

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

Date: Tuesday, February 9, 2016
Time: 10:00 a.m.
Location: Ohio Department of Health, 246 N. High St., Columbus, Ohio

TAC Members in Attendance:

ODH Director of Health Representative & TAC Secretary (retiring): Rebecca Fugitt
ODH Director of Health Representative & TAC Secretary (new): Rachel Townsend
Professional Engineer: Walt Sandefur, Sandefur Consulting
OEHA Registered Sanitarian & Chair: Dan Lark, Lake County General Health District
Manufacturer Representative, Chris Mandich
ODA Soil Scientist: Matt Deaton
AOHC Health Commissioner: Charles Patterson, Clark County Combined Health District
AOHC Health Commissioner: Raymond Saporito, Ashtabula County Health Department
Ohio Townships Association: Perry Brock

Absent:

Public Representative: Christopher Schraff, Porter Wright
Installer: Mark Fehring, Fehring Services
Designer: Dan Michael

Vacant:

Academic
OEPA DSW Engineer
Manufacturer Representative
Manufacturer Representative

Guests:

Mike Smallwood—Smallwood Septic Solutions
Yaz Ashrawi—FBT
Garrett Jensen-Norweco
Shelly Wybensinger-Jet
James Kungle—Uniontown Septic Tanks

Other ODH participants

Mahjabeen Qadir, Senior Legal Counsel
Dusty Gurney
Steve Schmidt
Andrew Thomas
Maggie Delfino

Welcome and Introduction:

The meeting was called to order by Dan Lark. Roll call was taken. Also discussed was what is needed as a quorum. Mahjabeen Qadir, Senior Legal Counsel, confirmed that a quorum for the TAC was eight (8) members. A quorum is one more than half of the total number of members (which includes unfilled positions). For the TAC which has fourteen (14) members, a quorum is eight (8).

TAC Appointments Update

- Chris Mandich has been appointed as a Manufacturer Representative.
- Mark Deaton has officially moved to the Department of Agriculture.
- Zak Sherman’s reappointment application to the House was lost, and another copy of his application has been submitted and being moved forward.
- The Ohio EPA is moving forward with appointing a representative to the TAC.
- The Academic position is still in need of a representative.

Election of 2016 TAC Chair and Vice Chair

Dan Lark made a motion to elect the 2016 TAC Chair and Vice Chair. Ray Saporito motioned to reelect Dan Lark as Chair. Perry Brock seconded the motion. Committee members present voted to approve.

Charles Patterson motioned to reelect Raymond Saporito as Vice Chair. Perry Brock seconded the motion. Committee members present voted to approve both candidates.

Walt Sandefur	Yes
Dan Lark	Yes
Chris Mandich	Yes
Matt Deaton	Yes
Charles Patterson	Yes
Ray Saporito	Yes
Perry Brock	Yes
Rebecca Fugitt	Yes.

Approval/modification of the agenda

Dan Lark made a motion to approve the agenda. There were no objections.

Approval of December 15, 2015, meeting minutes:

Dan Lark made a motion to approve the minutes. Walt Sandefur noted that several names were missing under “Guests”. Also, both Walt Sandefur and Rebecca Fugitt noted that several comments they both had made under, “Discussion of tertiary treatment products criteria and evaluation standards” on page 4 needed revision. Dusty Gurney will revise the December 15, 2015, meeting minutes and send out to members. Approval will be voted on at the next TAC meeting on March 8, 2016.

Overview of Committee Attendance Requirements

Rachel Townsend discussed with the committee the memo that the office of Boards and Standards had sent to ODH to please remind the members that they have to attend at least 3/5 of all the meetings in a two year period and if they did not meet that criteria then they may be replaced on this committee. ODH had to report back the attendance of all members for the past two years.

Dan Michael is the only member who has not met the criteria. Rebecca Fugitt or Rachel Townsend will discuss with him.

Ecological Tanks, Inc., Mike Smallwood

- Modification request for control panel model 209, previously approved for spray irrigation, to now include two different timers, 209-H and 209-R.

Ray Saporito made a motion to approve. Matt Deaton seconded the motion. Committee members present voted to approve.

Walt Sandefur	Yes
Dan Lark	Yes
Chris Mandich	Yes
Matt Deaton	Yes
Charles Patterson	Yes
Ray Saporito	Yes
Perry Brock	Yes
Rebecca Fugitt	Yes.

Sewage Program updates to the TAC

Rachel Townsend distributed a draft copy of the 2015 Annual Report of the Sewage Treatment Systems Technical Advisory Committee. She asked that everybody read it and send any comments or revision requests back to Andrew Thomas. After changes are made, it needs to go to Public Affairs for a final review.

Rebecca Fugitt informed all that the 2015 Annual Report of the Sewage Treatment Systems Technical Advisory Committee is due by the end of March.

Rebecca Fugitt announced that the CDC has created a Public Health Association Professional and ODH applied.

Matt Deaton brought up the possibility of the TAC creating a universal sampling checklist to verify that vendors are following a standard sampling protocol.

Rebecca Fugitt stated that samples are required to be taken by the local health department or a registered service provider which should provide the proper sampling protocol.

Walt Sandefur mentioned that perhaps a webinar for sampling is needed.

Director's actions regarding existing approved systems

No comments were made.

Director's actions related to TAC recommendations

No comments were made.

Rules implementation update

Rachel Townsend stated that applications for approval of sewage tanks have been received from 10 manufacturers for a total of 53 tanks have been approved for installation after January 1, 2016.

Sewage appeals boards Dusty Gurney stated that there is nothing as of now.

