

# Sewage Treatment Systems Technical Advisory Committee

## MEETING MINUTES

**Date:** Tuesday – January 14, 2014

**Time:** 10:00 AM to 2:00PM

**Location:** Ohio Department of Natural Resources, Conference Room H-2, 2045 Morse Rd., Columbus, OH

### **TAC Members in Attendance:**

OEPA DSW Engineer & Chair – Mark Stump

ODH Director of Health Representative & TAC Secretary – Rebecca Fugitt

Manufacturer Representative - Scott Hetrick, Norweco Inc.

Registered Engineer – Walt Sandefur, Sandefur Consulting

OEHA Registered Sanitarian – Dan Lark, Lake County General Health District

Public Representative – Linda Aller

AOHC Health Commissioner –Raymond Saporito, Ashtabula County Health Department

Manufacturer Representative – Zak Sherman, Infiltrator Systems, Inc.

Installer/ Service Provider – Mark Fehring, Fehring Services

Ohio Townships Association – Perry Brock

### **Absent:**

Designer – Joe Keiser

AOHC Health Commissioner – Charles Patterson, Clark County Combined Health District (excused)

### **Vacant:**

Academic

ODNR Soil Scientist

### **Guests:**

Trent Lydic and Chris Mandich with Jet, Inc., Calvin Locker and Trey Johnson with Ecological Tanks, Inc., Scott Rexroth and David Helvey with Watermark EPS, Justin DaMore with Presby Environmental, Matt Deaton with ODNR, and Paul Kemmer

**Other ODH participants:** Nathan Johnson and Andy Thomas

### **Welcome and Agenda review**

The meeting called to order by Mark Stump. Introductions were made by all in attendance. The meeting agenda was reviewed. No changes to the agenda were requested.

### **Approval of December 10, 2013 meeting minutes**

Meeting minutes were reviewed by committee members. Linda Aller made a motion to approve the December 10, 2013 TAC meeting minutes. Ray Saporito seconded the motion. Committee members present voted to approve the meeting minutes.

### **Ecological Tanks request for recommendation for approval of the Aqua Aire advanced treatment system with pretreatment/ trash tank, the disinfectant UV disinfection unit, post aeration and pump lock out/telemetry for meeting the effluent limits defined in the Ohio EPA General NPDES permits for HSTS discharging to the waters of the state including Lake Erie**

Calvin Locker with Ecological Tanks, Inc.

Calvin Locker reviewed the manufacturers request for approval of the Aqua Aire treatment train for meeting the effluent limits outlined in the OEPA HSTS General Permits. Mr. Locker provided additional

# **Sewage Treatment Systems Technical Advisory Committee**

## **MEETING MINUTES**

information concerning two sets of dissolved oxygen data. Committee members expressed concerns with the performance data provided in the submittal. Discussion ensued concerning the treatment train's CBOD<sub>5</sub>, TSS, and ammonia data.

Calvin Locker stated that the manufacturer will request an extension to gather additional data and address the concerns expressed by the committee. Mr. Locker will provide a revised submittal what will include the CBOD<sub>5</sub>, TSS, and ammonia data from the Baylor testing. The revised submittal will include the mean, standard deviation, and confidence interval of the data.

### **Review and discussion of TAC Standards and Criteria**

A draft of "The Ohio Department of Health and Sewage Treatment Systems Technical Advisory Committee Standards, Guidelines, and Protocols for Ohio Revised Code Section 3718.04 Review of Sewage Treatment Systems Products and Components" document was reviewed by the committee. Several corrections were discussed.

Zak Sherman made a motion to accept the revised "The Ohio Department of Health and Sewage Treatment Systems Technical Advisory Committee Standards, Guidelines, and Protocols for Ohio Revised Code Section 3718.04 Review of Sewage Treatment Systems Products and Components" with the noted, additional revisions. Mark Fehring seconded the motion. Committee members voted in favor of the motion.

Zak Sherman made a motion to accept the revised "Application Instructions for BOD<sub>5</sub>/TSS or Ohio Revised Code 3718.04 Sewage Treatment System or Component Review" Review Instructions." Scott Hetrick seconded the motion. Committee members voted in favor of the motion.

### **2013 Annual Report of the Sewage Treatment Systems Technical Advisory Committee**

TAC reviewed the "013 Annual Report of the Sewage Treatment Systems Technical Advisory Committee." Several corrections were noted. Linda Aller made a motion to accept the "'2013 Annual Report of the Sewage Treatment Systems Technical Advisory Committee" as amended. Dan Lark Seconded the motion. Committee members voted in favor of the motion.

### **Review of the Spray Irrigation of Wastewater Special Device Approval**

The draft Special Device Approval for Spray Irrigation was reviewed by the committee for further clarification on several details including the development of two sets of standards (restricted and nonrestricted spray application). A revised draft will be developed by program staff for review at a future TAC meeting.

### **TAC Appointments:**

Rebecca Fugitt announced the reappointment of Walt Sandefur, Dan Lark and Ray Saporito. Mrs. Fugitt also announced that the governor's office had appointed Perry Brock to the committee in the OTA position. Additionally, Mrs. Fugitt spoke with several committee members who are nearing the end of their term and must contact the appointing authority if they wish to remain on the committee.

### **Selection of Chair and Vice-chair**

Ray Saporito made a motion to select Dan Lark TAC Chair. The motion was seconded by Linda Aller. The motion passed.

**Sewage Treatment Systems Technical Advisory Committee  
MEETING MINUTES**

Linda Aller made a motion to select Ray Saporito TAC Vice Chair. The motion was seconded by Scott Hetrick. The motion passed.

**Sewage Program Updates**

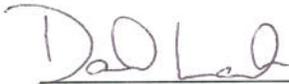
Rebecca Fugitt updated the committee concerning the rule development process. OPHAB recommended that the director forward the second draft to JCARRR for filing and adoption with conditions.

Rebecca Fugitt informed the committee that no formal appeals have been filed to the County Appeals Boards.

Dan Lark noted that there was a guest present that wanted to address the committee. Paul Kemmer presented on issues in his area and his ideas for solving high densities of septic system failures.

