

Technical Advisory Panel
SSTS Product Registration
Meeting: Thursday, January 21, 2010
10:00 am to 3:30 pm
Minnesota Pollution Control Agency
Board Room West
520 Lafayette Road, St. Paul, Minnesota

Draft Agenda

- 10:00 am: Welcome and Introductions; Review Agenda
- 10:05 am: December 17, 2009 Meeting Notes – Review and Approve
- 10:10 am: Update on Product Registration – Website and Product Status
- 10:15 am: Final Management Plans – Sand Filters
- 10:25 am: Bio-Microbics – Application for High Strength FAST (continuation)
- Review final draft product registration letter and web listing
 - TAP Questions, Discussion and Recommendations
- 10:45 am: Advanced Aeration – New Application for Vacuum Bubble Technology (VBT)
The application was included in the Nov. 19, 2009 TAP packet, after the yellow page divider; a new report by Baylor University is enclosed in this mailing.
- Overview of Application Submittal – Barb McCarthy
 - Overview of Product Information – Tom Hickey and Eric Larson
 - TAP Questions, Discussion and Recommendations
- 12:00 pm: **LUNCH**
- 1:00 pm: Advanced Drainage Systems (ADS) – New Application for Chamber Products
- Overview of Application Submittal – Barb McCarthy
 - Overview of Product Information – Dick Bachelder
 - TAP Questions, Discussion and Recommendations
- 2:00 pm: Zoeller Pump Company – New Application for Fusion Treatment System
- Overview of Application Submittal – Barb McCarthy
 - Overview of Product Information – Wes Combs
 - TAP Questions, Discussion and Recommendations
- 3:00 pm: Open Forum – manufacturers and distributors are encouraged to attend
- 3:30 pm: Adjournment

Next TAP Meeting – Thursday, February 18, 2010 at MPCA, St. Paul, Room 2A.
Tentative items may include the following:

- 1) New submittal – Chromaglass Corporation
- 2) New submittal – Aqua Test, Inc.
- 3) Operating permit template for commercial systems
- 4) Revised sand filter documents



Minnesota Pollution Control Agency

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

Meeting Notes – January 21, 2010

MPCA St. Paul, Board Room West

Meeting Attendees

Committee Members	Present on Jan 21, 2010	Guests	Present on Jan 21, 2010
Ed Kerzinski	x	Eric Larson, Septic Check	x
Mitch Johnson	x	Tom Hickey, Advanced Aeration	x
Loren Kohnen	x	Wes Combs, Clarus Environmental (Zoeller Pump Company)	x
Kemp Ritter	x	Chris Stewart, Advanced Drainage Systems	x
Sara Heger	x	Dick Bachelder, Advanced Drainage Systems	x
Bob Whitmyer	x		
Greg Halling	x		
Joe Enfield	x		
Chad Viland			
Sean Riley	x		
Tom Espersen	x		
MPCA Staff			
Barb McCarthy	x		
Gretchen Sabel	x		
Mark Wespetal	x		
Bill Priebe, Supervisor	x (am)		
Brett Ballavance, Engineer			

The meeting was called to order by Chair Whitmyer at 10:05 am.

Review and Approve TAP Meeting Notes from December 17, 2009

The meeting minutes were reviewed. On page 2, the meeting minutes need to reflect the ‘amended’ items, which were two proposed changes to the product listing: 1) use the term ‘BOD applied’ to high-strength waste treatment units, and 2) ‘highest’ treatment level to replace ‘registered’ treatment level.

Motion by Halling, to approve minutes from December 17, 2009 TAP meeting. Second by Heger to approve the minutes as amended. Passed unanimously.

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Final Meeting Notes

Website Listing and Documents

Barb McCarthy reviewed the information on the website. The manuals are not all posted yet; Barb will continue to work with the manufacturers to make sure that they only include the information needed for Minnesota. She is planning to make a change in how the TAP records are posted on the website in 2010, and only post the Meeting Agendas and Meeting Notes. Anyone who wants the other materials can request them from Barb McCarthy. The TAP indicated that this should be sufficient.

Management Plans for Sand Filters

Sara Heger discussed the draft Management Plan that was prepared for the public domain sand filters. Comment – there should be separate management plans drafted for single pass vs. recirculating sand filters. Long discussion – some members expressed concerns that this should not be more rigorous than is required for peat filters, or maybe even a mound. One member, however, talked about problems that operators encounter with systems when unexpected events, like a lightning strike, occur. Members with comments should send them to Sara Heger, in writing; Sara will arrange a conference call with Barb McCarthy, Sean Riley, and Greg Halling to iron out the final draft. Sara Heger asked that someone from MPCA who writes permits for LSTS also attend to ensure that we have a smooth transition for the higher flow systems.

Bio-Microbics High Strength Waste (HSW)

Barb McCarthy reviewed changes that were made to the Bio-Microbics HSW product registration letter based on last months' comments and other related material. A member asked if the 'review' letter would have to be signed by a Professional Engineer; the chair noted that this is not necessary but in the case of Bio-Microbics, Jim Bell is a Professional Engineer and that will be the case.

The operating permit template was discussed; this was seen to be very useful. The title should be changed to High Strength Waste; and the Management Plan should reflect the fact that the frequency of site visits is every six months, based on National Sanitation Foundation (NSF) requirements. Sara Heger and Barb McCarthy will make changes based on this discussion in the respective documents they prepared; the final documents will hopefully go out to Bio-Microbics in the near future. More work is needed on the Management Plan; the goal is to have this appropriately consistent with the management plans for the sand filters discussed earlier in that there's a smooth transition to the Large Sewage Treatment Systems (LSTS).

Motion by Halling, second Kerzinski, to move the application package ahead; passed unanimously.

Advanced Aeration, Inc. (Vacuum Bubble Technology)

Barb McCarthy provided an overview of the materials for this agenda item. There is no national standard for testing remediation devices; this makes it difficult to review product performance. At this point, Barb McCarthy did not think that the data submitted for the product meets Treatment Levels A, B, or C, and so listing in that way could not happen. Tom Hickey with Advanced Aeration, Inc provided a presentation on the Vacuum Bubble Technology (VBT) that Advanced Aeration is proposing for registration. They are seeking approval specifically for remediation; they are currently registered in Texas and Wisconsin. Tom Hickey indicated that they are also seeking registration for Treatment Level C.

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Tom Hickey explained that the goal with most diffusers is to create a bubble with a greater air pressure than the surrounding liquid, forcing the bubble to rise quickly to the surface. VBT creates much smaller bubbles with air pressure less than the surrounding liquid; these bubbles fill the vessel with air bubbles which stay in the water much longer, providing significantly more oxygen for the microbes in the wastewater.

Tom Hickey stated that they were not seeking NSF Standard 40 certification because this is not how they plan to market the product – they view their technology as an add-on to an existing system, not to be used as a stand-alone aerobic treatment unit. He discussed the testing done at the Baylor University test facility to evaluate the retrofit application of VBT to distressed septic tanks under conditions not normally tested under NSF Standard protocols. This testing was done in December and January, under colder weather conditions. The test showed significant reductions in CBOD and fecal organisms. Tom Hickey also discussed a study done with the Air Force. They see five viable applications for this technology in the Minnesota market 1) rehabilitation retrofit to failing systems - repairs, 2) addition to conventional septic systems, 3) pretreatment for struggling ATU or advanced treatment systems – repairs, 4) pretreatment for ATU or advanced treatment system designs in high strength waste streams, and 5) engineered designs for high strength waste streams – grease traps, RV parks, nursing homes, etc.. Their objectives in MN are: 1) to be registered as Treatment Level C; 2) obtain a “no contest” letter from the MPCA for use in remediation, and 3) interim conditional registration for High Strength Wastewater.

Question from TAP – how much agitation does this cause in the tank, and won’t this device produce a lot of solids? No to both questions; there is much less turbulence with this device – the turbulence does not extend 6 inches below the pipe and the system does not form mixed liquor. The nature of these bubbles is that they stay in solution longer, so agitation is not needed to keep the bubbles in suspension. Question from TAP – how much has this changed since the NSF testing was conducted in 1992? Some safety improvements were made in the electric motor; there is no change in how the device works. Question from TAP – didn’t this device use to be different when it was tested as Aerob-A-Jet? No – there was a copy cat though, with names similar to Aerob-A-Jet. Question from TAP – are there concerns about drawing very cold air into the system in winter? No, the air that comes in gets warmed slightly by the motor and the actual amount of air relative to the warm water is less. Eric Larson with Septic Check stated that their company has about 70 systems of these installed in Minnesota and have had no problems.

Tom Hickey provided an original NSF Report for the Aerob-A-Jet. Copies of the Report were made and distributed to the TAP for review at the February 18, 2010 TAP meeting. The home unit costs about \$1300 to purchase and about \$50 per year to operate (electricity cost).

The TAP decided to discuss this further in the afternoon, and then broke for lunch.

Lunch

Advanced Drainage Systems (ADS) – Chamber Distribution Products

Barb McCarthy provided an overview of the ADS application, and then Dick Bachelder from ADS talked about how the manual will be set up and where inside width will be added to the material. (The current submittal included the Florida Manual as an example). Other specific changes to the drawings and manual were discussed. Comment – if the manufacturer wants to use these products in sand filters they would have to include drawings for these uses and be registered specifically for that purpose. The TAP wants to make sure that this product is treated fairly as compared with similar products that have been registered to date. Dick Bachelder talked about the ‘Side Port Coupler’ – this is a “joint” that can be used between lengths of chamber to turn corners. Multiple couplers can be used.

Motion Johnson that the Panel approve the product with the changes as discussed, including the following: description of trench-bottom and sidewall absorption area, product dimensions (inside and outside dimensions), and revised Design and Installation Manual for Minnesota – that covers trenches, beds, at-grades, and mounds. The motion was seconded by Kohnen. Discussion – it would be good if a few Panel members could review the final draft manual; Sara Heger and Sean Riley agreed to provide this peer review. Passed unanimously.

