliability and environmental protection as the systems designed as the rules mandate. The Engineering Services Section and the Director of the Wastewater Management Division (Division) must review the request for approval of innovative systems. The Division certifies site technicians.

Intra-State Authority

The Agency Commissioner has the ultimate authority regarding approval of a system. The Division Director has initial review of the permits, and may assign to engineers and technicians the responsibility for permit approval and denial.

Upon the request of a municipality, the Commissioner can delegate the authority to regulate subdivisions to a municipality that has

adequate administrative and enforcement capabilities, and has adopted by-laws conforming to, or more effective than the rules. The delegation can be revoked for failure to show the administrative or enforcement capability on which the delegation was based. The rules do not limit the powers of state and local health authorities to control existing or potential problems.

Operation & Maintenance

The operation and maintenance of a septic tank disposal system is considered necessary to maintain an effective wastewater treatment and disposal system. At the discretion of the Division, the owner may be required to install and maintain a ground water sampling and monitoring program considered necessary to detect contamination and degradation of ground water, surface water and water supplies. Systems should be maintained and cleaned at least once per year.

Funding

None available for replacing failing systems or for installing new ones.

VIRGINIA

Virginia Administrative Code
12 VAC 5-610-10 et seq.

Term

Onsite Sewage Disposal System—a sewerage system or treatment works designed not to result in a point source discharge.

Types of Onsite Systems

i. Conventional System
ii. Alternative System

Permit Issues

The state Health Commissioner determines whether a permit for handling or disposing of sewage should be issued or denied. A Sewage Handling and Disposal Advisory Committee must make recommendations regarding sewage handling and disposal policies, procedures and programs of the department. No person or owner, after July 30, 1992, can construct, alter, rehabilitate, operate, expand or modify a sewage disposal or handling system without a written permit from the commissioner. Permits are valid for 18 months.

Alternative systems are subject to a special permitting procedure. All applications for such processes, methods and equipment are made to the division through the district or local health department. The use of new/experimental methods is encouraged by the division for any new methods, processes, and equipment which appear to have application for the treatment and disposal of sewage; however, new developments must have been thoroughly tested.

A sewage handler must have a written sewage-handling permit issued by the commissioner. It is the responsibility of every sewage handler to assure that the sewage, sludge or septage handled are transported and disposed of in a safe and sanitary manner in conformance with this chapter.

The discharge of untreated sewage onto the land or unto the water of the Commonwealth of Virginia is prohibited.

Jurisdiction and Intra-State Authority Issues

The State Board of Health has the responsibility to promulgate, amend, and repeal regulations necessary to ensure the safe and sanitary handling and disposal of sewage. The state Health Commissioner (commissioner) is the chief executive officer of the State Depart-

ment of Health. The commissioner has the authority to act, within the scope of regulations promulgated by the board, for the board when it is not in session, and to enforce these regulations and all orders through any means lawfully available. The commissioner may delegate his/her powers. The district or local health departments are responsible for implementing and enforcing the operational activities as required by the regulations.

The commissioner appoints a Sewage Handling and Disposal Advisory Committee consisting of 16 appointed members and five ex officio members. The commissioner also designates the chairman. The Committee meets at least annually, establishes its rules of order and makes recommendations to the commissioner regarding sewage handling and disposal policies, procedures and programs of the department.

Maintenance

Septic tanks constructed after July 1, 2000 are to be designed to allow for routine inspection without being uncovered, have an effluent filter or be designed for reduced maintenance. Routine maintenance of discharging systems is required. This maintenance is to be done in a timely manner via a contract between the permit holder and a person capable of performing the maintenance.

WASHINGTON

WA Administrative Code
Rules and Regulations of the State Board of Health
246-272

Term

On-site Sewage System (OSS)—an integrated arrangement of components for a residence, building, industrial establishment or other places not connected to a public sewer system, which: convey, store, treat, and/or provide subsurface soil treatment and disposal on the property where it originates, upon adjacent or nearby property; and includes piping, treatment devices, other accessories, and soil underlying the disposal component of the initial and reserve areas.