**Next Meeting: February 11, 2014**

Approved on 7-8-2014 as signified by:



Dan Lark, TAC Chairperson



Rebecca Fugitt, Secretary

# **Sewage Treatment Systems Technical Advisory Committee**

## **MEETING MINUTES**

**Date:** Tuesday – July 8, 2014

**Time:** 10:00 AM

**Location:** Ohio Department of Natural Resources, Conference Room H-2, 2045 Morse Rd., Columbus, OH

### **TAC Members in Attendance:**

OEHA Registered Sanitarian & Chair – Dan Lark, Lake County General Health District

ODH Director of Health Representative & TAC Secretary – Rebecca Fugitt

ODNR Soil Scientist – Matt Deaton

AOHC Health Commissioner – Raymond Saporito, Ashtabula County Health Department

AOHC Health Commissioner – Charles Patterson, Clark County Combined Health District

Manufacturer Representative – Trent Lydic, Jet, Inc.

Manufacturer Representative – Zak Sherman, Infiltrator Systems, Inc.

Professional Engineer – Walt Sandefur, Sandefur Consulting

Ohio Townships Association – Perry Brock

### **Absent:**

Installer/ Service Provider – Mark Fehring, Fehring Services (excused)

### **Vacant:**

Designer

Public Representative

Academic

OEPA DSW Engineer

### **Guests:**

Calvin Locker – Ecological Tanks, Inc.

Chris Mandich – Jet, Inc.

Nate McConoughey – Cuyahoga County Board of Health

Mark Stump – Ohio EPA

**Other ODH participants:** Dusten Gurney and Andy Thomas

### **Welcome and Agenda review**

The meeting called to order by Dan Lark. Introductions were made by all in attendance. The meeting agenda was reviewed. No changes to the agenda were requested.

### **Approval of January 14, 2014 meeting minutes**

Meeting minutes were reviewed by committee members. Zak Sherman made a motion to approve the January 14, 2014 TAC meeting minutes. Ray Saporito seconded the motion. Committee members present voted to approve the meeting minutes.

### **Ecological Tanks request for recommendation for approval of the Aqua Aire advanced treatment system with pretreatment/ trash tank, the disinfectant UV disinfection unit, post aeration and pump lock out/telemetry for meeting the effluent limits defined in the Ohio EPA General NPDES permits for HSTS discharging to the waters of the state including Lake Erie**

Calvin Locker of Ecological Tanks, Inc. reviewed the additional data provided to support the manufacturer's request for approval of the Aqua Aire treatment train for meeting the effluent limits outlined in the OEPA HSTS General Permits. Committee members had previously expressed concerns with the performance data provided in the submittal concerning the treatment train's CBOD<sub>5</sub>, TSS, and

# Sewage Treatment Systems Technical Advisory Committee

## MEETING MINUTES

ammonia data. Mr. Locker provided a revised submittal what included the CBOD<sub>5</sub>, TSS, and ammonia data from the Baylor testing.

Discussion ensued about the two different testing reports and whether the treatment train used in the two tests were equivalent. Mr. Locker indicated the difference between the two was the inclusion of a pretreatment tank (trash trap) during one of the test. Mr. Locker indicated that the inclusion of the pretreatment tank is better for the long-term function of the system, but results in a slower start up time. Discussion also included question about inconsistencies within the product literature regarding the replacement frequency for the UV bulb: 12 months or 24 months. Mr. Locker indicated the bulb replacement frequency should be 24 months. He will correct the literature to ensure consistency.

The following clarifications/corrections are required by the committee:

- The pretreatment tank shall be required with a capacity of 350 to 1000 gallons, as specified in product literature;
- The Hi-Blow blower be specified for the re-aeration component; and
- Specify UV bulb replacement every 24 months in product literature.

Ray Saporito made a motion to recommend approval of the Aqua Aire advanced treatment system with pretreatment/ trash tank, the disinfectant UV disinfection unit, post aeration and pump lock out or telemetry for meeting the effluent limits defined in the Ohio EPA General NPDES permits for HSTS discharging to the waters of the state including Lake Erie. Perry Brock seconded the motion. Committee members present voted to approve the request.

### **Review of the Spray Irrigation of Wastewater Special Device Approval**

Rebecca Fugitt reviewed the committee's requested changes made to the draft special device approval for spray irrigation of wastewater. One minor correction was requested regarding the local health department's ability to increase the required horizontal isolation distances:

*SPECIFICATIONS - (A)(5) Spray irrigation dispersal areas shall be sited at least fifty feet from adjoining parcels, dwelling(s), hardscapes, areas in active production of food for human consumption, areas without vegetation, and twenty-five feet from utility easements. Increased ~~Additional~~ horizontal isolation distances may be required by the board of health.*

Ray Saporito made a motion to approve the special device approve for the spray irrigation of wastewater with the specified correction to the horizontal isolation distance language. Matt Deaton seconded the motion. Committee members present voted to approve the special device approval.

### **Review of NPDES Sampling Results from Cuyahoga County**

Nate McConoughey of the Cuyahoga County Board of Health distributed a summary report of the NPDES sampling results for systems installed in Cuyahoga County under the NPDES General Permit. He discussed the sample collection process and results.

Discussion ensued on what the sample results indicated, and what role sampling results will play in the renewal process when product approvals expire every five years under the new rules. Ohio EPA has previously worked with ODH to develop an "Action Levels" document to provide guidance on corrective actions when systems are found to be out of compliance with the terms and conditions of the general permit and/or the product approval.

# Sewage Treatment Systems Technical Advisory Committee

## MEETING MINUTES

A survey of NPDES sample results conducted in 2010 yielded a low number of data points because of low response. Many more systems have been installed since then. It was suggested that a survey be conducted again in 2015. Committee members will revisit this topic at the next meeting.

### Thin Soil (6-12 inch) Special Device Approvals

Rebecca Fugitt and Dusten Gurney reviewed the draft version of the special device approvals for installation of mound or drip distribution systems with pretreatment on sites that have less than the minimum 12 inches of in-situ soil currently required. ODH was approached by a local health department to identify systems that can be installed in this circumstance where discharge is not an option.

Committee members discussed the draft documents and requested that a condition to limit the approval only to sites where no other option is available, and only existing lots are eligible – no new lots may be created that require use of this special device approval. ODH will revise the document and distribute for further discussion at the next meeting.

