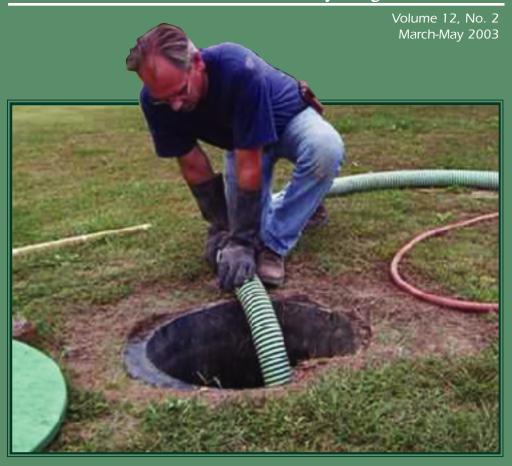


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National Onsite Wastewater Recycling Association

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2003 Calendar of Events

FRANKLY SPEAKING...

by Tim Frank, NOWRA President

he U.S. EPA has said that individual household wastewater treatment (onsite and decentralized) systems are here to stay.

This is good! With this statement, the U.S. EPA is also saying they are here to stay, **but** they cannot be allowed to become a source of pollution. So that the onsite systems do not become a perceived nuisance, the EPA also states that they must be monitored and managed by someone who is qualified to do so.

We also know that some onsite systems need more management and attention than others. Addressing this issue is where the EPA 5-Part Management Plan comes into effect. The 5-Part Management Plan will force us to improve the image of the onsite industry. But at the same time, participating in the 5-Part Management Plan opens up many new opportunities for increased business and revenues for all of us.

Parts 1 through 3 of the Management Plan are a good clean fit for those of us in the service industry. Operating under parts 4 and 5, would take some creative thinking to be able to fit the roll of the Responsible Management Entity (RME). With the EPA and NOWRA working together, there is surely a way for private industry to work at the RME level.

What does this all mean to you?

It means that you will have to sell yourself. It means that you are selling a service that someone has a need for, and to make others desire your service, you have to make yourself, your employees and your service, or services, more attractive to the customer than your competition.

What makes you better than your competition?

Your knowledge, your confidence, your personality, and your attitude is the answer. Before you can sell a service, you must be able to answer any and all questions correctly in a confident manner In order to do that, you need additional knowledge and skills to provide the service you are offering to the optimum. Your attitude should exude optimism and caring, as well as confidence. You want your customer to feel comfortable around you and your employees. You want your customer to feel that he, or she, and whatever you are servicing are in good hands. Remember that first impressions can make or break a sale.

How do you acquire all of these traits?

In the onsite wastewater industry, you JOIN NOWRA AND LET US HELP YOU GROW. NOWRA offers continuing education that keeps service providers up to date which gives you the confidence and knowledge you need to service the ever-changing wastewater treatment systems of today. What customer wants a service provider who is lacking in knowledge? Yesterday's technology will put the profitability out of your business and you right out of the race.

As a service provider in the onsite industry, I know that continuing education is a must for all of us. Our counties and states believe in continuing education, but in most cases do nothing about it. When our ways become old, our way of thinking becomes stale. Competition and knowledge are the key words of today's society. If we cannot competently offer the services that are needed, believe me, someone else will! Keeping up with the newest changes is much easier than waking up one day and realizing that you have been left behind and your knowledge and techniques belong in the dark ages. Who will call on you then?

JOIN ME IN HELPING NOWRA GROW

NOWRA gives you the opportunity to network with those who not only work in your industry, but those who play a very important part in regulating it. NOWRA offers you the opportunity to participate on committees of interest to you and allows you to have input and influence regarding the direction your livelihood is taking. It is not necessary to be a board member to participate on committees. NOWRA needs and welcomes new ideas as well as help in forming the future of the wastewater industry.

As president of NOWRA, I am asking and challenging you to join us. We want you to become the one whose services are in demand. For the good of our industry, it is a must. You can have a part in making it happen in your market area. If for no other reason than the fact that consumers are becoming so much more educated, it won't be long before those who do not work to keep up with changing technology find themselves out of business. Customers do not feel comfortable with a service provider who knows less about their systems than they do.



Tim is president of Tim Frank's Septic Tank Cleaning—a successful business of installing, servicing and managing onsite systems throughout Ohio.

2.....

HEADQUARTERS UPDATE

Linda Hanifin Bonner, Ph.D., Executive Director

OWRA's 2003 theme message, "Leaders for Decentralized Systems—the Changing World of Wastewater Treatment," evolved from preparations underway for the annual technical and education conference & exposition. It is now the driving force and message for all our work in 2003. The goal is name recognition nationally, for this Association and its members. The activities over the past months are focused to achieve this mission. The end results are targeted at increased benefits for our members. However, as noted in an article on page 28, we need supporting efforts from you, our members, to truly become successful. Fulfilling this mission also requires a dedication to education.

Work activities over the past months included the February 21, 2003, Board of Directors meeting in Nashville, TN, and the Model Performance Code Committee meeting in Austin, TX; working on the research task of the Model Performance Code and marketing the 2003 Conference Exhibits and *Onsite Journal* advertising. April's work focused on the 2nd phase of the outreach plan, with information packets sent to all states' governors, senators, and legislative leaders.

February Board Meeting Highlights

Major areas of discussion focused on NOWRA's end of year financial status and strategies to increase resources to support member education and training programs; plans underway for NOWRA's 2003 conference & exposition, approaches for developing an aggressive education program for both the conference and specialty sessions; defining additional opportunities for fundraising initiatives and building membership strength. Two important accomplishments from the Technical Practices and Model Performance Code Committee are the products being developed that will provide policy direction for the Association.

The Technical Practices Committee is producing a document review process to be adopted for NOWRA products as well as standards for drip technologies. The Model Performance Code committee has completed preliminary draft documents relating to the numeric and soils matrices and is working on the guidance documents. The Board also discussed, and tabled until its June meeting, a general position statement on management entities. Similarly, the June meeting will include a major revenue strategy planning session with the fundraising committee meeting the day before to discuss its presentation to the Board.

Association Finances

Over the past month, efforts to bring in additional revenues and examine ways to work more efficiently and trim costs, e.g. mailings and telephones, have been successful. With help (greatly appreciated) from a unique volunteer, an active early marketing campaign of NOWRA's conference to exhibitors has resulted in over 50% of the exhibit space sold to date. As a result of NOWRA's new Products and Services Directory, several new advertisers have shown an interest in NOWRA's programs. Changes made in NOWRA's telephone service programs will also reduce costs by 25%. We are aggressively pursuing a non-profit mailing rate status that can cut our bulk mailing costs 25%. In addition (reported in a separate article) NOWRA has received additional funding support for its Model Performance Code work from the Association of Decentralized Wastewater and the Ohio Onsite Wastewater Association.

NOWRA's Outreach & Education Campaign

Name recognition and credibility of our services is a priority. Over the past months, this activity has focused on the widespread distribution of NOWRA's new products and services directory to regulators and high level political officials. We are maintaining our commitment to our advertisers! All of the governors within the U.S. have been sent an information package from

NOWRA that includes an Executive Committee cover letter, new folders, a copy of the *Onsite Journal* and Directory. The letter emphasizes the work of the Association's members to protect water quality through their products and services, the need for future legislation requiring continuing education of service providers, and the work of the Model Performance Code committee. Board members will follow up this effort with telephone calls and personal visits in the coming months. In addition, mailings have been sent to the executive directors and presidents of the building, realty and banking industry associations. We are marketing a special education program to these groups in personal visits.

Capital Hill Legislative Briefing

Spending one day meeting the key staff members of legislators involved in financing the nation's infrastructure was a valuable opportunity to present NOWRA information folders and discuss NOWRA's work. We were also able to personally thank the U.S. EPA administrators for the support provided to NOWRA in our work. Next step! Follow-up, personal meetings are scheduled with Fundraising Chairperson, Brenda Guy.

NOWRA's Web Site Improvements

NOWRA received the official notice of funding approval from the National Decentralized Water Resources Capacity Development Project to improve its website to educate policy officials and regulators about the work of the Model Performance Code. With this approval, the contractor selected by the Board of Directors is now proceeding with this work. Watch in June for the "new look" and sections. It will occur overnight!

Model Code Research

An important task within the NDWRCDP funding is a special research component. This effort is targeted at public officials with the objective of identifying the issues confronting those who have been involved with this type of work. In other

continued on page 4

Headquarters Update, continued words, what are the lessons learned, that can be applied to facilitating these programs to a successful conclusion and acceptance. The survey form is provided on page 14 for other interested parties' response, and will be on NOWRA's website as well.

Membership Development

There are several very important milestones accomplished for this activity over the past few months.

First, NOWRA is pleased to welcome the Minnesota Professional Onsite Water Resources Association—who on March 7, 2003, conducted their first official meeting. Efforts to bring the states of Kentucky and Iowa into the membership group are nearing a successful conclusion. Association Officers have been present at nearly every state meeting during the past four months, to personally work with the leaders and members. All NOWRA officers and board members travel at their own expense. Activities are now underway to form groups in Colorado, the coastal area of Massachusetts, and to complete the organization details in Maryland.

Hanifin Associates Office Staff Changes

Over the past months, new voices have been heard answering the telephone and making calls on behalf of NOWRA. And beginning the fifth of May, Hanifin Associates welcomed Helen Curry, who assumes the full-time position as Administrative Manager. Helen, who prefers to be called "Sparkle," left her position at Professional Accountant Management Services the end of April. Her responsibilities include management and financial support to NOWRA as well as Hanifin Associates.

Carolyn Quinlan, who has been with Hanifin Associates for nearly ten years, will be working part-time when needed. Carolyn and her husband Mike are embarking on several trips over the next several months, in addition to preparing for their only daughter's wedding and seeing more of the grandchildren in Kentucky. We have all been much more sensitive to the welfare of our service men and women in the Iraq situation as Carolyn's son Neil has been very involved in the war, and are extremely pleased to report that Neil has returned safely to Ft. Bragg. We are continually

grateful for their presence on our behalf and are keeping them in our prayers.

The other two persons who are working part-time at Hanifin Associates include Judy Staudinger. Judy recently retired from SAIC where she worked for 22 years as an administrative manager. She recently moved to the area and enjoys the opportunities to support our activities by answering telephones, scheduling meetings and events, and providing membership services.

Francis "Butch" Hammersmith has been literally "manning" the telephones as our "marketing manager" and making the highly important follow-up calls for the conference exhibits and advertising. He is also organizing the conference golf tournament and brings a high level of energy to his tasks. Francis is retired from the Prince George's County School system (28 years) and is currently a personal trainer at the South River Fitness Center in Edgewater specializing in "golf fitness." In his spare time, weather permitting (or sometimes even not), he and his clubs can be found together out on the course, looking for onsite systems.



State Group Happenings

California Onsite Wastewater Association

New Year, New Board

The new year is moving past under the direction of the new Board of Directors. The following slate was installed at the March meeting.

President

Pete Lescure Lescure Engineers

V. P. South

Steven Braband. Biosolutions, Inc.

V. P. North

Norman Hantzsche Questa Engineering Corp.

Past President

David Dauwalder Dauwalder Engineering

Directors

Mark Adams Northstar Engineering

Blair Allen Calif. RWQCB, San Francisco

Barbara Bradley Nolte Associates, Inc Don Cook MicroSepTec Inc. Frank Gabrian San Diego Co. DEH

Jan Krancher......Cultec, Inc

Mark Richardson Rural Community Assistance Corps

Rodney Ruskin Geoflow
Mike Treinen Consultant
Larry Young City of Malibu

The success of the association is based on the work and dedication of the Board and its members. The departing members of the Board deserve special mention for the untold hours they have devoted to COWA in the past. They are: Andrea Arenovski – National Decentralized Water Resources Capacity Development Project, Richard Holmer – Sonoma County PRMD, and Howard Kolb – California RWQCB, Central Coast.

California Onsite Wastewater

Treatment System Regulations— Update

As reported in the January-February issue, California Onsite Wastewater Treatment System Regulations will be the end product of the process started by Assembly Bill 885 (AB885).

The process of developing these regulations began over a year ago. After the draft regulations first passed through three committees representing regulators and the different stakeholder groups in the state the stakeholders found the draft to be lacking. The stakeholders have since, through a smaller stakeholders committee, produced an independent rewrite. This effort and the state's draft development have run parallel for a couple of months and now appear to be coming together for what all hope is an acceptable regulation. The combined draft was available for review and discussion at the Western Onsite Wastewater Exhibition and Technical Conference on May 1-2, 2003 in Sacramento, California.

Training and Education

One of the outcomes of the current development of the California Onsite Wastewater Treatment Systems Regulations is the need for various training and education programs. The new regulations will include requirements for maintenance, monitoring and inspection of these systems. This in turn will increase the number of jurisdictions that will require that those involved in these activities to be educated, trained and, already in some instances, have some form of qualification or certification.

California does have a training center that offers many courses that can apply to the upcoming requirements. COWA is in the process of setting up a statewide delivery system for the current requirements and those that are anticipated. COWA is having ongoing discussions with national qualifying and certification organizations to cover the needs of COWA members.

We expect that in the near future COWA will have a team of teachers and trainers who will enable the association to deliver the courses needed for qualifications and certifications in all areas of the state.

Western Onsite Wastewater Exhibition and Technical Conference—May 1 – 2, 2003

COWA had its first "Western Onsite Wastewater Exhibition and Technical Conference" on May 1 and 2 in Sacramento, California. The exhibition booths and the technical conference received a good reception. The conference offered two sessions each day: Thursday, May 1

Technology—Tomorrow's Technologies Under Today's Rules and Monitoring—Verifying Technology Performance
Friday, May 2

Quality Assurance—Getting it Right: Roles, Responsibilities and Reliance

and Management— Putting it All Together – Qualified Local
Authorities

Colorado

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Organizers' Meeting for National Onsite Wastewater Recycling Association (NOWRA) Constituent Group

An organizational meeting for NOWRA was held April 4, 2003, at the Jefferson County Department of Health, Golden, Colorado. This meeting was for those persons—including pumpers, installers, engineers, regulators, academics, manufacturers and other interested parties associated with the onsite wastewater industry—who would be the core organizing group for the Colorado Constituent Group of NOWRA. One to three people from each of the above groups were identified to help in organizing our industry organization and determining how to proceed. A time line was established, with the hope that the group can be organized by the NOWRA meeting in Nashville, November 5-11, 2003. It is anticipated another core group will be required in June, and it is our desire to meet in conjunction with the Colorado

continued on page 6

State Group Happenings

Environmental Health Association conference in September, 2003 and be a true constituent group by the NOWRA meeting in Nashville.

Some of the potential benefits of NOWRA include:

- Higher level of professionalism
- Education and staying up-to-date
- · National and local conferences
- Training programs
- Industry voice in regulations
- Development of Performance Based Regulations

Additional Information:

Normal NOWRA membership cost—\$140.00 Through Constituent Group—\$60.00 - \$75.00 of which \$20.00 is forwarded to NOWRA.

Several companies have volunteered to donate to the forming of the constituent group. So far, approximately \$3000.00 has been donated and others will be approached.

If there is interest in New Mexico or Wyoming for joining those in Colorado, we are considering and would welcome a Rocky Mountain organization.

Colorado is lucky to have Barbara Dallemand, who was involved in the organization of the Kansas Constituent Group. For additional information, call Ed Church or Barbara Dallemand at 303-463-9317 or 1-877-248-3123 from outside of the Denver area. Better yet, email to echurch@geo-church.com or bdallemand@geo-church.com.

Ohio Onsite Wastewater Association

At their March 21, 2003 meeting, the Ohio Onsite Wastewater Association (OOWA) Board of Directors voted to support the NOWRA Model Onsite Performance Code effort with a financial contribution of \$2500. OOWA is working with other partners in Ohio to promote legislation and eventual rule revisions related to the state's household sewage program. OOWA plans to call on NOWRA for support in these regulatory efforts, and felt that in turn, OOWA should support the developing NOWRA Model Onsite Performance Code. It is anticipated that Household Sewage Treatment System (HSTS) legislation will be introduced in the Ohio General Assembly before the summer break for the legislature.