Zoeller Pump Company (Clarus Environmental) – Fusion Treatment Systems

Barb McCarthy provided an overview of the Fusion registration packet. The company is starting a new division to be named Clarus Environmental; Barb is, therefore, using the name Clarus Environmental in the registration documents being developed. Wes Combs with Clarus Environmental gave a presentation on the Fusion technology. He stated that this is Japanese technology – there it’s called Fuji Clean. Each building in Japan has a treatment unit attached; the treated effluent is chlorinated and then discharged into storm drains. Zoeller has learned a lot about the success of the treatment product based on the long term and widespread experiences in Japan. Wes discussed the design of the device and how it works. The first compartment is for sedimentation, the second is anaerobic with media for bacterial growth. The third compartment is aerobic, again, with media. The fourth compartment is for storage of the clarified wastewater. There is a dispenser for tablet chlorine; this is removed for most U.S. applications. Wes discussed several operational details, including sampling.

Question – how does it work in cold weather? Wes indicated that the company installed a min-registering thermometer on a system in Walker, MN – the coldest temperature it registered was 50 degrees. Question – does condensation in the airline from the compressor freeze? This hasn’t been a problem – this is no different from other systems that use compressors and it hasn’t been a problem in other systems, either.

What about maintenance costs? If they hire Zoeller, it’s \$600 for a two-year contract – this does not include pumping costs or any needed sampling and analysis. There may be less expensive options available locally. Are there lab sample costs? Zoeller trains the service providers to use test strips and turbidity meters onsite, which minimize this cost. Renovation of a unit is generally pretty simple – it can be done by cleaning with a garden hose and then re-establishing the system. Question – what is the lifespan of the air pump? The Japanese manufacturer says they last 8 years; Zoeller has three years of experience without any replacements. The diaphragms in the pump need to be replaced more often –

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this is caught in semi-annual maintenance. Question – is a trash tank required for these? Experience has not shown this to be necessary; no other states have required this. Wes also distributed a Report by the University of California Davis on disinfection devices, just as an informational item for TAP.

Motion Halling, second Heger to register this device at Treatment Level C. The manufacturer will be coming back with a disinfection unit for the TAP's consideration in the future when the NSF testing is completed. Passed unanimously.

There was no further discussion on Advanced Aeration's VBT submittal. The NSF Report provided by Tom Hickey was distributed and this item will be on the February 18, 2010 TAP agenda for discussion. The subject of remediation in a broader context will also be on the February 18, 2010 TAP agenda.

Next TAP Meeting

The next TAP meeting will be held on February 18, 2010, beginning at 10:00 at the MPCA St. Paul in Room 2A. Agenda items will include: 1) Advanced Aeration's Vacuum Bubble Technology, 2) Remediation, 3) Aqua Test's Nibbler, 4) Chromaglass's treatment products, and 5) Revisions to the Sand Filter Management Plans.

A motion was made to adjourn the meeting by Halling, second Heger. Passed unanimously. The TAP meeting adjourned at 3:40 pm.

Technical Advisory Panel
SSTS Product Registration
Meeting: Thursday, February 18, 2010
10:00 am to 3:30 pm
Minnesota Pollution Control Agency
Room 2A
520 Lafayette Road, St. Paul, Minnesota

Draft Agenda

- 10:00 am: Welcome and Introductions; Review Agenda
- 10:05 am: January 21, 2010 Meeting Notes – Review and Approve
- 10:10 am: Update on Product Registration – Website and Product Status
- 10:15 am: Final Management Plans – Single Pass and Re-circulating Sand Filters
- 10:25 am: Advanced Aeration – Application for Vacuum Bubble Technology (VBT)
The application was included in the Nov. 19, 2009 TAP packet; the 2009 Baylor University NSF report was distributed prior to the Jan. 21, 2010 TAP meeting; the 1992 NSF Report was distributed at the Jan. 21, 2010 TAP meeting.
- Overview of Application Submittal & Draft Documents – Barb McCarthy
 - Overview of Additional Information – Tom Hickey and Eric Larson
 - TAP Questions, Discussion and Recommendations
- 11:25 am: Remediation Follow-up and Next Steps
- 11:45 am: Operating Permits – Chlorine and De-chlorination Tablets; Level of Routine Checking/Maintenance
- 12:00 pm: **LUNCH**
- 1:00 pm: Chromaglass Corporation – New Application for Chromaglass Treatment Systems
The application was mailed to TAP members on Dec. 21, 2009.
- Overview of Application Submittal & Draft Documents – Barb McCarthy
 - Overview of Product Information – Frank Moltz
 - TAP Questions, Discussion and Recommendations
- 2:00 pm: AquaTest, Inc. – New Application for Nibbler Treatment Products
The application (spiral bound) was included in the Jan. 21, 2010 TAP packet.
- Overview of Application Submittal & Draft Documents – Barb McCarthy
 - Overview of Product Information – Matt Lee
 - TAP Questions, Discussion and Recommendations
- 3:00 pm: Open Forum – manufacturers and distributors are encouraged to attend
- 3:30 pm: Adjournment

Next TAP Meeting – Thursday, March 25, 2010 at MPCA, St. Paul, Room 2A.
Tentative items may include: 1) New submittals and 2) Unfinished items



Minnesota Pollution Control Agency

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

Meeting Notes – February 18, 2010

MPCA St. Paul, Room 2A

Meeting Attendees

Committee Members	Present on Feb 18, 2010	Guests	Present on Feb 18, 2010
Ed Kerzinski	x	Eric Larson, Septic Check	x
Mitch Johnson	x	Tom Hickey, Advanced Aeration	by phone
Loren Kohnen		Matt Lee, Aqua Test, Inc	x
Kemp Ritter	x	Curt Reese, Cromaglass rep.	x
Sara Heger	x		
Bob Whitmyer	x		
Greg Halling	x		
Joe Enfield	x		
Chad Viland	x		
Sean Riley	x		
Tom Espersen	x		
MPCA Staff			
Barb McCarthy	x		
Gretchen Sabel	x		
Mark Wespetal			
Bill Priebe, Supervisor	x		
Brett Ballavance, Engineer			

The meeting was called to order by Chair Whitmyer at 10:05 am.

Review and Approve TAP Meeting Notes from January 21, 2009

The meeting minutes were reviewed. On page 4, the meeting minutes need to reflect the ‘changed’ items; Barb McCarthy agreed to consult her notes and make the meeting notes more complete.

Motion by Halling, to approve minutes from January 21, 2009 TAP meeting. Second by Heger to approve the minutes as amended. Passed unanimously.

Website Listing and Documents

Barb McCarthy showed the information on the website. The manuals are not all posted yet; Barb asked the TAP to consider a new approach – to not have them posted on the MPCA website but instead link to manufacturer’s sites where the Minnesota manual would be maintained for that product. The TAP indicated that this should be sufficient. A member questioned how someone would make the link

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between seeing a product listed for TN reduction and knowing how to use it. The answer is that the Design Guidance helps with this; there are bugs being worked out with this yet but it will work. Suggestion: add information in the Design Guidance to help designers know how to use the TN reduction.

Management Plans for Sand Filters

Final changes to the Sand Filter documents were worked through by Sara Heger, Greg Halling, and MPCA's Brian Fitzpatrick. Management Plans will be developed for the Single Pass Sand Filters and the Recirculating Sand Filters (separate documents). Sara Heger will send out the draft management plans to TAP for peer review. TAP recommends that management plans (and operating permit templates) be incorporated into the Design Guidance documents and that the documents are reviewed to ensure there are no conflicting requirements among documents.

Advanced Aeration, Inc. – Application for Vacuum Bubble Technology (VBT)

Barb McCarthy provided an overview of issues identified at the January 21, 2010 TAP meeting regarding Advanced Aerations application for product registration, including the NSF testing data, use of the product for remediation, and use of the product for high strength wastewater. Barb McCarthy provided an overview of the 'checklist' regarding the product. The TAP had a discussion on the NSF testing for the product. Tom Hickey (via phone) had previously been asked what changes had occurred with the product under the name Aerob-A-Jet since the testing was conducted? Tom Hickey provided a response in a letter that documents that the treatment process is unchanged and that all the changes were with products or features that NSF would consider equivalent (mainly electrical in nature). Comment: this letter should be sufficient. Question: doesn't the size of tank matter? Tom Hickey addressed this by saying that NSF allows you to test at one tank size and then extrapolate to larger tank sizes.

Question: How is scale up handled, will NSF scale it up? The product is not certified and it is likely that NSF would not be interested in doing this scale up. Tom Hickey noted that he has not requested this; it is difficult to have NSF provide letters (long delays). Barb McCarthy noted that other manufacturers have done so; Tom agreed to try. Sara Heger suggested that if this can't be done, perhaps a review by a third party engineer would suffice. Question: is this only rated for residential? Yes. Question: does the registration need to list 7081? Yes, it will do so; the same standard is applied.

Question from Barb McCarthy for TAP: Should effluent screens be required? No; Wisconsin requires screens on all systems so that's why it was on their registration in Wisconsin. In Minnesota, it would only be required for those systems where other design considerations dictate it (garbage disposal, pumped sewage, etc). Question: is this a Type IV or Type I if it otherwise meets Type I? It is a Type IV if it has pretreatment. There was discussion about the burden that an operating permit adds to the system; there were points on both sides. When a homeowner chooses to add one of these to a system that is otherwise a fully-conforming new Type I, the operating permit requirement may be seen as too burdensome. However, the committee agrees that having an operating permit is important to ensure that the system is maintained.

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The use of this product in remediation was discussed relative to the conditions of product registration. This device is only going to work for systems that are organically overloaded. One member suggested that the Code does not list remediation as a category. Should other products also have remediation added to their listing? Chair Whitmyer said that listing the product for remediation would be good. There will be a rather long list of possible ways for homeowners to remediate their system. Question from Eric Larson: should the manufacturer provide information on the pounds of BOD removed? One member said, no, the committee should develop this information from the available information. Another member advocated in favor of having the manufacturer provide written documentation that clearly explains how their product works for remediation. This would be open to other manufacturers of registered products, too.

The manufacture will provide additional specificity to the MPCA about the use of VBT products for system remediation; this information could then be contained in the VBT Manual. It is important that the manufacturer clearly indicate how their product is to be used to remediate 'appropriate' systems. For example, trying to remediate a system in the seasonally saturated soil is not appropriate; the system needs to be replaced. However, a mound with several inches of ponding due to organic overloading (the system was evaluated and was determined to be organically overloaded), would be an appropriate use of a VBT product to 1) reduce organic loading and 2) introduce oxygenated wastewater to the mound's infiltrative surface.