Rachel Townsend mentioned that we are looking at setting up smaller work groups which can meet by webinar to guide the updates to the TAC standards and guidelines and the statistics examples provided to the manufacturer, the tertiary treatment devices standards and dispersal standards.

Walt Sandefur mentioned that we need to update product standards guidelines and protocols and the Appendixes to reflect the correct geo-mean and standard deviations that are needed in the product approval along with the confidence interval. Charles Patterson said that our first order of business should be to get this fixed.

Matt Deaton asked if we could come up with a standard spreadsheet to use by vendors to verify that their calculations were done appropriately. Perhaps lock formulas so all they have to enter is their numbers.

Walt Sandefur stated that this should be easy to set up a check and balance system to meet requirements.

Rachel Townsend asked if we had any volunteers. Walt Sandefur said he was not a statistics expert and that we would need someone who was.

Rebecca Fugitt said that we as a group would be working on this, but that we would get input from Walt Sandefur and Dan Lark and a statistics expert will be consulted as well.

Next meeting:

The next TAC meeting will be on March 8, 2015, 2016. The location will be at ODH.

Charles Patterson mentioned a conflict for the May 10th meeting and asked if we could move the date to May 3, 2016. The committee members agreed to the new date.

Adjourn:

Motion to adjourn was made by Matt Deaton and seconded by Ray Saporito. Motion carried and the meeting was adjourned at 11:58 a.m.

Approved on 3/8/16 as signified by:

Dan Lark

Dan Lark, TAC Chairperson

Rebecca Fugitt

Rebecca Fugitt, Secretary

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

Date: Tuesday, March 8, 2016
Time: 10:15 a.m.
Location: Ohio Department of Health, 246 North High Street, Columbus, Ohio

TAC Members in Attendance:

ODH Director of Health Representative & TAC Secretary: Rachel Townsend
Professional Engineer: Walt Sandefur, Sandefur Consulting
OEHA Registered Sanitarian & Chair: Dan Lark, Lake County General Health District
Manufacturer Representative, Chris Mandich
ODA Soil Scientist: Matt Deaton
Health Commissioner: Raymond Saporito, Ashtabula County Health Department
Ohio Townships Association: Perry Brock
Public Representative: Christopher Schraff, Porter Wright
Installer: Mark Fehring, Fehring Services
Designer: Dan Michael

Absent:

OEPA DSW Engineer: Brian Hall
AOCH Health Commissioner: Charles Patterson, Clark County Combined Health District

Vacant:

Academic
Manufacturer Representative

Guests:

Marie-Christie Belanger—Premier Tech Aqua
Chad Rineffer—Jet
Aleksandr Yakhmitsky--EPA

Other ODH participants

Mahjabeen Qadir, Senior Legal Counsel
Dusty Gurney
Andrew Thomas
Maggie Delfino

Welcome and Introduction:

The meeting was called to order by Dan Lark. Roll call was taken.

TAC Appointments Update

Rachel Townsend stated that Zak Sherman's reappointment from the Speaker of the House is pending and the transfer of Rachel Townsend (from Rebecca Fugitt) as the Director of Health's representative and to serve as Secretary is awaiting a signed journal entry signed by the Director of Health.

FR MAY 8 2016 PM 1:53:57

Brian Hall, the newly appointed Ohio EPA DSW Engineer, was not here due to his obligation to attend another meeting before his TAC membership was confirmed.

Approval/modification to the agenda

Dan Lark motioned for the agenda to be approved after the date was changed to March 8, 2016, and the place to the 7th floor conference room.

Approval of December 15, 2015 meeting minutes

Dan Lark asked for the minutes to be approved. Walt Sandefur requested that two (2) corrections be made—he spoke to Dusty Gurney about them. Zak Sherman requested his name be correctly spelled as, “Zak”.

Perry Bock made a motion to approve the minutes with the corrections. Matt Deaton seconded the motion. All were in favor.

Approval of February 9, 2016 meeting minutes:

Walt Sandefur requested that a couple of changes be made on page 4 that included adding a header and requesting some changes in terminology which were discussed with Dusty Gurney. Chris Schraff made a motion to approve the minutes with the corrections. Ray Saporito seconded the motion. All were in favor.

Premier Tech—CoCo Filters—Marie Christine Belanger

- New—BOD/TSS and one foot soil depth credit

The Ecoflo Coco Filter is based on the same technological approach as the Ecoflo[®] peat-based Biofilter certified since 2005 under NSF/ANSI 40 Class 1 Standard and BNQ 3680-910.

During the presentation by Ms. Belanger: questions from the TAC committee members were asked and answered:

Discussion ensued about the application request and the data submitted. Committee had problems with the NSF data and the 80% fecal counts. That percentage doesn't meet Ohio's standard for one foot soil depth credit.

The committee determined that they cannot approve the proposal for the one foot soil depth credit due to the fecal numbers not meeting Ohio's standards. The committee gave her the opportunity to withdraw the request for the one foot soil depth credit. Premier Tech chose to withdraw the application for the one foot soil depth credit and move forward with the BOD/TSS application.

Chris Schraff made a motion to approve Premier Tech's BOD/TSS application. Marie Christine Belanger/Premier Tech agreed to send an email to officially withdraw their one foot soil depth credit application. Mark Fehring seconded the motion.

Committee members present voted to approve. All were in favor.

Chris Schraff	Yes
Dan Michael	Yes
Chris Mandich	Yes
Mark Fehring	Yes
Ray Saporito	Yes
Walt Sandefur	Yes
Matt Deaton	Yes
Perry Brock	Yes
Dan Lark	Yes.