OOWA continues to make steady progress on the development of an OOWA Qualified Installers Program. Residents in 41of the 88 counties in Ohio now have access to at least one (and in some cases many more) Charter OOWA Qualified Installer registered at their local health department (LHD). OOWA has been actively promoting the recognition of these Charter OOWA Qualified Installers on LHD lists of their 2003 Registered Installers in each county or jurisdiction. OOWA conducted a presentation and set up an exhibit focused on the OOWA Qualified Installer Program at the Ohio Environmental Health

Association's Annual Educational Conference in April. In addition, the new NOWRA promotional publications were available at the display table along with the NOWRA 2002/2003 Membership Directory.

For more information on OOWA, please contact Communications Chair, Jean Caudill at 614-644-7181 or jcaudill@gw.odh.state.oh.us

Texas OnSite Wastewater Association TOWA On Cutting Edge

TOWA participated in the Texas Commission of Environmental Quality Annual On-Site Research Council Conference in Waco, Texas, February 24-26. TOWA hosted their annual recruitment luncheon during the conference and had a successful turn out of almost 300 people. Dixon Dryden, Installer from Houston, Texas, passed the gavel over to new President Montel Rutledge, Installer from Bryan-College Station.

Due to an ice storm, TOWA's legal counsel, Mark Hanna, JD, of Austin, could not make it in to give his presentation. Don Canada, Executive Director of TOWA, filled in with details of the current Texas legislative session, currently meeting through May. TOWA is supporting a bill requiring an oversight and interim study committee to be mandated by the legislature for the TCEQ, the current agency with licensing and enforcement responsibilities in Texas for onsite systems. TCEQ has effective policies in place, but faces continuous challenges to providing standardized enforcement throughout the state. This interim committee would allow involvement from all industry sectors to address enforcement, maintenance and other problem areas.

Don Canada also reviewed the new Certified Maintenance Provider Course, that is scheduled to occur at the TOWA June 26-28 conference at the new Radisson Hill Country Resort in San Antonio. A committee of installers, maintenance providers and manufacturers have been actively coordinating an effort to offer a quality, hand-on course for maintenance providers. In Texas, maintenance has just been mandated for homeowners, and now there is an influx of people wanting to open maintenance companies. Unfortunately, they are only required by the state to hold a Class D license—which requires minimal qualifications, as well as be certified by the individual manufacturers to treat products. At the current time TCEQ, the licensing agency, does not provide a Maintenance specific course. TOWA, with great volunteer efforts, has gone above and beyond to fill this gap. THE CMP course will be a two-part course equaling 32 hours. The goal is to have individuals who truly want to provide quality servicing take and pass this course, and then be top consideration for the individual manufacturers to then train on product specifics. TOWA supports maintenance for all onsite systems, but does focus on the aerobic system plants. The courses will be held 2-3 times a year and will be led by experienced, trained individuals from the industry. We thank all the companies who have donated equipment for this training.

State Group Happenings

If you have interest in donating equipment as samples for this training, please contact Krista Richter at TOWA state office at 512-494-1125 or Dixon Dryden at 713-863-3350.

Look for TOWA conference information at www.txowa.org. Their conferences will be June 26-28 in San Antonio and September 25-27 in West Houston (near the Bass Pro Shop). TOWA, with the sponsorship of Delta, will hold its 2nd Annual chili cook-off on June 26 in San Antonio. All chili cookers welcome!



Editorial Comment

Linda Hanifiin Bonner, Ph.D., NOWRA Executive Director

he feature theme in this issue focuses on the importance of maintenance of onsite systems and NOWRA's education program. The articles provide readers with different perspectives of the writers, ranging from the education of business owners, system owners and even state regulators. They also convey the underlying message of being prepared for the changes within the onsite industry.

CHANGE means movement from one point to another. Some changes are positive and some changes are not so positive. But if one looks at the opportunity embodied within the change process and what offers to the future, it often changes the peceived outcome from that of frustration to one of benefits. Each of our writers, and the message of NOWRA's president, Tim Frank, all arrive at the same conclusion—using the changes that are now occurring within the onsite industry as opportunities for benefits; and educating yourself to be prepared to take advantage of the results of change.

CHANGE + OPPORTUNITY + EDUCATION = FINANCIAL BENEFITS!

CHANGE often involves "education" in order to make the opportunity become a reality! EDUCATION is NOWRA's mission. EDUCATION is the core service NOWRA provides to its members. It is also the message given in response to the frequent

question, "What are the benefits I receive in being a NOWRA member?"

NOWRA provides numerous education programs with credentialed academics and professionals, who are the experts in this industry. NOWRA's experts are dedicated to supporting the professional growth of their colleagues and advancing the growth of the onsite industry to fulfilling and achieving the nations water quality goals. Just read the profile of a few of the dedicated individuals and organizations supporting the work of the model performance code and that of developing the new education and training programs. There are even more dedicated professionals that we've not highlighted at this time, but hope to in the future.

NOWRA's shortcoming is an aggressive outreach and education program for public officials—informing state, federal policy makers, and even regulators, how NOWRA's programs and the technical expertise of their members support them in their work to accomplish stated goals of eliminating non-point source pollution and fulfilling sustainable development. However, we are now taking steps to address that limitation. We have begun sending information packets from NOWRA to state and federal policy officials from governors to congressional representatives, senators, public health specialists and legislative staff. It is planned that over the next several months, they will receive visits from Board members and Executive staff, as well as personal calls from NOWRA members about supporting our programs and the work of the decentralized industry.

We are also expanding the circle of influence to the nations building, realty and banking industry, with similar information and contacts. All of these groups need NOWRA's technical expertise to address the issues they are facing in making decisions about wastewater treatment and its infrastructure.

While NOWRA's officers, board and committee members collectively heighten their pro-activity and give voice to the need for the financial resources to support the decentralized and onsite industry, a few individuals cannot accomplish the task alone. But the power of many can! The Board and its Committees need your support and activism. Remember the lessons taught us in the 1960s with the efforts of Rachael Carson and the beginning of the environmental movement of change. It was also the emergence of the clean water era in the '70s. Now, in the 21st century, we are again on a precipice of change—one that has vast opportunities for the decentralized industry. Let us work together to make the opportunities become reality. Contact one of the officers or board members and let them know of your desire to support our efforts, on your behalf.



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NOWRA Model Performance Code Update

by Michael Corry, Committee Chair

Committee Work Enters Period of Accelerated Activity

uring the first 6 months of 2003, NOWRA's Model Performance Code Committee will attain several milestones in the progress towards producing the series of products that are part of the effort. The status of the various elements is described below.

The classification matrix is largely complete, subject to some minor tweaking. The evaluation committee is in the process of determining how the various component test data will be classified. The decision has been made to accept all historical data from lab tests, controlled field tests and general field monitoring sources, but to qualify it by the characteristics of the data generation process. The committee is coordinating its work with existing evaluation agencies.

The Soils Committee has completed major conceptual work in developing soil treatment credit tables that are coordinated with the classification matrix. Jerry Tyler made a major presentation to the Small Flows Regulators and Captains of Industry Conference in March. A meeting of the larger soil peer review committee met in Atlanta on May 13 to further develop the process. A major paradigm shift in thinking is occurring because the process is focusing on "time in the treatment zone" and "access to oxygen" as the primary treatment variables, instead of the more common prescriptive distance standards. The soils committee work is supported by a grant from the National Consortium of Decentralized Wastewater Project.



The Primary Code Committee has been working on the development of the code itself. A subcommittee is working on an expanded code outline with six major sections.

- General Provisions, Purpose, Scope Authority
- Definitions
- Requirements, Prohibitions and Enforcement
- Standards and Protocols Adopted (NOWRA's and others)
- Local Adoption of output performance standards (Matrix – categories to match local human and environmental risk conditions)
- Quality Assurance systems and Mechanisms Adopted

(The major emphasis is on QA systems to ensure that the OWTS is appropriate to the site, is installed properly and is operated and maintained. Elements of the EPA Management Guidelines are addressed here.)

The Guidance Committee is focusing on developing a document targeted at policy makers to provide background material needed to make local/state regulatory decisions. The primary focus is to help adopting governments decide how to match local risks to the local human and natural environments, to the appropriate performance standards in the performance classification matrix. The committee has developed a document outline and is beginning to write the sections.

The next Code Committee meeting follows the NEHA meeting in Reno, NV, on June 12 and 13.

Major progress reports from all these efforts will be presented to NOWRA membership at the 2003 Annual Conference. This event occurs as a full day "Pre-conference" workshop where committees will present reports and

engage in an active discussion with participants for input into their work.

WHO'S WHO... ON NOWRA'S MODEL PERFORMANCE CODE COMMITTEE

The following profiles represent many of the volunteers working on this important endeavor. While providing a profile about those committee members, we also took the opportunity to ask those who responded, to identify why they believe this work is important, and why they are volunteering their time for this work.

Michael (Mike) Corry, Chairman, is now a special consultant to NOWRA on this project, following his retirement from the Wisconsin Safety and Building Division. He brings strong credentials to lead this work. He became involved in onsite regulation as part of his responsibilities as Division Administrator for the Safety and Building Division for the State of Wisconsin. The updating process of Comm 83, the State's onsite code, was significantly more difficult than updating the other 28 building related codes, primarily because a science-based national model code did not exist. The process of product and design approvals was also more difficult. The then existing prescriptive code created needless hardship and expense on citizens and businesses

"My interest in the NOWRA model code was motivated by the need to reduce the friction in updating the Wisconsin code in the future. When I suggested that NOWRA adopt a model code, I found than many state regulators, manufacturers and industry vendors shared the same concerns and frustrations over current codes."

continued on page 10

Model Performance Code

Jean Caudill, R.S., Committee vice chairperson, is also leading the efforts for the Guidance Document subcommittee. Jean is a NOWRA Board member and represents NOWRA on the National Decentralized Water Resources Capacity Development Project (NDWRCDP) Project Steering Committee. She has worked at the Ohio Department of Health in the Residential Water and Sewage Program since 1998, as a Program Specialist, and is responsible for the household sewage system rule revision efforts, review of experimental system requests from local health departments, product reviews, and technical assistance to local health departments and others.

The Importance of the NOWRA Model Performance Code Project—

"I believe that as a result of its broad and diverse membership base, NOWRA is an ideal vehicle for the development of a Model Onsite Performance Code. The open forum used in our committee meetings and in this overall process, really invites any and all interested parties to come to the table and engage in this effort to gain consensus on a range of performance standards that will move the onsite industry forward as a legitimate, flexible, and responsive wastewater infrastructure that is fully able to protect public health and the environment. No where else but in NOWRA do we have such a large pool of industry professionals having the knowledge and practical experience necessary for this task."

Jean is also a member of the National Environmental Health Association (NEHA) Onsite Advisory Committee, and currently chairs the Ohio Onsite Wastewater Association's Communication Committee.

Dr. Del Mokma is a Professor at the Department of Crop and Soil Sciences, at Michigan State University in East Lansing, MI. He co-chairs the Soils Subcommittee together with Jerry Tyler. His dedication to this industry is demonstrated in his long history of work, Del believes that,

"Central sewers are required to provide primary, secondary and tertiary treatment

of domestic wastewaters before they may be returned to the environment. Onsite wastewater treatment systems must also provide that treatment if they are to be acceptable alternatives to central sewers. Septic tanks provide the primary treatment but soils are expected to provide secondary and tertiary treatment. In prescriptive codes for onsite wastewater systems only the hydraulic properties, frequently some are omitted, of soils are usually considered. The focus is on disposal not on treatment. As a result systems have been installed in soils that will readily disperse wastewater but not treat it, thereby polluting the environment. The protection of human and environmental health requires that the capacity of soils to treat wastewater must be determined. Soils with differing hydraulic properties may have differing capacities to treat wastewater. In a performance code the soils, capacities to treat wastewater must be coupled with the hydraulic properties."

Dr. E. Jerry Tyler is Director of the Small Scale Waste Management Project and Professor of Soil Science at the University of Wisconsin-Madison. He received his B.S. in Agronomy from the New York College of Agriculture and Life Sciences at Cornell University and a M.S. and Ph.D. in Soil Science from North Carolina State University at Raleigh. Since joining the faculty at the University of Wisconsin in 1975 Jerry has done research about mine land reclamation and onsite wastewater treatment systems using soil.

Besides teaching Introduction to Soil Science and Soil Science for Land Use Planners he has provided training concerning site evaluation to professionals in Wisconsin. Jerry is the recipient of the Wisconsin Idea Award given to those who take research to the people. He has served on numerous committees offering advice concerning regulations and is a member of many professional organizations. As President of Tyler & Associates, Inc. Jerry offers education concerning soil for onsite wastewater treatment throughout the country.

Matthew Byers, Ph.D., serves on the NOWRA Model Performance Code

Committee as well as on the Guidance and Evaluation subcommittees, and is a NOWRA Board member. He is a member, education chair, publications chair and past-president of the Kentucky Onsite Wastewater Association. Matt has assisted several state associations in accomplishing various goals. Since 1998, he has been the Onsite Research and Development Manager for the Zoeller Pump Company.

"The importance of the NOWRA Model Performance Code Project is that it has the potential to de-fragment this industry, and to enlighten its readers as to technologies that could be used to solve their problems. The performance aspect of the code will allow regulators, designers, and end users the freedom to select technologies that meet a level of performance needed for any given site. The model code will promote needed management and maintenance and the professional development needed to carry out this most necessary work. If adopted, it will promote a higher level of environmental stewardship and public health protection."

Anthony Smithson, M.S., R.S., is currently the onsite wastewater program manager for the Lake County Health Department in north-suburban Chicago. Smithson has served as the Onsite Wastewater Management Section Chair for the National Environmental Health Association since 1998. He is a former NOWRA Board member and has been appointed to the Illinois Private Sewage Advisory Commission. Tony currently is a member of the Environmental Technology Verification Decentralized Wastewater Pilot stakeholder advisory group, and participates in U.S. EPA's Steering Committee for Decentralized Management Guidance Products. Smithson is a graduate fellow of the Midwest Public Health Leadership Institute.

"The importance of this effort is that it will establish a framework to compare and contrast onsite systems, technologies and, importantly, management and regulatory practices. Decision-making in onsite wastewater issues may finally be based, in NOWRA's model, upon accepted

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public heath principles; assessment of risk, setting policy (performance standards) to accommodate the risk, and providing assurance (QA/QC) that the policies have addressed the assessed risk."

Anish R. Jantrania, Ph.D., P.E., is a member of the Model Performance Code Committee and a member of the Evaluation subommittee. He served on the NOWRA Board of Directors from 1999 to 2001 and has been active in NOWRA since its formation in 1991. He has worked at the Virginia Department of Health since 1996 as a Technical Services Engineer and he provides engineering expertise and manages the State's onsite sewage system research program. His responsibilities at the State Health Department also include reviewing and evaluating innovative wastewater systems as well as plans and specifications for large onsite systems.

"NOWRA's Model Performance Code project is one of the most important activities to occur to elevate the onsite wastewater industry to a higher standard. It will make the use of onsite systems an integral component of the national wastewater infrastructure. The Model Performance Code that clearly defines the output expectations from the onsite systems' components and specifies the input limitations will allow the engineering community to integrate the use of these components whenever possible in their design."

He believes that the Model Performance Code, when accepted by the regulatory agencies nationwide, will allow engineers and other practitioners to develop costeffective solutions for the current wastewater problems and will enhance the use of onsite systems in the planning for future wastewater infrastructure.