The manufacturer agreed to provide information on how the VBT product will be used specifically for remediation of systems. The product listing letter will be finalized, along with an example draft operating permit. However, the listing of this product for remediation seems to open a can of worms: a long discussion followed. Who is allowed to install a VBT? It can be installed by any Installer. Well, this could be tricky. What about the Basic Designer who designs a Type I for a restaurant, and then goes back six months later as an Installer and adds a VBT unit? If it were done at the beginning, then the Basic Designer would have had to have been an Advanced Designer, but could avoid this by adding the unit after the system is in use (for remediation). There was continued discussion. Perhaps it would be good to have a generic statement that identifies the use of registered 'treatment products' for remediation.

Question from Eric Larson: should the operating permit specify how the ponding in the drainfield should be measured? Barb McCarthy – this is just an example distributed at TAP and to be posted on the MPCA website; the actual parameters will be locally set. A subcommittee will be established to develop the wording. The manufacturer will provide additional information regarding the use of VBT products for system remediation.

Remediation Follow-up and Next Steps

This item was covered during the discussion of the VBT product application as a remediation product; no further discussion occurred on the general topic of system remediation and techniques to remediate systems.

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Final Meeting Notes

The Operating Permit discussion was delayed until immediately after lunch, and the committee broke for lunch from Noon – 12:50 pm.

Operating Permit – Chlorine and De-chlorination Tablets; Level of Routine Checking/Maintenance

Based on information provided by Professor Bruce Lesikar, PhD, PE (Texas AgriLife Extension Service; Texas A&M), who gave several presentations at the recent Minnesota Onsite Wastewater Association (MOWA) convention, Barb McCarthy provided a recommendation in the Operating Permit example that chlorination tablets should be 'checked' every two weeks to ensure the tablets have actually advanced in the tablet feeders. Discussion followed.

Direction from TAP to Barb McCarthy: 1) check with the chlorination device manufacturer to see how the alarms are built, and 2) check with Bruce Lesikar to see if the device that is registered for use in Minnesota is one that they have actually had experience with and whether he thought it would be susceptible to the same type of problems they have experienced in Texas. Some committee members suggested that one month would be a good interval for checking tablet feeders.

In the 'Authorization' section of the Operating Permit - language was added to allow the manufacturer access to data collected by the Service Providers who maintain the systems. Other suggested changes: 1) the Service Provider must be notified of changes to the system, and 2) local units of governments must be notified before changes are made to the system. A few other changes to the operating permits were discussed. No formal action of the committee was taken.

Cromaglass Corporation – New Application for Cromaglass Treatment Systems

Barb McCarthy reviewed the application and related materials from Cromoglass. One of these treatment products was installed at the Singing Hills Girl Scout camp (near Mankato) so practitioners have seen the product during construction and/or via University of Minnesota training events.

Curt Reese from Water/Wastewater Operations and Technical Assistance, Inc was at the meeting representing Cromoglass. Curt spoke to the quality of materials in the Cromoglass product, and its portability. It is a sequencing batch reactor so it provides timed dosing of effluent. These devices are used in the Green Zone in Iraq and in the Caribbean and on all continents except for Antarctica. The manufacturer will be sending a couple of units to Waco, Texas for testing by the National Sanitation Foundation (NSF) soon. Curt operates several of these devices as pretreatment in large systems. Some of these systems are tested under their NPDES permit, some data is available here.

The wastewater comes into the unit through a screen and then is mixed. When the first part of the tank is filled, the water flows into the clarifier. Here it settles out the mixed liquor and then discharges when it is full. It is a pattern of fill, batch, discharge and refill. <http://www.cromaglass.com/> It batches 85 gallons out of the unit at a time. The initial tank is 500 gallons; there is no septic tank before the system.

A TAP member asked what action is requested of the TAP, since the product has not been through testing yet. Barb McCarthy said that it possibly could be registered at Treatment Level C, but we would

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need some verification from NSF that the Penn State testing that was done would be equivalent to NSF. The member suggested that the manufacturer be asked to provide a letter discussing 'equivalency of testing' by NSF; if NSF will not certify that the testing is equivalent, we will have to wait for NSF testing to be completed.

Aqua Test, Inc. - New Application for Nibbler Treatment Products

Barb McCarthy reviewed the application and submitted materials, noting that it was very complete. Matt Lee, President of Aqua Test, provided a presentation on how the treatment product works. Matt had a powerpoint with pictures from an installation he is currently working on in Mohnton, PA (near Reading). Questions: How many Nibblers are in use today? More than 2000. How many are residential? Not sure. How is maintenance on these handled? The company, Aqua Test, provides training to local practitioners to maintain the systems quarterly. How do you get individuals to do O and M? Owners must sign an agreement before the technology can be shipped that states that their warranty is void if they don't maintain the system properly. If maintenance does not occur, the owner gets a notice that their warranty is void and a copy is sent to the regulator in charge of the system. There was discussion on the performance data (submitted as Not Public) that was submitted as part of the application; there was general agreement the data was sufficient and is equivalent to the other manufacturer submitted data for high strength wastewater.

Motion Heger, second Viland , that the TAP recommends interim conditional registration for the Nibbler for high strength waste. Passed unanimously. The listing spreadsheet and letter were discussed, as well as the management plan and draft operating permit.

Next TAP Meeting

The next TAP meeting will be held on March 25, 2010, beginning at 10:00 at the MPCA St. Paul in Room 2A. Agenda items could include the following items: 1) Advanced Aeration, remediation items; 2) Cromoglass, the NSF 'equivalency letter,' draft listing, letter and operating permit. If there is nothing else, we may do this meeting by a Meet-Me conference call.

A motion was made to adjourn the meeting by Halling, second Heger. Passed unanimously. The TAP meeting adjourned at 3:04 pm.

Technical Advisory Panel SSTS Product Registration

Meeting: Thursday, March 25, 2010

10:00 am to 12:30 pm

Minnesota Pollution Control Agency
520 Lafayette Road, St. Paul, Minnesota

Meet-Me-Call (and in Room 2A for visitors)

Call: 1-888-324-8523; Passcode 29997

Draft Agenda

- 10:00 am: Welcome and Introductions; Review Agenda
- 10:10 am: February 18, 2010 Meeting Notes – Review and Approve
- 10:15 am: Update on Product Registration – Website and Product Status
- Web page redesign – goes live week of April 12th
 - ADS Arc chambers – letter and listing
 - Infiltrator EZflow – letter and listing
 - Other products
 - Management Plans
 - Operating Permit template and examples
 - Manuals
- 10:30 am: Single Pass Sand Filter Document (Revised March 2010)
- Overview of revisions
 - Discussion
 - TAP Recommendations
- 11:15 am: Recirculating Sand Filter – Treatment Level
- Discussion
 - TAP Recommendations
- 11:30 am: Remediation using registered treatment products (continuation)
- 12:15 pm: Open Forum – manufacturers and distributors are encouraged to attend
- 12:30 pm: Adjournment

Next TAP Meeting – No April Meeting; Next Meeting is Thursday, May 13, 2010
MPCA, St. Paul in Room 2A.



Minnesota Pollution Control Agency

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

Meeting Notes – March 25, 2010

Meet-Me-Call from 10:00 – 12:30

Meeting Attendees

Committee Members	Present on Mar 25, 2010	Guests	Present on Mar 25, 2010
Ed Kerzinski	x	Dick Bachelder, Advanced Drainage Systems	x
Mitch Johnson	x		
Loren Kohnen	x		
Kemp Ritter			
Sara Heger	x		
Bob Whitmyer			
Greg Halling	x		
Joe Enfield	x		
Chad Viland	x		
Sean Riley	x		
Tom Espersen	x		
MPCA Staff			
Barb McCarthy	x		
Gretchen Sabel	x		
Mark Wespetal	x		
Bill Priebe, Supervisor	x		
Brian Fitzpatrick, Engineer	x		

The meeting was called to order by acting-chair Barb McCarthy at 10:05 am.

Review and Approve TAP Meeting Notes from February 18, 2010

The meeting minutes were reviewed. **Motion by Halling, to approve minutes from February 18, 2010 TAP meeting. Second by Viland to approve the minutes as amended. Passed unanimously.**

Website Listing and Documents

Barb McCarthy reviewed the information on the website. She explained about the pending major transition of the MPCA website to a whole new structure – this will take effect the week of April 12, 2010. If, after the transition, members note problems with the site, please let Barb know.

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Product registration letters are ready to go out to Advanced Drainage Systems (ADS) Arc chambers and Infiltrator Systems EZflow product line; these letters will be posted on the website as soon as possible – may be a delay due to web transition. Barb McCarthy will put together an 'At A Glance' listing for distribution media for quick comparison. Barb will send the document to some members for review; Sean Riley and Tom Espersen volunteered.

Motion Viland, second Espersen, that both the ADS and Infiltrator EZflow letters look good. Passed unanimous.

Dick Bachelder with ADS left the phone meeting at this time.

Barb McCarthy provided a brief update on the progress of other products, operating permit templates and product manuals.

Single Pass Sand Filter Document

Bill Priebe and Brian Fitzpatrick joined the meeting at this time by phone. Brian provided an update on what has changed in this document since the TAP reviewed it last time.

1. Added blank worksheets and management plan as Appendix
2. Add TSS less than 65 mg/l and O&G less than 25 mg/l to the septic tank strength
3. Disinfection was removed from possible downstream elements
4. High strength residential wastewater was add to the list of not appropriate wastes
5. Added requirement that all effluent screens must be equipped with high water alarm
6. Constant used for the flow rate through each perforation was corrected to match the Code
Filter layout added a statement about using dedicated pumps for systems with 3 or more zones
7. Removed hardness from the filter media spec
8. Location of inspection pipes was clarified
9. Added the requirement that was all sand filter systems must have event counters and run time meters to be able to monitor daily flows, or other similar devices to monitor wastewater flows (previously only in the O&M section)
10. Changed the monitoring and sampling frequencies to match the operating permit
11. Many grammar changes and clarifications

Question: on page 15, the concept of getting as many doses as possible at some point conflicts with the five-times-pipe volume requirement. Brian – this is why the document requires small pipe and small orifice size. But is this possible, or at least practical? This could be a problem for small systems with low flow. Should it be the same as the rule? Sara Heger advocated that this be the case, otherwise they would have to train to something other than what is in the rule. Others agreed.