### TAC Appointments:

Rebecca Fugitt announced the appointment of Trent Lydic of Jet, Inc. as the new manufacturer representative. Dan Michael has submitted his application for appointment to the committee as the Designer representative. The academic, public at-large, and Ohio EPA professional engineer positions remain vacant. Ms. Fugitt indicated she has had difficulty finding someone that meets the requirement of actively teaching or researching on-site wastewater treatment for the academic position.

### Sewage Program Updates

Rebecca Fugitt updated the committee concerning the rule development process. ODH administration has been meeting with JCARR members to brief them on the draft rule package. ODH received letters of support from several stakeholders. Some stakeholders cited concerns about required connection of homes to sanitary sewer even when there is a functioning household sewage treatment system. Ms. Fugitt distributed a copy of some proposed language that has been developed to generate discussion and will continue to work with stakeholders to address this concern.

Rebecca Fugitt informed the committee that no formal appeals have been filed to the County Appeals Boards.

### Next Meeting: August 12, 2014

### Adjourn

Charles Patterson made a motion to adjourn the meeting. Zak Sherman seconded the motion. Committee members present voted to adjourn the meeting.

Approved on August 12 2014 as signified by:



Dan Lark, TAC Chairperson



Rebecca Fugitt, Secretary

# **Sewage Treatment Systems Technical Advisory Committee**

## **MEETING MINUTES**

**Date:** Tuesday – August 12, 2014

**Time:** 10:00 AM

**Location:** Ohio Department of Health, Mohican Conference Room, 35 East Chestnut St., Columbus, OH

### **TAC Members in Attendance:**

OEHA Registered Sanitarian & Chair – Dan Lark, Lake County General Health District

ODH Director of Health Representative & TAC Secretary – Rebecca Fugitt

ODNR Soil Scientist – Matt Deaton

AOHC Health Commissioner – Charles Patterson, Clark County Combined Health District

Manufacturer Representative – Trent Lydic, Jet, Inc.

Manufacturer Representative – Zak Sherman, Infiltrator Systems, Inc.

Professional Engineer – Walt Sandefur, Sandefur Consulting

Ohio Townships Association – Perry Brock

Installer/ Service Provider – Mark Fehring, Fehring Services

### **Absent:**

AOHC Health Commissioner – Raymond Saporito, Ashtabula County Health Department (excused)

### **Vacant:**

Designer

Public Representative

Academic

OEPA DSW Engineer

### **Guests:**

Dick Bachelder, Infiltrator Systems, Inc.

Chris Mandich – Jet, Inc.

Mark Stump – Ohio EPA

**Other ODH participants:** Dusten Gurney and Andy Thomas

### **Welcome and Agenda review**

The meeting called to order by Dan Lark. Introductions were made by all in attendance. The meeting agenda was reviewed. No changes to the agenda were requested.

### **Approval of July 8, 2014 meeting minutes**

Rebecca Fugitt notified TAC members that the meeting minutes previously distributed via email to TAC members was an early draft that was sent out by mistake and not the final draft of the minutes. The revised version of the minutes was distributed at the start of the meeting and Rebecca explained the revision that had been made. Trent Lydic made a motion to approve the revised July 8, 2014 TAC meeting minutes. Matt Deaton seconded the motion. Committee members present voted to approve the meeting minutes.

### **Review of Infiltrator Systems, Inc. ATL System request for approval for meeting CBOD<sub>5</sub>/TSS standards for sizing reduction and variation from Non-Gravel, Fines-Free Distribution System Special Device**

#### **Approval (SDA)**

Dick Bachelder provided a presentation of the Infiltrator Advance Treatment Leachfield (ATL) system. Discussion ensued on the request for review and approval of the Infiltrator ATL product for CBOD<sub>5</sub>/TSS sizing reduction and use of non-gravel, fines-free distribution product in conjunction with specified sand

## Sewage Treatment Systems Technical Advisory Committee MEETING MINUTES

in configurations that exceed the maximum trench width allowed in the SDA. TAC members expressed some concerns with the content of the *Design and Installation Manual for Infiltrator ATL System in the State of Ohio*. Mr. Bachelder welcomed discussed and indicated Infiltrator is willing to revise the document to address concerns as necessary.

The following revisions were requested by the committee:

- Product application: Add language to Item D.7.b. – Soil characteristics that may affect performance: “Treatment capability is related to loading rate (2.2 gpd/lf of the ATL conduit) and hydraulic performance is met by use of the Tyler Table3 as the design basis for system sand basal area sizing **and length along contour.**”
- Separation Distances in the System Configurations section of the design and installation manual (pg 4): Add six inch minimum vertical separation to seasonal water for septic tank effluent.
- System Design Section of Ohio manual: Add language to allow for split or zoned systems and specify that equal length and flow is required.
- Step 3 of the System Design section in the Ohio manual (pg 11): change the heading to “Step 3: Calculate the minimum ~~conduit length per Conduit row~~ **bed length**”
- Step 3 of the System Design section in the Ohio manual (pg 11): change the header in the first column of the table to read “Hydraulic Linear Loading Rate (gpd/sf lf)”
- Step 4 of System Design section of the Ohio manual (pg 12): Add note to clarify how to design system when minimum length along contour (determined by linear loading rate) falls between lengths specified in table for minimum sand dimensions.
- System Design Example Calculations (pg 15) of Ohio Manual: Provide additional system design example using soil conditions and calculations to demonstrate how system is designed when minimum length required by linear loading falls between lengths specified in table on page 12.
- Operation and Maintenance in Information for System Owner section of the Ohio manual (pg 22?): Change wording to “service provider” and “certified Infiltrator ATL distributor”
- Operation and Maintenance section of Ohio manual (pg 22): Use language from the *Removal of Residuals* section of the Design and Installation manual included in the NSF report (pg 52 of 59).
- Item 1 of Installing Observation/Monitoring Ports in the Installation Instructions section of the Ohio manual (pg 26): Change material for observation port to “4-inch Sch 40 or SDR 35 pipe”
- Item 3 of Covering the System in the Installation Instructions section of the Ohio manual (pg 26): Specify only low contact pressure equipment should be used to drive over the system when backfilling.