Tertiary Treatment Workgroup update

Dusty Gurney will be the lead. Dan Lark and Chris Schraff volunteered to be part of this workgroup. Outreach will be forth coming on getting this committee together.

Director’s actions related to TAC recommendations

• **Statutory requirements and by-laws review**

Andy Thomas distributed a handout, “STS TAC Product Approval Process,” for the TAC (it is attached on the last page of these notes).

Annual report is due to be sent to the Director for his approval by the end of March. If anyone has any comments please email Andy by March 10, 2016.

Next meeting:

The next TAC meeting will be on Thursday, April 14, 2016. We will look at scheduling the meeting at the BWC in Pickerington for the rest of the year.

Adjourn:

Motion to adjourn was made by Ray Saporito and seconded by Matt Deaton. Motion carried and the meeting was adjourned at 12:15 p.m.

Approved on May 3, 2016 as signified by:

Daniel Lark

Dan Lark, TAC Chairperson

[Signature]

Rachel Townsend, Secretary

STS TAC Product Approval Process



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

Date: Tuesday, May 3, 2016
Time: 10:15 a.m.
Location: BWC/OCOSH, 13430 Yarmouth Drive, Pickerington, Ohio 43147, Room B

TAC Members in Attendance:

ODH Director of Health Representative & TAC Secretary Rachel Townsend
OEHA Registered Sanitarian & Chair: Dan Lark, Lake County General Health District
ODA Soil Scientist: Matt Deaton
Designer: Dan Michael
Public Representative: Christopher Schraff,
Installer: Mark Fehring, Fehring Services
Ohio Townships Association: Perry Brock
Professional Engineer: Walt Sandefur,
Manufacturer Representative: Zak Sherman
Manufacturer Representative, Chris Mandich
AOCH Health Commissioner: Charles Patterson, Clark County Combined Health District
AOHC Health Commissioner: Raymond Saporito, Ashtabula County Health Department
Ohio EPA DSW Engineer: Brian Hall

Vacant:

Academic

Guests:

Aleksandr Yaknitskiy--OEPA
Mike Smallwood—Smallwood Septic Solutions
Bennette Burks—3-Engineering
Jeff Coomer—Consolidated Treatment Systems
Jeff Luthman-- Consolidated Treatment Systems
Charles Ray—Anua
Colin Bishop—Anua
Garrett Jensen—Norweco
Chris Hall—MSDGC
Yaz Ashrani—FB
Aaron Yonts—Hoot

Other ODH participants

Mahjabeen Qadir, Senior Legal Counsel
Dusty Gurney
Steve Schmidt
Andrew Thomas
Maggie Delfino

Welcome and Introduction:

The meeting was called to order at 10:15 a.m. by Dan Lark. Roll call was taken.

TAC Appointments Update

Rachel Townsend stated that Zak Sherman's appointment to the TAC from the Speaker of the House has been confirmed and that ODH has received the signed journal entry by the Director of Health confirming Rachel Townsend as the Director of Health's Representative and TAC Secretary.

Rachel reminded the committee that their terms were up for reappointment by year end Ray Saporito's term is up in July 2016 and to please contact their representative as soon as possible. She requested the committee members to copy her on their correspondence to their government representative.

Approval/modification to the agenda

Dan Lark asked if there were any modifications to the agenda and if it could be approved. All were in favor.

Approval of March 8, 2016, meeting minutes

Dusty Gurney stated that there would be a few modifications that needed to be made to the March 8, 2016, meeting minutes. Dan Lark asked for the minutes to be approved as amended. Mark Fehring made a motion to approve the minutes as amended. Chris Schraff seconded the motion. All were in favor.

Flow2 LLC—Bennett Burks

- New—Ultra Violet unit—Model F2-UV

Bennette Burks Presented the Flow2 Ultra Violet Unit to the TAC covering the operation, control panels, fail safe mechanism, and maintenance and service on this unit.

The TAC committee had questions on the data presented and if it did indeed meet the standards they were requesting.

Walt Sandefur asked if the data on Table D, 6-3 was correct. Mr. Burks stated that he used the standard format that was in the Ohio Department of Health (ODH) guidelines. He also stated that he had called ODH to confirm that he was using the correct guidelines—he was told that he was.

Walt stated that the data reported only met the one foot soil depth credit and did not support the other standards in the application.

There was much discussion on ODH standards and the need to be consistent with them.

Dan Lark asked if there were other comments and/or questions and if there was a motion to approve.

Charles Patterson made a motion to approve for the one (1) foot soil credit. Dan Michael seconded the motion. Christopher Schraff and Mark Fehring excused themselves from voting.

Motion carried with a roll call vote as follows:

Dan Lark	Yes
Matt Deaton	Yes
Dan Michael	Yes
Perry Brock	Yes
Walt Sandefur	Yes
Ray Saporito	Yes
Zak Sherman	Yes
Charles Patterson	Yes
Chris Mandich	Yes
Brian Hall	Yes
Rachel Townsend	Yes.

Bond Na Mona—Colin Bishop

1. New—Puraflo Peat Fiber Bio-filter as a Tertiary Treatment Device
2. Modification— to Modify loading rates per module of the Puraflo Peat Filter Bio-filter Tertiary Polishing Filter with Type A In Ground Pad Dispersal and Type B Mounded Pad Dispersal

Colin Bishop from Anua made the presentation to the TAC about using the Puraflo Peat Bio Filter as a tertiary treatment device. The presentation for this tertiary treatment device showed that it would be a plug in or inserted in the middle of an approved NPDES systems.

Many questions were asked for this new and then the modification request. The data submitted did not support the standards applied for in the application.