Question: what about being able to bottom-drain single pass sand filters? This would be a good option for small sites with good soils. St. Louis County has been using this technology, with good effect. Mark Wespetal noted that the bottom-draining filter is essentially a vertical sidewall mound, which is now

March 25, 2010 Technical Advisory Panel
Final Meeting Notes

allowed as a Type III. After discussion, participants agreed to develop a second document that will address this option.

Motion Halling, second Kerzinski that a second document for bottom-draining sand filters be developed, to reference heavily the single-pass sand filter document. Passed unanimous.

Question – the statement that “...alternate approaches are outside the scope of this document” on page 7 should be in bold print. Question on page 13 – a dimension depth of rock below the pipe should be shown, also in the accompanying text. Barb McCarthy will work with Brian Fitzpatrick to make sure it is consistent with the guidance document for rock. Barb also will add soil over the system in the diagram in the next iteration of this document. (Note – the document as it is today will be used in the upcoming Advanced Design training in March/April 2010.)

Motion to approve the sand filter document with the minor changes discussed (above) by Heger, second Viland. Passed unanimous.

Recirculating Sand Filter (RSF) - Treatment Level

Should RSF's be registered at Treatment Level B with the caveat that it does not meet fecals? What about just registering it at Treatment Level C? Or is there some other way to do this? The treatment level for nitrogen presents a similar quandary.

Comment – Sara Heger would like to see the RSF registered to meet TLB with disinfection and to register it for TN at 20 as well. A member noted that the other registered products were tested with their disinfection devices, this would not be fair if we were to allow it for this system without that coupled testing. What if we allowed it with any disinfection that has been tested by NSF and meets standard 46? Barb suggested that she would talk to Brian and Bill and Brett Ballavance for engineering input. TAP members who would like to participate in these discussions should contact Barb to be part of the meeting.

Question – how to address nitrogen? Comment – meeting 20 mg/L T N will be a problem when there are higher nitrogen inputs into the system. Participants noted that this is the case for all types of devices. Sara noted that RSF's were originally designed for nitrogen removal. Long discussion ensued. Is there really a reason to have to list this for nitrogen? Some say no – it's a Best management Practice (BMP). The issue of equity to proprietary products was discussed at length.

Barb McCarthy said that she would not be comfortable listing this product as meeting 20 mg/L TN without data to substantiate this treatment level. More discussion ensued.

Motion Halling second by Kerzinski to keep nitrogen as a BMP for now and seek more field testing data before registering it as meeting 20 mg/L TN. Passed unanimous.

March 25, 2010 Technical Advisory Panel
Final Meeting Notes

Remediation using VBT:

Barb McCarthy recounted the subgroup meeting on this topic – see notes. This group recommended that a guidance document on this process be developed that lays out the boundaries of use of this technology, and how they should be monitored. An operating permit could be part of this document, as well as conditions for product use. Barb asked for someone to work with her as this is developed – Sean Riley, Ed Kerzinski, and Tom Espersen volunteered. A comment was made that this technology is being used for remediation; other treatment technologies could also be used in for remediation. A TAP member suggested that we may need to develop an “At A Glance” listing for remediation devices as well.

Next TAP Meeting

The next TAP meeting will be held on May 13, 2010, beginning at 10:00 at the MPCA St. Paul in Room 2A.

A motion was made to adjourn the meeting by Halling, second Espersen. Passed unanimously. The TAP meeting adjourned at 12:10 pm.

Technical Advisory Panel SSTS Product Registration

Meeting: Thursday, May 13, 2010

10:00 am to 3:15 pm

Minnesota Pollution Control Agency
520 Lafayette Road, St. Paul, Minnesota
Room 2A

Draft Agenda

- 10:00 am: Welcome and Introductions; Review Agenda
- 10:05 am: March 25, 2010 Meeting Notes – Review and Approve
- 10:15 am: Update on Products, MPCA Web page, Webinar
- 10:20 am: Sand Filter Documents (Revised May 2010)
- Companion document to be developed for bottom draining SPSF
- 10:30 am: Infiltrator Systems – March 31, 2010 letter for Quick4Plus Standard Chamber
- Final design configuration notification
 - TAP recommendations
- 10:45 am: Remediation Recommended Standards and Guidance Document
- Review of preliminary draft document
 - Discussion and TAP recommendations
- 11:45 am: Development of High Strength Waste Protocol by NSF
- Noon: Lunch
- 1:00 pm: Advanced Aeration – Vacuum Bubble Technology
- Revised application – for residential strength
 - High Strength Waste
 - TAP Questions, Discussion and Recommendations
- 2:15 pm: Presby Environmental – Preliminary Assessment
- General discussion – treatment and/or distribution product
- 2:45 pm: Open Forum – manufacturers and distributors are encouraged to attend
- 3:15 pm: Adjournment

Next TAP Meeting – Next Meeting is Thursday, June 17, 2010; MPCA, St. Paul in Room 2A
Draft Agenda Items: 1) Sludge Hammer treatment product;
2) Clearstream Wastewater Systems; 3) Remediation RSG document



Minnesota Pollution Control Agency

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

Meeting Notes – May 13, 2010

Meet-Me-Call from 1:00 – 3:00

Meeting Attendees

Committee Members	Present on May 13, 2010	Guests	Present on May 13, 2010
Ed Kerzinski	x	Tom Hickey, Advanced Aeration	x
Mitch Johnson	x	Eric Larson, Septic Check	x
Loren Kohnen	x		
Kemp Ritter	x		
Sara Heger		MPCA Staff	
Bob Whitmyer	x	Barb McCarthy	x
Greg Halling	x	Gretchen Sabel	x
Joe Enfield	x	Mark Wespetal	x
Chad Viland	x	Bill Priebe, Supervisor	x
Sean Riley	x		
Tom Espersen	x		

The meeting was called to order by Chair Whitmyer at 1:05 pm via a conference call (due to budget travel restrictions).

Review and Approve TAP Meeting Notes from March 25, 2010

The meeting minutes were reviewed. **Motion by Halling, to approve minutes from March 25, 2010 TAP meeting. Second by Kohnen to approve the minutes as amended. Passed unanimously.**

Advanced Aeration

Barb McCarthy shared additional information on this treatment product. This technology was previously discussed by TAP at the January 2010 and February 2010 meetings; refer to these meetings for notes from those discussions and meeting materials. The model 100 series are for residential uses; the difference between the 101 and 102 is the length of the electrical cord. Testing at Baylor and NSF's Michigan facility shows that the system can meet Treatment Level C. It was tested at 400 and 500 gallons; the company is requesting registration at 900 gallons so it can be used for 6 bedroom homes. Eric Larson explained the company's rationale for requesting registration at 900 gallons. Eric stated that since the device's use will be limited to residential use which is already at Treatment Level C, and the device will not make the effluent stronger, it will automatically meet Treatment Level C. A 'full size system' that meets all MN Code requirements for septic tanks, pump tanks, and soil treatment and dispersal (full size with 3 ft vertical separation) would be used for new and replacement systems. This

May 13, 2010 Technical Advisory Panel
Final Meeting Notes

was discussed – there were concerns raised about other factors that could also affect treatment. How is this device like or different from other devices that have been registered now? One other product that came forward had testing at 500 gpd and requested registration at 600, and the TAP said “no”, and it was registered at 500 gpd. How is this different? Also, if the test is so easy (effluent out is no worse than effluent in, as long as effluent met Treatment Level C), couldn't a ‘bag of hockey pucks’ suspended in the tank also be registered at this level? No. The VBT device is unlike other products in that if it malfunctions (i.e. shuts off), it will not cause short-circuiting or plugging of the systems flow path. It can only improve the outcome, it cannot create other problems. Another question is who would do the work? An Advanced Designer would be needed to design it as part of a system, but an Installer could install it. There was lengthy discussion on these and other topics relating to registration of this product. There was concern voiced by several members that the manufacturer's request is outside the framework of the rule, and so it is hard to know how to handle the request.

Motion Riley, second Kohnen, to register the product for Treatment Level C at 900 gpd flow with no reduction in tank size. Discussion – 900 gpd should be seen as a restriction rather than an allowance, and would be based on the appropriate sizing of the tank to ensure that retention is appropriate to meet the treatment goals for the system. This does not pertain to use of the product in remediation.

Amended motion, Riley; second stands. Register Advanced Aeration at Treatment Level C for residential use with no reduction in code requirements. Discussion - should this include a reduction level for pounds of BOD reduced? Not at this time. Halling called the question. **Passed unanimous.**

Infiltrator Systems

Ben Berteau's letter to Barb McCarthy dated March 31, 2010 was discussed. Infiltrator has made some changes to their design that they wanted the MPCA to be aware of; Barb did not feel that these changes would affect the use of the product as registered. **Motion Halling, second Johnson and Viland, to note the changes and not make any changes to the Quick 4 registration letter. Passed unanimous.**

Next TAP Meeting

The next TAP meeting will be held on June 17, 2010, beginning at 10:00 at the MPCA St. Paul in Room 2A.

Motion was made to adjourn the meeting by Halling, second by Kerzinski. Passed unanimously. The TAP meeting adjourned at 2:54 pm.

