



Missouri Department of Health and Senior Services
Onsite Sewage Program
ONSITE WASTEWATER TREATMENT NEWS
Winter/Spring 2009

See Changing Rules, Pages 3, 4

Registration/License Renewal

It has been over four years since state law changed to make installer registration mandatory. With that change came many DHSS installer registration courses throughout the state, followed by DHSS advanced installer courses, also offered throughout the state. A variety of continuing education unit (CEU) courses have been offered by DHSS, local public health agencies and organizations, such as the Missouri Smallflows Organization (MSO). Now that the first registration cycle has been completed, the Onsite Sewage Program wants to thank industry professionals for their understanding as we successfully implemented the many changes.

As a courtesy to all our onsite professionals, the program will continue to mail out renewal applications about six months prior to your expiration date. Also, if the program has not received your renewal form about six weeks before your expiration date, a second reminder will be mailed. The program cannot be responsible for misplaced or mishandled mail.

If you have moved and have a new address and/or a new telephone number, you need to notify our program promptly so that we can update your record. It is important to keep your contact information up-to-date to ensure registration/license renewal notices and other correspondence from the Onsite Sewage Program is sent to the correct address. If your business or mailing address, or phone numbers have recently changed, you may complete the form on page seven of this newsletter and fax or mail it to the Program

Your onsite registration or license will expire if your renewal application is not received and processed before the end of the month in which it expires. Applications will be accepted up to 45 days after the expiration date. If an application is received up to 15 days after

expiration date, there will be no additional fee. However, applications received between 15 and 45 days after the expiration date must be accompanied by a late fee of an additional \$10.00 (\$100.00 total). Just a reminder that a professional cannot continue to evaluate sites, apply for OWTS construction permits or inspect/evaluate existing systems until they have fulfilled the requirements for renewal.

Remember to enclose all the requested information with your signed renewal form and fee and include proof of CEUs. When mailing any information to our program, please keep a copy for your records.

Picture ID Cards

The Onsite Program has been issuing a more durable type of ID card for about one year. If the program has not taken your picture at a training course or conference, you should send a photo at renewal time, or if you need a replacement; the program cannot accept a photocopy of your driver's license. The program can accept a clear snap shot, a passport photo, or you may contact the program about emailing a photo. With the upcoming rule change, there will be a \$15.00 charge for a replacement ID card.

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OWTS Malfunctions

Today, the numbers of onsite wastewater treatment systems (OWTS) are growing in rural areas. Public sewer funding is not as readily available to small communities as in the past, and sprawling developments make centralized sewers impractical or prohibitively expensive. Increasingly, property owners rely on the proper operation and function of onsite systems to maintain their quality of life, protect the environment within the community, and protect their property values. However, when OWTS fail to function properly there can be a rush to judgment implicating onsite or 'septic' systems in general. Although onsite and cluster system technology has been recognized as viable by the US EPA, it is often overlooked in favor of a community or regional sewer system that can often be a more costly solution.

Hold on, before we throw the baby out with the bathwater, let's take a closer look at what factors contribute to a system malfunction. To be recognized as an acceptable part of a community's wastewater infrastructure, onsite systems must be managed, including dealing with malfunctions promptly and effectively.

Troubleshooting is a process in which system operating conditions are studied to determine what factors might cause a malfunction, as opposed to who caused the malfunction. By gathering data on the current operation and performance of the system, onsite wastewater professionals, regulators, and property owners may determine the most likely contributing factors. They can then formulate potential solutions that are most likely to be successful. General categories of information to gather include: daily wastewater flows, the type of pretreatment and soil system compared to site/soil limitations, evidence of surface water or groundwater impacts, current performance of treatment and distribution system components, maintenance records, and anything available about how/when the malfunction occurs.

To start, it is necessary to thoroughly assess how water is being used on a daily basis. Even if water use records are available, and especially if not, an owner survey or interview should be conducted. It can help determine the potential for hydraulic overload or unusual

use patterns. Clues can be found in the answers to questions such as: How many people are in the home? How often is laundry done? What type of cleaners, chemicals, or medications may be used in the household? Is a water softener connected to the system? What is the age of the system? How often has the tank and other system components been serviced?

If possible, a copy of any permit application and soil evaluation information should be obtained through the owner or the administrative authority. Construction inspections and as-built plans can also assist with trouble shooting.

Next the site must be observed to determine conditions relating to any surface water impact from the roof gutter downspouts, driveways and roadways, patios, natural drainage ditches, etc. If there is a groundwater interceptor drainage system, determine how well it is functioning.