Types of Onsite Systems

Conventional systems:

i. Conventional gravity system—consists of a septic tank and a subsurface soil absorption system with gravity distribution of the effluent.
ii. Conventional pressure distribution system—consists of a septic tank and a subsurface soil absorption system with pressure distribution of the effluent. Design, operation and maintenance, and performance monitoring are described by "Guidelines for Pressure Distribution Systems" by the Washington State department of health (Department).

Alternative system—an on-site sewage system other than a conventional gravity system or conventional pressure distribution system. Properly operated and maintained alternative systems provide equivalent or enhanced treatment performance as compared to conventional gravity systems.

Experimental system—a system without design guidelines developed by the Department, or a proprietary device or method which has not yet been evaluated and approved by the Department.

Large On-site Sewage system (LOSS)—any on-site sewage system with design flows, at any common point, greater than 3,500 gallons per day.

Permit Issues

Prior to installing, repairing, modifying, connecting or expanding an OSS, a person has to submit general information (personal and related to the proposed OSS) to the local health officer for approval. The local health officer issues a permit authorizing the OSS. The local health officer does not delegate the authority to issue permits.

Local boards of health may require a new development to connect to a public sewer system to protect public health. Also, when adequate public sewer services are available within two hundred feet of the residence or facility, the local health officer, upon the failure of an existing on-site sewage system, may require hook-up to a public sewer system, or permit the repair or replacement of the on-site sewage system only if a conforming system can be designed and installed.

Jurisdiction and Intra-State Authority Issues

These regulations are to be administered by the local health officers and by the Department. Local boards of health must identify failing septic tank drainfield systems in the normal manner and will use reasonable effort to determine new failures. Local boards of health may adopt and enforce local rules and regulations governing on-site sewage systems after the Department's approval, when the regulations are consistent with, and as stringent, as the state rules.

If the legislative authority of a county or city finds that more restrictive standards are needed, they may adopt ordinances or resolutions setting standards as they may find necessary for implementing their findings. The legislative authority may identify the geographic areas where it is necessary to implement the more restrictive standards. In addition, the legislative authority may adopt standards for the design, construction, maintenance, and monitoring of sewage disposal systems.

The Department of Ecology has authority and approval over domestic or industrial wastewater, and sewage systems using mechanical treatment, or lagoons, with ultimate design flows above 3,500 gallons per day.

The State Department of Health has authority and approval over systems with design flows through any common point between 3,500 to 14,500 gallons per day, and any large on-site sewage system for which jurisdiction has been transferred to the department of health under conditions of memorandum of agreement with the Department of Ecology.

The local health officer has authority and approval over systems with design flows through any common point up to 3,500 gallons per day, and large on-site systems for which jurisdiction has been transferred to a local health jurisdiction from the department via contract.

The OSS owner is in charge of maintenance and operation of the system. The local health officer must provide operation and maintenance information to the SSO owner.

The Department or the health officer is in charge of enforcing these regulations, but most of that authority is delegated to the local health officer.

Funding

The department may not use funds appropriated to implement an element of the Puget Sound water quality authority plan to conduct any activity required under chapter 281, Laws of 1994.

WEST VIRGINIA

Title 64 WV Code of State Rules Series 9
Legislative Rule, Division of Health

Term

Individual Sewer System—a sewer system with a daily design flow not to exceed one thousand gallons per day with subsurface discharge or not to exceed six hundred gallons per day design flow with surface discharge. The system is owned by and maintenance is performed by a single entity.

Types of Onsite System

i. Conventional systems
ii. Alternative systems—may be considered for new construction on lots of two acres and larger, and include low-pressure systems, mound systems, shallow and elevated soil absorption systems, experimental systems, and unique systems designed for specific situations.

Permit Issues

The owner or his/her authorized agent must obtain a permit for a sewer system prior to the construction or installation of any dwelling or establishment that will require a sewer system. It is the duty of the owner of the dwelling or establishment to provide toilet facilities and a sewer system approved by the director of the West Virginia division of health (director).

