

**Subsurface Sewage Treatment Systems (SSTS)  
Technical Advisory Panel (TAP) for Product Registration**

Meeting Notes – September 25, 2008

Administrative Services Bldg.

**Meeting Attendees**

<b>Committee Members</b>	<b>Present on September 25</b>	<b>Guests</b>	<b>Present on September 25</b>
Ed Kerzinski	x		
Mitch Johnson	x	Mike Catanzaro, Delta Environmental	
Loren Kohnen	x	Nick Noble, Orenco Systems	
Kemp Ritter		Lynn Carlson, Aggregate and Ready-mix Association	x
Sara Christopherson	x	Karl Goetter	
Mike Frauenkron		Brian McQuestion, Hoot Systems	
Bob Whitmyer	x	Mike Sundberg, Bord na Mona	x
Greg Halling	x	Curtis Cluckey, Ring Industrial	
Joe Enfield		Dean Person	
Chad Villand		Paul Flynn	
		Doug Fessel	
		Tony Birrittieri	
		Kurt Christopherson	
<b>MPCA Staff</b>		Jesse Kloeppner, Orenco Systems	x
Barb McCarthy	x	Kevin Kloeppner, Advanced Onsite Solutions	
Gretchen Sabel		Jeff Iverson, Infiltrator Systems	x
Mark Wespetal	x	Wes Combs, Zoeller	
Bill Priebe, Supervisor		Colin Bishop, Bord na Mona	
Leah Hedman, Attorney General Office		Frank Connelly, JMK	

Meeting was called to order at 10:10 AM on September 25, 2008 in Room 115C of the Administrative Services Building. Agenda was reviewed and introductions occurred.

Meeting notes:

Meeting notes were reviewed from the August 27, 2008. Greg Halling made a few on comments on the minutes; Corrections will be made. **A motion made by Greg Halling, second by Sara Christopherson, to approve the meeting notes. Motion carried, unanimous.**

Ring Environmental:

Ring Environmental will not be present at the meeting today. To fill the time allotted to Ring Environmental, Barb McCarthy added operating permits for discussion, including the ECOPOD and AdvanTex treatment devices.

Draft Listing:

A document was developed to provide an explanation on how to use the web listing. The web listing is not yet available since no products have completed the registration process. The document will be reviewed by the Attorney General's staff. The product information section added a link entitled "Notice of Product Listing" instead of the "Approval Letter" previously presented to the committee. The remaining headings are the same as previously presented. Greg Halling had some suggested changes. A comment was made if the listing should include a link to provide feedback, or state in the listing that there is a feedback and renewal process as part of registration. The document also needs to describe distribution media listing, and whether the two listings should be separate or together.

Evaluation Service (ES) Report:

Loren Kohnen distributed an example of a product listed via ICC Evaluation Service, Inc., a national listing process, for the approval of building products. The ES Report for a BASF Polyurethane Form (ESR-2298) was distributed as an informational item to the committee.

Drainfield Rock Recommended Standards and Guidance Document:

The drainfield rock Recommended Standards and Guidance (RS&G) document was briefly reviewed. A 1946 research paper on the characteristics of Minnesota limestone was also distributed. A letter report related to limestone in the use of leachate collection systems was also distributed. The draft RS&G included the following sections: 1) rule requirements, 2) design parameters, including sidewall absorption using gravity distribution, and 3) installation and material quality control. The guidance also includes verification methods to ensure drainfield rock would meet required specifications. There was discussion on field tests for rock. Barb McCarthy has contacted the Massachusetts Test Center to determine if they have a tested procedure. There was discussion on the need for QA/QC procedures at the plant and Best Management Practices on the construction site to keep the rock clean. In addition, information from the State of Washington was included.

Lynn Carlson of the Aggregate and Ready-mix Association of Minnesota offered some suggestions, such as using the Minnesota Department of Transportation (MnDOT) specification #3137 for drainfield rock.

The allowable use of limestone in Minnesota has been, and continues to be, a question by some practitioners in the industry. The MPCA researched this issue; they talked with American Testing, and e-mailed counties in southeast Minnesota and other states. The compiled responses were distributed to the committee. The purpose of this effort was to determine the most appropriate test(s) to use in determining limestone suitability for septic systems.

Testing protocol from the State of Connecticut uses two different American Association of State Highway and Transportation Officials (AASHTO) specifications. The first test is the loss of abrasion test (Method T-96). The second test is the test for soundness using AASHTO Method T-104. The committee briefly discussed these tests and thought they might be good quantitative tests to address the limestone issue (softness and transport of limestone).