In gathering information about the OWTS performance, experience and a thorough understanding of how the system should work is essential. Systematically observe each part of the system from the house or facility through the sewage tank(s), distribution system, and soil treatment area. Observe any evidence of infiltration, surfacing effluent and odors that are not normal. Pay particular attention to filter screens, advanced treatment systems, effluent pumps and controls when present. Be aware of safety issues and ensure that all lids and covers are replaced securely to prevent unintended access.

It is important to base interpretations on complete observations and not stop at the first possible cause that is found. Often there are multiple problems or contributing factors. After identifying all possible causes, plans can be made to test a theory or make needed repairs. Remember to check with the local administrative authority regarding permit requirements.

Education of the system owner and their understanding of the system are important. However, system management that includes regular service by a competent experienced

OWTS professional is a better indicator of the long-term success of onsite systems as a part of a community’s wastewater treatment infrastructure.

Changing Rules

Recently, a proposed rule and a proposed amendment were published in the Missouri Register, and during the 30 day period for comments, none were received. Final Orders of Rulemaking were filed with the Office of the Missouri Secretary of State to be published in the Missouri Register and the Code of State Regulations. These two rules, which pertain to registration and licensing of onsite wastewater treatment system (OWTS) professionals, should become effective on May 30, 2009. To find a link to the new rules, visit the regulations page of the Onsite Website at:

www.dhss.mo.gov/Onsite/Regs.html.

CEU Requirements

One important rule change is in the requirements for continuing education. Continuing education, or professional development, is required in most, if not all, professions. Minimum continuing education requirements can help ensure best practices are used in the onsite industry and help protect the public that depends on the services provided by professionals. Setting aside the minimum requirements for a moment, it can be noted that as the industries move forward and industry practices change and improve, companies and individuals must stay informed or risk being left behind or at a competitive disadvantage. Depending on your business, just satisfying the minimum requirements may not give you the market advantage you need or want.

As for the minimum requirements under the new rules, a professional who is renewing the first time would still need to obtain twenty continuing education units (20 CEUs) during

During 1st Registration/License Period

	Total Units	[including] Select Units
Basic Installers	20	8
Advanced Installers	20	8
OSE	20	8
Percolation Testers	20	8
Inspector/Evaluators	20	8

their initial three year registration period. (See the discussion of select CEU criteria below.)

This would apply to individuals who have chosen to repeat the licensing or registration course instead of renewing their license or registration. However, for the second and following renewals, fewer CEUs would be needed: 12 units for advanced registered installers, onsite soil evaluators, and licensed inspector/evaluators; and 8 units for basic registered installers and percolation testers.

During 2nd and later Registration/License Periods

	Total Units	[including] Select Units
Basic Installers	8	0
Advanced Installers	12	8
OSE	12	8
Percolation Testers	8	0
Inspector/Evaluators	12	8

Depending on the registration or license category, a portion of the required CEUs must satisfy certain select subject matter criteria.

Select CEU Criteria

Subject matter criteria can help ensure that a professional completes some continuing education that is focused on skills and knowledge directly related to their registration or license. All professionals renewing the first time need eight (8) units meeting select criteria specific to their registration or license. For advanced registered installers, onsite soil evaluators, and licensed inspector/evaluators, the requirement for eight (8) units meeting select criteria continues for the second and following renewals. Basic registered installers and percolation testers would not have to satisfy select criteria after their first renewal.

Below are some examples of broad topics that would satisfy select subject matter criteria for Advanced Registered Installers:

- Interpreting site/soil evaluations and limitations for advanced OWTS;
- Sewage pipe standards and pipe bedding practices;
- Excavation equipment safety and use;
- Advanced pretreatment system installation and function;
- Advanced or alternative soil treatment systems;

- Operation and maintenance of advanced or alternative OWTS;
- Advanced or alternative OWTS troubleshooting;
- Advanced OWTS math.

Any approved general, or select, OWTS subject matter could be used to satisfy the general portion of total CEU requirements. More detailed subject matter lists will be available on the Onsite Website.

CEU Credit

With the reduction in minimum requirements for CEUs, the Onsite Sewage Program will no longer carry CEU credit forward in future renewals. However, rollover credit that is on record can be used at your next renewal. CEU courses taken before the rule change will count for the professional registrations as they were originally approved.

CEU credit will generally be based on training time excluding introductions, breaks, final question and answers, etc. Many approved CEU courses or seminars will be credited one unit for each hour of training time.

Presentations by product manufacturer's representatives must be technical in nature and when possible must relate to a segment of industry instead of a specific product. Marketing must not be a part of the approved training. Generally technical presentations related to specific products will be credited a maximum of one half units for each hour of training. In-the-field training can be an



effective way to handle some subject matter. However, due to travel time and difficulties in organizing presentations, generally this type of training will be credited one half units for each hour of scheduled training.

To gain approval, CEU training providers must submit an application with detailed agendas, information about presenters' experience and qualifications, and copies of the training material used. Effective training should provide professional development for the individual and improve practices in the industry. Repeatedly attending the same course would not satisfy CEU requirements.