One of the most exciting parts of the Model Performance Code according to Anish is the matrices that will list performance of various treatment technologies along with the performance of soil based effluent dispersal systems. He thinks that this tool will offer a valuable and most needed service to all the designers who

are eager to use onsite systems to address the current and future wastewater needs all over the country and the world. He hopes that the NOWRA's model performance code will assist the regulatory agencies from the federal to states to local levels in developing meaningful standards for use of onsite systems, thus eliminate the regulatory barrier as identified in the EPA's Report to Congress for the effective use of onsite systems.

Steve Branz, P.E., participant on the Model Performance Committee, has also served as the Technical Director for Bord na Mona since 2000.

"The importance of the NOWRA Performance Code project is to standardize all aspects of the industry. Such a code is critical for the national development of onsite wastewater industry to develop, as was the development of UL standards for the electrical industry."

Rodney Ruskin, C.E.O. of Geoflow, Inc., is a Director of the California Onsite Wastewater Association (COWA) and a member of NOWRA, CWEA, ASAE, SPE and I.A. Rodney holds five patents relevant to subsurface drip effluent dispersal and irrigation.

"The NOWRA Model Code is important to me as a manufacturer because we need high scientific standards in order to:

- Ensure that our industry grows and growth is not damaged by failures
- Ensure that quality and performance is recognized as having economic value, and
- Increase the degree of uniformity of regulations so that manufacture, design, installation, and maintenance standards can be more easily managed."

Fred H. Bowers, Ph.D., is a Research Scientist with the New Jersey Department of Environmental Protection, in the Division of Water Quality. He also is the Chief of the Program Development Section of the Ground Water Protection Unit. He supervises the New Jersey Onsite Wastewater Disposal Program, the Underground Injection Control Program, the Municipal Sanitary Landfills monitoring program, and the Municipal

Stormwater Permitting Program. He holds a Ph.D. in Soil Science (Penology) from the University of Washington, and has been with the NJDEP since 1988.

"Working on the Model code is professionally rewarding. The work products promise to dramatically advance technology and decisionmaking process within the nation's onsite industry. Typically today, the States develop their code by borrowing fragments from past code and/or other state code. Rarely is a really comprehensive design considered from top to bottom. In addition, this process is tackling the problem of incorporating innovative technology into the fabric of the model code. This approach represents a major advance over the conventional septic system codes most states use. Finally, it is a pleasure working as a member of the committee, since the membership includes extremely intelligent and motivated people who all seem to share the feeling that they are working on a 'Renaissance' cause."

Allison Blodig, a member of the Model Code Evaluation subcommittee, has been Regulatory Affairs Coordinator for Bio-Microbics, Inc. since May of 2001. Bio-Microbics, Inc. is located in Shawnee, Kansas, and they are the manufacturers of the FAST® wastewater treatment systems with denitrification. Along with a degree in biology, Ms. Blodig is a Registered Environmental Health Specialist and has over seven years of experience in regulatory compliance, four of which were in the water and wastewater treatment industry.

"I think the importance of the Model Code project is that it provides a generic matrix to help give guidance for choosing the level of treatment desired. It also provides education to the entire onsite community and a format for adoption of regulations based on science."

Allison is also an active member of the National Environmental Health Association, Kansas Association of Sanitarians, and serves on the Kansas Small Flows board.

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Model Performance Code, continued Roman Kaminski, staff member of the Model Performance Code Committee and of the Definitions subgroup, is a NOWRA board member representing the regulator segment. He has worked for the State of Wisconsin since 1978 as a wastewater specialist, plan review unit supervisor and currently as a Program Manager responsible for the onsite sewage program, WI Fund (a repair and rehabilitation grant program for failing onsite sewage systems) and soil erosion regulations. As a Program Manager he is responsible for developing policy and administrative rules, and serves as a liaison between the State agency responsible for onsite sewage regulations and the counties that administer the regulations as agents of the State. In addition, Roman is a member of the Wisconsin Onsite Wastewater Recycling Association (WOWRA), the National **Environmental Health Association** (NEHA) and was recently appointed to the State Division of Health Sanitarian Registration Committee.

"The Importance of the NOWRA Model Performance Code Project is the ability to transfer the expertise I've acquired by working in a state where a uniform onsite code has been in effect for over thirty years. In addition we have statewide licensing, reg istration and certification provisions including continuing education requirements for onsite practitioners. This has made administering and working with onsite regulations relatively easy compared to what other states are faced with where in many cases each governmental entity within the state may have its own set of regulations, licensing and product approval requirements. However, historically our onsite code has been rather prescriptive. Our department also administers other codes associated with the 'built environment.' Several of these codes, such as the building code and electrical code, are adopted national model codes that are more performance oriented. The advantages of these types of codes are many. They contain the collective wisdom and guidance of national experts in their respective fields. They are written in a way to allow choices within the standards contained

in the code depending on the needs or desires of the community where the model code is adopted. Most importantly, the same standards are in place around the country allowing practitioners to feel confident that they will have the same standards to meet regardless of where they choose to conduct business.

A national model onsite code is a very important step towards moving the onsite industry forward at a critical time when onsite systems are being selected as a method of wastewater treatment for a growing number of individual homes, businesses and clusters of development—new and existing."

Model Performance Code Committee member Robert E. Lee, P.E., is also the NOWRA Membership Committee Chair. Recently retired from his position as Chief of the Municipal Technology Branch at EPA, Bob was previously responsible for the U.S. EPA Response to Congress on Onsite and Decentralized Wastewater Treatment in 1997. He is now employed by the Loudoun County (Virginia) Health Department as the Director of Environmental Engineering and Policy Development, where he is responsible for the onsite ordinances.

"The significance of the NOWRA Model Performance Code Project can best be represented in dollars saved. Although I can't give you an exact figure, one must understand that it is hundreds of millions of dollars. The time to write a code in get it place in a state is a multi year task that equates to a cost in salaries and expenses. Wisconsin, who is a leader in code writing, had several years plus a litigation process to go through before it was over. Virginia was shot out of the saddle earlier this year by the legislature, before any debate took place, wasting the time of staff and practitioners who worked to put a regulation in place and causing another year to go by.

A similar thing happened in California. In Illinois, over a year has been lost even though there has been grant funding to do the work, because no staff is available, due to the typical state hiring process that will not allow them to hire for one thing when everything else is frozen. Multiply these types of experiences times fifty states, 3066 counties and the other units of government that regulate onsite systems and one can see part of the cost. The other cost is in materials and equipment that are required due to the differences between units of government. To date, there is little, if any, scientific basis to distinguish between the requirements. The Model Code will provide the basis to quantify the parameters needed to have effective and efficient requirements that will provide for public health and a quality environment."

In addition, Bob is a member of the National Society of Professional Engineers, the Water Environment Federation, the Virginia Onsite Wastewater Recycling Association, the Water Environment Research Foundation, and Chairs the Science Advisory Committee of the Urban Waste Management Research Center.

Shawn Luton is the National Onsite Product Manager for Hancor, Inc., a leading national manufacturer of onsite wastewater products. These systems include conventional 4" Channel-Flow pipe, gravelless pipe, EnviroChambers, distribution boxes, alternator valves, and polyethylene septic tanks.

"Hancor is pleased to offer its support of the Model Performance Code because we feel there is a definite need for a nationally unified regulatory code. Because the Code will adopt certain performance standards and include geographic data that is applicable to all areas of the country, we hope this effort will offer a means for the regulatory community to consolidate their existing codes under one Model Performance Code. The validity of this approach is clearly visible when one considers that often times, even adjoining states that share common land and soil features, differ greatly in their regulatory code requirements. Hancor remains optimistic that with the effort and focus on this initiative through NOWRA

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and the committee members, the regulatory community will one day be united under a Model Performance Code that works for both the regulatory community and their industry partners."

The NOWRA Model Performance Code June 2003 Committee Meeting

The next meeting of the Model Performance Code Committee occurs June 12-13, 2003, at the Hilton Hotel in Reno/Lake Tahoe, NV, following the National Environmental Health Association's meeting. The meeting is open to all who desire to participate. Hotel reservations can be made by calling the Hilton central reservations number at 800-648-5080, and refer to the NEHA conference code "ENVIRO3." Room rates are \$85.00 per night, plus taxes.

The Model Code Committee Meeting agenda identified at this time is shown at right. Please refer questions to Michael Corry, Chairman, at 608-257-1787 or Linda Hanifin Bonner, NOWRA—1-800-966-2942.

Thursday, June 12, 2003 Subcommittee Work Sessions

Subcommittee	WOLK OCSSIOLIS
9:00 a.m.	Guidance Subcommittee
10:00 a.m.	Evaluation Subcommittee
11:00 a.m.	Soils Subcommittee
12:00-1:00 p.m.	Lunch
1:00 p.m.	Full Committee Meeting
	Sessions
	Open meeting -
	Introductions
	Agenda Review -
	Additions or Changes
	Review of Nashville
	minutes
1:30 p.m.	Status of onsite regul-
	tions & codes in Nevada,
	California, New
	Mexico, and Arizona
2:00 p.m.	Executive Director's
	Administration Report
	Evaluation Subcommittee
	Report
	Guidance Subcommittee
	Report
3:30 p.m.	Break
3:45 p.m.	Group Discussion and
	Direction

Evening Assignments

& Adjourn

5:00 p.m.

Friday, June 13, 2003 Committee Meetings

8:00 a.m. Convene Meeting -Report on Evening Work 9:00 a.m. Presentation of Draft Soils Report 10:45 a.m. Break 11:00 a.m. Continued Discussion Noon Working lunch (provided) 1:00 p.m. Model Performance Code "Pre-Conference" Workshop Discussion 2:00 p.m. **QA** Template development 3:00 pm Break 3:15 pm Continued Discussions, Assignments and **Production Schedules** 5:00 pm Adjourn •

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National Onsite Wastewater Recycling Association Reseach Database Project Investigation of State and Local Government Performance Codes

Response Form (also available on NOWRA's website as a pdf file)

While this survey is targeted primarily at the code official, other industry members, such as service providers, politicians and designers, may want to contribute their opinions, experience or observations.

Instructions: Place information in blank cell to right of issue statement, and when completed, please fax to 410-798-5741. If providing supplemental materials such as actual code language and other documents, please send to P.O. Box 1270, Edgewater, MD. 21037

		Date		
Name of State		County		
	Name			
	Title			
	Phone			
	Fax			
	E-mail			
	Address			
	may be available relating to the: and how to obtain them.			
What is the code adoption	n process used in your jurisdiction?			
Uniform – state adopts				
 Minimum – state adop do not diminish the sta 	ts, locals can add provisions that te provision			
They can add provision	mendable by the county. ns, delete provision and modify up or down. ns, the county code still needs to protect			
	t is the vertical separation distance between ondition for conventional systems?			
	ement process – both among the state and es and departments? Which layer of ry enforcement entity?			
What is your definition o	f "performance code"?			
Describe the process us on using the performanc	ed within the governing entity to decide e approach.			
Describe the process an standard levels.	d factors used to set performance			

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Describe how the areas identified in the next	Construction permits	
column are addressed and managed by the code/department.	Operating Permits	
•	Operational monitoring/tracking	
	Operational – Service contracts required?	
	Certification	
	Education/Training – Prior to certification: regulators, service providers, owners	
	Training – continuing education	
	Program audits – state regulatory	
	Program audits – by state or local agents	
	System inventory	
	RME authorized – operate, ownership Describe system and actual experience	
	Enforcement – how and how well are performance provisions enforced?	
	Other issues	
	at exist to adopting a performance code and are used to overcome the barriers.	
What cost and benefits inclusion of performance	were made available to the public with the e code provisions?	
	at have been or will be taken, or are needed support for a performance code provision.	
Describe any communic for general public to gai	ation plan or education program provided n support.	
What was the cost of thi		
In the process to change provided by an advisory	e or adopt a code, was any assistance group?	
If so, please describe the makeup of the group and describe its working process.		
On a separate sheet, ple	ease provide any other comments.	

SPECIAL APPRECIATION AND ACKNOWLEDGEMENT TO THE LONG NOWRA MODEL PERFORMANCE CODE SPONSORS IN PROVIDING THE RESOURCES THAT FACILITATE THE PARTICIPATION OF REGULATORS AND COMMITTEE MEMBERS IN THE DEVELOPMENT OF THIS VITAL DOCUMENT

The U.S. Environmental Protection Agency Office of Wastewater Management

The National Decentralized Water Resources Capacity

Development Project

Infiltrator Systems, Inc. Hancor, Inc. PSA, Inc.

The American Decentralized Wastewater Association
Representing manufacturing companies with products
complying with the ANSI/NSF Standard 40 Certification.
(Bio-Microbics, Inc., Clearstream Wastewater Systems Inc.,
Consolidated Treatment Systems, Inc., Delta Environmental, Inc.
Ecological Tanks, Inc., Hoot Aerobic Systems, Inc
Jet, Inc., Norweco, Inc.)

The Ohio Onsite Wastewater Recycling Association



NOWRA MODEL PERFORMANCE CODE SPONSORSHIP PROGRAM

The work to produce the Model Performance Code is currently supported through private donors, limited EPA and NDWRDCP funding. In 2003, this work load will increase and additional financial resources will be needed. NOWRA members can make a special donation to the MODEL PERFORMANCE CODE, by following the easy steps listed below.

- 1. Completely fill in the information on the form below, and sign your name representing the donor organization.
- 2. Identify the amount to be donated, and designate it to "The Model Performance Code Education Fund."

Name	
Organization (if applicable)	
Address	
City	
Amount to be donated: Payment Terms: □ Visa □ MasterCard □ Discover Card	enclosed check request invoice credit card
Credit Card Number	Expiration Date
Name on Card	Signature (required)
Other organization contacts Do you want to be included on the list for meeting notices	

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NOWRA MEMBERS - WE NEED TO HEAR FROM YOU

A vital part in developing NOWRA programs and information materials is our ability to understand the needs, concerns and priorities that exist with our members in the onsite industry. Please take a few minutes to respond to the following questions and fax the form to 410-798-0590 or send via e-mail to lhbonner@hanifin.com.

1.	Identify the services such as education and training sessions that NOWRA currently provides that support you in your profession
	a. Are CEUs required in your state for the licensing of onsite professionals? Yes \(\subseteq \) No \(\subseteq \) b. If so, who are the applied to?
2.	Identify the products, such as the <i>Onsite Journal</i> , and technical publications that support you in your work.
3.	What other services (education & training programs) or products would be beneficial to you as a professional, that NOWRA could provide.
4.	Do you attend NOWRA's national technical conference? Yes □ No □
	a. If so, what are the most useful sessions?
	b. What are the least beneficial sessions?
	c. What sessions would be most useful to you?
	d. What is your opinion about the exposition area?
5.	If you do not attend NOWRA's national technical conference, please explain.
6.	Do you attend any State Group meetings and if so, which one(s)?
7.	Have you attended any of NOWRA's regional workshops and if so, which one(s); if not what subjects would provide you with professional growth and opportunities?
8.	What improvements or additions should be included in future <i>Onsite Journal</i> issues?
	Would you prefer the information online only?
9.	Has your state recently had any legislative or regulatory actions regarding the onsite industry? If so, please provide any additional details
10	. Would you be willing to work with one of NOWRA's committees and if so, which one?
	ease provide any additional comments.

Making the Case for Industry Education about Effective Septic System Maintenance Practices

—by Matt Byers

ublic education with the correct emphasis, including demonstrating a good, value may help sell the concept of septic system management and maintenance to consumers.

What do we know for sure?

Much about the onsite industry remains debatable today (or at least is being debated), in many states across this country. The range of issues in this laundry list focus on technical topics such as:

- What constitutes an adequate separation distance?
- What is the value of pre-treatment and its influence on separation distances and overall loading?
- What is the appropriate septic tank size and type?
- How should we structure our rules and how should these rules be applied?
- What is the value of uniform distribution of effluent in soil?
- What is the value of soil itself?
- How do we best do site evaluations?
- What is the amount of detail needed in a site plan?
- Does the method of soil application of effluent matter?
- What would the ideal septic system look like?
- and so on, and on and on.