The Mohs Hardness scale is used by some states (typically hardness of 3 or more Mohs required). There is a Mohs 'hardness kit' that may be useful for field checking limestone or other soft rock. Although the Mohs test is somewhat subjective, it may be a good field tool to help verify the quality of materials by the Installer or Inspector. Some states use a hardness of 3 Mohs or greater; other states require a hardness of 4 Mohs or greater.

At this time, there is insufficient data to determine whether or not limestone is a significant issue in septic systems in Minnesota and if it should be 'prohibited' as a distribution media. Greg Halling indicated there should be a test(s), just like the other products. Lynn Carlson stated that they 'have benches' in the formation which are tested, and when there is a change in the geologic formation, additional tests are conducted. It was stated that the Platteville formation is not a suitable aggregate. Many states allow the use of limestone; in fact, limestone is all that is available in some states.

The Los Angeles Rattler Test (using AASHTO T-96 or ASTM C 131) may not be applicable to septic systems. Rather, ASTM C 535 for large-size coarse aggregate (for materials greater than ¾ inch and smaller than 3 inches) may be more appropriate. Another test is the Standard Method of Test for Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate (AASHTO T-104). This is a freeze and thaw test but also tests for the dissolution of the rock. Two reagents can be used; however, magnesium sulfate is a much harsher chemical than sodium sulfate. There is no data to substantiate concern due to acidity, resulting in the dissolution of limestone; domestic sewage is typically near neutral. Lynn Carlson indicated the test cost \$200 for the Los Angeles Rattler test and \$450 for the soundness test.

Installers are responsible for material quality; they should know the quality of aggregate products from the gravel pits. It was stated that 95% of inspectors don't know about limestone, or perceived as too problematic, so they just prohibit limestone. However, there appear to be regional differences. It was suggested that the Bill of Lading state the rock meets SSTS specifications. MnDOT has a process to approve pits and provide training – these aggregates are used in MnDOT road construction projects.

A few more questions were raised. Will the testing cost too much? Should all rock be tested or just limestone? Since igneous rock is a hard rock, does it also need to be tested for hardness? The committee felt this testing was not needed for igneous rock. It was recommended to maintain the 1 percent fines. Another question - how to best verify rock meets specifications at the construction site? Should a 'jar test' be used if available? There was no agreement that field tests can be done. For rock gradation, it would be easy for gravel pits to meet the MnDOT 3137 specification. The rock gradation is needed to temporarily store and convey wastewater to the infiltrative surface. If the rock gradation is too small, small pores have the potential to trap solids. Question – would smaller rock be appropriate? Another concern is 'visually dirty rock' could contain less than 1 percent fines. Question - should we adopt MnDOT 3137? The State of Connecticut has a specification we should consider.

Lynn Carlson agreed to bring some rock samples to next meeting; one issue to discuss further is the fines component.

#### Lunch Break

#### Rock RS&G Document (continued discussion):

Is this a good format for the document, or does it contain too much detail? Should we include operation requirements – like suitable vegetation? The guidance can include: installation, testing requirements, Best management Practices at gravel pits and construction sites to keep the rock clean. Sara Christopherson will provide additional information from the draft National Installer Manual. All field evaluations should not be called a "test", rather a "screening tool". Do we need to indicate the required frequency for field screening? Consensus is that the guidance needs to say that the specifications must be met and suggests how to do it. Barb McCarthy will revise the document for discussion at the October meeting.

#### Notification Letter:

A draft mock up 'Notice of Proprietary Treatment Product Listing' letter using the Orenco submittal was distributed for the purpose of discussing the format of the letter. This is a draft template letter for notification of product registration. A statement regarding septic tank capacity was added. Chapter 7080 allows the manufacturer flexibility in septic tank sizing depending upon individual treatment product needs. The question to be answered is what tank capacity was used for NSF testing? Tank sizing will dictate the maintenance pumping frequency. The draft template notification of registration letter will also be reviewed by the Attorney General's legal staff.

#### Proposed Fees:

The MPCA will need legislature authorization to charge a product registration fee, and a change to Minnesota Statute 115.55. A \$2,000.00 fee is being proposed at this time, with an additional fee for submittals that take extra review time. The \$2,000.00 fee is based on the warrantied product fee. It

was noted that the \$2,000.00 fee doesn't cover the cost at this time; this is a new process that is requiring much time to develop.

Discussion occurred with several questions posed. Can this fee help pay travel expenses for committee members, since mileage costs are significantly increasing? Could the fee be used to perform system audits to determine system performance? Could the annual report have local units of government submit operating permit data? Are periodic grab samples useful?

The committee recommended that the fee should be based on what the actual cost would be. If a significant change in the product is proposed at the time of renewal, then it should be charged the initial review cost. The committee recommended two types of renewal fees: 1) one fee which requires extensive review time, and 2) a second fee with average to minimal review time.