For more information about continuing education courses related to OWTS, check the course contacts or the Onsite Program Website addresses on the list on the next page, or contact your local administrative authority.

Other Rule Changes

Standards of Practice for installers will require the installer to inform the permitting authority if they are no longer involved with a project as the registered installer or when the installer assumes responsibility for OWTS construction after a permit application has been submitted. Since a new rule will be in effect governing inspection/evaluations related to real estate transfers, inspectors should familiarize themselves with the changes (see the link in the first paragraph under Changing Rules, page 3).

The Onsite Sewage Program and an advisory group are continuing to review and draft revisions to the OWTS minimum construction standards. To date, progress has been made with sewage tank and site/soil evaluation standards.

Internet CEU Exercises

Internet CEU Exercises are available at: www.dhss.mo.gov/Onsite/CEUExercises.html on the Onsite Sewage website. By reading related internet articles that are linked to in our questionnaires and completing the questionnaire forms, you can receive CEU credit for your onsite wastewater treatment systems (OWTS) professional registration(s). To have the CEUs credited towards your registration renewal requirements, you will need to either mail or fax a completed and signed copy of the questionnaire to our office.

Enforcement Actions

What happens to my OWTS registration/license if enforcement action is taken? For registered professionals, enforcement action could be a warning letter or a notice of probation, suspension, or revocation of their registration/license. While a professional is on probation, suspension or revocation, their listing on the Onsite Website will show the status of their registration.

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Onsite Wastewater Professionals CEU Course Report

For more on Continuing Education Units (CEU's) that are required for renewal of an onsite professional's license or registration by the Department of Health and Senior Services (DHSS) check the CEU Information page at: <http://www.dhss.mo.gov/Onsite/CEUs.html>
 Internet CEU Exercises are available to OWTS Professionals at: <http://www.dhss.mo.gov/Onsite/CEUExercises.html>
 + Listed below, are approved CEU courses/ seminars and the POSSIBLE credit for each type of registration/license.
 + Partial credit (or no credit) may be allowed if a course is not completed.

If you are interested in attending one of the courses/seminars listed, contact the organization for information and to sign up. -- Course(s)/Seminar(s) are subject to change.

<i>Number</i>	<i>Course/Conference Title</i>	<i>Location</i>	<i>Contact Name</i>	<i>Phone</i>	<i>Course Date</i>	<i>Installer</i>		<i>Insp/Eval</i>	<i>OSE</i>	<i>Perce Tester</i>
						<i>Basic</i>	<i>Adv.</i>			
001377	Advanced Installer Course (2-Day)	Jefferson City	Beverly Jansen	(573) 751-6095	4 /16/2009 - 4 /17/2009	10	10	10	10	10
001390	Troubleshooting	Moberly	Terri Cooper	(417) 739-4100	4 /21/2009 -	6	6	6	6	6
001391	Hydraulics	Moberly	Terri Cooper	(417) 739-4100	4 /22/2009 -	6	6	6	6	6
001392	Onsite 202: Basic Drip Irrigation Design & Installation	Chillicothe	Terri Cooper	(417) 739-4100	5 /5 /2009 -	6	6	6	6	6
001393	Onsite Pumps, Panels & Electrical	Chillicothe	Terri Cooper	(417) 739-4100	5 /6 /2009 -	6	6	6	0	0
001409	DHSS Registered Installer Continuing Education Course	UMC - Mt. Vernon	Beverly Jansen	(573) 751-6095	5 /7 /2009 -	6	6	0	0	0
001401	2009 Henry Co WW Training Class: 2:00 - 4:00	Clinton	Fred Boehler	(660) 885-8193	5 /15/2009 -	2	0	0	0	0
001394	O & M 2-Day Course	Liberty	Terri Cooper	(417) 739-4100	5 /19/2009 - 5 /20/2009	12	12	12	12	12
001410	Soil Evaluation & Groundwater Drainage Systems	Jefferson City	Beverly Jansen	(573) 751-6095	5 /28/2009 -	0	0	0	6	4
001402	2009 Henry Co WW Training Class: 9:00 - 11:00	Clinton	Fred Boehler	(660) 885-8193	9 /11/2009 -	2	0	0	0	0

Continued from page 4

Enforcement action is related to a violation of regulations. The most common violation by onsite professionals, which results in enforcement action, is failing to comply with the permitting requirements of the state or local authority. Assumptions about permitting requirements should not be based on the state's standards or the requirements of another county. As a professional, it is your responsibility to verify the permitting process for each county in which you work.

In 2008 the Onsite Sewage Program sent out a total of 34 enforcement letters, to nine (9) non-registered individuals and twenty-five (25) registered/licensed OWTS professionals.