One of the most frequent and important topics discussed these days is system maintenance. Like I said before, in onsite, we debate a lot of topics. As experts, perhaps that's what we do best. But, this topic is not as debatable as it was in the past. A credible body of evidence has emerged that verifies the importance of the maintenance of systems. If we were to list all the documentation provided by manufacturers that refer to their systems requiring periodic maintenance, you could build an extensive bibliography.

More importantly, this is not a new topic. Septic and sewage system maintenance needs have been well documented. An example of this documentation exists in the classic treatise entitled: *Principles of Sewage Treatment*, written by Dr. Dunbar, published by Griffin and Company in 1908. We know for sure that septic systems need to be maintained or they will fail.



Professional Service Provider Ernie Reed. An actual service expert (ASE).

What does the consuming public know today?

The simplest onsite systems, by current definition, are septic tank and drain field systems. These systems, of course, are not simple and may in fact be the most complex of onsite systems... another debatable topic. These are the most common and are referred to as conventional. Here are some plain facts about common systems and their owners:

 The typical septic tank in America is not managed or maintained and the typical owner is uneducated regarding their wastewater treatment and disposal system.

- For example, many system owners do not know that cat litter should not be flushed down the toilet.
- Owners are generally unaware of the effect of paint and pine oil on their system.
- System owners use toilet paper like it grows on trees! And then, wonder why back-ups occur!
- Systems usually only receive "maintenance" when they fail, and then owners complain of the high costs for repairs.
- Often, a system fails because it did not receive regular maintenance, or a misuse goes unchecked.
- A failure or problem in a septic system today is evidenced by surfacing waste, foul odor, or the presence of muddy dog-paw prints on the floor.
- System owners often do not realize that these failures can result in human illness and environmental contamination just as exists when the municipal sewer line creates a back-up in the basement.

Failure, education, and the attention-getter.

With typical septic systems, by the time a failure or problem is detected, the system needs heroic efforts to be revived or simply is declared dead and replaced. This is when the consumer realizes the real value of a functional system. Why did this failure occur? Chances are the tank itself was never properly cleaned out; and wear items were never replaced or even inspected. The non-wear items such as the drain field are now replaced at great cost to the system owner. As a side note, it is very interesting to observe just how many failures today seem to precede real estate transfers. Were the owners so excited about moving, they

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just overwhelmed the system? Perhaps. Most likely however, the system was in trouble long before the real estate transfer, and problems were just ignored. Their interest increased at the point of the real estate transfer...why? Money! Once owners realized their septic system impacted the value of their property (and it's often a real big impact), they're open to education. In fact, they *ask* for education.

Educating this group and all system owners about the need for regular maintenance and service could have saved a lot of money and anguish. Money is one of the most important things to the consuming public. (Obviously, we don't care about money; we're experts.) Although the public we serve is interested in public health and the environment, their interest in their pocketbooks supercedes their desires for environmental stewardship. So, we educate their children about the environment because they'll listen, can be taught, and they are concerned and will bring the message home. The grown-ups are busy earning a living through work. Work is hard. Persons

like to spend the money earned through hard work on what they like and choose. Not on what the experts say they need. This makes for a tough sell. If we want to sell maintenance, we need to build a case the consumer will choose. Heck, if Sears can do it with lawnmowers, we can do it, too.

Relating the cost of repairs due to a lack of maintenance needs should be a vital part of customer education. This process does not need to be sensational, just give your audience the facts about drain field replacement costs versus maintenance fees. Today, a lot of good educational materials exist and are available free of charge. Do you know that NOWRA has a very useful educational folder that advises owners how to care for and maintain their onsite systems, and to keep an important record of all of the service calls? So if we combine these fine materials and the proper urgency, we may come up with a formula people will embrace.

Systems and Maintenance

Clearly, maintenance needs to be done on a regular basis—but what does this really mean? Pumps need service, tanks need service, treatment devices need service, filters need to be cleaned etc. No mystery. If this is the case, why has it not been done to date? (As experts, we often answer our own questions.) The answer is, owners have been led to believe that septic systems do not need maintenance (bad education). This is a faulty notion with really dire impacts. We have to ask, why have these consequences been ignored? Once again, the same point is made—education of system owners about maintenance has not been successfully done.

In time, maintenance of onsite systems will likely become a regular practice. There are many reasons. Among them, the U.S. EPA issued specific guidance on this topic; the cost of repair is great; people know more today than they did years ago regarding system failure; and there are professionals who are qualified and ready to do the work. States are

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Making the Case...

debating the issues now. This is a necessary process. But in the end, since maintenance is needed and money is involved, it will very likely occur.

In fact, required maintenance is happening in many jurisdictions. Treatment systems that have maintenance points built into them are required in many jurisdictions where conventional systems just won't do the job. In such cases, permits may be issued for such devices and a maintenance contract may need to be on file at the health department office. The maintenance steps defined by the manufacturer, and agreed to by the state, must be accomplished, documented, and records kept on file. So, in some places, required maintenance is happening.

Maintenance, it turns out, is a rather painless procedure. For the professional of today, the paperwork is likely the most complicated part of the maintenance issue. That paperwork includes contract development, permits, deed attachments, billing, etc. For instance, septic tanks are easily inspected by knowledgeable professionals, or as they have been come to be known, "actual service experts." They can measure scum, sludge, look at effluent, water levels, water bills, drain field appearance, etc. They can service pumps, blowers, flush lines, assess electrical service quality, and inspect controls. They can sit down with a system owner and explain what has troubled their system and further explain how to keep it healthy. The more "complex" a system becomes the more steps that are required for inspection and service. The more covers that have to be removed, the more flushing and cleaning that need to take place, the more time a professional must spend working. That time translates into dollars. Costs for system inspections and service vary. In some areas, it costs \$10/month or \$120/year for two inspections. Other places are higher. But in the end, the consumer needs to get a fair deal. The cost of service needs to be reasonable. Fair day's work for a fair wage.

Today, people such as Ernie Reed (see picture of Ernie) do service on septic systems. Ernie is a good example of a

man with vast septic system experience. In fact, his résumé is even more impressive. Ernie, like so many of his contemporaries, does real work. He addresses septic issues one system at a time. He knows where sewage comes from and understands its fate. He knows what a healthy tank looks like. He and his father have actually invested their own money and purchased equipment that allow them to make necessary repairs to ailing systems or just to do regular maintenance. Installers and service professionals working in the field today vary in their abilities, but many very knowledgeable persons exist. More are being created daily through educational programs scattered across the U.S. The experts have established a network of training centers across the U.S. and have many fine curricula designed to achieve the goal of producing strong service providers and installers. Make no mistake, the level of our profession is increasing.

Systems and Management

In the U.S. today, we are moving toward management of septic systems. Management is different than maintenance. Management facilitates maintenance. Maintenance steps are activities that need to be accomplished so your system will perform. We hear about RMEs (an acronym for the real name "responsible management entities"). See Tim Franks' article in "Frankly Speaking." However, an RME may or may not perform maintenance. A management entity would likely support maintenance by providing for contracts, billing, permitting, etc., but may or may not do the maintenance. Remember, paperwork is a big pain. To accomplish it is a good thing. If the RME does not wish to do maintenance, the RME could subcontract all the service work to local providers. It could also "sub" (contractor jargon) the work out to large providers. As time passes, more local providers will be qualified to do the work.

The idea of large-scale management is growing in some areas of the country. It has positive and negative aspects—another point for debate. On the up side, a sufficiently large RME can be a business capable of supporting itself (critical mass).

This is important. At the center of the current debate is consumer choice and competition. As this industry develops, competition needs to be encouraged. Excellent products and services and a better deal for the customer is what healthy competition provides. This direction also makes the concept of management a saleable idea. Demonstrate value to consumers and they'll buy. Sometimes I wonder whether we experts understand the value of a dollar and whose dollar it is anyway.

The Ideal Scenario

So what's the ideal local onsite septic system scenario? Again, as I am an expert, I have the answer to that question as do all my brother and sister experts. Ask us sometime. Or perhaps, we'll just tell you whether you ask or not. By the way, as experts, we reserve the right to adjust the ideal scenario from time to time. The indisputable ideal scenario currently is:

- The consumer has problem defined by appropriate agency or person,
- appropriate technologies are chosen for a particular site,
- proper rules and regulatory controls are in place,
- products purchased fairly,
- the technologies are installed correctly and fairly,
- owners are knowledgeable and educated regarding their system
- owners follow the instructions given them.
- system receives routine inspections,
- the system is under a maintenance or management contract that is fair and reasonable,
- bills are paid in a timely fashion for services rendered, and
- the consumer is pleased with the deal.

This scenario is quite possible and more likely today than yesterday. And tomorrow will be better than today. To protect public health, to protect the environment, to protect the consumer's investment in their real estate, system maintenance needs to be done.

Cold Weather Insulation of Septic Tanks and Other Infrastructure

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Introduction

The Winter of 2002/2003 saw some of the coldest temperatures, lowest snow cover levels and deepest frost depths in the Upper Midwest in many years. The result was that many septic tanks, drainfields, mounds, water mains and other under ground utilities froze. In Minnesota, estimates were that 5-10% of the onsite systems experienced freezing problems, with some northern counties having freezing rates as high as 20-30%. Since Minnesota has approximately 536,000 onsite systems (MPCA, 2002) that's 26,800 to 53,600 frozen systems, folks!

So many calls came into local regulators that many simply stopped counting. Pumpers had their busiest year in decades, with many firms operating close to 24 hours per day. When spring road postings went on, the Governor exempted pumpers due to the vital service they were providing.

The economic effects of the situation were widespread, not to mention the perceived risks to public health and the environment. Some residents questioned the viability of onsite systems, and most were shocked to learn that simple upgrades, such as insulated pipes, could have kept their systems in service. If decentralized wastewater management is going to be accepted by the public as a viable alternative to regional sewer networks, we, as an industry, need to proactively address problems like freezing. Could such a disaster have been avoided? The answer to this question depends on whether or not these types of freezing conditions could have been predicted. What is clear, is that we now know about the problem and can take steps to prevent it from occurring again.

Cold weather insulation of utility infrastructure is not a new science. In places like Alaska and Canada, engineers have developed tools and techniques to overcome the challenges of their cold climates. What is needed, and what will be provided here, is a set of similar tools that can be used in cold climate areas of the 48 conterminous states.

THE ENERGY BALANCE APPROACH

The key to good thermal design is to develop an energy balance equation for the particular application. For purposes of this article, a thermal design for a 1,000 gallon septic tank is developed. However, the same principles and practices can be used for almost any other part of a system.

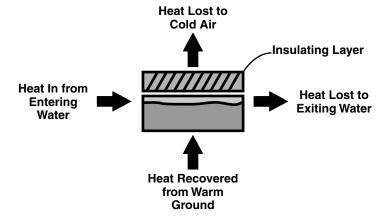
The basic energy equations can be expressed as follows:

Total Heat = Initial Heat $\pm \Delta$ Heat Eq. 1 where

 Δ Heat = Heat Inputs \pm Heat Outputs Eq. 2

In layman's terms, the first equation simply states that the total heat stored (or temperature) in a system at any time is equal to its starting temperature plus or minus any change in energy. The second equation states that the change in temperature is equal to the sum of the heat entering and leaving the system. To prevent a system from freezing, therefore, one must make sure that the total energy stored at any time is enough to maintain the temperatures above freezing. To do this, one must make sure that the amount of energy lost is less than the heat input into the system.

Figure 1: Heat Gains and Loses in a Septic Tank



ENERGY BALANCE EXAMPLE

The next step is to develop a graphical model of the system showing the various paths through which heat can enter and leave a system. Figure 1 is an example of a simplified model for a septic tank (heat losses through the tank sidewalls are ignored). We also need to quantify the amount of energy entering and leaving the tanks. To do this, the following example situation will be analyzed:

continued on page 22

Cold Weather Insulation, continued

- Serves a 3 bedroom home
- 1,000 gallon capacity
- 2 people in home; actual flow of 120 gallons per day (gpd) at 50 °F (10 °C)
- Septic tank lid is exposed (no cover)
- Air temperature = $0 \, ^{\circ}\text{F} (-18 \, ^{\circ}\text{C})$

Next we must quantify the amount of energy entering and leaving the tank. It takes 4.186 mega joules (MJ) of energy loss to cool 1 cubic meter of water by 1 °C and 334 MJ of energy loss to make a cubic meter of water freeze (change from liquid to solid) (CRC Press, 1974). In addition, studies by NAWE and others have shown that the amount of heat transferred from the ground is approximately 0.3 MJ/m2d (mega joules per square meter per day) (Kadlec & Knight 1996; Wallace et al. 2000). This means that the energy entering the tank from water every day is as follows:

• Energy Entering Tank:

```
120 gpd = 0.45 \text{ m}3/\text{d}
Water Heat Input = (0.45 \text{ m}3/\text{d}) \text{ x } (10 \text{ }^{\circ}\text{C}) \text{ x}
(4.186 \text{ MJ/ m}3.^{\circ}\text{C}) = 19.0 \text{ MJ/d}
```

Tank Bottom Area = 4.5 m2Ground Heat Input = $(4.5 \text{ m}2) \text{ x} (0.3 \text{ MJ/m}2 \cdot \text{d}) = 1.35 \text{ MJ/d}$

Total Heat Input = 19.0 + 1.35 = 20.35 MJ/d

We also know that the thermal conductivity of the 6" (0.15 m) concrete top of the tank is 0.11 MJ/m·d·°C (mega joules per square meter per degree Celsius per day). We can then calculate the heat loss as follows:

• Energy Leaving Tank:

Temperature of water leaving the tank = 32 oF (0 °C) Water Energy Loss = $(0.45 \text{ m3/d}) \times (0 \text{ °C}) \times (4.186 \text{ MJ/m} \cdot \text{°C}) = 0 \text{ MJ/d}$

R-value of 6" Concrete = $(0.15 \text{ m}) \div (0.11 \text{ MJ/m} \cdot \text{d} \cdot ^{\circ}\text{C}) = 1.36$ Outside Air Temperature = 0 °F (-18 °C) Tank Area = 4.5 m2

Concrete Heat Loss = [(0 °C - (-18 °C)) x (4.5 m2)] $\div 1.36 = 59.6 \text{ MJ/d}$

Total Heat Loss = 0 + 59.6 = 59.6 MJ/d

This analysis tells us that the tank is losing energy (20.35 MJ/d in; 59.5 MJ/d out) even though the residents are putting 120 gpd of relatively warm water into the tank.

HOW LONG BEFORE THE TANK FREEZES?

If the effluent leaving the tank is $32^{\circ}F$ (0°C) this does not necessarily mean that the water is frozen. Instead, we use this design point because the water is still liquid and it still requires a great deal more energy loss to cause the phase change from water to ice. As can be seen from our analysis, more heat is leaving the septic tank than entering it. What we now need to

know is how long it will take at an air temperature of 0°F (-18°C) before the tank freezes. This can be determined as follows:

• Energy Loss to Freeze

Tank Volume = 1,000 gal (3.8 m3) Ice Phase Change = 334 MJ/m3 Energy to Freeze Tank = 3.8 m3 x 334 MJ/m3 = 1,296 MJ

Table 1: Time to Freeze at an Air Temperature of 0°F (-18°C)

Day		Heat Out	Net Change	Heat Remaining
	(MJ)	(MJ)	(MJ)	(MJ)
0	Starting condition	1,296.00		
1	20.35	-59.6	-39.25	1,256.75
2	20.35	-59.6	-39.25	1,217.50
3	20.35	-59.6	-39.25	1,178.25
4	20.35	-59.6	-39.25	1,139.00
5	20.35	-59.6	-39.25	1,099.75
20	20.35	-59.6	-39.25	511
30	20.35	-59.6	-39.25	118.5
33	20.35	-59.6	-39.25	0.25

This tells us that the water in septic tank will run out of energy in 33 days and freeze, despite the 120 gpd of relatively warm water entering the tank each day. For onsite systems to be accepted by the public as viable long-term solutions, we as designers, need to design systems that don't freeze.