The State of Washington's fee is:

<u>Category:</u>	<u>Base Fee</u>	<u>Hourly Fee</u>
Product Registration	\$400.00	\$100.00 per hour for more than 4 hrs of review time
Annual Renewal	\$100.00	N/A

The base fee is required at the time of application. Any fees for additional review time must be paid in full before the product will be registered.

The registration process is progressing slowly at this time; it is expected to be more efficient as the registration process is established. It was proposed to have flat rates. **A motion was made by Sara Christopherson, and seconded by Greg Halling, to have a \$2,000 initial fee and a \$1,000 renewal fee. The motion also stipulated that the money be dedicated 1) to the MPCA for review and 2) for TAP members travel and per diem expenses. The vote carried unanimously.**

#### Application Status:

Orenco Systems Inc., Inc. is awaiting a letter from Nova Tec concerning the applicability of data transfer from the AX-10 unit to the AX-20 unit. Nitrogen testing data is expected to be submitted in December 2009.

Delta's ECOPOD manual is being modified to reflect Minnesota code requirements. The manual will be presented to the committee when the application is re-submitted.

#### Operating Permit:

Draft operating permits for the ECOPD and AdvanTex treatment systems were developed by Barb McCarthy. The operating permits were drafted using the layout from several county and state permits. Both operating permits were distributed at the meeting. The 2008 Model Ordinance, developed by the Association of Minnesota Counties, was also used to draft the operating permits.

The ECPOD operating permit was discussed. The permit contains the following sections: a description of the system, flow components, performance requirements, operating requirements, monitoring parameters, limits, and sampling, maintenance requirements, reporting requirements, and a mitigation plan. There was general discussion about the layout of the permit. Bob Whitmyer suggested condensing the permit to make it a simple 1 or 2 page permit with appropriate attachments (i.e.: plans, final record drawing/inspection, management plan). The first page would contain general information while the second page would contain unique information to the system. Attachments would then be referenced in the permit. This would minimize the effort needed by local units of government to develop each operating permit.

Enforcement of requirements contained in operating permits was raised as an issue. There was general discussion about enforcement and how some counties seem to be effective, while others are not as effective. One county was thought to send an initial letter to the permittee; then the second letter is a notice to appear in court. Further discussion of the issued is needed.

A National Installer Manual is being developed. This Manual states that start-up service for new systems is important. Since many installers have a one-year warranty, it would be wise to have the initial operating permit expire before the warranty expires. A start-up checklist would be useful for inspectors.

Question - Should field sampling with lab analysis be required? Some counties have required this and follow-through has been problematic. Additional discussion occurred. Time of sampling is critical to get true representation of performance. Perhaps sampling would be required if a problem is observed. Pathogens are a significant concern with Treatment Level A systems (1,000 organisms/ 100 mL). Manufacturers need to charge if they are going to test their products during operation; however, the issue is there no impetus for manufacturers to test if there is no regulation. Should 'spot checks' be used initially? When should testing be done - in the spring?

What about use changes, especially if a commercial building has a change in use? One comment is to require testing at the time of operating permit renewal. There was additional discussion about testing. If a system appears 'healthy', perhaps simple field tests such as dissolved oxygen, turbidity, odor, temperature, pH, etc.... would be appropriate. Most treatment devices have 'indicators' that can be used to determine general system performance. Perhaps these can be part of the operating permit.

Most owners do not want to pay for lab tests. Ongoing operation and maintenance may be a better use of the homeowner's money. When does the owner become aware of the operating permit requirements, so they know the cost of operation? What indicators can be used to indicate performance? Does environmental sensitivity predicate more testing? There should be at least one site visit per year for most advanced treatment technologies.

One defense of grab samples is that the system is designed to work everyday. The MPCA should establish the minimum testing, not the manufacturers. It was stated that you have to test because things change over time (things gets older); there are changes in flow and waste characteristics. It was stated that testing will greatly reduce the advanced systems market. All treatment products should be periodically tested to determine performance. It was brought-up again that manufacturers must recertify their products; however, manufacturers will likely choose the best sites for testing purposes. Therefore, third-party testing is needed. Perhaps testing can be funded as part of the capital cost of the system. An effective audit process should be considered – before the first renewal period for each product. An increase in registration fees may be needed to pay for any audits of systems.

#### Next Meeting

The next meeting will be on October 23, 2008, at the Veteran's Services Building. The products under review are expected to be: 1) Premier Tech Environment and 2) Bio-Microbics. A quorum is needed. Members should call Barb McCarthy if they cannot attend; Barb may be doing a check-in call to committee members.

Meeting adjourned at 3:35