Charles Patterson: There is a need for statistical spreadsheet for vendors to use. TAC needs to create a fill-in-the-blank spreadsheet for manufacturers. Mr. Patterson recommended having no further TAC meetings until ODH has a spreadsheet for standards for manufacturers to use.

Mahjabeen Qadir stated that we have to continue to have TAC meetings, but that standards need to be set. Also, we should set them prior to the 5-year review and for all new products.

Mr. Bishop withdrew both requests from the table due to the lack of clear cut ODH guidelines and standards to base his data on.

Dan Lark recommended moving on to the next agenda item.

Tertiary Treatment Workgroup update

Dusty Gurney will be setting up conference calls soon. He asked if Colin Bishop and Charlie Ray would be interested in being part of the workgroup. Alex Yakhnitschly from Ohio EPA is interested in being part of the workgroup, too.

Dan Lark asked Walt Sandefur if he would share his notes on ODH's "Product Review Standards and Guideline's ". Walt said he would. Dan Lark stated he would keep things moving along via emails to the committee members.

Next meeting:

The next TAC meeting will tentatively be on Tuesday, June 14, 2016 at BWC/OSOSH Room A.

There are currently no new applications, but Matt Deaton suggested it would be good to keep the meeting to discuss the guidelines. He suggested inviting someone from Ohio State University as a third party to review the standards.

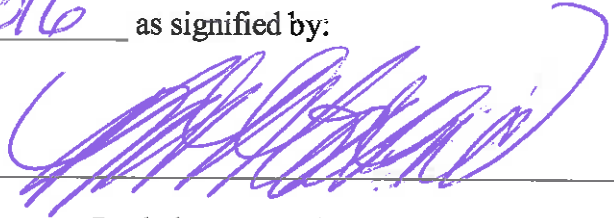
Adjourn:

Motion to adjourn was made by Matt Deaton and seconded by Christopher Schraff. Motion carried and the meeting was adjourned at 1:00 p.m.

Approved on June 14th, 2016 as signified by:



Dan Lark, TAC Chairperson



Rachel Townsend, Secretary

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

Date: Tuesday, June 14, 2016
Time: 10:15 a.m.
Location: BWC/OCOSH, 13430 Yarmouth Drive, Pickerington, Ohio 43147, Room A

TAC Members in Attendance:

ODH Director of Health Representative & TAC Secretary Rachel Townsend
OEHA Registered Sanitarian & Chair: Dan Lark, Lake County General Health District
Designer: Dan Michael
Public Representative: Christopher Schraff,
Ohio Townships Association: Perry Brock
Professional Engineer: Walt Sandefur,
AOCH Health Commissioner: Charles Patterson, Clark County Combined Health District
AOHC Health Commissioner: Raymond Saporito, Ashtabula County Health Department

Absent:

ODA Soil Scientist: Matt Deaton
Installer: Mark Fehring, Fehring Services
Manufacturer Representative, Chris Mandich
Manufacturer Representative: Zak Sherman
Ohio EPA DSW Engineer: Brian Hall

Vacant:

Academic

Guests:

Garrett Jensen—Norweco
Chris Hall—MSDGC

Other ODH participants

Dusty Gurney
Andrew Thomas
Mahjabeen Qadir

Welcome and Introduction:

The meeting was called to order at 10:12 a.m. by Dan Lark. Roll call was taken.

Approval/modification to the agenda

Dan Lark asked if there were any modifications to the agenda and if it could be approved. All were in favor.

Approval of May 3, 2016, meeting minutes

Dan Lark asked for the minutes to be approved. Charles Patterson made a motion to approve the minutes. Chris Schraff seconded the motion. All were in favor.

Standards and Guidelines for TAC Data Submission

Rachel started the discussion about the clarity of the terms being used and the importance to get this clarified and to re write the Standards and Guidelines with more clarity and examples along with an excel spreadsheet so manufactures can input their data to see if their data supports the standards that are applying for. This would also help with the Confidence Interval question on how many data points do we need to support the request in front of the TAC

Discussion was also held on the how the TAC has gone from 2007 with the mean and standard deviation to now wanting the geometric mean plus one of two standard deviations to get the best results necessary to ensure the products coming in are truly performing in the manner they will be approved or have been approved in the past.

Walt also discussed this subject matter with Dr. Tumero and if his math is correct he then would share this out with the Group. ODH is looking into getting a person in house to review Walt's spreadsheet.

Tertiary Treatment Workgroup update

Discussion was held on that Tertiary Treatment products were for only NPDES systems that have been installed and under a general permit as spelled out in the Ohio Administrative Code 3701-29-13 (R) and could only be used after the approved treatment train.

Discussion was held on what would be the influent data used and that the effluent data would have to meet all the effluent parameters set in the EPA General Permit for Household Discharging Systems.

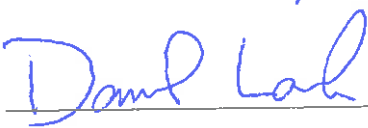
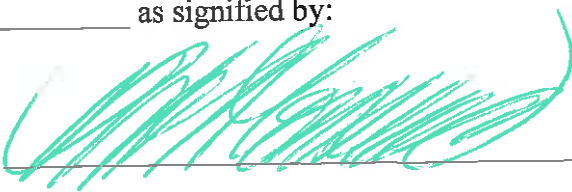
Discussion was also held that approval of these tertiary products would be based on each parameter that could be met.

Next meeting:

The next TAC meeting will be on Tuesday, July 12, 2016 at BWC/OSOSH Room B.

Adjourn:

Motion to adjourn was made by Ray Saporito and seconded by Perry Brock. Motion carried and the meeting was adjourned at 1215 p.m.