PREVENTING FREEZING

We now must determine how much insulation is necessary to prevent a freezing condition. The approach requires determining what equivalent R-value is needed to prevent freezing and is determined as follows:

• Calculating R-value of Insulation

Heat loss must be decreased from 59.6 MJ/d to 20.35 MJ/D Required R-value = $[(0 \, ^{\circ}\text{C} - (-18 \, ^{\circ}\text{C})) \, \text{x} \, (4.5 \, \text{m2})]$ $\div (20.35 \, \text{MJ/d}) = 4.0$

Table 2: Thermal Conductivities of Various Materials

Material	Thermal Conductivity		
	(MJ/m2·d·°C)		
Polystyrene	0.002592		
Air	0.002074		
Water	0.004925		
New Snow	0.004234 - 0.006912		
Old Snow	0.002160 - 0.110592		
Ice	0.190080		
Straw	0.007776		
Gravel	0.025920		
Sand	0.030240		
Soil	0.044928		
Clay	0.112320		

Data adapted from Kadlec & Knight (1996).

Therefore, for this example, it would take the following materials and thicknesses to prevent freezing in the septic tank:

 Calculating Insulation Type and Thickness for 2 Types of Insulation (using Table 2)

Existing R-value for Concrete (R1) = 1.36Total R-Value Needed = R1 + R2 = 4.0Insulation R-value (R2) = 4.0 - R1 = 4.0 - 1.36 = 2.64

Polystyrene Foam Thickness = $2.64 \text{ x} (0.002592 \text{ MJ/m}2 \cdot d \cdot ^{\circ}\text{C})$ = 0.0068 m = 0.27 in

Soil Cover = $2.64 \times (0.044928 \text{ MJ/m/d/}^{\circ}\text{C}) = 0.119 \text{ m} = 4.7 \text{ in}$

This tells us that 0.27 inches of polystyrene foam or 4.7 inches of soil cover would be sufficient to keep the tank from freezing.

CONCLUSION

This is a simple example but it lays out the foundation for developing energy and heat balance models and equations for whatever it is that needs insulating. It is important to recognize that good construction practices (adequate cover, drainback slopes on pipes, etc.) are still needed, along with adequate maintenance, to keep onsite systems operating successfully during severe freezing conditions.

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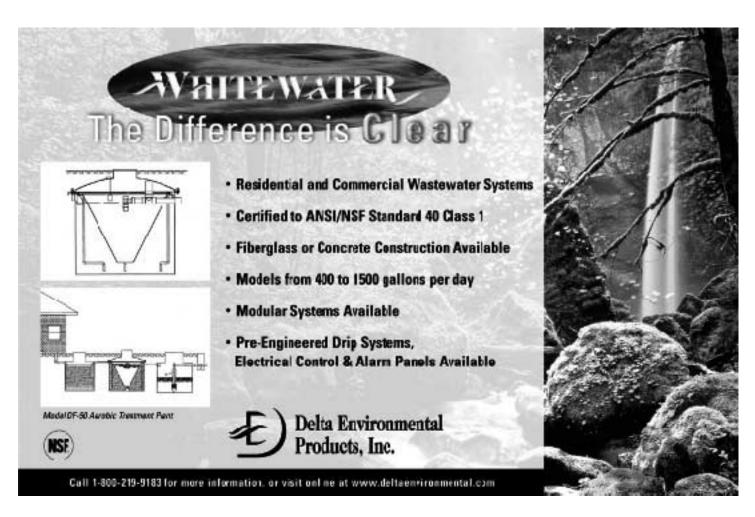
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Texas has taken great strides forward in utilizing treatment products in onsite, mandating perpetual agreements to oversee and assure the proper performance of these systems. Progress isn't without struggle, however, as the following article, reprinted with permission of the Texas On-site Wastewater Association, shows.

Why isn't maintenance working?

by Jeff Snowden

he questions abound regarding the perpetual maintenance program that has been required by 30TAC285 since February of 1997.

Questions such as:

- Why are the inspections not being performed?
- Why are reports not being sent to the Owners?
- Why are reports not being sent to the Agencies?
- Why are failing systems not being repaired?
- Why don't owners renew their contracts?
- The list goes on and on...

The answers are not difficult to identify, but there is not one answer that handles all questions.

Some of the answers are as follows: The maintenance business is a very unattractive and unrewarding business:

- Once an installer has done maintenance for a year or two, they decide that life's too short to deal with all the headaches for little to no reward.
- 2. Other than warranty work, inspection work is the least profitable activity in the OSSF industry. It is least profitable when performed by companies who have heavy equipment-related overhead structures. Such companies are excavation companies, and precasters.
- 3. If the accounting is done correctly, a

- prepaid maintenance agreement is a liability, and must be shown as such on the company's balance sheet. This has an adverse effect on the company's financial statements, unless the company can maintain large amounts of asset to offset the liabilities. If they do, then the maintenance company becomes attractive to a clever attorney.
- 4. Maintenance providers are in continuing contract relationships with homeowners, which is the most difficult customer base to manage. Most contractors are ill equipped to deal with the relationship problems of having homeowners as continuing customers.
- 5. The term "maintenance agreement" causes owners to incorrectly believe that the maintenance provider is responsible for fixing everything that happens to the OSSF at no additional cost to the owner. From the onset, this places the owner and provider at odds.
- 6. Owners do not, as a rule, gladly pay charges for repairs to their OSSF. The contractor must secure payment in full "before the tears dry." Otherwise, the likelihood of receiving prompt payment in full drops to around 50%. The time, the cost, and the delay associated with then required collection actions aren't something most contractors can handle.
- 7. Maintenance companies cannot afford to be proactive in growing

- their volume by acquiring renewals. There is not enough profit in the work to cover the additional overhead of the acquisition efforts.
- 8. Owners do not know how to operate their systems, and the most ready source of information is usually their maintenance provider. The provider spends hours every day educating the owner for free.
- 9. The maintenance company is the first person or entity that informs the homeowner of their OSSF responsibilities. The owner then "shoots the messenger," as if it is the maintenance company who created the problem for the owner.
- 10. Every few months, the maintenance company goes on site, and touches the OSSF. Most often, this creates a belief in the owner's mind that a problem with their system was caused by, or overlooked by, the company. The owner, therefore, feels that the cost of repair is not their responsibility.
- 11. Owners expect service 24 hours a day, 7 days a week, 52 weeks a year. There is not money in the business to supply personnel to meet that expectation.

Regulators, some distributors, owners and builders want a model that doesn't work:

1. The most common situation is that the installer, a one person or very

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- small excavation contractor if you really understand their business structure, to perform the required maintenance on the system. The excavation contractor generally finds that when doing maintenance, he/she is losing money, or at best, it detracts from their profit-making part of the business.
- 2. Since the excavation contractors aren't really in maintenance as a business, they don't put money in the installation budget for maintenance. They, are therefore, guaranteed to lose money on each job over the following two years. No wonder they won't offer to renew agreements.
- 3. After the first two years, there is no negative repercussion to the excavation contractor for not offering a renewal contract (as is required by NSF). Therefore, they don't, which leaves the owner to search about frantically, looking for a replacement provider.
- 4. Since there is no negative repercussion for not doing maintenance, there is no incentive to do the maintenance work, or to pay for someone else to do it.
- 5. The practice of "certifying everyone" for maintenance does several things that support unworkable models.
 - a. Allows the installing contractor to believe that he/she has a cost savings because they do not have to hire and pay a true maintenance company. As discussed before, this generally turns into poor maintenance work or the maintenance work not being done, and no offer to the owner for a renewal contract.
 - b. Provides a constant supply of undercapitalized, inexperienced, uneducated and/or unaware maintenance providers. The majority do not have the training, experience, or the desire to deal competently with the above business challenges. Since they have no

- idea what they're getting into, they work too cheap. In short time, we find they don't do the work and they don't stay in the business. Since they are not aware of the financial accounting requirements, they go out of the maintenance business with no money to pay for the completion of their contracts.
- c. Maintenance companies must be easily regulated. For that, they need to have physical addresses and physical phone lines, and have assets and income streams they wish to protect. Certifying everyone creates thousands of firms who cannot be easily regulated.

Enforcement is lacking:

- 1. Without enforcement there will be little compliance. Virtually no one follows rules that aren't enforced.
- 2. Enforcement is an activity that the Authorized Agents and Designated Representatives have never had to do before 30TAC285, so they are not very skilled in this activity.
- Court action is required to effect enforcement action, which is a very difficult process, even if well skilled at it.
- 4. There is no positive result to the Authorized Agents or Designated Representatives for a successful enforcement action. No revenues accrue to the agency. No promotion or advancement for the Designated Representative. In fact, the enforcement action creates additional costs to the agency, and distracts the Designated Representative from the duties that do generate revenues.
- 5. There is little to no negative result to the Authorized Agent or Designated Representative for not performing enforcement. The annual audit by TNRCC (now the TCEQ Texas Center for Environmental Quality)

rarely reveals deficiencies in enforcement, and there are no immediate repercussions if a deficiency is identified. The only negative is if TNRCC takes back a program and issues charge backs, which we all know they don't want to do. Making the maintenance program work will require several steps to affect a solution.

Suggestions are as follows:

- TREC (Texas Real Estate Commission) requirement for new maintenance agreement at sale of property.
 - ~ Part of title company's responsibility
- Authorize Agencies to issue citations (like traffic tickets) for non-compliance.
 - ~ Owner & installer have court rights for appeal (like traffic tickets)
- 3. Return revenues generated from citations to Agencies.
 - ~ Percentage to State General Fund to appease legislature
 - ~ Percentage to Agency to support continued enforcement actions
 - ~ Percentage to (?) to support public education initiative
 - ~ Percentage to TNRCC for program support
- 4. Establish requirements for maintenance companies
 - ~ Real Estate Act service company as an example
 - ~ Financial requirements/accounting requirements
 - ~ Annual report/audit
 - ~ Insurance requirements
 - ~ Standardize & centralize reporting (like municipal)
 - ~ Fees to support maintenance program
- 5. Make mandatory program compliance an Agency requirement
 - ~ Administrative penalties for non compliance.
 - ~ Eliminate chargeback provisions •

New NOWRA Chapter Takes Shape in Minnesota



A group of Minnesotans with long associations in the wastewater recycling industry have formed a new NOWRA chapter. A Charter Meeting was held on March 7,

2003, in St. Cloud, Minnesota at the Radisson Suite Hotel. About 45 people attended this meeting, where a Charter and Bylaws were adopted and a Board of Directors appointed. The new board of directors includes Chris English, President; Barbara McCarthy, Vice President; Peter Miller, Secretary; Sarah Christopherson, Treasurer; and Robert Whitmyer, Alternate.

The group is called **M-POWR**—the Minnesota Professional Organization of Wastewater Recycling. Its mission is to provide vision and leadership for the empowerment of all professionals and businesses engaged in the wastewater recycling industry while adhering to the core values of protecting consumer rights and enhancing both the environment and public health. Part of that vision is that the group will become the foremost wastewater recycling industry advocate for the advancement of innovative and sustainable design, construction, manufacturing, regulatory and management practices.

M-POWR has laid out their organizational goals in water quality management and protection, and sees their affiliation with NOWRA as key to their efforts. Five areas will be the focus:

Education is an investment and enrichment of professional opportunities. NOWRA and M-POWR educational workshops, seminars and forums are directed to increasing and enhancing knowledge and skills about new and existing onsite, cluster, and small community systems design, research,

management, and technology. These programs are developed and conducted by NOWRA and M-POWR educators, researchers, and leaders who are recognized for their national expertise and skills in the onsite, cluster, and small community industry. They fulfill respective State requirements for industry certification and competency.

Training Sessions offered by NOWRA and M-POWR are intended to build new, and enhance existing, technical and professional skills concentrating on the procedures and practices for onsite, cluster, and small community system installation, operation, maintenance, and trouble-shooting. Developed and conducted by manufacturers, equipment purveyors, and industry leaders, they are designed to achieve professional competency and excellence within the industry certification process, and to advance professional opportunities.

Information is essential for keeping ahead of the technical changes within the onsite, cluster, and small community, and decentralized industry. These activities keep NOWRA and M-POWR members up-to-date with issues, legislative actions, products, and educational programs.

Professional Networking is the primary activity that establishes and maintains alliances with colleagues in this industry. It is, in many ways, an instant link to the increasing pool of experts in the onsite, cluster, and small community industry.

It also provides opportunities for increasing professional advancement and enrichment.

Involvement in NOWRA and M-POWR programs, its committees, and organizational activities provides professional enhancement and knowledge. It is a primary method for obtaining the most from the member benefits. M-POWR has many State Associations in which individuals can participate on the local level. In addition, with today's technological networking opportunities available, members can easily participate in M-POWR work on a national level as well.

To quote Chris English, M-POWR President, "Our logo tells the story of how M-POWR will operate. We start with a picture of a Minnesota lake at sunrise with two geese flying overhead. The lake represents the high value Minnesotan's place on the natural environment. The sunrise represents the optimism of a new day and the potential that the future holds for the wastewater recycling industry. Finally, the geese signify the importance of working together as a team because of their habit of flying in a "Vee" formation—i.e., the individual is empowered when the group works toward achieving a common goal. We will work with NOWRA to enhance the professionalism and technical ability of wastewater recycling contractors and consultants for all Minnesotans. We welcome partnership and seek to build strong working relationships."

Ed. Note: HI! You're here. Thank you.

Non-Member State Status

STATE	STATUS	STATE	STATUS	STATE	STATUS
Alabama		Kentucky	REJOINING	New Hamp.	
Arkansas		Louisiana		New Jersey	
Arizona	INTEREST	Maine		New Mexico	INTEREST
Colorado	FORMING	Mass.	INTEREST	N. Dakota	
Conn.		Maryland	FORMING	S. Dakota	
Idaho		Mississippi		Oklahoma	INTEREST
Illinois		Montana		Oregon	
Indiana	INTEREST	Nebraska	INTEREST	Rhode Is.	
Iowa	INTEREST	Nevada		Utah	INTEREST

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Charting our Course Membership Growth

Colorado Group Makes Progress

A base group of Onsite Wastewater System Professionals have expressed an interest in forming a Colorado Group of NOWRA—the National Onsite Wastewater Recycling Association. A preliminary meeting was held in April (*Ed. note*—please see article on page 7) and a Charter meeting is set for June 13th in Frisco, Colorado. **YOU ARE INVITED** and we hope you will attend. At right is an Announcement Flyer for the meeting. If you plan to attend, an RSVP would be appreciated. As you will read on the flyer at right, this is an organization which includes all phases of the industry. We especially urge contractors/installers to attend. It is hoped that our organization will be able to offer Health Insurance, Workman's Compensation benefits and tips for business improvements.

As a part of our process is selecting a name for our group, below is a list of possible names. Please let me know your favorites. (echurch@geo-church.com)

Colorado "NOWRA Jr." Possible Names

Association for Recycling Wastewater, ARW

Association of Colorado Onsite Wastewater Professionals, ACOWP

Association of Colorado Wastewater Recyclers, ACWR

Colorado Association of Wastewater Recycling Resources, CAWRR

Colorado Association of Wastewater Resources, CAWR

Colorado Association of Professionals in the Onsite Wastewater Industry, CAPOWI

Colorado Smallflows Association, CSA

Colorado Onsite Wastewater Industry Association, COWIA

Colorado Onsite Wastewater Professionals, COWP

Colorado Onsite Wastewater Recyclers, COWR

Colorado Professionals in Onsite Wastewater, CPOW

Colorado Wastewater Recycling Industry Association, CWRIA

Onsite Wastewater Professional, OWP

Onsite Wastewater Recyclers Association, OWRA

Resources for Recycling Wastewater Association, RRWA

NATIONAL ONSITE WASTEWATER RECYCLING ASSOCIATION comes to Colorado

Join other onsite wastewater professionals by attending the Charter meeting to form a Colorado constituent group of the National Onsite Wastewater Recycling Association (NOWRA)

WHY:

There is no unifying organization that brings together everyone in theOnsite Wastewater industry. NOWRA is the leading national onsite wastewater organization and has state constituent groups. A Colorado group can be leaders in onsite wastewater and promote the industry in Colorado and Nationally.