Technical Advisory Panel SSTS Product Registration

Meeting: Thursday, June 17, 2010

10:00 am to 3:30 pm

Minnesota Pollution Control Agency
520 Lafayette Road, St. Paul, Minnesota
Room 2A

Draft Agenda

- 10:00 am: Welcome and Introductions; Review Agenda
- 10:05 am: May 13, 2010 Meeting Notes – Review and Approve
- 10:10 am: Update on Products, MPCA Web page, Webinar
- 10:15 am: SludgeHammer Group, Ltd. – New Application for SludgeHammer
(*Information enclosed*)
- Overview of Application Submittal – Barb McCarthy
 - Overview of Product Information – Dan Wickham
 - TAP Questions, Discussion and Recommendations
- 11:30 am: Advanced Aeration – Vacuum Bubble Technology for High Strength Sewage
(*Please see the May 13, 2010 TAP meeting packet for information mailed*)
- Overview of Submittal – Barb McCarthy
 - Overview of Product Information – Tom Hickey and Eric Larson
 - TAP Questions, Discussion and Recommendations
- Noon: Lunch
- 1:00 pm: Advanced Aeration – Vacuum Bubble Technology (Continued from morning, as needed)
- Overview of Submittal – Barb McCarthy
 - Overview of Product Information – Tom Hickey and Eric Larson
 - TAP Questions, Discussion and Recommendations
- 1:45 pm: Clearstream Wastewater Systems, Inc. – New Application for Clearstream
(*Information enclosed*)
- Overview of Application Submittal – Barb McCarthy
 - Overview of Product Information – Wayne Peyton
 - TAP Questions, Discussion and Recommendations
- 3:15 pm: Presby Environmental – Preliminary Assessment
(*Please see the May 13, 2010 TAP meeting packet for some information mailed*)
- General discussion – treatment and distribution product
- 3:30 pm: Adjournment

Next TAP Meeting – Next Meeting is Thursday, July 15, 2010; MPCA, St. Paul in Room 2A
Draft Agenda Items: 1) Hydro-action treatment product; 2) Remediation document,
enclosed draft 06/09/10; and 3) Bottom draining sand filter draft document



Minnesota Pollution Control Agency

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

Meeting Notes – June 17, 2010
MPCA St. Paul, Board Room West

Meeting Attendees

Committee Members	Present on June 17	Guests	Present on June 17
Ed Kerzinski	x	Dan Wickham	x
Mitch Johnson	x	Bob Wicker	x
Loren Kohnen	x	Eric Larson	x
Kemp Ritter	x	Tom Hickey	x
Sara Heger	x	Wayne Peyton	x
Bob Whitmyer	x		
Greg Halling	x		
Joe Enfield	x		
Chad Viland			
Tom Espersen	x		
Sean Riley	x		
MPCA Staff			
Barb McCarthy	x		
Gretchen Sabel	x		

Motion by Halling, to approve minutes from May 13, 2010 TAP meeting. Second by Ritter. Espersen noted that he did not second the motion to adjourn; this will be changed to Kerzinski. **Approved unanimously.**

Barb McCarthy provided an update to the committee on the progress with registering products (see handout) and MPCA website changes. Sara Heger discussed a project the U of M is working with the National Sanitation Foundation (NSF) on to do a literature review on High Strength Waste and the progress they are making in developing a synthetic 'High Strength Wastewater' for testing purposes.

SludgeHammer Group, Ltd.

Barb McCarthy reviewed the materials submitted for this product. Dan Wickham with the SludgeHammer Group then gave a presentation on how the SludgeHammer works. It circulates 15,000

June 17, 2010 TAP Meeting
Final Meeting Notes

gpd using an airlift mechanism to move wastewater past a packet of bacteria specifically cultured to break down the mucous that forms in a clogged system. The aerated wastewater with bacteria blend is passed through a fixed film media in the first chamber of the tank. The fixed film is on a matrix stack, a matrix float and a matrix curtain. International testing and certifications were discussed.

Question – how are the matrix elements cleaned? They are simply removed from the tank and hosed off. Question – how do you pump the tank? The treatment tank will not need to be pumped as often; when you clean the matrices the tank is typically pumped.

For remediation purposes, the device can be used without the matrices. Question from Wickham: does Minnesota regulate remediation? Barb explained that we are developing guidance but do not register products specifically for remediation. Discussion focused on how the matrices work. Additional testing is being conducted for nitrogen at the Massachusetts test center. Question – how does the homeowner or service provider know when the device needs service? By smell, mostly. Question – does the manual explain how to service the device? Yes. Question – how often does the bacterial product need to be replaced? This is done annually, when the service provider performs the routine maintenance.

Question – the matrix curtain is installed through the manhole. When the tank is pumped, do you need to remove the curtain? No, you can pump gently and then the curtain will just float back up as the water level rises. Discussion: assuming the rule changes goes through, we would have Treatment Levels A2 and B2 – how will the products be re-registered? We will need to cross that bridge when we get to it. Question – the airline is just ½ inch in diameter; does this freeze up with condensation? No, the linear pump heats the air and it's not a problem.

Motion Heger, second Kerzinski, to register the SludgeHammer at Treatment Level C. Passed unanimous. Barb McCarthy reviewed the draft letter and listing with the Technical Advisory Panel (TAP). Question: have the registration letters for other Treatment Level C products included estimates of BOD removal? Yes.

Advanced Aeration – Vacuum Bubble Technology (VBT)

Barb McCarthy reviewed the listing letter for residential strength waste applications. The TAP members indicated that this letter and the SludgeHammer letter should be the same as much as possible; Barb McCarthy agreed to make sure this is done. Long discussion on the letter – should it say “full-size tanks”? This and some other elements of the draft letter were discussed and modifications will be made.

Lunch

After lunch, the registration of Advanced Aeration's VBT for High Strength Waste was discussed. Tom Hickey discussed a number of issues that were discussed with Brett Ballavance, licensed professional engineer with the MPCA. Barb McCarthy then reviewed the draft letter; this letter was modeled on the

June 17, 2010 TAP Meeting
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BioMicrobics FAST letter for high strength waste applications. Some changes to the letter were discussed and agreed to. **Motion Johnson, second by Kohnen to approve the registration of VBT for High Strength Waste as listed in the draft materials. Passed unanimous.** Tom Hickey thanked the TAP for their review and patience.

Clearstream Wastewater Systems, Inc.

Barb McCarthy reviewed the materials that were submitted. Wayne Peyton with Clearstream Wastewater Systems went through a presentation on this product. There was discussion on how the linear pump works. There is an alarm that shows when the aerator stops working. When the alarm is tripped, it shuts off the water pump in the house and sends a notice to the service provider's phone so they can respond to take care of the issue.

An issue with this product is the testing for bacterial reduction - they only have bacterial testing, at this time, for a period of seven weeks and not the required six months. Mr. Peyton has some other data; this was discussed. Mr. Peyton expected to have a final report on this soon, we will review this at the July 15, 2010 TAP meeting.

Presby Environmental

This is a preliminary assessment – the company has asked us to determine whether it would be a treatment product or a distribution product. Should they submit two applications, one for treatment and one for distribution? Long discussion. The single point discharge could be considered for registration as a treatment device. With the combined treatment and dispersal model, the manufacturer should respond to Minnesota how this product would meet our distribution requirements, like loading rates. This would be considered for distribution but without a reduction in length. Many were uncomfortable with this because the product was tested with discharge into two feet of sand; it should only be considered as a single unit including the sand, not just the pipe.

Motion to adjourn made by Espersen, second by Halling. No opposition. The meeting adjourned at 2:37 pm. The next TAP meeting will be July 15, 2010 at the MPCA in St. Paul.

Technical Advisory Panel SSTS Product Registration

Meeting: Thursday, July 15, 2010

10:00 am to 3:30 pm

Minnesota Pollution Control Agency
520 Lafayette Road, St. Paul, Minnesota
Room 2A

Draft Agenda

- 10:00 am: Welcome and Introductions; Review Agenda
- 10:05 am: June 17, 2010 Meeting Notes – Review and Approve
- 10:10 am: Update on Products, MPCA Web page
- 10:15 am: Clearstream Wastewater Systems (continued from June 17, 2010 Meeting)
- Overview of additional testing data (bacteriological reduction) – Barb McCarthy
 - TAP Questions, Discussion and Recommendations
- 10:30 am: Hydro-Action Industries – New Application for Hydro-Action treatment products
- Overview of Application Submittal – Barb McCarthy
 - Overview of Product Information – Steve Davis
 - TAP Questions, Discussion and Recommendations
- 12:00 pm: Lunch
- 1:00 pm: Remediation – Draft Guidance Document, dated June 9, 2010 (Draft 1)
(Please see the June 17, 2010 TAP meeting packet for this document)
- Overview –Barb McCarthy
 - TAP Questions, Discussion and Recommendations
- 2:30 pm: Open Forum
- 3:00 pm: Adjournment

Next TAP Meeting - There is no August TAP Meeting.

The next meeting is Thursday, September 16, 2010; MPCA, St. Paul in Room 2A.

Draft Agenda Items: 1) Remediation document (revised), 2) Bottom draining sand filter draft document, and 3) New submittals



Minnesota Pollution Control Agency

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

Meeting Notes –July 15, 2010

MPCA St. Paul, Room 2A

Meeting Attendees

Committee Members	Present on July 15, 2010	Guests	Present on July 15, 2010
Ed Kerzinski		Steve Davies, Hydro-Action Industries.	x
Mitch Johnson			
Loren Kohnen	x		
Kemp Ritter	x		
Sara Heger	x	MPCA Staff	
Bob Whitmyer		Barb McCarthy	x
Greg Halling	x	Gretchen Sabel	x
Joe Enfield	x	Mark Wespetal	x
Chad Viland		Bill Priebe, Supervisor	
Sean Riley	x	Brett Balavance, Engineer	x
Tom Espersen	x		

Motion by Heger, to approve minutes from June 17, 2010 TAP meeting. Second by Riley. Approved unanimously to approve the minutes.

Website Listing and Documents

Barb McCarthy presented information on all the products registered and how they will be listed on the website by the end of July. She's been working with Matt Lee on the Nibbler registration; they have requested confidentiality for certain information and has submitted redacted version in the interim. No data has come in from Clearstream due to delays at NSF so this is removed from the TAP agenda for today.

Hydro-Action Manufacturing

Barb McCarthy reviewed the application that was submitted and identified issues that she has noted. There were some questions with the test results; Barb requested additional information from Hydro-Action. Steve Davies from Hydro-Action presented additional information (see attachment). Some things that need to be changed – tank size, distribution. Steve Davies stated that he will provide revised drawings that reflect needed changes. The product would be registered at Treatment Level C without UV disinfection and at Treatment Level A with UV disinfection (if the required test data is submitted). Question: how many of these are installed in Minnesota at this time? Maybe 15, there are just two

distributors now. **Motion Heger, second Riley to approve the product for registration as long as the additional data that is submitted shows that it meets Treatment Level C without UV disinfection and at Treatment Level A with UV disinfection. Passed unanimously.**

The draft listing letter for Hydro-Action provided to the TAP was reviewed and discussed. Long discussion occurred regarding putting Salcor lights in series vs parallel operation. Unless there is testing to show that series is effective, parallel must be used. The TAP thought that it would be beneficial if Salcor would do more testing to help the manufacturers get their products registered. The draft listing of the product was also reviewed. Sara Heger will develop the management plan and send a draft to Steve Davies for his review in the next week.