Other discussion points included concerns about installing the systems on 33% slope, the maximum depth of cover over an installed system, and use of wide bed configurations.

At the conclusion of the presentation and discussion, Ms. Fugitt reviewed how TAC has previously proceeded with approval requests when revisions/corrections are requested by the committee:

- Vote to recommend approval pending identified revisions, as verified by program staff and distributed, reviewed, and confirmed electronically by TAC members; or
- Request revisions be completed and reviewed at the next TAC meeting prior to any vote to recommend approval or disapproval of the product.

Committee chair Dan Lark asked for a motion to recommend approval of the product, pending verification of revisions. No motion was made.

**Sewage Treatment Systems Technical Advisory Committee  
MEETING MINUTES**

Mr. Sandefur indicated he prefer the TAC be given time to think about the approval request and be tabled until the next meeting. Other committee members nodded their heads in agreement. Mr. Patterson indicated to Mr. Bachelder that he has the option to join the next meeting via teleconference if travel is a concern.

**Continued Discussion - Review of NPDES Sampling Results and LHD data survey**

Mr. Lark indicated that Mr. Stump from Ohio EPA had to leave the meeting early. Because the NPDES sampling issue is directly related to his program at Ohio EPA, this item will be tabled until the next meeting so Mr. Stump can participate in the discussion.

**Thin Soil (6-12 inch) Special Device Approvals**

Rebecca Fugitt and Dusten Gurney reviewed the requested revisions made to draft versions of the special device approvals for installation of mound or drip distribution systems with pretreatment on sites that have less than the minimum 12 inches of in-situ soil currently required.

Committee members discussed the draft documents and requested that another condition be added to each document to clarify that the SDAs apply only to sites with no less than six inches and no more than 12 inches of in-situ soil. TAC members also requested that drip assurance parties be required to verify that the design for a drip system on an eligible site meets the conditions of the SDA. ODH will revise the document accordingly and distribute for further discussion at the next meeting.

**TAC Appointments:**

Rebecca Fugitt discussed the vacant positions on the TAC. Chris Schraff has indicated he will submit application to the Governor's office for the vacant Public At-Large position. Dan Michael has submitted his application to Senator Faber's office for appointment to the committee as the Designer representative. Ms. Fugitt will follow up with ODH Legislative Relations staff regarding the status of this appointment. The academic and Ohio EPA professional engineer positions remain vacant.

**Sewage Program Updates**

The sewage rules were filed with JCARR last month. A public hearing to be held at ODH is scheduled for 2 PM on September 3, 2014. JCARR will hold its hearing on the rules on September 22, 2014. The rules were filed without any change to the sewer connection requirement. Senator Peterson, chair of JCARR, has indicated he will hold a meeting with stakeholders to discuss the sewer connection language. The meeting is scheduled at the Statehouse for August 22, 2014.

**Next Meeting: September 9, 2014**

**Adjourn**

Mark Fehring made a motion to adjourn the meeting. Trent Lydic seconded the motion. Committee members present voted to adjourn the meeting.

Approved on 9-9-2014 as signified by:



Dan Lark, TAC Chairperson



Rebecca Fugitt, Secretary

# **Sewage Treatment Systems Technical Advisory Committee**

## **MEETING MINUTES**

**Date:** Tuesday – September 9, 2014

**Time:** 10:00 AM

**Location:** Ohio Department of Natural Resources, Building E Assembly Center, 2045 Morse Road, Columbus

### **TAC Members in Attendance:**

ODH Director of Health Representative & TAC Secretary – Rebecca Fugitt

ODNR Soil Scientist – Matt Deaton

AOHC Health Commissioner – Charles Patterson, Clark County Combined Health District

AOHC Health Commissioner –Raymond Saporito, Ashtabula County Health Department

Manufacturer Representative – Trent Lydic, Jet, Inc.

Manufacturer Representative – Zak Sherman, Infiltrator Systems, Inc.

Professional Engineer – Walt Sandefur, Sandefur Consulting

Ohio Townships Association – Perry Brock

Installer/ Service Provider – Mark Fehring, Fehring Services

Public Representative – Chris Schraff

### **Absent:**

OEHA Registered Sanitarian & Chair – Dan Lark, Lake County General Health District (excused)

### **Vacant:**

Designer

Academic

OEPA DSW Engineer

### **Guests:**

Dick Bachelder, Infiltrator Systems, Inc.

Scott Hetrick, Norweco, Inc.

Mark Stump – Ohio EPA

Christopher Hall, Cincinnati DSW

**Other ODH participants:** Dusten Gurney and Andy Thomas

### **Welcome and Agenda review**

The meeting called to order by Vice-Chair Ray Saporito. Introductions were made by all in attendance. Rebecca Fugitt welcomed Chris Schraff to the committee as the public at-large representative. Mr. Schraff commented on background and previous experience with the STS Rule Advisory Committee. The meeting agenda was reviewed. No changes to the agenda were requested.

### **Approval of August 12, 2014 meeting minutes**

The committee reviewed minutes from the August meeting. Mark Fehring noted that the word “(excused)” had inadvertently been included after his name although the minutes indicate he was present for the meeting. He requested the minutes be revised to remove that word. Charles Patterson made a motion to approve the August 12, 2014 TAC meeting minutes with the requested revision. Mark Fehring seconded the motion. Committee members present voted to approve the meeting minutes.

## **Sewage Treatment Systems Technical Advisory Committee MEETING MINUTES**

### Continuation of the Review of Infiltrator Systems, Inc. ATL System request for approval for meeting CBOD<sub>5</sub>/TSS standards for sizing reduction and variation from Non-Gravel, Fines-Free Distribution System Special Device Approval (SDA)

Dick Bachelder provided a list of requested changes he compiled made following the August 12, 2014 meeting along with a copy of comments from ODH regarding the revised ATL Design. He reviewed the revisions that had been made and discussed additional changes requested by ODH. Mr. Bachelder had addressed most of the concerns/revisions discussed by TAC in the previous meeting.

Walt Sandefur expressed concern about from where horizontal isolation distances should be measured on at and above-grade systems. Infiltrator is proposing the isolation distance be measured from the edge of the calculated system sand bed. The standard in Ohio for mound installations is that the horizontal isolation distance be measured from the toe of the mounded soil.