WHO:

CONTRACTORS, INSTALLERS, PUMPERS, REGULATORS, ENGINEERS, PRODUCT MANUFACTURERS AND SUPPLIERS, DESIGNERS, VENDORS, PRECASTERS, OPERATORS and MAINTENANCE and SERVICE PROVIDERS, RESEARCHERS AND ACADEMICS, INTERESTED PARTIES such as REALTORS, DEVELOPERS, OWNERS, BANK AND MORTGAGE REPRESENTATIVES, PLANNERS, and MORE CONTRACTORS AND INSTALLERS.

WHEN: Friday June 13, 2003, at 9:00 a.m.

WHERE: Summit County Commons Building, 0037 Peak One Drive, Frisco, Colorado

FOR MORE INFORMATION call or write:

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NOWRA, 800-966-2942 or website: www.nowra.org

WE WANT AND NEED YOU THERE!
THE ONSITE WASTEWATER INDUSTRY
NEEDS YOU.

Fill in your suggestion

Getting Involved in NOWRA— YOUR VOICE AND PARTICIPATION MAKE A DIFFERENCE!

NOWRA's committees and their members are a significant and integral component in the professional growth of the organization. Committee members working at the grassroots and local levels on education programs and servicing clients are the foundation of our Association's mission. It is the feedback from these activities to NOWRA's leadership team from the service provider to the pumpers to the designers and regulators that defines the direction of the Association's programs on their behalf. NOWRA is fortunate that many members active with their local and state groups are also willing to participate on a more National level. While we need all levels of participation, we also need to expand the activities.

WHY this message? The decentralized industry is changing... and these changes affect members professionally and economically. These changes represent exciting opportunities for members to benefit from the growth that is occurring and will continue to occur throughout this decade as the demand for onsite systems increase.

The increased demand for onsite and decentralized systems is occurring because of two important events. The first is the economic crunch municipalities throughout the U.S. are facing that affects their ability to expand treatment plants and collection systems. Second, with the significant advancements made in technology and equipment by member manufacturers, designers, and service providers over the past decades the ability to obtain these systems at a more affordable cost also increases. The result of these events are stimulating a greater recognition of the onsite industry's services and capabilities—

thus increasing the demand for products and systems. With the demand for systems, products and services, also comes a highly important need—for professional and homeowner EDUCATION.

As these changes occur, NOWRA's leaders need to be in the forefront of facilitating legislation and regulatory actions. It is one of the reasons that NOWRA is leading the work to produce a Model Performance Code. NOWRA leaders must continually be well informed as to how new regulatory actions affect members' professional and economic interests. As a result, NOWRA is continuing its proactive role in partnering with other associations, groups and political officials that further enables it to provide a leadership role in the decentralized wastewater industry.

NOWRA needs your participation.

This is not a plea for a major time commitment. It is a request to volunteer a few hours a month to review and report on legislation, produce an article for the Journal, or contact other persons about important activities affecting the onsite industry. This small role will make a very large difference in NOWRA's effectiveness with elected and regulatory officials! Imagine—if we multiply the factor of 3 persons three times, with each accomplishing one or two tasks, the progress we would achieve would be impressive.

Here are just a few of the areas of activity that as a NOWRA member, you can provide an important volunteer contribution.

 Meeting with local professional organizations such as the Rotary Group, chamber of commerce, business meetings and civic groups—to inform them about the difference that onsite and decentralized systems achieve in water quality protection.

- Participating in school science fairs and activities—illustrating how onsite systems work to protect water quality—also helps to educate a younger generation about professional career opportunities in science and water resources.
- Providing information and news articles to the onsite journal on activities within your business, community, or a new product.
- Making an appointment to meet local and state elected officials—NOWRA has information folders available that help to educate them about onsite and decentralized systems—and informing them about the work of the Model Performance Code.
- Keeping informed about future legislation that may affect onsite industry businesses, and communicating this information to NOWRA leaders.
- Organizing and meeting with local homeowners to educate them about the role of maintenance and servicing of their onsite system—what they should and should not do. NOWRA has folders, a CD presentation and education information available for distribution.
- Presenting a paper at NOWRA's conference about your work or a local problem to be solved.

The following chart identifies the existing committee responsibilities and chair persons to contact to discuss how you can support the Association. Because NOWRA dues are significantly low, your volunteer activities can help us to accomplish a stronger national presence. Please contact the NOWRA office either thru e-mail to lhbonner@nowra.org or fax information to 410-798-5741.

Name		
Address		
Phone/fax/email		
Committee(s) interest		
Comments or other matters		

COMMITTEE/ CHAIR PERSON	ROLE	RESPONSIBILITIES	2003 PROGRAM GOALS
Communications & Promotion Promotion Mike Stephens	Ensure that effective communication strategies continuously exist both within the Association and with external partners in order to facilitate and achieve the organization's work.	Identify effective communication strategies that showcase the achievements of NOWRA, its members, and its national leadership in water quality protection through production of the Associations publications, website, and homeowners education materials.	1. Establish 2003 themes and solicit copy for Onsite Journal themes & operators' articles. 2. Expand interest in Q&A column ("Ask the Expert"). 3. Review & recommend edits & changes to homeowner folder, web site and other NOWRA publications. 4. Assure contact with constituent groups (state associations); identify needed support; assess interest and progress on contractor certification (see ETHICS # 3). 5. Define program costs for 2003, and review & provide input to member services program materials. 6. Make decisions about publishing the <i>Onsite Journal</i> for 2003. 7. Initiate needed web site design changes in 2002 for 2003.
2003 Conference Program & Exposition Leeann Whitehead and Brenda Guy	To advance the education and leadership skills of its members, and provide opportunities for essential dialogue on innovative technologies and management through effective forums.	Works with Education & Executive Committees to implement annual conference themes, provide innovative programmatic forums to integrate educational and training sessions that benefit NOWRA members and the onsite industry, and provides support to head-quarters to secure keynote speakers and arrangements for the conference program social activities.	I. Identify specific 2003 conference program non-technical events and activities to hold in local area, prior to end of 2002 conference. Actively recruit members, implement established work plan to promote exposition opportunities. Develop local strategies for contractor participation and emphasize the certification priority in the model framework. Provide candidate list of high profile persons for luncheon keynote speech and opening session. Identify theme and effort for special social activities, assign persons for spouse activities; site tour & golf tournament. Work in conjunction with executive office to provide timely information. Provide input into 2004 & 2005 conference locations.
Education Jim Converse and Peggy Minnis	Actively work with all states to maintain approval of Continuing Education Units (CEUs) for all NOWRA courses.	Develop and disseminate training programs and learning skills for all practitioners, in coordination with other organizations and states' groups for all practitioners in the onsite industry.	1. Hold joint meeting with Conf Committee and NOWRA leaders to identify overall conference theme & direction. 2. Define number of program sessions; solicit abstracts & select speakers for conference program sessions. 3. Provide list to Headquarters to send acceptance letter with instruction. 4. Review/edit papers prior to presenting or sending to Headquarters 5. Review and provide input to (a) member services program approach; (b) educational speakers' list for members' services program. 6. Identify 2003 Education Program Themes, format & materials and instructors for four member educational programs. 7. Contact member states and identify CEU requirements and ensure that NOWRA's programs comply with needs for any available practitioner certification. 8. Identify location opportunities for hosting 3-5 educational seminars in 2004.
Government Relations Bob Himschoot	Establish and facilitate effective communication and monitoring strategies with local, state legislative and federal regulatory officials.	Form partnerships with other organizations, develop legislative strategies, organize and prepare constituent groups and coalitions to advance and achieve acceptance of the NOWRA framework, performance code, and other defined needs of the Association including contractor certification.	 Obtain 3-4 persons to serve on committee. Contact all government relations persons in all State Associations and identify 2003 legislative issues affecting the onsite industry, including practitioner certification issues. Research through internet other onsite legislative issues and recommend actions for NOWRA to pursue, particularly related to practitioner certification. Develop work plan. Identify list of potential lobbiest candidates and task list to be addressed in 2003 6. Provide copy to Onsite/Insight. Produce State Lobbying Handbook.

COMMITTEE/ CHAIR PERSON	ROLE	RESPONSIBILITIES	2003 PROGRAM GOALS
License & Ethics David Linahan	Ensure that the established Code of Ethics is adhered to among all sectors of the membership and relate to practitioner certification and licensing.	Develop a framework and overall program that serves as a model within the onsite industry.	 Update committee members. Define work plan to implement ethics code within the onsite industry. Contact States and Association Training Centers and update list of licensing. requirements and continuing education needs to support professional certification Develop work plan to address issues affecting the onsite industry. Research through internet other Association or industry ethics programs to ensure that NOWRA's work (technical and education materials) has the highest creditiblity. Identify how NOWRA's programs interact or support those of the Consortium & NSF.
Membership Robert E. Lee	Construct a framework defining the essential components to continuously attain on an annual basis, 10% membership growth in the Association.	Develop strategic initiatives, facilitate and monitor incentives that foster membership growth from all sectors of the onsite industry promoting practitioner certification as a means of growth.	 Identify committee members. Set date for teleconferencing committee meeting and Headquarters liaison on program activities. Review and provide input member services program and assure that practitioner certification is prioritized. Review draft of membership strategy plan to achieve target goal of 10 new NOWRA associations, and identify persons to initiate contacts. Implement action steps; and review and provide input on membership marketing materials for use in gaining 100 new individual members in 2003.
Performance Requirements/ Model Code Michael F. Corry and Jean Caudill	Develop and advance uniform performance standards for onsite systems, based on risk management procedures, that protect public health, and achieves water quality and environmental protection.	Provide an organized effort to develop a national model performance code for use as a decision-making tool for effective management of onsite treatment systems promoting practitioner certification as a necessary program element.	 Complete 2003/2004 work plan and projected costs. Integrate with marketing plan for fundraising to groups outside of NOWRA's industry. Identify 3-4 core persons to perform marketing and fundraising. Complete work tasks on time and budget.
State Association Presidents Tom Fritts	Serve as an communication conduit between the NOWRA leadership and respective local Associations to identify membership needs, and provide essential information developed by NOWRA that contributes to professional effectiveness.	Provide an effective communications process and direct input to the Board of Directors on the priority needs of the State constituent groups and issues to be addressed in future programs.	 Produce an ongoing work plan, including assistance to other committees focusing on practitioner certification. Schedule and conduct regular committee meeting to produce required products. Identify and solicit funding sources. Determine effective communication and outreach methods to inform government officials of work.
Technical Practice Richard J. Otis and Bob Mayer	Promote sound and appropriate technical practices in the application of onsite wastewater treatment system management.	Develop technical materials on proven and successful technologies, soil science, transmission, installation, and recycle/reuse practices that ensure the effective implementation of safe onsite systems and water quality protection.	 Provide quality assurance tools for NOWRA products. Produce guidekines for drip dispersal systems. Respond to technical inquiries from the membership. Develop NOWRA's technical review approval process.
Fundraising Brenda Guy	Provide effective strategies to obtain funding to advance NOWRA's programs.	Develop an overall program strategy that secures additional revenues to support NOWRA's ongoing education programs and activities.	 Support NOWRA's Conference Program to ensure a financial success. Develop special educational programs to be marketed to highly organized, well established entities to serve as a permanent income stream. Develop an Association profile with accompanying brochures to assist in marketing the Association and enhance the professional appearance of the Association. Research and obtain grant money and other foundation resources. Develop a meaningful Benefactor Program that provides long-term financial stability.
By-Laws Ted Loudon	Ensure that the Association's governance procedures are current and relevant to its ongoing work	Produce an annual review of needed items that ensure legal compliance with NOWRA's corporate status and documentation.	 Review by-laws for needed changes and bring to November strategy session. Work with Governance Task Force to facilitate proposed changes. Create a working committee to integrate governance factors into NOWRA's operations plan.

Communications & Promotions Committee

Exciting things are happening in the Association!

The C & P Committee would like to, first of all, thank those members who have voluntarily assisted in providing articles, updates, and other information for the *Onsite Journal*.

Projects and tasks that are in progress for 2003 include:

- Comments and changes have been received regarding the Septic System Record-Keeping Folder. We hope to have a revised product completed and ready for printing this year.
- We are working towards a promotion of our updated speaker list. This list includes NOWRA members who are available to speak at state association events and conferences on various topics.
- Linda Hanifin-Bonner has outlined major improvements for the organization's website. We hope to assist in any way to make this the "go to" website for all current information of the Association and its related projects and partners.
- Improving our national and state information exchange. We are striving for greater exposure of what's happening in each state in regards to events, legislation and regulation changes, and member accomplishments and involvement.

We need your input and involvement.

Please feel free to contact me with any newsworthy items that are related to our industry. Although much of our communication about your state happenings is through your association president or executive director, you may always contact me directly regarding articles for submission and other information for publication. Thank you.

Mike Stephens, Chairperson





PRELIMINARY ANNOUNCEMENT

Decentralized Systems

The Changing World of Wastewater Treatment

12th Annual Conference & Exposition November 3-6, 2003

Franklin MARRIOTT Hotel and Cool Springs Conference Center Nashville, Tennessee

NOWRA's Board of Directors and Conference and Education Program Committees invite you to join them in November for the 12th Annual Conference and Exposition, in the beautiful state of Tennessee. This year's program carries out the theme in providing the leading education and technical expertise in the onsite industry. We anticipate that NOWRA's 12th Conference will be its most valuable yet. Our goals are to ensure that you receive within the technical program sessions the latest technology, management guidance topics and regulations needed to enhance and build your professional skills.

Monday, November 3, 2003 – Two Pre-Conference Workshops

Workshop #1

DEVELOPING A MODEL PERFORMANCE CODE FOR THE ONSITE/DECENTRALIZED INDUSTRY

Representing a significant milestone in the Committee's work, this workshop presents the products developed over the past year on this work. As the committee embarks upon the development of a draft report, the various committee reports will be used to engage in an active discussion with participants for their input during afternoon roundtable breakout sessions.

This workshop provides an update on the efforts and gives industry members and regulators a valuable opportunity for essential input on the products underway. NOWRA members of all industry segments are urged to attend and contribute to this vitally significant event. This is your opportunity as a professional in our industry to learn more about the importance of the Performance Standards Code to your work, and participate in their development.

Workshop #2

CPR FOR ONSITE TREATMENT SYSTEMS—Addressing the critical issues relating to system failure and renovation

This comprehensive workshop focuses on preventing failure and renovating failing onsite systems. Topics include assessing the quantity and quality of wastewater as to its importance is assessing the cause of failure. Pretreatment devices, including the septic tank, ATU and media filters and soil based treatment and dispersal units, such as mounds, at-grade and in-ground units will also be evaluated relative to performance with discussion centering on how to renovate units that are not performing to expectations. Participants should be able to leave this workshop with a greater level of knowledge and understanding of performing CPR to onsite systems that are not performing to expectations. Following the workshop, participants will have an opportunity of visiting with NOWRA exhibitors to learn first hand about their products to support them in their profession, and address the issues being encountered. 6 CEU will be issued for this session.

Monday, November 3, 2003

NOWRA Golf Tournament – 10 a.m. to 5 p.m. Contact NOWRA headquarters for more details—1-800-966-2942 (see separate article on page 35).

5:00 p.m – Official Conference Opening Session and Exhibitors Reception

Welcoming conference participants to the annual conference is always a joyous opportunity to combine important networking with visiting NOWRA's manufacturers and suppliers. A great evening is being planned.