Remediation

The draft Guidance Document for Remediation dated June 9, 2010, was discussed. Written comments were received from several individuals and incorporated in this draft. Additional comments from the TAP were gathered; Barb McCarthy will amend the document based on this information. Discussion – there is a problem with saying that a problem Type I system that gets a registered product becomes a Type IV but allowing it to stay a Type I if they use a non-registered product. Use of non-registered products should not be allowed, but at this point this is a decision for the local regulators. Barb McCarthy indicated she would add a provision stating that any registered product that meets Treatment Level C can be used as a remediation device.

There was discussion regarding the use of physical means to restore the infiltrative surfaces of a drainfield, at grade or mound – these practices cannot be conducted below the bottom of the infiltrative surface.

Type I turning into Type IV

Gretchen Sabel recounted the discussion at the SSTS Advisory Committee's June meeting, citing this passage from those meeting notes:

Product Registration

Bob Whitmyer, chair of the Technical Advisory Panel for product registration, provided a short update on the status of products registered. He especially noted the extensive work that Barb McCarthy has done to get this completed. Gretchen Sabel added that the TAP is now dealing with a remediation technology – VBT by Advanced Aeration. This will be registered to Treatment Level C. The TAP is working on a guidance relating to use of remediation devices.

Question – when you add a registered product to a Type I does it become a Type IV? The rule is not clear on this. Does everyone agree it should be a Type IV? Some felt that it should, others felt that it did not. If the system that the device is placed into meets Type I tank sizing, separation and pressurization and the device does not alter any of this, many felt that requiring an operating permit for a system like this is too much. **Motion Van Dyken that if a treatment device is added to a Type I system that meets all the Type I requirements (tank size, system**

size, separation and pressurization) that it should stay a Type I system (and not become a Type IV). Second Kohnen. Passed with two opposed.

Discussion – does adding a remediation device to a Type I system with problems make it a Type IV? The biggest concern is that maintenance occurs. Participants had a long discussion on this topic, going back and forth. The TAP noted that this will only apply to very few systems – it is not likely that many who could build a full Type I would want to spend the extra money to install a pretreatment device in addition.

One participant suggested that to allow installation of a treatment device into a Type I system for a single-family home and still call it a Type I may be OK. Long discussion. Argument in favor – Shoreland rule requires that to be buildable, a Shoreland lot must support a Type I systems and meet setbacks. This is found in MS 394.36 (just promulgated in 2009) and states:

Subd. 5.Existing nonconforming lots in shoreland areas.(a) This subdivision applies to shoreland lots of record in the office of the county recorder on the date of adoption of local shoreland controls that do not meet the requirements for lot size or lot width. A county shall regulate the use of nonconforming lots of record and the repair, replacement, maintenance, improvement, or expansion of nonconforming uses and structures in shoreland areas according to this subdivision.

(b) A nonconforming single lot of record located within a shoreland area may be allowed as a building site without variances from lot size requirements, provided that:

(1) all structure and septic system setback distance requirements can be met;

(2) a Type 1 sewage treatment system consistent with Minnesota Rules, chapter 7080, can be installed or the lot is connected to a public sewer; ...

Does this mean that a Type I has to be installed? If so, then calling them Type IV if they have additional treatment will be an added impediment.

If they stay Type I, would an operating permit be required? Could the registration for that product direct the Type it is to be listed as? LGUs can still require an Operating Permit – should this be required or optional? Group sounded like optional.

Next TAP Meeting

The next TAP meeting will be held on September 16, 2010, beginning at 10:00 at the MPCA, Room 2B. There is not much on the agenda at this time. **Motion to adjourn Heger, second by Enfield.**

Unanimous. Meeting adjourned at 2:30.

Technical Advisory Panel SSTS Product Registration

Meeting: Thursday, September 16, 2010

10:00 am to 2:30 pm

Minnesota Pollution Control Agency
520 Lafayette Road, St. Paul, Minnesota
Training Room 2

Draft Agenda

- 10:00 am: Welcome and Introductions; Review Agenda
- 10:05 am: July 17, 2010 Meeting Notes – Review and Approve
- 10:10 am: Update on Products, MPCA Web page, 2011 Draft TAP Meeting Dates
- 10:30 am: Consolidated Treatment Systems (CTS) – Multi-Flo FTB Series (08/23/10 request)
- Overview of submittal (bacteriological reduction testing) – Barb McCarthy
 - Overview of Testing Data – representative from CTS
 - TAP Questions, Discussion and Recommendations
- 11:45 am: Lunch
- 12:45 pm: Remediation – Draft Guidance Document, dated September 2010
- Overview of document –Barb McCarthy
 - TAP Questions, Discussion and Recommendations
- 2:00 pm: Open Forum
- 2:30 pm: Adjournment

Next TAP Meeting – Thursday, October 21, 2010; MPCA, St. Paul in Room 2A.

Draft Agenda Items: 1) Remediation document (revised), 2) Bottom draining sand filter draft document, and 3) New submittals



Minnesota Pollution Control Agency

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

Meeting Notes –September 16, 2010
MPCA St. Paul, Training Room 2

Meeting Attendees

Committee Members	Present on Sept 16, 2010	Guests	Present on Sept 16, 2010
Ed Kerzinski	x	Steve Schirmers, CTS	x
Mitch Johnson	x	Jim Baker, CTS	x
Loren Kohnen	x	Bennette Burks, CTS	x
Kemp Ritter			
Sara Heger		MPCA Staff	
Bob Whitmyer	x	Barb McCarthy	x
Greg Halling	x	Gretchen Sabel	
Joe Enfield	x	Mark Wespetal	x
Chad Viland		Bill Priebe, Supervisor	
Sean Riley	x	Brett Ballavance, Engineer	
Tom Espersen	x		

Motion by Greg Halling, to approve minutes from July 17, 2010 TAP meeting. Second by Joe Enfield. Bob Whitmyer noted three minor items that were amended. The committee voted unanimously to approve the minutes as amended.

Update on Products, MPCA Web page, 2011 Draft TAP Meeting Dates

Barb McCarthy presented information on the updated products listings. The list is growing. Hydro-Action will be registered for Treatment Level C, but may be updated after follow-up data is reviewed. The draft 'Remediation Document' will be discussed at this TAP meeting; we plan to post it on MPCA website for comments.

Upcoming meeting dates are October 16, 2010 and November 18, 2010; there will be no meeting in December 2010. In 2011, we propose to meet every other month; usually the third Thursday in January, March, May, July, September and November 2011. These dates will be posted on the MPCA website.

Consolidated Treatment Systems

Consolidated Treatment Systems (CTS) submitted the technical document: "Request for Exemption from Requirements for Disinfection Device" dated August 23, 2010, along with an application. The technical document contained data from Dr. Jim Converse (U of WI), Steve Schirmers (SP Testing) and a paper by Bennette Burks. Barb McCarthy prepared a summary sheet regarding the submittal.

September 16, 2010 Technical Advisory Panel
Final Meeting Notes

A presentation to the panel was provided by Mr. James Baker, Mr. Steve Schirmers and Mr. Bennette Burks, followed by questions and discussion from the panel. The questions and discussion is categorized below by topic, not by chronological order, as it occurred during the meeting.

System Design

The first Multi-Flo systems that were put in MN and WI did not utilize a trash trap, timed-dosing, pressure distribution, or management. In the late 1990's, timed-dosing was employed. EnviroGuard is a Mutli-Flo unit with flow equalization. The 500 gpd unit has a 1000 gallon pretreatment tank which maintains a volume of 500 gallons in the tank. Timed-dosing is 9.3 gallons every ½ hour, which equates to 450 gpd. The small dose quantities are immediately consumed. The blower is oversized and can handle 3.6 lbs of BOD per day. The Multi-Flo unit cannot be by-passed. CTS indicated that the high quality of the effluent is a result of the trash trap.

Testing

Data was provided from research and sampling was conducted by Dr. James Converse (WI's Small Scale Waste Management Project) and Steve Schirmers (SP Testing) on operating systems in MN and WI. Most (90 percent) of the testing was of dwellings, mostly 500 to 600 gallon units, with some 750 gallon units. The units in the field study were likely loaded at ½ the design flow. Dr. Converse's research contained some flow values. An advantage with this approach for registration is that the panel can see performance from operating systems on real homes. To help in understanding the report, a "5" designates a 500 gallon unit, a "6" designates a 600 gallon unit and a "7.5" designates a 750 gallon unit.

- National Sanitation Foundation (NSF) Testing

The Multi-Flo unit tested by NSF did not have a pretreatment tank and was not timed-dosed. The dosing amounts in the NSF testing are very high. Currently, Multi-Flo units are registered as Treatment Level C without disinfection and at Treatment Level A with disinfection based on the NSF testing. Multi-Flo is approved in Wisconsin for meeting less than 10,000 cfu/100mL fecal coliform bacteria.

- Schirmers Testing

The Schirmers monitoring had 75 units that are gravity systems. Initial Schirmers sampling was taken off the weir, but sterilized bottles are now used and samples are taken by dipping the bottles. Sampling procedure does not meet Standard Methods. The sampling is done in the morning. Initial lab QA/QC was not good, but now they are using Minnesota Valley Testing laboratory. No flow data was provided with the testing results.

Mr. Schirmers indicated that if the sample was not turbid, concentrations of contaminants was fine; if the sample was turbid, then the concentrations were high. Results vary if someone in the

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dwelling is on medication. Storage in the trash tank and timed-dosing helps meter or dilute problem effluents.

Results

CTS stated that data shows that effluent quality of systems in the field is of better quality than what was tested at the National Sanitation Foundation (NSF). The results of Schirmers testing are similar to Converse's results and consistent with other anecdotal evidence.