There was concern about adequate dispersal of effluent across the system sand in wide beds with a limited number of rows of conduit: second design example in the design manual, option 2 would result in a 5.6ft x 282ft bed with one row of conduit, and another example in the design manual would result in a 7ft wide bed with only two rows of conduit. Mr. Bachelder proposed that in cases where the basal area adjustment results in a bed that is more than two feet wider than the minimum design requirement determined by Table 4, either the conduit and system sand bed be lengthened to accommodate the basal area requirement, or an additional row of conduit be added (the length of the bed) for each 2 foot increment that is added to the width of the bed.

Majority of discussion was related to whether this product should be approved in Ohio because of the likelihood of wide bed configurations that do not comply with the draft rules. Charles Patterson indicated he does not think it is appropriate for TAC to determine whether a bed configuration is allowable when the Rule Advisory Committee spent four years developing rules that do not allow bed configuration. The draft rules allow maximum three foot wide trenches for replacements, and two foot wide trenches for new STS.

Mr. Bachelder and Zak Sherman indicated that because the ATL system is a pretreatment system – not just soil absorption – the soil absorption requirements/limitations included in the draft rules do not necessarily apply. Trent Lydic compared the ATL system to a traditional aeration treatment system that is approved for the BOD/TSS sizing reduction Infiltrator is requesting. If the ATL is approved for bed configurations under that rationale – thus exempt from the limitation in rule – all approved pretreatment components would be able to gain approval for bed configurations.

Rebecca Fugitt pointed out that the concern with wide beds is related to both oxygen exchange needed for continued treatment of the effluent in the soil and hydraulic dispersal of effluent into the landscape.

Ms. Fugitt noted that a similar product was approved last year with a maximum trench/bed width of 5 feet. This led to discussion of the possibility of splitting a wide bed configuration into two narrower trench configurations separated by minimal (~4t) in-situ soil, which would still result in a smaller system footprint than a traditional leach trench system. Example, a bed that would normally be designed at 9 feet wide would result in a 4 foot wide bed and a 5 foot wide bed (or two 4.5 wide beds) separated by 4 feet of in-situ soil. Infiltrator agreed this would be acceptable for subsurface installations, but not acceptable for at-grade or above-grade installations because of the additional cost of sand/soil to fill the void between the two elevated areas.

## **Sewage Treatment Systems Technical Advisory Committee**

### **MEETING MINUTES**

Ms. Fugitt also proposed that the inclusion of pressure distribution would address concerns with a wide bed configuration because it would be similar to a traditional mound system. Mr. Bachelder indicated he is not interested in considering pressure distribution for this system.

Mr. Patterson stated perhaps TAC should develop a sand-lined system special device approval – as has been discussed in the past – before considering approval of this request. Mr. Bachelder indicated he did not want to pursue this option because the development of an SDA could take up to twelve months and they want to get the product approved sooner.

During the lengthy discussion, Chris Schraff stated that if the committee is not going to approve the product today, it needs to indicate what specific concerns Infiltrator needs to address – don't just send them back without guidance.

To conclude the lengthy discussion, Ray asked committee members what Infiltrator needs to do to address their concerns and gain approval. Mr. Lydic indicated he is not comfortable with TAC approving a bed configuration that does not conform to the draft rules the Rule Advisory Committee and ODH worked on for four years. This type of bed system needs its own set of rules if they are to be approved.

Mr. Bachelder indicated he was surprised at the amount of discussion occurring based on how the meeting ended last month. He was expecting to take care of the revisions requested in August and move forward with the approval. He would like the committee to vote today with the minor modifications discussed and agreed upon through the course of the meeting, but Infiltrator will not modify their request to include a maximum width or pressure distribution.

Mr. Sherman indicated that if TAC chooses not to move forward with an approval until an SDA is developed, he will support that if the existing product approval (2010) that allows bed configurations for a similar product is revoked or suspended until the SDA is adopted. Brief discussion ensued on the conditions for removing an existing product approval. Mr. Schraff indicated he does not think it would be productive to pursue removal of the existing product approval.

Mr. Saporito asked for a motion to approve the Infiltrator ATL system. Mark Fehring made a motion to approve the request for approval of the Infiltrator ATL system as reviewed today with the condition that when the basal area adjustment results in a bed that is more than two feet wider than the minimum design requirement determined by Table 4, either the conduit and system sand bed be lengthened to accommodate the basal area requirement, or an additional row of conduit be added (the length of the bed, per design requirements) for each 2 foot increment that is added to the width of the bed to accommodate the basal area requirement. Matt Deaton seconded the motion. Mr. Saporito asked for a roll-call vote:

Trent Lydic – Nay  
Walt Sandefur – Nay  
Perry Brock – Nay  
Zak Sherman – Abstained  
Charles Patterson – Aye  
Mark Fehring – Aye  
Ray Saporito – Nay  
Chris Schraff – Aye  
Matt Deaton – Aye

## **Sewage Treatment Systems Technical Advisory Committee**

### **MEETING MINUTES**

Ms. Fugitt was unsure how to proceed when the vote results in a tie. The TAC By-Laws were reviewed and did not give clear indication of how to proceed. Mr. Schraff indicated he believes a majority vote is required to recommend approval of the product. Ms. Fugitt indicated she thinks it will be sent to the Director for final decision as a tie-vote (no recommendation) from TAC. She will consult with ODH legal counsel for more information.

#### **Continued Discussion - Review of NPDES Sampling Results and LHD data survey**

Ms. Fugitt briefly recapped previous discussion from the July meeting when Nate McConoughey from Cuyahoga County spoke to TAC about his concerns regarding NPDES sampling results. Ms. Fugitt and Mark Stump (Ohio EPA) described the process for survey of local health departments in 2010 for NPDES sample results. At that time, coverage had been granted to about 2,000 NPDES systems, and low response rate resulted in a small sample size, making results statistically insignificant. Ohio is now approaching 10,000 systems under the General Permit, and even with relatively low response, the sample size should yield statistically significant results. If Ohio is to survey again, he would consider elimination of outliers in the results, but need to identify how systems will be evaluated.