Tuesday and Wednesday, November 4 & 5, 2003

NOWRA's Comprehensive Two-Day Educational Course on THE BASICS OF ONSITE WASTEWATER TREATMENT—A to Z (pre-registration required)

A regular feature at NOWRA conferences, the A to Z course provides a comprehensive educational course that does not exist in other programs. This unique, 12-session program takes the topic of onsite wastewater treatment from its historic beginnings and covers the basics of wastewater chemistry, microbiology, and soil evaluations, as well as the varied systems and options that produce a quality recycled water product. All course topics are lead by experienced and credentialed NOWRA leaders in the onsite wastewater industry, with a special continuing education certificate provided.

Wednesday, November 5, 2003 – Special Education and Training Session for Contractors, the Building Industry and Developers

With the pre-conference workshop spotlighting maintenance and repair strategies, the stage is set for the next high-profile topic in the onsite industry—educating builders and developers on the technology and practices of onsite systems and what is required of industry practitioners. The half-day session also enables attending NOWRA's exposition and meeting the suppliers and manufacturers.

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Thursday, November 6, 2003 NATIONAL ASSOCIATION OF WASTEWATER TRANSPORTERS (NAWT) INSPECTOR TRAINING & CERTIFICATION & RECERTIFICATION COURSE

(separate registration)

New participants in this course must attend NOWRA's 2-day Basics of Onsite Education Program, which is incorporated on Tuesday and Wednesday. On Thursday, the Specializers' Inspector Training occurs, and on Friday, a day of field training. Arrangements are being made with NSF for those persons desiring to receive this advanced certification. NSF Inspector Certification requires that applicants take the NAWT Inspector Training and Certification Program, in order to fulfill test requirements.

Educational Field Trip of Tennessee Onsite Systems

This field trip provides data on several successful onsite systems currently being used in various types of soil conditions. Participants leave at 8:00 a.m. and return by 3:00 p.m. (separate registration)

Spouse and Guest Program

The Spouse and Guest Program is an open smorgasbord show-casing many of the near-by historic cultural and unique features in Franklin and Nashville, TN. It is also an opportunity for relaxation, getting to know old friends and meeting new ones. More details are forthcoming.

Continuing Education Units (CEUs)

Up to 15 continuing education contact hours may be earned by attending the conference. Forms to submit to your state for approval of Continuing Educational Units from the conference will be available at the Registration Desk. Check with your state to confirm that it will approve NOWRA's Conference Education Sessions as meeting its requirements.

REGISTRATION DATES AND DEADLINES

Conference Registration will officially begin on July 1, 2003, with an "early-bird" conference rate available to the advance planners, with significant savings. We are planning to feature an "online-registration" process beginning at that time. This information will be widely publicized.

The Preconference Rate that begins September 1, 2003, also offers a reduced rate to attendees. The cut-off period for the Preconference Rate is October 15, 2003. After that period, no reduced-rate registrations can be accepted.

Registrations after October 16, 2003, must be made on site at the conference registration desk.

All registration materials and badges will be provided to attendees at the onsite Conference Registration Desk at the Cool Springs Conference Center. Confirmation of all Conference pre-registration only (not hotel reservations) will be e-mailed as they are received and completed by October 16, 2003.

Check-in and Registration Hours

Onsite conference check-in and registration will be located in the Cool Springs Conference Center Lobby (in the Marriott Hotel) and begin Sunday afternoon, November 2, 2003 at 3:00 p.m.

Exhibitor Registration and Set-up

(Separate Registration Form on Page 38)
Exhibitor registration begins and materials will be available for pick-up on Sunday, November 2, 2003, in the Cool Springs Conference Center—adjacent to the Exposition Hall. Set-up of the Exposition begins Sunday at 4:00 p.m. with services provided by Freeman Decorators. Special packages will be mailed by Freeman beginning August 1, 2003. Exhibit break-down is Wednesday, November 5, 2003, at 4:00 p.m.

Registration Policy

Registration prior to October 15, 2003 ensures that attendee badge, session registration, event reservations, and conference materials are correct. No phone-in registrations can be accepted, although changes in previously made registrations may be handled by phone or fax. Registration forms may be mailed with a check (payable to NOWRA) or credit card payment information, or faxed with credit card information. All preregistration forms must be received by October 15, 2003, and be accompanied by payment in full in order to be processed.

Cancellation Policy

Registrations must be in writing, and are refundable until October 15, 2003, but will be charged a processing fee of \$50.00. No cancellations will be accepted after October 16, 2003, and no refunds will be given after that date.

Conference Lodging

Conference Headquarters will be at the Franklin MARRIOTT Hotel, with a block of rooms reserved at a special rate of \$99.00 for attendees. Lodging facilities are also available at the Hampton Inn and Ramada, located in the area, but do not have a reserved block at a special rate. All Lodging reservations should be made directly with the Hotels. See separate insert.

NOWRA MEMBERSHIP

If you are not a current NOWRA member* but would like to become one, you may receive a ONE-YEAR membership for 2004 for \$100 (regularly \$140/year) and save on the full conference price!

* NOWRA membership is held on an individual, nontransferable basis. To register at member rates, you must be listed in NOWRA's current membership rolls, and all member dues and obligations must be paid in full. Constituent State Group Members: Please check with your State group to be certain that you have been enrolled by them as a NOWRA member.

Student fee includes full conference registration and a student membership in NOWRA through 2003. Students must be attending college or graduate school full-time in a course of study related to onsite wastewater technology. You must enclose a copy of your current college or university ID card.

COMPLETE DETAILS of the 12th Annual Conference Program & Exposition will be provided in the official announcement, available July 1, 2003.

NOWRA 2003 Preliminary Conference Program Schedule

Please note that the schedule is preliminary at this time, and may be adjusted as final program details are completed.

DATE	EVENT/ACTIVITY	TIME	Tentative ROOM LOCATION
Sunday, Nov. 2, 2003	NOWRA Board Meeting	1:00 a.m6:00 p.m.	Board Room
	REGISTRATION OPENS	3:00 p.m.	Conference Center Lobby
	Exhibitor Set-up	4:00 p.m.	Center Ballroom
	Committee Meetings	4:00 p.m.	Meeting Rooms
Monday, Nov. 3, 2003	REGISTRATION OPENS	7:00 a.m.	Conference Center Lobby
	GOLF TOURNAMENT		,
	Continental Breakfast	7:00 a.m.	Conference Center Lobby
	Pre-Conference Workshop #1		
	NOWRA MODEL PERFORMANCE CODE	8:00 a.m4:00 p.m.	
	Pre-Conference Workshop #2		
	CPR for ONSITE SYSTEMS	9:00 a.m5:00 p.m.	
	Exhibitor Set-up	8:00 a.m4:00 p.m.	Center Ballroom
	Opening Reception		
	Exhibitors Welcome	5:00 p.m7:00 p.m.	Center Ballroom
Tuesday, Nov. 4, 2003	REGISTRATION OPENS	7:00 a.m.	Conference Center Lobby
	Prayer Breakfast	7:00 a.m8:30 a.m.	Meeting Room
	Committee Meetings	7:00 a.m8:30 a.m.	Meeting Rooms
	Technical Sessions	9:00 a.m5:00 p.m.	Meeting Rooms
	AWARDS LUNCHEON & BUSINESS MEETING	NOON -2:00 P.M.	HOTEL TERRACE
Wednesday, Nov. 5, 2003	REGISTRATION OPENS	7:00 a.m.	Conference Center Lobby
	Committee Meetings	7:00 a.m 8:30 a.m.	,
	Technical Sessions	9:00 a.m Noon	
	Lunch Break	Noon - 1:00 p.m.	
	Technical Sessions	1:00 p.m 5:00 p.m.	
	Exhibitor Break-down	3:00 p.m.	
Thursday, Nov. 6, 2003	ONSITE SYSTEMS FIELD TRIP	8:00 a.m 3:00 p.m.	
	Special Post-Conference Session	8:00 a.m Noon	TBD
	Board of Directors Meeting	1:00 p.m. – 3:00 p.m.	Board Room
	Consortium Meeting	8:00 a.m. – 3:00 p.m.	TBD
	NAWT INSPECTOR CERTIFICATION TRAINING COURSE	8:00 a.m 5:00 p.m.	TBD
riday, Nov. 7, 2003	NAWT INSPECTOR CERTIFICATION TRAINING COURSE	8:00 a.m 5:00 p.m.	TBD

CALLING ALL GOLFERS

NOWRA'S ANNUAL 2003 GOLF TOURNAMENT Monday, November 3, 2003 – 10:00 a.m.

EXCITING ADVENTURES at the THE LEGENDS CLUB OF TENNESSEE GOLF COURSE

This one-of-a-kind golf course has been completely reserved for the entire day for NOWRA,s members to participate in a fun-filled and enriching experience. The Legends Club of Tennessee is a superior rated, 36-hole facility with two different 18-hole courses, both featuring bent grass greens, zoysia fairways, and bluegrass/fescue roughs. Located 5 minutes from the Conference site (Marriott Cool Springs in Franklin), this facility has hosted numerous L.G.P.A. events.

NOWRA golfers and guests should not be timid about participating. This event is about meeting other golfers, enjoying the beautiful outdoors—and even an opportunity to get in some business before the conference begins. The only thing requested is that cell phones are turned off.

WHO NOWRA members, spouses, guests

WHERE The Legends Club of Tennessee (1-1/2 m. north of Franklin)

WHEN Monday, November 3, 2003 - 10:00 a.m. FEES \$125/per person or \$400.00 for a foursome

(\$100.00 to sponsor a "hole-name" sign)

Fee includes: prizes, beverages on the course, lunch, range balls, team/foursome photos. Mulligans can be purchased at \$5.00 each.

REGISTRATION

Name			
Company			
		e-mail	
# golfers Feam members:			
Single fee (per/person)	Т	eam fee	
SPONSORSHIP OPPORTUNIT	ΠES		
Hole name sign		_ (\$100.00)	
Door Prize (\$25.00)		_	35

K-RAIN 4000 & 6000 ONSITE WASTEWATER DISTRIBUTING VALVES... THE SOLUTION FOR POOR PERCULATION!



The K-Rain 4000 & 5000 distributing valves offer a reliable, economical way to automate multiple zoned wastewater systems.

K-Rain 4000 and 5000-RCW Onsite Wastewater Valves.

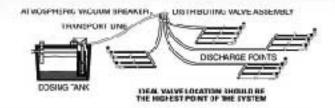
The wastewater valves can be ordered to automatically cycle from 2 to 8 drainage fields. Simplicity in design allows for easy maintenance and a long product life. Both have highly visible purple caps designating wastewater usage.

4000 High-strength, non-corrosive ABS polymer construction.

Operates with flows as low as 10 GPM and at pressures of 2 to 75 PSI.

6000 Durable, long-lasting metal die-cast body designed for high pressure applications.

Operates at a minimum of 15 GPM and at pressures of 2 to 150 PSI.





Packed with patented K-Rain technology and time-proven features, the ProPlus RCW Rotor is the Prolessional's Choice!

K-Rain ProPlus RCW Rotor. With an adjustable 40° to 360° arc and a wide range of nozzles for flexibility in system design, you can't find a more adaptable or dependable series in the market.

- Patented Arc Set degree markings.
- Supplied with 4 low angle interchargeable nozzles.
- Arc adjustment from 40° to a continuous 360°.
- Radius cf 22' to 44'.
- Flow rate of 1.5 to 8.6 GPM.

Simplicity, Versatility, Dependability. K-Rain Wastewater Systems.

1640 Australian Avenue Riviers Beach, FL 33404 1.890.735.7246 Fax: 561.842.9453 Web: www.kraia.com Email: krain@krain.com

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Make Plans NOW... It's Not Too Late!

The following companies and organizations have already registered for NOWRA's 12th Annual Conference & Exhibition in Franklin, Tennessee. Great booths (marked with an asterisk) are still available.

For your convenience, a registration form is included on the back of this page.

Booth #		Booth #	
2	National Precast Concrete Assoc.	29	North American Wetland Engineering
3	F. E. Myer	30	Enviraquip
4	Gast Manufacturing	32	NSF International
5	Zenon Environmental Inc	37& 39	Xerxes Corporation
6	Advanced Aerobics Programmer	38	Goulds Pumps
7	National Decentralized Water Resources	40	EZ Tank
	Capacity Development Project	46	Press-Seal Gasket Corporation
8 & 10	EZ Flow	48	Waterloo Biofilter Systems Inc.
12 & 14	AK Industries	49, 50 & 51	Delta Environmental
13	STA-RITE Industries	52	Infiltrator Systems Inc.
16	NCS Wastewater Solutions	53	Concrete Sealants, Inc.
18	Premier Tech Environment	54 & 55	Bio-Microbics, Inc.
19 & 21	SynergyWorld	56 & 58	Zoeller Pump Company
20	Crane Pumps & Systems	57 & 59	NORWESCO Inc.
22	SJE-RHOMBUS	67	Zabel
23	Wieser Concrete	69	Consolidated Treatment Systems
24 & 25	Netafim USA	71 & 72	FRALO Plastech Manufacturing
26 & 27	Orenco Systems, Inc.	74	Rietschle Thomas Shebouyan, Inc.
28	Reactor Dynamics Inc.	75 & 76	American Manufacturing

Exposition Hall Layout

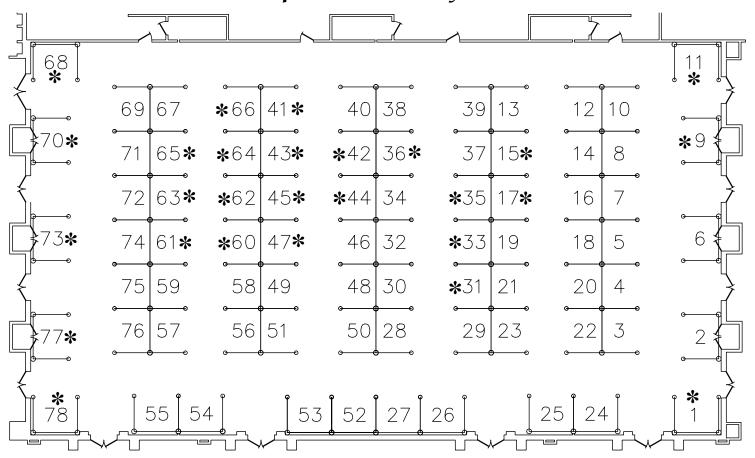


Exhibit Space Reservation Form

NOWRA's 12th Annual Conference & Exposition

Decentralized Systems—The Changing World of Wastewater Treatment

COMPANY INFORMATION

Company / Organization (please print)				
Address				
City		State	Country	Zip/Postal Code
Phone Number	Fax Number	Website:		
Company name exactly as it should be listed				
CONTACT PERSON INFORMATION				
Person to contact for space assignment:		Title:		
Phone:	Fax:	Email:		
Person to receive materials:		Title:		
Address				
City		State/Prov	ince Zip/Postal Code	Country
Street Address (If PO box is used above)				
BOOTH PERSONNEL AT CONFERENCE				
Attendee #1 Last Name	First Name		Name on badge (if different	from First Name)
Attendee #2 Last Name	First Name		Name on badge (if different	from First Name)
Street Address				
City		State/Prov	ince Zip/Postal Code	Country
Daytime Phone	Fax		E-mail	
SPACE RESERVATION REQUEST While every effort will be made to accommodate your placement request, preference in booth assignments is given first to NOWRA's Corporate Sponsors, Company Donors and Sustaining Members. Size of space Requested ☐ Single (10' x 8') ☐ Double (20' x 8') Booth choice(s) for our company are: 1st: 2nd: 3rd: SIGNATURE REQUIRED I/we authorize NOWRA to reserve exhibit space for my/our use. I/we certify that the products to be displayed are used in the onsite industry. I/we acknowledge the payment and cancellations requirements contained in "Important Information."	Name: Member Number:New member (Member Non-member rate \$100	\$850 (check) \$875 (credit card) 0 (check or credit card) SOR DONATION Gold-\$1500 Bronze-\$500 RAM ADVERTISING Prof. Business Card-\$250	Registrations cannot be full payment in U.S. Doll checks payable to NOWRA 2003 Conferen Enclosed is our check # NaterCard Amount \$	ars. Please make ce Exposition. for \$ Discover Card d Registration Form stration r, MD 21037-7270
Exhibiting Company Authorized Signature	☐ 1/2 Page—\$750 ☐ 1/4 Page—\$450	☐ 1/2 Inside Back Cover-\$850 ☐ Back Cover-\$1500	or FAX Credit Card Paid 410-798-5741 Pmt. Recd Er	
TitleDate	☐ Full Inside Front or I	Back Cover-\$1200	Confirmed	

NDWRCDP Announces REQUEST FOR PROPOSALS

for study entitled "Decentralized Wastewater System Reliability Analysis: Concepts and Methods for Evaluating Life-Cycle Performance and Cost Under Alternative Management, Regulatory, and Policy Scenarios"

Dear Colleague,

The National Decentralized Water Resources Capacity Development Project (NDWRCDP) is now soliciting proposals from interested project teams for a study entitled "Decentralized Wastewater System Reliability Analysis: Concepts and Methods for Evaluating Life-Cycle Performance and Cost Under Alternative Management, Regulatory, and Policy Scenarios." The full RFP (study description, review criteria, etc.),

Proposal Submission

Instructions, and forms may be down-loaded from the "Funding Opportunities" page of the NDWRCDP website at http://www.ndwrcdp.org/funding.cfm (click on "Current RFQs/RFPs").