No sewer system is installed or established without first obtaining a written permit from the director. Where applicable, a discharge permit is obtained from the chief of the office of water resources prior to construction. Permits are not transferable.

A person engaging in the business of sewage tank cleansing must apply for and receive a permit. The director must certify all individual or on-site sewer system installers. The director may grant a permit to an individual who installs, constructs, extends, or alters his or her own sewer system if the individual passes an examination administered by the director which demonstrates knowledge of applicable rules.

The construction and installation or modification of all sewer systems must be in accordance with Sewage Treatment and Collection System Design Standards (64 CSR 47), or otherwise approved plans and specifications for which a permit has been issued by the director. To correct or abate public health hazards resulting from the malfunctioning of individual sewer systems and public sewer systems that are not correctable by methods described in the Sewage Treatment and Collection System Design Standards, the director may permit the installation of an experimental or nonstandard sewer system upon written petition for the system.

The director may conduct as many inspections as are necessary during the construction, installation, modification, or operation of sewer systems to determine compliance with the applicable provisions of this rule. No sewer system is used or placed into operation until the director has approved the system installation in writing.

Jurisdiction and Intra-State Authority Issues

Authority is split between the state Division of Health and local health departments. The director may establish an advisory board and designate the chairman of the board. The board membership must consist of, but is not necessarily limited to, the following members: two

representatives of the sewage industry; two representatives of the division of health; one representative of the division of environmental protection; and four representatives of local health departments. The director assigns the duties of the advisory board.

WISCONSIN

Wisconsin Administrative Code
Chapter Comm 83

Term

Private Onsite Wastewater Treatment System (POWTS)—a sewage treatment and disposal system serving a single structure with a septic tank and soil absorption field located on the same parcel as the structure, or an alternative sewage system approved by the department.

Types of Onsite Systems

i. Conventional system
ii. Alternate plumbing system—a type of plumbing system designed in such a manner that valid and reliable data must demonstrate to the department that the plumbing system is in compliance.
iii. Experimental system—a type of plumbing system from which valid and reliable data are being sought to demonstrate compliance.

Intra-State Coordination Authority

The authority is split between the Department of Natural Resources (department) and local governmental units responsible for the regulation of private sewage systems (the county where the private sewage system is located, except that in a county with a population of 500,000 or more the term means the city, village or town). A private sewage system may be owned by the property owner or by a special purpose district.

The department is responsible for establishing, administering and enforcing standards relative to domestic wastewater treatment systems that either disperse to the surface or to surface waters. The department also establishes effluent limitations and monitoring requirements where the design daily influent wastewater flow to a POWTS exceeds 12,000 gallons per day for the purpose of fulfilling WPDES (Wisconsin Pollutant Discharge Elimination System) permit requirements.

The department may prohibit the installation or use of septic tanks in any area of the State where the department finds that the use of septic tanks would impair water quality. The department must prescribe alternate methods for waste treatment and disposal in such prohibited areas.

The governing body of the governmental unit responsible for the regulation of private sewage systems may assign the duties of administering the private sewage system program to any office, department, committee, board, commission, position or employee of that governmental unit.

The governmental unit can delegate the administration and enforcement of this rule to a town sanitary district or public inland lake protection and rehabilitation district only by ordinance. A copy of an ordinance must be forwarded to the department at least 30 days prior to the effective date of the ordinance. An individual authorized by the department or a governmental unit to administer and enforce the rules may issue orders to abate human health

hazards relating to this chapter.

The rule does not apply to POWTS owned by the federal government and located on federal lands, or POWTS located or to be located on land held in trust by the federal government for Native Americans.

Permit Issues

The rule does not apply retroactively to an existing POWTS installed prior to July 1, 2000, or for which a sanitary permit has been issued prior to July 1, 2000.

The installation or construction of a POWTS may not commence or continue before the owner of the property on which the POWTS is to be installed possesses a valid sanitary permit, and the plan approval for the POWTS has been obtained. If the modification of a POWTS involves the addition or replacement of a treatment, holding or dispersal component, the modification may not commence or continue unless the owner of the property on which the POWTS is located possesses a valid sanitary permit and has obtained plan approval for the modification.