Mr. Lydic indicated he had researched what other states require for field verification of treatment products. He presented on the criteria used by other states, and started discussion of evaluation by offering his thoughts of how systems should be evaluated in Ohio.

Ms. Fugitt asked the TAC if it is requesting ODH to work with Ohio EPA to conduct another survey of local health departments for NPDES sampling results. The consensus in the group was that a survey is warranted. Some discussion ensued on some of the barriers to conducting the survey, including local health departments' ability to coordinate collection of sampling results, and enforcement of the sampling requirement.

#### **Thin Soil (6-12 inch) Special Device Approvals**

Dusten Gurney reviewed the requested revisions made to draft versions of the special device approvals for installation of mound or drip distribution systems with pretreatment on sites that have less than the minimum 12 inches of in-situ soil currently required. All previously requested revisions have been made, and copies of the revised SDAs were distributed to TAC members.

Chris Schraff made a motion to approve the revised SDA for use of Drip Distribution Technology as a Special Device for Sewage Treatment Systems in Areas with Six to Twelve Inches of In-Situ Soil Above Bedrock and the revised SDA for use of Sand Mounds With Time Dosed Pressure Distribution as a Special Device for Sewage Treatment Systems in Areas with Six to Twelve Inches of In-Situ Soil Above Bedrock as presented. Mark Fehring seconded the motion. TAC members in attendance voted to approve the special device approvals.

#### **TAC Appointments:**

Rebecca Fugitt discussed the vacant positions on the TAC. As previously noted during introductions, Chris Schraff was appointed to the TAC as the public at-large representative. Dan Michael has submitted his application to Senator Faber's office for appointment to the committee as the Designer representative. Ms. Fugitt will follow up again with ODH Legislative Relations staff regarding the status of this appointment. The academic and Ohio EPA professional engineer positions remain vacant.

**Sewage Treatment Systems Technical Advisory Committee  
MEETING MINUTES**

**Sewage Program Updates**

The sewage rules were filed with JCARR in July. The public hearing was held at ODH on September 3, 2014. Some written testimony was submitted prior to the public hearing and one verbal testimony was given during the hearing. JCARR will hold its hearing on the rules on September 22, 2014 at 1:00 at the Statehouse. The projected effective date for the rules remains January 1, 2015.

There have not been any appeals made to the STS appeals board. Ms. Fugitt indicated ODH will be sending out reminders to the probate courts that current terms on the respective appeals boards expire at the end of the year and re-appointments/new appointments need to be completed.

**Next Meeting: October 14, 2014**

**Adjourn**

Chris Schraff made a motion to adjourn the meeting. Matt Deaton seconded the motion. Committee members present voted to adjourn the meeting.

Approved on 10-14-2014 as signified by:

Daniel Lark

Dan Lark, TAC Chairperson

Rebecca Fugitt

Rebecca Fugitt, Secretary

# **Sewage Treatment Systems Technical Advisory Committee**

## **MEETING MINUTES**

**Date:** Tuesday – October 14, 2014

**Time:** 10:00 AM

**Location:** Ohio Department of Natural Resources, Building H, 2045 Morse Road, Columbus

### **TAC Members in Attendance:**

ODH Director of Health Representative & TAC Secretary – Rebecca Fugitt

OEHA Registered Sanitarian & Chair – Dan Lark, Lake County General Health District

ODNR Soil Scientist – Matt Deaton

AOHC Health Commissioner – Charles Patterson, Clark County Combined Health District

AOHC Health Commissioner – Raymond Saporito, Ashtabula County Health Department

Manufacturer Representative – Trent Lydic, Jet, Inc.

Professional Engineer – Walt Sandefur, Sandefur Consulting

Ohio Townships Association – Perry Brock

Installer/ Service Provider – Mark Fehring, Fehring Services

Public Representative – Chris Schraff

### **Absent:**

Manufacturer Representative – Zak Sherman, Infiltrator Systems, Inc. (excused)

### **Vacant:**

Designer

Academic

OEPA DSW Engineer

### **Guests:**

Bennette Burks, Consolidated Treatment Systems, Inc./3-Engineering, LLC

Jeff Coomer, Consolidated Treatment Systems, Inc.

Jeff Luthman, Consolidated Treatment Systems, Inc.

Christopher Hall, Cincinnati DSW

**Other ODH participants:** Dusten Gurney, Steve Schmidt, and Andy Thomas

### **Welcome and Agenda review**

The meeting called to order by committee chair Dan Lark. Introductions were made by all in attendance. The meeting agenda was reviewed. No changes to the agenda were requested.

### **Approval of September 9, 2014 meeting minutes**

The committee reviewed minutes from the August meeting. Perry Brock made a motion to approve the September 9, 2014 TAC meeting minutes. Mark Fehring seconded the motion. Committee members present voted to approve the meeting minutes.

### **Review of Consolidated Treatment Systems, Inc. Sybr-Aer request for approval for meeting CBOD<sub>5</sub>/TSS standards for sizing reduction, one foot soil depth credit (10,000 cfu/100mL), two foot soil depth credit (1,000 cfu/100mL), restricted surface application (200 cfu/100 mL), and NPDES discharge to waters of the state other than Lake Erie.**

Prior to discussion of the approval request, Chris Schraff indicated he has previously represented Consolidated Treatment Systems, Inc. and will recuse himself from any discussion and voting of the product approval request.

## **Sewage Treatment Systems Technical Advisory Committee MEETING MINUTES**

Bennette Burks spoke to the committee about the Sybr-Aer product history and basic concepts of the treatment system, which utilizes sequencing batch reactor (SBR) technology. Discussion ensued on the treatment process.

The following issues were discussed:

**Tablet chlorinator** – The approval request includes an option for injected chlorine disinfection, or use of a manufactured tablet chlorinator for disinfection. Testing was completed using the injected chlorine configuration. Some concern was expressed regarding the residual chlorine levels at the point of discharge for a system that utilizes chlorine tablets. The velocity at which the effluent would flow through a tablet chlorinator would cause physical degradation of the tablet, resulting in a residual chlorine level that exceeds the NPDES General Permit discharge standards. Ms. Fugitt expressed concern that there is no test data for the tablet chlorinator configuration, and TAC would want to see data on that configuration before approving it. Mr. Coomer acknowledged this deficiency.