Onsite Soil Evaluators

The Onsite Sewage Program will offer a CEU course for onsite soil evaluators, which should also be of interest to local onsite sewage administrative authorities. *Soil Evaluations and Groundwater Drainage Systems* will



include two main topics: first, consistent soil evaluations, and second, effectiveness of drainage systems such as curtain drains in lowering groundwater tables in different soils and

landscapes. A pilot CEU course with time for feedback and discussion will be scheduled late this spring.

Installers

Sewage Tank Installations

Recently the Onsite Sewage Program has received some reports of problems with septic tanks. This provides an opportunity to review some basic issues related to septic tanks and the Minimum Construction Standards. Currently, the Missouri Department of Health and Senior Services does not list approved sewage tanks. However, tank manufacturers are to comply with the minimum standards.

The minimum standards require sewage tanks to "Be watertight and designed and constructed to withstand all lateral earth pressures under saturated soil conditions with the tank empty." Proper management of

onsite wastewater treatment systems (OWTS) requires accumulated solids to be removed from sewage tanks periodically; though, it may not be necessary to pump out the tank when the surrounding soil is saturated.

As an installer, it is important to be familiar with all installation procedures and warnings or cautions specified by the tank manufacturer. If the manufacturer cautions against pumping the tank empty or installing their tank in areas where high groundwater may occur, that is a clear indication the tank would not comply with the minimum standards for some sites.

As two recent failures illustrate, it is not necessary for the soil to be completely saturated or for a tank to be empty for it to fail. During heavy rains, surface water can enter the backfill in a tank excavation filling the voids in the backfill and/or granular bedding material. When the level of water outside the tank is higher than the level inside, the difference in pressure on the tank walls is equal to the difference in water level. For a tank bury depth of two-feet in addition to about eight to twelve inches of air space above the liquid level in the tank, you could have nearly three-feet of static water pressure exerted on outside of the tank walls and bottom. The reported tank failures apparently started with the tank bottoms buckling upward. Even if a tank withstands the pressure, any seam or inlet/outlet connection that is not watertight would allow infiltration, and add to the load on the soil treatment system.

Obviously, the best solution would be to install a tank that is watertight, structurally sound and appropriate for the conditions that might be found on any site. However, there is also a dewatering method that should also be considered for some sites. Where there is adequate slope: a small area adjacent to the lower end or side of the excavation can be deepened somewhat; from there a trench can be sloped away from the tank, backfilled with clean gravel, and extended to drain to the ground surface similar to an interceptor drain. The dewatering trench must outlet away from the soil treatment area. On sites where the slope does not allow dewatering, it is essential

to use a structurally sound tank, and the installation should also deal with any potential for the tank to float (tank buoyancy).

The Onsite Sewage Program is looking ahead to updating sewage tank standards which could include testing requirements. To help improve the industry and ensure an informed review of the standards, failures of sewage tanks or any OWTS components should be reported to the local administrative authority or the Onsite Program. Include detailed information about the component, installation, site, and failure as well as pictures if available.

OWTS Inspectors/Evaluators

Inspection/Evaluation Forms and Training

The Missouri Department of Health and Senior Services (DHSS), Onsite Sewage Program, has implemented new forms for Onsite Wastewater Treatment Systems (OWTS) Assessment for Real Estate Transactions. These forms were designed to help improve the quality and consistency of information reported when an OWTS is inspected or evaluated. Previous versions of the forms are no longer acceptable after January 1, 2009.

To make the transition from the previous forms to the new forms easier for all licensed

inspectors/evaluators, the Onsite Program conducted training throughout the state, starting July, 2008. Training covered the use of these new forms and the assessment process. Continuing Education Units (CEUs) were also provided at a minimal cost for those who wanted credit.

If you were licensed prior to July 2008 and did not attend training for the new forms contact the Onsite Sewage Program.



Electronic reporting of inspections or evaluations was made possible through the development of electronically fillable forms. With electronic forms the results of an OWTS inspection or evaluation can be sent electronically to the program by email. In late December computer disks (CDs) containing the electronic forms and procedural guidelines were mailed to all who attended the forms training. Any licensed inspector that has not received the electronic version of the new forms should contact the program.

If you have any questions or suggestions regarding the OWTS Assessment forms or training, please contact the Onsite Sewage Program at (573) 751-6095.

Business/Contact Information Update

OWTS Professional ID Number(s) _____

Name _____

Business Address _____

City, State, Zip _____

Mailing Address (if different) _____

City, State, Zip _____

Business Phone _____

Contact Phone _____ Fax _____

Suggested Continuing Education Topics:

Please clip, add any comments on the back, and send to the:

**Onsite Sewage Program
PO Box 570
Jefferson City, MO 65102**