The application for a sanitary permit is submitted to the appropriate governmental unit where the POWTS is located or will be located. The governmental unit responsible for regulating private sewage systems must either approve or disapprove applications for sanitary permits, and assist applicants in preparing an approvable application. The department or governmental unit may inspect the construction, installation, operation or maintenance of a POWTS to ascertain whether the POWTS conforms to plans approved by the department or governmental unit.

A license from the department is necessary for installing, constructing or modifying a POWTS. For installers' training, only courses, programs and seminars approved in writing by the department in accordance with the rule can be used to fulfill the required training for the POWTS technologies and methods. The department may impose specific conditions in approving a course, program or seminar for installation and inspection training credit, including limiting credit to specific license, certification or registration categories.

For an alternate plumbing system, prior to availability for statewide installation and use, an alternate plumbing system approval must be issued. The department must review and make a determination on an application for alternate plumbing system within three months of receipt of all information and fees required to complete the review.

For experimental plumbing systems, a separate approval shall be obtained for each system or project to be installed for the purpose of proving compliance. The department must review and make a determination on an application for an experimental plumbing system within 6 months of receipt of all information and fees required to complete the review. The department may include specific conditions for an experimental plumbing system, as well, including an expiration date for the approval.

Penalties

Any person who violates these regulations can be fined no less than $10 and not more than $1,000 for each violation.

Maintenance

The owner of a POWTS is responsible for ensuring that the operation and maintenance of the POWTS occurs in accordance with the rule and the approved management plan. The

owner of a POWTS, including a POWTS existing prior to July 1, 2000, must maintain a maintenance or service contract with a POWTS maintainer or a business utilizing a POWTS maintainer, and with a certified septage-servicing operator, as long as the POWTS is utilized.

WYOMING

Wyoming Statute: Title 35, Chapter 11- 103
Water Quality Rules and Regulations
Chapter 11: Introduction and General Requirements, Part D

Term

Small wastewater facility—a sewerage system, disposal system or treatment works having simple hydrologic and engineering needs, which is intended for wastes originating from a single residential unit serving no more than four families or which distributes two thousand gallons or less of domestic sewage per day

Jurisdiction and Intra-State Authority Issues

The Water Quality Division of the Department of Environmental Quality has general authority over small wastewater facilities. Permitting authority has been delegated to counties and two municipalities.

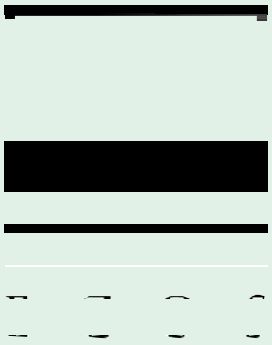
To the extent requested by a municipality, water and sewer district or county, the administrator of the water quality division (administrator), with the approval of the director, must delegate to municipalities, water and sewer districts or counties that apply, the authority to enforce and administer the state onsite wastewater rules within their boundaries, and the authority to develop necessary rules, regulations, standards and permit systems and to review and approve construction plans, conduct inspections and issue permits. Any authority delegated under this section is subject to the following conditions:

- The delegation of authority under this section is limited to small wastewater facilities, publicly owned or controlled sewage collection and water distribution facilities and publicly owned or controlled non-discharging treatment works;
- The local governmental entity must demonstrate to the administrator that all facilities will be approved by a registered professional engineer or city or county sanitarian for small wastewater facilities or other qualified individual approved by the water quality division administrator.

Permit Issues

The administrator must establish standards for the issuance of permits for construction, installation, or modification of any public water supply and sewerage system, treatment works, disposal system or other facility capable of causing or contributing to pollution. An engineering design report, which describes existing conditions, problems, and the proposed solution, is required for each project.

For surface discharges, an application must be submitted to the Water Quality Division for a National Pollutant Discharge Elimination System (NPDES) Permit.



444 N. Capitol Street, N.W., Suite 445

Washington, DC 20001

202-624-3660 (voice)

202-624-3666 (fax)

Internet e-mail:

ecos@sso.org

Home Page:

www.ecos.org