TAP Discussion

Discussion occurred on the following items:

- CST's request was to designate their treatment units as meeting Treatment Level "A".
- Sean Riley indicated that he is comfortable approving it as a local regulator at Treatment Level B, but not necessarily as a TAP member with statewide implications; need NSF testing.
- Due to the perceived low flow of the field systems, maybe dosing is not needed to achieve the higher treatment.
- TAP is being asked to approve this product with limited data, including the lack of flow data. There is not enough information.
- Maybe NSF is not the best testing protocol.
- All other technologies will want to be registered at a higher treatment level due to real flows being less than NSF flow volumes. However, Dr. Converse tested other units which did not treat that well.
- Product Development Permits are likely not a good avenue as they were not meant for widespread application of use of the product.
- Ed Kerzinski was not in favor of TAP developing a NSF-like protocol. More expertise is needed to do this. It was brought up that TAP did establish a protocol for high strength waste; however these products have are registered at Treatment Level C.
- If a protocol is to be establish, should the manufacturers be involved? It was noted that the TAP meetings are open meetings.
- The question was posed as to what the MPCA Commissioner would accept. Should we start with the Commissioner and then the TAP will have more direction on how to proceed?

TAP Questions

- Can flow controls be added so as not to exceed a lower flow value?
- Would NSF look at the data and provide some sort of engineering evaluation?
- Could a case be made for registration at Treatment Level B?
- Could a provisional registration be given? Could they be made a study?
- Should TAP develop a field test protocol for systems to be registered?
- Is real-world data acceptable for registration?

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TAP Recommendations

- Need to tell CTS what would be needed for approval.
- Multi-Flo must also show they meet the BOD and TSS removals.
- Need to submit drawings – including trash tanks, timed-dosing mechanism and recirculation features.

A motion was made by Ed Kerzinski and seconded by Tom Espersen which stated that there is not enough information at this time to approve Multi-Flo at either Treatment Level A or B. Greg Halling made a motion to amend the motion to only Treatment Level A, as that is what CTS was requesting. The motion to amend was seconded by Sean Riley. Motion failed. A vote was taken on the original motion and it carried unanimously.

Lunch

Remediation

The panel discussed a draft document on the use of remediation for system that is hydraulically failed. The main question posed is if a remediation product or registered treatment device is placed on a Type I (or standard) system, does it become a Type IV system. There was a difference of opinion on what the rule says concerning this issue, with some saying the system remains a Type I and some saying it is a Type IV.

The SSTS Advisory Committee also discussed this topic and the consensus was that it would continue to be a Type I system. It appeared that the TAP would be in agreement with this interpretation. The main concern about this dilemma is the subject of having to issue an operating permit. One argument against having to issue an operating permit is if the aerobic unit was discontinued, the system would have a three-foot treatment zone. Arguments were made in favor of issuing an operation permit, but yet calling the system a Type I. An argument was made that an existing system has no classification. However, adding a treatment device is considered as new construction and not a repair and a permit should be issued. This might not be the case for other remediation methods which may be closer classified as a repair. The issue then was discussed if pressure distribution is required if an aerobic treatment unit is employed. It was a proposed rule revision that did not make it through the process.

It was mentioned that there needs to be caution in developing this guidance as not all remediation has to do with adding an aerobic treatment unit (such as Terra-Lift, resting, reduced water use, etc...). Comments were made on the remediation document and Barb McCarthy will take the comments and amend the document for the next meeting.

Next TAP Meeting

The next TAP meeting will be held on October 21, 2010, beginning at 10:00 at the MPCA, Room 2A.

Motion to adjourn was made by consensus. Meeting adjourned at 3:10.

Technical Advisory Panel SSTS Product Registration

Meeting: Thursday, October 21, 2010
10:00 am to 3:00 pm

Minnesota Pollution Control Agency
520 Lafayette Road, St. Paul, Minnesota
Room 2A

Draft Agenda

- 10:00 am: Welcome and Introductions; Review Agenda
- 10:05 am: September 16, 2010 TAP Meeting Notes – Review and Approve
- 10:10 am: Update on Products and MPCA Web page (including Sewage Tanks)
- 10:30 am: Remediation – Draft Guidance Document, dated October 2010
- Overview of document –Barb McCarthy
 - TAP Questions, Discussion and Recommendations
- 11:15 am: New Rules - Treatment Levels A2 and B2
- Process for products already registered –TAP recommendations?
- 11:45 am: Lunch
- 12:45 pm: Discussion of a ‘protocol framework’ to register treatment products using real world data
- Comments received by TAP members
 - Pennsylvania Field Verification Protocol, NSF
 - TAP Questions, Discussion and Recommendations
- 2:00 pm: Product Renewal Process in 2011
- Requirements, Forms and Feedback Loop
 - TAP Questions, Discussion and Recommendations
- 2:30 pm: Open Forum
- 3:00 pm: Adjournment

Next TAP Meeting – Thursday, November 18, 2010; MPCA, St. Paul, Room 6-3 (Note change in location). Draft Agenda Items: 1) Remediation document (revised), 2) Bottom draining sand filter draft document, and 3) Pentair application (Mike Catanzaro)



Minnesota Pollution Control Agency

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

Meeting Notes –October 21, 2010

MPCA St. Paul, Room 2A

Meeting Attendees

Committee Members	Present on Oct 21, 2010	Guests	Present on Oct 21, 2010
Ed Kerzinski	x	Mike Sundberg , Bord Na Mona	x
Mitch Johnson			
Loren Kohnen	x		
Kemp Ritter	x		
Sara Heger	x	MPCA Staff	
Bob Whitmyer	x	Barb McCarthy	x
Greg Halling		Gretchen Sabel	x
Joe Enfield		Mark Wespetal	x
Chad Viland		Bill Priebe, Supervisor	x
Sean Riley	x	Brett Ballavance, Engineer	
Tom Espersen	x		

Motion by Loren Kohnen, to approve minutes from September 21 TAP meeting. Second by Ed Kerzinski with one amendment raised by Sean Riley. The committee voted to approve the minutes as amended with one abstention (Heger, absent in September) and no “no” votes.

Update on Products, MPCA Web page

Barb McCarthy updated the group on recent changes. Hydro-Action will be registered at Treatment Level B based on NSF testing results; this product was originally registered at Treatment Level C. There are a number of operating permit examples on the website and more will be added in November/December 2010. A new webpage is proposed for registered tanks; Barb discussed these revisions.

External Grease Interceptor Management Plan

Sara Heger discussed the draft management plan she’s prepared. There has been a lot of discussion about the use of enzymes. This draft says that “...enzymes should not be added which move the fat, oil and grease out of the grease interceptor and into downstream components.” Both pH and temperature will be added in the section related to scum and sludge measurements.

Remediation Document

This revised document was discussed. There is still concern about whether a system that was a Type I and then had a remediation device is added is Type I or Type IV. A robust discussion ensued.

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Final Meeting Notes

Comment – the rule says that a Type IV is a system designed to certain conditions – when a registered treatment product is added to a system designed to be Type I, does this still apply? MPCA response – adding a treatment component is considered ‘new construction’ and so is being re-designed. This means that the design element applies. Mark Wespetal cited the regulatory trail concerning this interpretation as follows:

1. 7080.1100 subp 51 – “New Construction definition states:

New construction. “New construction” means installing or constructing a new ISTS or altering, extending, or adding capacity to a system that has been issued an initial certificate of compliance. [It could be interpreted that adding an ATU would fall under “altering” and therefore be classified as “new construction”].

2. 7082.0500 subp. 1. C. states:

C. Permits must be required for all new construction and replacement. A local unit of government is authorized to require permits for all or certain types of SSTS repairs. [Consequently, since this is new construction, a permit must be issued].

2. 7080.1500 subp. 3. states:

Subp. 3. Compliance criteria for new construction. An ISTS regulated under a current construction permit is considered compliant if it meets the applicable requirements of parts 7080.2150 to 7080.2400. [Only Type IV systems allows the use of pretreatment, there is no mention of pretreatment under Type I].

Comment – when a homeowner wants to do the right thing and include additional treatment, they should not be penalized by having to hire an Advanced Designer and have an operating permit.

Discussion – According to the rule, a system has to meet or exceed the characteristics of a Type IV system described in 7080.2350. Therefore, a Type IV system can have more separation distance than the minimum requirement in Table XI. Question – what is the purpose of Type IV? Discussion – it is to identify those types of systems that without added management have a greater risk of causing problems to human health or the environment. This is why operating permits are required. If there is reduced size or separation, this makes sense. When the system meets Type I design, however, how can this apply?

Question to TAP – if we were writing the requirements now, how would we describe the needed level of oversight for a Type I with a remediation product? Discussion – Type I systems should be the responsibility of the homeowner; they don’t need so much LGU babysitting. Comment – an operating permit should be required, especially when the system was having problems before the device was installed.

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Final Meeting Notes

Question to TAP – can we come up with a list of conditions that the TAP feels should be met:

- Goal is to minimize impediments to advanced treatment
- Must have more than 36" of separation (can't use 2 feet for pre-4/1/96 systems)
- Must have an alarm (rather than a bypass)
- Must have an operating permit but don't have to require sampling and monitoring
- Even distribution of effluent to the soil is maintained

This list was discussed but no motion was made to formalize it as a recommendation.

Question/comment – does this apply to an old system with problems or to a new system with extra treatment? This should be two separate categories. Comment – why does a Type have to be assigned? Could we just call it a system in remediation? Comment – that would work for a system with problems, but there is no reason that a new system designed to Type I that also included extra treatment has to be a Type IV.

Question – is an Advanced Designer needed to design a remediation device into a system with problems? A Service Provider can do the failure analysis, but an Advanced Designer will be needed to design the system with the remediation device. The LGU will have a role in determining when a design is necessary.

Additional changes needed in the Remediation document should be identified to Barb McCarthy. She asked about the operating permit – some additional changes were suggested. This should be made to be realistic, the way it is now shows more monitoring than most would require. Specific language was discussed; the thought is that the amount of monitoring should be determined case-by-case based on the failure analysis. Barb McCarthy agreed to make these changes. Sara Heger noted that the Minnesota Onsite Wastewater Association's (MOWA) preconference session is January 31, 2011 in Duluth and will focus on remediation.

Next steps are to: 1) take this document to the SSTS Advisory Committee and 2) send to all the companies with registered treatment products. We will bring the draft remediation document to the December 9, 2010 SSTS Advisory Committee meeting.