The NDWRCDP was established to help improve the capacity of community

leaders, regulators, service providers, and others to respond to the increasing complexities of, and expanding need for, onsite/decentralized wastewater treatment. Through a Cooperative Agreement with the U.S. EPA administered by Washington University in St. Louis, the NDWRCDP identifies and funds research and development projects designed to address critical information gaps and strengthen the foundations of training and practice in the onsite/decentralized wastewater treatment field.

Please feel free to forward this RFP announcement to other potentially interested parties. This RFP announcement has been sent to the list of organizations below, but is open to all U.S.[1] applicants.

Proposals are due by 5:00 pm Pacific local time on July 8, 2003, and should be delivered to the NDWRCDP Project Coordinator, at the address provided below.

If you have questions concerning this research solicitation or your eligibility to respond, please email your inquiries to the NDWRCDP Project Coordinator at the email address provided below. Inquiries must be provided in writing and received by no later than June 13, 2003. A copy of all inquiries and associated responses will be posted on the NDWRCDP website at http://www.ndwrcdp.org/funding.cfm.

[1] The applicant organization must be from the U.S., but foreign subcontractors may be included on the project team.

National Onsite Wastewater Recycling Association

Membership Application

Member Annual Type Membership
Regular \$140

Name & Address Information
Prefix First I ast

\$ 60

\$ 35

Note: Regulator Members must be employed by a federal, state, county or municipal governmental regulatory agency. Student members must be enrolled as a full-time student in an onsite wastewater technology related college level course of study. Student member applicants must supply, with their application, a photocopy of their current year full-time student ID card.

Regulator Student

Please check a **SINGLE** Member Category for NOWRA's Annual Directory and Resource Guide (only 1 can be listed)

Guide (only	l can be listed).	
Academic	Research	Site Evaluator
Designer	Engineer	Installer
Contractor	Soil Scientist	Supplier
Vendor	Manufacturer	Operator
Manager	Maintenance	Regulator
Service Provi	der Com	npliance Monitor
Student	Othe	er Interested Party

Please print this form, complete it, then either fax or mail it to: NOWRA • P. O. Box 1270 • Edgewater, MD 21037-7270 Phone: 410-798-1697 • Fax: 410-798-5741

Tame & Madress Information	
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Contributions to NOWRA are not deductible as purposes. However, dues payments may be dec	s charitable contributions for federal income tax ductible as an ordinary and necessary business

expense. Please consult your tax advisor for more information.

National Association of Wastewater Transporters

INSPECTOR TRAINING & CERTIFICATION COURSE 2003 SCHEDULE and REGISTRATION

NATIONAL ASSOCIATION OF WASTEWATER TRANSPORTERS, INC.

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Registration for NAWT's Inspection Training & Certification Course Long Island, NY = Malibu, CA = Manchester, NH = Franklin, TN

Course Location:		Date:	
Name:	Company:		
Address:			
City, State, Zip:			
E-Mail	Phone:	Fax:	
	ON SITE REGISTRATION NAWT Member: \$295.00 Non-Member: \$325.00 (members): \$175.00 each	1-DAY Recertification (2nd day) ☐ Pre-registration: \$150.00 ☐ On Site: \$295.00	
PAYMENT METHOD CHECK (PAYABLE TO NAWT) CREDIT C CARD NUMBER SIGNATURE	EXPIRATION DATE _	NATIONAL ASSOCIATION OF WASTEWATER TRANSPORTERS, INC.	
		WASIEWAIER IRANSPORIERS, INC.	

he NAWT Inspector Training & Certification Course focuses on the following topics that are critical to the education and skills needed within the onsite industry, consistent with NAWT and NSF standards, and prescribed form. It also addresses the components and their directions as identified in the EPA Voluntary Management Guidelines.

An Overview of Onsite Systems

Introduction: terminology, onsite tanks, soil treatment systems

Inspecting the Tank
 Locating tools, opening and checking

Inspecting the Plumbing Location, checking leaks, sump, garbage disposal, use and maintenance

- Inspecting System Trenches/Beds
 Locating, opening, checking performance, closing and water tightness
- Inspecting Pumps
 Locating, opening, checking performance and testing
- Inspecting Media
 Sand filters, peat filters, wetlands, performance and problems
- Certification Test

Steps for a system inspection that illustrate WHY it is a necessity

- Collecting preliminary information and characterizing household flow characteristics
- Inspecting sewage tanks including septic tanks, holding tanks, aerobic tanks
- How to evaluate pumps in the system
- Inspecting pre-treatment alternative systems including media filters, constructed wetlands and drip systems
- How to inspect soil treatment units including beds, trenches, mounds and at-grades

Course Instructors —

James Anderson, Ph.D., is a Professor in the Department of Soil, Water and Climate at the University of Minnesota. He has worked on the complex interactions between soil and wastewater since 1971 and how they affect the design and operation of outside sewage treatment systems. He worked with the industry's educational pioneer, Roger Machmeier, in developing Minnesota's renowned educational program.

David Gustafson, P.E., is a civil engineer who has been a trainer in the nationally recognized Minnesota licensing program for more than 10 years. He has explained septic system operation and performance to more than 10,000 people from more than 30 states. He is a registered civil engineer and regularly designs, troubleshoots, and 'gets his hands dirty' in the onsite field. His approach to training is hands-on and practical, with a spice of humor.

2003 Schedule

May 2003 - Southwest Region

May 28-29, 2003 4-H Building 828 Rodeo Drive Prescott, Arizona

May 30-31, 2003 Maricopa Agricultural Center 37860 Smith-Enke Road Maricopa, Arizona

Registration—see the following website: http://ag.arizona.edu/waterquality/ OWTFPage.htm#WorkshopSchedule **Contact:** Kitt Farrell-Poe – 928-782-3836 Email: kittpf@aq.arizona.edu

June 2003 - Southwest Region

June 7-8, 2003

New Radisson Hill Country Resort

San Antonio, Texas

Registration: Texas Onsite Wastewater Association – 512-494-1125

See website www.txowa.org

June 2003 - Northeast Region

June 27-28, 2003

Dave & Buster's Meeting Center

Long Island, NY

Registration: NAWT Headquarters

800-236-6298

Lodging – Hampton Inn, Long Island

August 2003 - Southern California

August 13-14, 2003 Malibu City Hall City of Malibu, CA

Registration: NAWT Headquarters

800-236-6298

August 2003 - New England

August 27-28

Holiday Inn Center City Manchester, New Hampshire

Registration: NAWT Headquarters

800-236-6298

September 2003 - Southwest Region

September 27-28, 2003 OMNI Westside Hotel Houston, Texas

Registration: Texas Onsite Wastewater

Association – 512-494-1125 See website www.txowa.org

October 2003 - Southwest Region

October 20-21, 2003

Recertification only: Oct. 19, 2003 Sheraton Old Towne Hotel

Albuquerque, New Mexico

Registration: Contact Tom Duker

505-314-0324

Email: tduker@mercury.bernco.gov

November 2003 South/Central Region

November 6-7, 2003 NOWRA Annual Conference Franklin Marriott Conference Center Nashville (Franklin), Tennessee **Registration:** NAWT Headquarters

800-236-6298

COURSE REGISTRATION FEES INCLUDE

- Course Instruction Notebooks and Information Handouts
- Daily Breaks & Lunch
- Testing Materials
- Certification

For course registrations handled through NAWT Headquarters, send completed registration and payment. Pre-registration closes one week prior to course dates.

No refunds. Pre-payment is required.

National Association of Wastewater Transporters P.O. Box 1270 – Edgewater, Maryland 21037-7270

Registrations with payment information may be faxed to 410-798-5741

Questions? Call NAWT at 1-800-236-6298

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Use Your Food Safety Expertise To Supplement Your Income

NEHA Training, whose not-for-profit parent, the National Environmental Health Association, has educated health department inspectors about food safety since 1937, is the expert of experts when it comes to food safety training.

As a result of its impressive and affordable program for food safety manager certification training, many individuals with food safety expertise have leveraged that expertise to supplement their income by becoming one of NEHA Training's distinguished registered trainers.

As a registered trainer, one can offer high quality, affordable training to food safety managers who want to become certified. The total cost of materials and exams per student is only \$31-\$35, depending on the volume of books purchased. (The trainers set their own prices for the training courses they offer.) The \$31-\$35 cost per student includes a copy of NEHA Training's textbook, Food Safety Management Principles, and one Food Safety Manager Certification Exam from the National Registry of Food Safety Professionals.

NEHA Training's materials were developed according to recommendations by the Conference for Food Protection (CFP) and the U.S. FDA Model Food Code, and are available in English and Spanish. Additionally, the exam NEHA Training offers from the National Registry is one of only four that are recognized nationwide by the CFP for the certification of food safety and protection managers. (In fact, NEHA Training's course materials prepare food safety managers to pass any of the four CFP approved exams!)

NEHA Training's registered trainers receive everything they need to offer food safety training courses to students: a Trainer Resource Pack complete with practice exam, trainer guide and session notes, activities, images, a CD-ROM PowerPoint presentation, Food Safety Card Game, and 11 copies of NEHA Training's textbook Food Safety Management Principles.

NEHA Training has gained significant respect for its food safety training products and services. Following are quotes from some of the trainers NEHA Training has registered:

- ~ "It has been great doing business with NEHA Training."
- ~ "Food safety training is hot right now, and classes are running at high enrollments."
- ~ "Thank you so much for your helpfulness in getting us set up to start ordering with you!"
- ~ "The package just arrived, and I have opened it and have begun to look over the excellent materials you have sent in the training resource pack. They look great! Thank you so very much for your assistance with all of these endeavors."
- ~ "Thank you so much for the quick action on my registration, and I am so happy to have been approved as a new NEHA Training-registered trainer!"

The feedback NEHA Training has received from its registered trainers and others in the food safety training industry has been much appreciated. Compliments about the quality, helpfulness, and low cost of the program come in regularly, and as a result, NEHA Training is on track to become a major provider of food safety education in the U.S.

To become a registered trainer, one must complete an application and pay a registration fee, which includes all of the books and materials described above. To receive an information and application packet, please contact NEHA Training by phone 303/756-9090 ext. 347, or e-mail support@nehatraining.com. Complete information is also available on NEHA Training's Web site at http://www.nehatraining.com.

CONTACT: NEHA Training LLC

Carla Hafeman, 303/756-9090 x 347

INTERNATIONAL CONFERENCE

ON-SITE WASTEWATER TREATMENT & RECYCLING

12-14 FEBRUARY 2004

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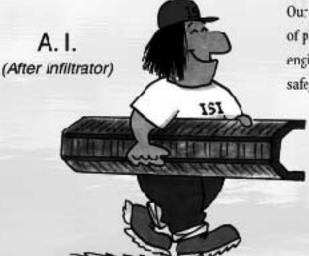


Look for more information In the next Onsite Journal

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American Decentralized Wastewater Association (ADWA)

ADWA is an association developed especially for companies that manufacture and market wastewater treatment devices certified as meeting the most recent version of ANSI/NSF Standard 40. ADWA will be at the forefront and will make a difference. We will develop an action plan to influence attitudes and regulations that affect the industry's well being. Together, leaders of the industry working through ADWA can expand acceptance in the market through research, development, education, and lobbying efforts. For more information, please visit our website at www.adwwa.org.

ADWA Activities

- Establish and maintain consistent testing protocols, standards, requirements, and limitations for technologies claiming to provide comparable levels of performance.
- Monitor onsite wastewater treatment, laws, codes, guidelines, training material, and technical advisory boards to ensure that certified product manufacturers and technologies are not discriminated against.
- Challenge through administrative, political, and legal processes discrimination against certified product manufacturers and technologies.
- Develop and disseminate training and education material related to onsite wastewater treatment.
- Promote the development and use of performance-based model codes as they relate to onsite wastewater treatment.
- Promote environmental protection by establishing minimum health and safety standards for onsite wastewater treatment technologies.
- Conduct routine meetings with policy makers and elected officials to ensure that the goals of ADWA are met.
- Promote research activities related to certified product technology.
- Promote funding for certified product research and use consistent with funding for research and use provided for competing technologies.
- Become the voice for the industry and the technology.
- Interaction with environmental, health, and regulatory agencies to promote the industry and act as a resource for advancing decentralized wastewater technology.



2003 Calendar

May 19-20, 2003

Pa DEP Water Reuse and Recycle Symposium For info www.state.pa.us Pa Keyword "Water Reuse 03"

May 29-30, 2003

NAWT Inspector Training Course 4-H Building, 828 Rodeo Drive Prescott, Arizona

May 30-31, 2003

Maricopa Agricultural Center 37860 Smith-Enke Road Maricopa, Arizona Registration for both AZ courses—see the following website: http://ag.arizona.edu/waterquality/

OWTFPage.htm#WorkshopSchedule Contact: Kitt Farrell-Poe – 928-782-3836 Email: kittpf@ag.arizona.edu

June 9-11, 2003

NEHA 2003 Onsite Wastewater Systems Conference Reno Hilton Hotel, Reno/Lake Tahoe, Nevada Call (303)756-9090, ext. 0

June 11, 2003

NOWRA Board of Directors Meeting Reno Hilton Hotel, Reno/Lake Tahoe, Nevada Contact: 1-800-966-2942

June 12-13, 2003

NOWRA Model Performance Code Committee Meeting Reno Hilton Hotel, Reno/Lake Tahoe, Nevada Contact: 1-800-966-2942

June 19, 2003

Pennsylvania Onsite Wastewater Expo Delaware Valley Collage, Doylestown, PA Contact: David Linahan – 610/644/4254 dlinahan@yerkes-assoc.com

August 12, 2003

POWRA Board Meeting Yerkes Associates Office, Morgantown, PA Contact: David Linahan - 610/644/4254 dlinahan@yerkes-assoc.com

August 12-13, 2003

Existing System Evaluator Training Michigan Onsite Wastewater Training & Education Center For info, call Barb DeLong (517)355-4720

August 19-20, 2003

Onsite Wastewater Systems 101 Michigan Onsite Wastewater Training & Education Center For info, call Barb DeLong (517) 355-4720

September 22-23, 2003

12th Northwest On-Site Wastewater Treatment Short Course and Equipment Exhibition

Sponsored By: University of Washington Department of Civil & Environmental Engineering & Washington State Department of Health

University of Washington, Seattle Washington For more information, contact:

Christy Roop Pack, Conference Manager Toll Free: 1-866-791-1275

E-mail: uw-epp@engr.washington.edu

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