**Testing data** – Committee members asked if the raw data had been submitted. Mr. Burks indicated he did send the raw data in an Excel spreadsheet to Dusty. Dusty indicated he did not recall receiving this data. Mr. Burks and Mr. Coomer agreed to provide certification from the testing facility and explaining the testing procedures.

**Chlorine residual testing** – Independent third party testing was completed by an NSF testing facility in British Columbia. Mr. Lydic indicated that NPDES General Permit limit is for total chlorine, but the submitted test data is for free-chlorine. Committee members expressed concerns about approving this product for discharge under NPDES permit without further clarification on this issue.

**Ammonium vs Ammonia** – There is a discrepancy over whether the testing facility tested for ammonia or ammonium. The committee is not comfortable with approving the product for discharge to waters of the state (excluding Lake Erie) without clarification on this issue.

**Data calculations** – Mr. Sandefur asked how the confidence intervals were calculated for the approval request. He did his own calculations of the confidence intervals and did not arrive at the same numbers that were included in the approval request. Mr. Burks indicated he used the calculation tools within Excel for standard deviation. He will follow up on this concern.

Dan Lark made a motion to approve the Sybr-Aer system for meeting the CBOD5/TSS sizing reduction standard, one foot soil depth credit (<10,000 cfu/100mL), two foot soil depth credit (<1,000 cfu/100 mL), and restricted surface application (<200 cfu/100 mL), (but not for discharge for waters of the state) with the chlorine injection configuration and upon receipt of the third party testing report from Watertech. Matt Deaton seconded the motion. Members voted to approve the motion with none opposed, and two abstentions.

Mr. Sandefur indicated he abstained because he would like to see the actual calculations for the confidence interval and standard deviations.

Consolidated Treatment Systems agreed to provide the Watertech report, including raw testing data, and additional information required to seek approval to discharge to waters of the state except for Lake Erie for next month's meeting.

**Sewage Treatment Systems Technical Advisory Committee  
MEETING MINUTES**

**Discussion of development of standards for tertiary treatment**

Ms. Fugitt spoke to the committee about the inclusion of tertiary treatment products in the new sewage rules. Tertiary treatment products are intended for use with NPDES permitted systems that are consistently unable to meet the discharge limits within the General Permit. The rules indicate that tertiary treatment products must be reviewed by TAC and approved by the Director. Ms. Fugitt is initiating discussion with TAC in an effort to begin develop standards before requests are received.

Committee members discussed the possibility of approving tertiary products as stand-alone products or approved for use with specific treatment trains, and issues associated with each. Discussion on this issue will continue at the next meeting.

**TAC Appointments:**

Rebecca Fugitt discussed the vacant positions on the TAC. Dan Michael has submitted his application to Senator Faber's office for appointment to the committee as the Designer representative. Senator Faber's office indicated to ODH personnel they will work on this appointment.

**Sewage Program Updates**

The sewage rules were not invalidated by JCARR, so the rules have been filed with an effective date of January 1, 2015. ODH will be conducting seven regional trainings across the state and follow up with focused training via webinar in December, January, and February.

There have not been any appeals made to the STS appeals board. Dusty Gurney is preparing reminders to be sent to the probate courts that current terms on the respective appeals boards expire at the end of the year and re-appointments/new appointments need to be completed.

**Next Meeting**

The November meeting will need to be rescheduled because the normal meeting date falls on a federal holiday. Ms. Fugitt will send out a poll to committee members in the coming weeks to get a consensus alternative date for the meeting.

**Adjourn**

Approved on Nov 18, 2014 as signified by:



Dan Lark, TAC Chairperson



Rebecca Fugitt, Secretary

*Charles A. P. Hagan, Vice Chair*

# **Sewage Treatment Systems Technical Advisory Committee**

## **MEETING MINUTES**

**Date:** Tuesday –November 18, 2014

**Time:** 10:00 AM

**Location:** Ohio Department of Health 246 N High Street, Columbus

### **TAC Members in Attendance:**

ODH Director of Health Representative & TAC Secretary – Rebecca Fugitt

ODNR Soil Scientist – Matt Deaton

AOHC Health Commissioner – Charles Patterson, Clark County Combined Health District

Manufacturer Representative – Trent Lydic, Jet, Inc.

Professional Engineer – Walt Sandefur, Sandefur Consulting

Ohio Townships Association – Perry Brock

Installer/ Service Provider – Mark Fehring, Fehring Services

Public Representative – Chris Schraff

Manufacturer Representative – Zak Sherman, Infiltrator Systems, Inc.

### **Absent:**

OEHA Registered Sanitarian & Chair – Dan Lark, Lake County General Health District (excused)

AOHC Health Commissioner –Raymond Saporito, Ashtabula County Health Department (excused)

### **Vacant:**

Designer

Academic

OEPA DSW Engineer

### **Guests:**

Bennette Burks, Consolidated Treatment Systems, Inc./3-Engineering, LLC

Jeff Luthman, Consolidated Treatment Systems, Inc.

Christopher Hall, Cincinnati DSW

Scott Hetrick-Norweco Inc.

**Other ODH participants:** Dusten Gurney and Steve Schmidt

### **Welcome and Agenda review**

The meeting called to order by Charlie Patterson. Introductions were made by all in attendance. The meeting agenda was reviewed. No changes to the agenda were requested.

### **Approval of October 14, 2014 meeting minutes**

The committee reviewed minutes from the October. Zack Sherman made a motion to approve the October 14, 2014 TAC meeting minutes. Mark Fehring seconded the motion. Committee members present voted to approve the meeting minutes.

## Sewage Treatment Systems Technical Advisory Committee MEETING MINUTES

Review of Consolidated Treatment Systems, Inc. Sybr-Aer request for approval for meeting CBOD<sub>5</sub>/TSS standards for sizing reduction, one foot soil depth credit (10,000 cfu/100mL), two foot soil depth credit (1,000 cfu/100mL), restricted surface application (200 cfu/100 mL), and NPDES discharge to Lake Erie and waters of the state other than Lake Erie.