Approved on 9/1/16 as signified by:

Dan Lark, TAC Chairperson

Rachel Townsend, Secretary

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

Date: Tuesday, August 9, 2016
Time: 10:12 a.m.
Location: BWC/OCOSH, 13430 Yarmouth Drive, Pickerington, Ohio 43147, Room C

TAC Members in Attendance:

ODH Director of Health Representative & TAC Secretary Rachel Townsend
OEHA Registered Sanitarian & Chair: Dan Lark, Lake County General Health District
Designer: Dan Michael
Public Representative: Christopher Schraff,
Ohio Townships Association: Perry Brock
Professional Engineer: Walt Sandefur,
AOHC Health Commissioner: Charles Patterson, Clark County Combined Health District
AOHC Health Commissioner: Raymond Saporito, Ashtabula County Health Department
ODA Soil Scientist: Matt Deaton
Installer: Mark Fehring, Fehring Services
Manufacturer Representative, Chris Mandich
Ohio EPA DSW Engineer: Brian Hall

Absent:

Manufacturer Representative: Zak Sherman

Vacant:

Academic

Guests:

Garrett Jensen—Norweco
Scott Hetrick-Norweco
Chris Hall—MSDGC
Aleksandr Yakhmitsky--EPA
Frank Reed – Frost, Brown and Todd LLC

Other ODH participants

Dusty Gurney
Andrew Thomas
Mahjabeen Qadir

Welcome and Introduction:

The meeting was called to order at 10:12 a.m. by Dan Lark. Roll call was taken.

Approval/modification to the agenda

Dan Lark asked if there were any modifications to the agenda and if it could be approved. All were in favor.

Approval of June 14, 2016, meeting minutes

Dan Lark asked for the minutes to be approved. Addition to add Mahjabeen Qadir as ODH participant. Charles Patterson made a motion to approve the minutes as amended. Chris Schraff seconded the motion. All were in favor.

Norweco Singular Tank Redesign—Singular 960-500 and Singular Green TNT 500

Scott Hetrick from Norweco brought in the Singular Green Tank Redesign. The redesign of this tank was modifications to the original design was in the clarifier and aeration compartment. The ribbing in the tank and changes to the tank were due to allow for future plumbing fixtures that may be introduced into this product. A letter from NSF stated that the design changes were equivalent to the Singular Green that was approved in 2011. This redesign applies to the Singular Green 950-500 (500 and 600 gallon) and Singular Green TNT 500 (500 and 600 gallon) and that these redesigns will still meet the NSF Standard 40.

These tanks have the same burial depth as those approved in 2011.

Chris Schraff made a motion to approve the redesign of the Singular Green tanks as submitted. Mark Fehring seconded the motion. All were in favor and motion passed.

Standards and Guidelines for TAC Data Submission

Walt discussed this subject matter with Dr. Tumeo and Dr. Tumeo has had a busy few months and has not looked at Walt's proposal and math that goes with it.

Rachel Townsend is inquiring about someone at ODH Data Warehouse to see if they could get a person with Statistics background to look at this information also. If that does not work ODH will reach out to OSU to see if we can get a person from a Statistics department to help us in this area.

Tertiary Treatment Workgroup update

Chris Schraff opened the discussion as a follow up with the meeting with ODH representatives on August 5, 2016 to get further clarifications and ask what the next steps would be.

Tertiary Products are to be used only on the NPDES systems that have been installed and under a general permit as spelled out in the Ohio Administrative Code 3701-29-13 (R). TAC may want to look only at the Tertiary Products for those NPDES units that no longer have a warranty on them.

This lead to more discussion on where to place tertiary treatment products due to needing the biological seed material from the effluent to further treat for some parameters. Industry has expressed a desire to design tertiary treatment products which are inserted into the existing products treatment train prior to the disinfection and re-aeration to meet the EPA standards for discharging.

Discussion also occurred around the type of data the TAC would expect to see for these products to evaluate their performance, what standards would be used, and how would they be evaluated.

Initial concept is that the tertiary products would receive approvals on a parameter by parameter basis based on testing data with septic tank effluent as the input into the tertiary product for testing purposes.

- Another point brought forth is when a tertiary product is used who would be authorized to service it. Rules now state the whole treatment train must be serviced by a manufacturer approved service provider and reported back to local health jurisdiction.
- How will the tertiary treatment product be evaluated for the 5 year product review required by rule?

A tertiary treatment product conference call would be held before the next TAC meeting.

Data submission for the 5 year product review

There was discussion on the what data would be used in the 5 year product review for all products, not just tertiary, as outlined in the Ohio Administrative Code 3701-29-13 (D).

Conesus was that field data should be submitted. Potential issues with inconsistency of field data collection were discussed. The differences between multiple samples from a single installed system taken over a span of time versus annual ‘snapshot’ sampling was also discussed and how those results would have to be evaluated. Third party sampling, chain of custody, and access to systems for the monitoring and the challenges all of this can present was discussed. Discussion was held on the need for further clarification on sampling protocol and procedures so all the data is collected in the same matter.

Next meeting:

The next TAC meeting will be on Tuesday, September 13, 2016 at BWC/OSOSH Room B.

Adjourn:

Motion to adjourn was made by Matt Deaton and seconded by Chris Schraff. Motion carried and the meeting was adjourned at 11:45 a.m.