Comment – there's no need to require Advanced Inspectors for Type IV; the inspector's function is different from the designer's function.

New rules – Treatment Levels A2 and B2 – how to implement?

Barb McCarthy pointed out that the 2010 rule revisions will bring additional options for registration. Should it be automatic, or should she ask each manufacturer if they want to also be registered at these levels? Should she wait until the product's registration is renewed or should it be done as soon as the rule changes go into effect? The group suggested that Barb take a look at current products and see how many would qualify to for the new treatment levels and report back to the group at the November 2010 TAP meeting.

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Registration Renewal Process

Barb McCarthy shared her ideas about the renewal process and getting feedback on product performance, see handout. The question is how to get LGU feedback on the use of registered products. She is concerned that this happen sooner than later; the rule requires that LGUs be asked for feedback no later than October for products that are expiring that year. The idea of using an electronic survey to gather this information seemed promising. This should be sent to Service Providers, too. Ongoing input would be welcomed; a suggestion was made to include a slide in the Continuing Education talks and to include a 'blurb' on this in the new MPCA monthly SSTS e-newsletter. The concept of quantification was discussed – should we ask LGUs how many were installed? Should the date of installation be included so that really old systems aren't considered in the same lot as much as newer systems? The survey should ask if the problem is related to system use or to the system itself.

Protocol Framework to Register Treatment Products using Real World Data

At the last meeting, a manufacturer requested that a way be developed to use real world data in lieu of testing protocol and data from the National Sanitation Foundation (NSF). **Motion Kerzinski, second Kohnen to postpone this discussion until a clear indication from MPCA management is received as to whether they would support development of an alternative protocol framework. Motion passed unanimously.**

Open Forum

Does a manufacturer (with a registered product) who assists in installation of their system have to have a Service Provider license? What if they are a certified Service Provider but not licensed? Answer – if the person who is actually installing or working on the system is duly licensed, this will be OK. MPCA will talk about this in their Monday meeting.

Next TAP Meeting

The next TAP meeting will be held on November 18, 2010, beginning at 10:00 at the MPCA, Room 6-3. **Motion to adjourn was made by consensus. Meeting adjourned at 1:55.**

Technical Advisory Panel SSTS Product Registration

Meeting: Thursday, November 18, 2010
10:00 am to 3:00 pm

Minnesota Pollution Control Agency
520 Lafayette Road, St. Paul, Minnesota
Room 6-3

Draft Agenda

- 10:00 am: Welcome and Introductions; Review Agenda
- 10:05 am: October 21, 2010 TAP Meeting Notes – Review and Approve
- 10:10 am: Update on Products, Sewage Tank, Documents, and MPCA Web page
- 10:30 am: Pentair Water, Delta Environmental (new application for the Ecopod Series; Models E75, E100, E150, E200, E250, E300 with Salcor 3G disinfection)
- Overview of submittal and documents – Barb McCarthy
 - Overview by company representative – Mike Catanzaro
 - TAP Questions, Discussion and Recommendations
- Noon: Lunch
- 1:00 pm: Proposed Rules – New Treatment Levels, A2 and B2
- Follow-up from October 21, 2010 TAP meeting
 - TAP Questions, Discussion, Recommendations
- 1:30 pm: Open Forum
- 2:00 pm: Adjournment

Next TAP Meeting – Thursday, January 20, 2011, St. Paul, Room 2A. Draft Agenda Items: 1) Bottom draining sand filter draft document



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

Meeting Notes – November 18, 2010
MPCA St. Paul, Room 6-3

Meeting Attendees

Committee Members	Present on Nov 18, 2010	Guests	Present on Nov 18, 2010
Ed Kerzinski	x	Mike Catanzaro, Delta Environmental	x
Mitch Johnson	x	Ryan Fickes, Delta Environmental	x
Loren Kohnen		Bob Burk, RepRiteBurk	x
Kemp Ritter			x
Sara Heger	x	MPCA Staff	
Bob Whitmyer	x	Barb McCarthy	x
Greg Halling		Mark Wespetal	x
Joe Enfield	x		
Chad Viland	x		
Sean Riley	x		
Tom Espersen	x		

Call to Order

The meeting was called to order by the chair Bob Whitmyer at 10:10 AM.

Approval of Minutes

Motion by Sara Heger to approve minutes from October 21, 2010 TAP meeting. Second by Joe Enfield. Joe Enfield stated there was a typographic error on page 3, fourth paragraph (starting with "Additional"), last sentence – *"Sara Heger noted that the Minnesota Onsite Wastewater Association (MOWA) preconference session is on January 31, 2011 in Duluth"*). Motion to approve the minutes passed.

Update on Products, Sewage Tanks, Documents and MPCA Web Page

The web page has the new sewage tank list and the draft remediation document. The example operating permits are completed, and will be posted soon on the web. The Remediation document is expected to be reviewed by the SSTS Advisory Committee at the December 9, 2010 meeting; the draft document is expected to be posted on the MPCA website for a three- month comment period (November 2010 – January 2011).

Sewage Tanks

Weiser concrete is the first tank manufacturer on the List of Sewage Tanks. Corey Hower is the staff lead on sewage tank registration and Barb is assisting, as needed. The sewage tank review and listing

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program is set up similar to the registered treatment and distribution products program. The product registration page got so big that the sewage tank information was made into a separate web page. The sewage tank page indicates the required standards during the transitional period with the new rule.

Treatment Products

The product lists are mostly up to date. The publication team is revising them so that when the lists, when opened up by the interested party, will have a similar format (i.e. size). The list of products is growing.

Pentair Water, Delta Environmental (new application for the Ecopod Series)

Representatives of Delta Environmental were present at the meeting to request registration of more of their units. Mike Catanzaro of Delta Environmental explained that Delta Environmental was the first company to seek registration with the agency and gained registration of their E50 and E60 units. They did not initially request registration of all their units, as the administrative process was new and they wanted to keep things simple at that point. They are now requesting registration of their larger models - E75, E100, E150, E200, E250, and E300. NSF tested the E50 unit (500 gpd) for bacteria reduction at 600 gpd.

Barb McCarthy provided a review of the submittal. Some of the questions/issues for consideration are noted as follows:

- NSF only certifies units up to 1500 gpd and some of their models exceed that amount. For systems over 1500 gpd, the agency requires an up-scaling assessment from NSF and that a review is typically done by engineering staff (Brett Ballavance) from the agency.
- Some models are lacking a detailed drawing
- Detail is needed on the method to split flows between multiple units
- Detail is needed on flow splitting methods to multiple disinfection units.

Mike Catanzaro inquired on how other manufacturers were evenly splitting the flow. It was discussed that multiple UV units can be employed, as long as flow can be evenly split to not exceed their rated capacity.

Mike Catanzaro agreed to address the concerns of the committee and the information will be submitted to the agency. Barb McCarthy distributed a draft registration letter for the Delta products. Barb now has signature authority for the product registration letters.

Sara Heger made a motion to register the submitted Delta models, if the needed information is submitted and acceptable to the agency. Delta Environmental does not need to make a return trip to the committee. Mitch Johnson seconded the motion. Motion carried unanimously.

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Sewage Tank Registration

The Delta discussion brought out the issue of tank registration. The issues identified in the discussion were:

- Do locally manufactured tanks, which are used by pretreatment manufactures, need to be registered?
- Do tanks which hold UV units need to be registered?
- Do tanks, manufactured, supplied and shipped with the pretreatment components, need to be registered?

A review of MN rules would strongly indicate that the answer to all the situations posed above would require the tanks to meet all the applicable rule requirements and be registered after April 4, 2012 (pending rule adoption). Mike Catanzaro from Delta stated that many states now require approved tanks for pretreatment devices. Pretreatment manufactures may not know this, so they will need to be informed to submit their tanks for registration or contact the local tank supplier to see if the tanks they are using are registered.

The question was raised whether treatment "pods" are considered as a tank? One criteria could be does it hold water (devices such as open-draining units)? It was noted that the pods must meet all setbacks for a tank. Pods do not have a vertical load, but should be expected to meet vertical load requirements.

The question was raised where to include the tank registration, in the registration of the pretreatment device or as a separate registration for the tank? The tank discussion will be put on the January 2011 agenda.

Transition to New Treatment Level (TL) Classifications

Barb McCarthy reported on her attempt to place the new Treatment Level (TL) classifications (per the 2010 rule update) on the currently registered treatment products. The driver on this new classification is the BOD/TSS concentrations. The new TL will not be issued until May 2011, after rule adoption. All the letters will be revised and sent to the manufacturers at that time. The current expiration date will remain. It was suggested that the letter should explain what this means to the use of the product. An entire new letter is expected to be drafted and not an addendum to the current letter.

Most products are affected. Unsure of what TL will be placed on re-circulating media filters.

Mike Catanzaro from Delta asked what TL was most commonly used in MN. The committee thought that TL A was the most common. Some products meet TL B w/o disinfection. It is difficult to make TL A without disinfection except for media filters.

The question was raised if existing systems with TL B, which were installed before the product registration program, with one foot of separation distance, are conforming. A review of the rule indicated that the system would be conforming, since it conformed to the local ordinance (i.e. applicable requirements) at the time (7080.1500).

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New Work Items

Barb McCarthy identified a few work issues that the committee could address. They included bottom draining sand filters and a guidance document on drip dispersal. The committee questioned the development of a drip dispersal guidance document, since no drip manufacturer has applied for registration. It was noted that the U of M instructs on drip systems and has a design worksheet on drip dispersal. It was noted that it is not a big market now. The current classification would be a Type V.

Two other work items would be sand media (and all the permutations of sand), and sewage tanks (testing, and guidance document on all aspects of tanks).

Performance data from six products will be received next year.

Professionals and the Need-to-Know

It was discussed that the Need-to-Know and exams need to be periodically updated based on the decisions made on registered products.

Adjournment

The next meeting will be on Thursday, January 20, 2011 in room 2A at the St. Paul office. Currently, the only agenda item is the sewage tank issue. If no more agenda items are offered, the next meet may be delayed until March 2011.

Motion was made by Mitch Johnson, seconded by Sara Heger, to adjourn the meeting. Motion carried. Meeting adjourned at 12:00 noon.