Prior to discussion of the approval request, Chris Schraff indicated he has previously represented Consolidated Treatment Systems, Inc. and will recuse himself from any discussion and voting of the product approval request.

At the September meeting the motion was to approve the Sybr-Aer system for meeting the CBOD<sub>5</sub>/TSS sizing reduction standard, one foot soil depth credit (<10,000 cfu/100mL), two foot soil depth credit (<1,000 cfu/100 mL), and restricted surface application (<200 cfu/100 mL), (but not for discharge for waters of the state) with the chlorine injection configuration and **upon receipt of the third party testing report from Water Tech**. Matt Deaton seconded the motion. Members voted to approve the motion with none opposed, and two abstentions.

The Water Tech report was received by the TAC members prior to the meeting to meet the conditions of the approval of the motion to approve at the September meeting.

Bennette Burks was present and spoke to the committee about the results of the requested Water-Tech report. The results of this report showed that the Confidence Interval was calculated as per the TAC Standards and Guideline as posted on the ODH website under product review.

The following issues were discussed:

Mr. Sandefur stated it was his opinion that Consolidated's calculations for the E. coli geometric mean plus two standard deviations was incorrect. His calculation was that the geometric mean plus two standard deviations was 760 cfu, and therefore, the Sybr-Aer unit did not meet the TAC requirements for NPDES discharge that the E. coli geometric mean plus two standard deviations be less than 523 & 235 cfu.

When asked to explain, Mr. Sandefur stated that for bacteria analysis, the actual test results are typically not considered to be normally distributed, therefore the test data values are transformed into the logarithms of the values, which are more normally distributed, then the statistics are calculated (mean, standard deviation, mean plus two standard deviation, etc.) and then transformed back. He pointed out that for normally distributed data, 98% of the data points should be less than the mean plus two standard deviations, and that for Consolidated's calculation of a geometric mean plus two standard deviations equal to 37, 15 of the 32 points are greater than 37.

Mr. Sandefur also noted that Consolidated had not provided an Excel spreadsheet showing the formulas for calculations, as he had previously requested, to show that the test results met the requirements. And, when he went back and reviewed the fecal test results, it was his opinion that the Sybr-Aer unit did not meet the requirements that the geometric mean plus two standard deviations be less than 1000 cfu for a two-foot soil depth credit.

## Sewage Treatment Systems Technical Advisory Committee MEETING MINUTES

There was further discussion by TAC members as to what the past practice had been regarding statistical calculations and how evaluation of data should be performed and reviewed in the future.

Mr. Sandefur indicated he abstained because he would like to see the actual calculations for the confidence interval and standard deviations.

Discussion was held prior to approval of the Sybr-Aer application of using this unit for soil depth credits due to having chlorine residual in the effluent and the proposed rules in Section 3701-29-13 (G) which states "Disinfection components shall not discharge disinfection residuals to a soil absorption component. But this approval is prior to the effective date of the rules so TAC must vote on this application as submitted.

Zach Sherman asked for a motion that recommended approval of the Sybr-Aer as presented for CBOD5/TSS sizing reduction standard, one foot soil depth credit (<10,000 cfu/100mL), two foot soil depth credit (<1,000 cfu/100 mL), and restricted surface application (<200 cfu/100 mL) and for discharge to Lake Erie and to the waters of the state other than Lake Erie with the chlorine injection configuration. Mark Fehring seconded the motion and it was asked that a Roll Call vote be held:

Zach---Yes	Perry---Yes
Walt---Abstain	Charles---Abstain
Chris S---Abstain	Trent-Yes
Mark--Yes	Matt--No

Motioned Carried with 4 yes, 1 no and thee Abstaining.

TAC Committee members inquired about the use of all approved systems in the state of Ohio. The rules state that all units approved by the TAC can be used throughout the state and that no county can disallow any unit that had previous approval.

### **Discussion of development of standards for tertiary treatment**

Ms. Fugitt spoke to the committee again about the inclusion of tertiary treatment products and the standards that need to be developed prior to any application coming in for approval under in the new sewage rules.

These tertiary treatment products are intended for use with NPDES permitted systems that are consistently unable to meet the discharge limits within the General Permit. The rules indicate that tertiary treatment products must be reviewed by TAC and approved by the Director.

The committee discussed how they would handle applications and what do manufacturers have to bring in their tertiary treatment devices to get approved. Would they come in as a standalone device with these NPDES treatment trains or would a manufacturer have to be in support of each tertiary treatment device to become part of the treatment train to stay in compliance with the OEPA general permit effluent limits.

Discussion was held on sand filters, peat filters and peat bio-filters and what their end product would be (effluent standards) and would meet the requirements set forth in the OEPA general permit.

**Sewage Treatment Systems Technical Advisory Committee  
MEETING MINUTES**

Discussion was held on the NSF Standard 46 which is for effluent filters. Trent Lydic spoke up and asked about NSF Standard 385. Will be checking on what other states do like Oregon and Washington State and see how they handle this issue.

Committee members discussed the possibility of approving tertiary products as stand-alone products or approved for use with specific treatment trains, and issues associated with each. Discussion on this issue will continue at the next meeting.

**TAC Appointments:**

Rebecca Fugitt discussed the vacant positions on the TAC. Dan Michael was recently appointed by Senator Faber's office as the appointment to the committee as the Designer representative. His term is to expire on Jan 1, 2017.

**Sewage Program Updates**

The Sewage Program Staff has been busy with the seven regional meetings being held through the state during the month of November. So far they have been well received and ODH will be concluding their regional trainings across the state and follow up with focused training via webinar in December, January, and February.

There have not been any appeals made to the STS appeals board. Dusty Gurney sent out notices to the probate judges and to the local health departments to remind them that the present two year term is expiring and ODH needs to have re-appointments/new appointments submitted to ODH in a timely manner.

**Next Meeting**

The December TAC meeting will be held on December 9, 2014 at the Bureau of Workers Compensation complex In Room A from 9am to 1 pm. The address is 13430 Yarmouth Dr., Pickerington, OH 43147.

**Adjourn**

Approved on 1-13-2015 as signified by:

Daniel Lark  
Dan Lark, TAC Chairperson

Rebecca Fugitt  
Rebecca Fugitt, Secretary