Approved on October 11, 2016 as signified by:

Daniel Lark

Dan Lark, TAC Chairperson

[Signature]

Rachel Townsend, Secretary

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

Date: Tuesday, October 11, 2016
Time: 10:07 a.m.
Location: BWC/OCOSH, 13430 Yarmouth Drive, Pickerington, Ohio 43147, Room E

TAC Members in Attendance:

ODH Director of Health Representative & TAC Secretary Rachel Townsend
OEHA Registered Sanitarian & Chair: Dan Lark, Lake County General Health District
Manufacturer Representative: Zak Sherman
Manufacturer Representative, Chris Mandich
Ohio EPA DSW Engineer: Brian Hall
Designer: Dan Michael
AOHC Health Commissioner: Charles Patterson, Clark County Combined Health District
Public Representative: Christopher Schraff
ODA Soil Scientist: Matt Deaton
Professional Engineer: Walt Sandefur
Academic: Karen Mancl

Absent:

Ohio Townships Association: Perry Brock
Installer: Mark Fehring, Fehring Services

Vacant:

AOHC Health Commissioner

Guests:

Chris Hall—MSDGC
Cary Feller—Consolidated Treatment Systems Inc.
Jeff Luthman-- Consolidated Treatment Systems Inc.
Aaron Yonts—Hoot Systems
Garrett Jenson—Norweco Inc.
Yaz Ashrawi—Frost Brown Todd

Other ODH participants

Brandon Bernhardt
Maggie Delfino
Dusty Gurney
Mahjabeen Qadir

Welcome and Introduction:

The meeting was called to order at 10:07 a.m. by Dan Lark. Roll call was taken.

TAC Appointments Update

Dusty handed out a chart to all the TAC members with re-appointment reminders on them since most of the positions on this committee expire in Dec 2016 or January 2017.

Approval/modification to the agenda

Dan Lark mentioned one modification to be added to the agenda concerning the approval of applications and asked if there were any other modifications to the agenda. All were in favor with the agenda as amended.

Approval of August 9, 2016, meeting minutes

Dan Lark asked for comments on the draft minutes from the August meeting. Rachel Townsend informed the committee that she had found a few typographical errors. Matt Deaton made a motion to approve the minutes as amended. Zak Sherman seconded the motion. All were in favor.

Consolidated Treatment System Modification Request-

Consolidated Treatment Systems has requested an approval modification to allow additional pumps and control panel configurations for use in their already approved systems.

Questions were raised for discussion. It was asked whether the new pumps were air filled or oil filled and what the currently approved pumps used. A representative from Consolidated Treatment Systems indicated the pumps are oil-filled.

TAC also asked the reason for the control panel modifications. Cary Feller indicated the modification is needed to allow for the extra breakers; no other changes were made.

Zak Sherman made a motion to approve the use of alternative pump and control panels as submitted. Chris Mandich seconded the motion. All were in favor and motion passed. Chris Schraff abstained.

Update on the TAC Standards and Guidelines for Data Submission

Rachel Townsend had a meeting with the Data Warehouse to see if we can utilize existing contracts with other programs to avoid having to begin new contract negotiations. Rebecca Fugitt is following up on this.

Update on the Tertiary Treatment guidelines

Christopher Schraff is working on a first draft of the tertiary treatment product standards. He will have the first draft ready for review by the next TAC meeting in November.

Addition to the Agenda: Application approvals

TAC members discussed the process when applications are recommend for approval by the TAC and sent to the Director of Health for signature on Journal Entry approval. Final approval from the Director usually occurs within 90 days after the recommendation has been made.

Further discussion on what happens when the TAC needs to disapprove portions of an application, and whether or not a Journal Entry can be written for disapproval for a specific portion of the application.

Additional discussion on the ramifications if the TAC takes no action on a portion of an application for approval. A Journal Entry is needed for disapproval of that portion of the application.

TAC members are in agreement that they can approve all or specific portions of the application.

ODH informed the TAC members that program staff's role is to make sure that applications are complete (i.e. the applicant has responded to all requested information, as applicable), and then complete applications are forwarded to TAC members for review.

Once an application gets to TAC, the committee then may determine that the submitted application is not sufficient to make a recommendation for approval or disapproval as submitted, and ask that manufacturers submit additional information and/or data. Once the additional information is provided by the manufacturer, does the application process time line start over again, or does it pick up where it left off?

There was discussion and a request for clarification by TAC members as to what happens to the timeline if they have asked the manufacturer for more information. Does the request stop the application process deadline for action by the TAC? Rachel Townsend stated that we do need to make it clear to the manufacturers that they need to withdraw the application, in writing, by a certain date. Otherwise the application will be recommended for disapproval by the director.

Brian Hall said that there are three (3) actions that can be taken for an application: 1) approval of the application (TAC/Director); 2) disapproval of the application (TAC/Director); or 3) withdrawal of the application (manufacturer). Zak Sherman asked if manufacturers can withdraw applications via email. Dusty Gurney stated that that is the usual way manufacturers withdraw applications.

Additional Items

Brian Hall from the Ohio EPA informed the TAC members that the new General Permit for the National Pollutant Discharge Elimination System (NPDES) will be coming out for a 30-day comment period.

Due to the next meeting being on Election Day it was TAC members decided to postpone the next TAC meeting one week

Next meeting:

The next TAC meeting will be on Tuesday, November 15, 2016 at BWC/OSOSH.

Adjourn:

Motion to adjourn was made by Matt Deaton and seconded by Dan Lark. Motion carried and the meeting was adjourned at 11:00 a.m.

Approved on 11/15/16 as signified by:

Daniel Lark

Dan Lark, TAC Chairperson

[Handwritten Signature]

Rachel Townsend, Secretary

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

Date: Tuesday, November 15, 2016

Time: 10:07 a.m.

TAC Members in Attendance:

ODH Director of Health Representative & TAC Secretary Rachel Townsend

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

Manufacturer Representative: Zak Sherman

Manufacturer Representative, Chris Mandich

Ohio EPA DSW Engineer: Brian Hall

Designer: Dan Michael

ODA Soil Scientist: Matt Deaton

Professional Engineer: Walt Sandefur

Academic: Karen Mancl

Ohio Townships Association: Perry Brock

Installer: Mark Fehring, Fehring Services

Absent:

Public Representative: Christopher Schraff (excused)

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

Vacant:

AOHC Health Commissioner

Guests:

Cary Feller, Jr.—Consolidated Treatment Systems

Jeff Luthman—Consolidated Treatment Systems

Adam Arnold—Tangent Company

Charles Ray—Anua

Aleksandr Yakhmitsky—EPA

Yaz Ashrawi—Frost Brown Todd

Other ODH participants

Brandon Bernhardt

Kyle Bianco

Maggie Delfino

Dusty Gurney

Andrew Thomas

Mahjabeen Qadir

Welcome and Introduction:

The meeting was called to order at 10:07 a.m. by Dan Lark. Meeting attendees were introduced.

TAC Appointments Update

Rachel Townsend noted that Charles Patterson, Health Commissioner position will not be continuing with the TAC after his term ends on January 1, 2017. AOHC will put forth recommendations for two (2) openings.

Mark Fehring, representing installers and service providers, indicated that he will not be seeking replacement after his term expires on January 1, 2017.

Approval/modification to the agenda

Dan Lark asked if there were any modifications to the agenda and if it could be approved. No modifications were requested.

Approval of October 11, 2016, meeting minutes

Dan Lark asked for comments on the draft minutes from the October meeting. Zak Sherman made a motion to approve the minutes. Brian Hall seconded the motion. All were in favor.

Consolidated Treatment System Modification Requests

Jeff Luthman briefly explained the modification requests submitted to TAC.

1. Approval of a modification request to add the Nayadic E6 Evolution tank configuration to the Nayadic approval. The Nayadic E6 Evolution Tank is an all-in-one unit that includes a pretreatment chamber (trash trap), aeration unit, and pump chamber.

Committee asked Mr. Luthman if the aeration tank in the E6-Evolution Tank has the same volume as the Nayadic. Mr. Luthman indicated that the Nayadic E6 Evolution tank provides the same volume for the aeration tank.

Chris Mandich made a motion to recommend approval of the modification request of the Nayadic approval to include the Nayadic E6 Evolution Tank reconfiguration. Mark Fehring seconded the motion. All were in favor and the motion passed. (Note: Matt Deaton arrived after the vote was taken.)

2. Approval of a modification is requested to allow for the use of ODH state approved tanks in approved Consolidated Treatment Systems Inc., to:
 - A. All approved treatment trains manufactured by Consolidated Treatment Systems, Inc. to allow substitution of ODH approved tanks
 - B. The removal of pre-UV sampling ports (as applicable) in previously approved treatment trains. Post-UV sampling ports will continue to be required in all treatment trains.

Dan Lark asked if there were any questions or comments. Zak Sherman made a motion for this modification request approval. Mark Fehring seconded the motion. All were in favor and the motion passed.

Tangent Company Request Special Device Approval

Tangent Company is requesting a special device approval for installation of a prototype pretreatment component in place of a septic tank for data collection to support a future product approval request.

Adam Arnold from Tangent Company distributed some revised pages to the application and briefly presented the background of the request. Discussion followed:

Committee members wanted to know how many locations these prototype tanks would be located. Mr. Arnold indicated they plan to install two prototype tanks.

Committee members discussed whether the systems should be installed under experimental concurrence or a special device approval. ODH legal counsel reviewed rule language and determined that a special device approval is an acceptable method to allow installation of the systems for data collection purposes.

Committee members discussed the testing procedures and protocols that should be followed when gathering data from the prototype units. Committee members indicated that if the product is going to be submitted for approval in the future, testing, should be comparable to what is currently used for approval via the TAC, and data must be submitted in accordance with the TAC Guidelines. Mr. Arnold indicated that they are using the NSF Standard 40 protocols as a starting point to the development of how they will gather their data.

Questions came up on how long this special device approval should be good for and what is the statutory time frame to move in this application. ODH legal counsel Mahjabeen Qadir stated that the same time frame is applicable as for a regular product approval application. Limitations and requirements can be included in the special device approval.

After much discussion the TAC committee requested ODH to prepare a draft of the special device approval for review by next meeting.

Rachel Townsend asked what items the TAC committee wanted in this Special Device Approval: Some of the proposal/items to be included in the draft are:

- Number of systems;
- Timeline for reporting back (i.e., twelve months after installation);
- Changes or modifications to the unit; and

The TAC members want the record to reflect that the special device approval is for data collection only and no way construes approval of this product in the future. When this product comes back to this committee for approval that data sampling must follow the TAC guidelines and standards for which the approval requested in their completed application made at that time.

Walt Sandefur made a motion to request a draft of the SDA to be prepared by ODH for review by the next meeting on December 13, 2016. Karen Mancl seconded the motion. All were in favor.

Update on the TAC Standards and Guidelines for Data Submission

Rachel Townsend stated that the TAC Standards and Guidelines for Data Submission were still in process. We have been working to identify a statistics expert to review the materials that Walt has updated and created. Dr. Tumeo had previously indicated he would assist, but has not yet been available. Rachel has met with the ODH contract unit to see if there are existing contracts that could be utilized to get a statistics expert to review.

Karen Mancl said that perhaps we could create a journal article that would need to go to a peer review (2 reviews) which could then lead to approval instead of having to create a contract for someone to review/approve the standards and guidelines.

Chris Mandich said he would call Dr. Miles to see if he could review the materials and formulas in order to get the standards and guidelines approved.

Update on the Tertiary Treatment guidelines

Rachel Townsend stated that Christopher Schraff has provided draft language for ODH to review prior to distribution at the next TAC meeting on December 13, 2016.

Additional Items

Dan Lark asked if there were any other items to discuss. There were none.

Next meeting:

The next TAC meeting is tentatively scheduled for December 13, 2016, at BWC/OSOSH Room E.

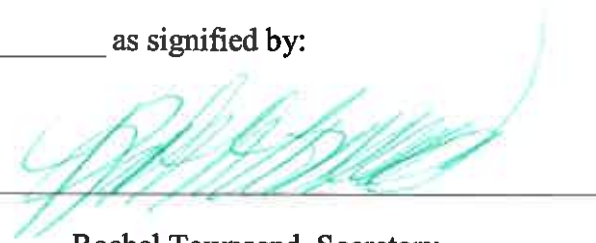
Adjourn:

Motion to adjourn was made by Perry Brock and seconded by Mark Fehring. Motion carried and the meeting was adjourned at 12:20 p.m.

Approved on Dec 13, 2016 as signified by:

Daniel Lark

Dan Lark, TAC Chairperson



Rachel Townsend, Secretary

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

Date: Tuesday, December 13, 2016
Time: 10:00 a.m.

TAC Members in Attendance:

ODH Director of Health Representative & TAC Secretary Rachel Townsend
OEHA Registered Sanitarian & Chair: Dan Lark, Lake County General Health District
Manufacturer Representative: Zak Sherman
Manufacturer Representative, Chris Mandich
Ohio EPA DSW Engineer: Brian Hall
Designer: Dan Michael
ODA Soil Scientist: Matt Deaton
Professional Engineer: Walt Sandefur
Academic: Karen Mancl
Ohio Townships Association: Perry Brock
Installer: Mark Fehring, Fehring Services
Public Representative: Christopher Schraff

Absent:

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

Vacant:

AOHC Health Commissioner

Guests:

Cary Feller Jr: Consolidated Treatment Systems
Jeff Luthman: Consolidated Treatment Systems
Yaz Ashrawi: Frost Brown Todd
Garrett Jensen: Norweco Inc.
Adam Arnold: Tangent Company, LLC
Aleksandr Yakhnitskiy: Ohio EPA

Other ODH participants

Brandon Bernhardt
Kyle Bianco
Maggie Delfino
Dusty Gurney
Andrew Thomas
Mahjabeen Qadir

Welcome and Introduction:

The meeting was called to order at 10:05 a.m. by Dan Lark. Meeting attendees were introduced.

2017 JAN 26 AM 10:23

OHIO DEPT. OF HEALTH
OHIO HEALTH SERVICES

TAC Appointments Update

Dusty Gurney stated that a couple of members have re-applied. ODH has been informed that re-appointments will not be made until terms have expired. Current members can continue to serve on the committee up to sixty (60) days after the term limit has expired. AOHC has put forth two candidates but the appointments have yet to be made.

Matt Deaton is resigning from ODA. His office is aware that they will need to contact their representative to replace him.

Approval/modification to the agenda

Dan Lark asked if there were any modifications to the agenda and if it could be approved. No modifications were requested. Perry Brock made a motion to approve the agenda. Matt Deaton seconded the motion. All were in favor.

Approval of November 15, 2016, meeting minutes

Dan Lark asked for comments on the draft minutes from the November meeting. Chris Mandich made a motion to approve the minutes. Perry Brock seconded the motion. All were in favor.

EarthBuster™ Model 2015

- Remediation Product

The vendor joined the meeting via phone to discuss the product. This product is a de-compaction unit that re fractures the soil by injection of air into the soil profile.

Discussion ensued about this product. It was asked if other similar products reviewed by the TAC in the past. The TAC committee was informed that this was the first of its type to come in as a remediation product.

The applicant was asked if any studies were done by the vendor to see if fracturing of the soil had affected the aquifer. The vendor stated that not much documentation was done on this, but that if work was done below six (6) feet, there may be some negative outcomes.

Matt Deaton asked what exactly the TAC was approving. He asked if TAC needs to approve the use of this as a product. Fracturing could affect aquifer depending on how deep a probe goes. Under normal circumstances, this type of situation is determined on a case-by-case basis.

Zak Sherman mentioned that he has seen a lot of failures due to mis-diagnosed soils, aging systems, and soils with water tables and that there is no remediation system out there that can fix these problems.

The vendor said that this product using injection of air is done around the trenches. The probe goes one to two feet deep to inject air to re-fracture the soil.

Dan Michael asked if the company had done smoke tests to see how this fracturing affected the soil horizon and channelization. The vendor said they had not.

There was some concern that said that the process of fracturing the soil could circumvent science upon which the rules are based. RAC has worked hard creating new rules regarding vertical separation and if we fracture the soil underneath the infiltrative surface, it could change the compliance with the rules.

Dan Lark said that by putting our stamp on the unit the TAC basically endorses the product. The vendor said that they use a “one and done” process.

It was asked if there were studies done about the effects this product has on the treatment within the soil (versus dispersal): the use in wet versus dry soil conditions; was it used for breakup the bio-mat or used for mis-diagnosed soils? Many members of the TAC committee had concerns with the soils ability to provide adequate treatment after this product was used. There are a lot of unanswered questions.

Dan Lark asked if there were any more questions and then asked for a motion.

Walt Sandefur made a motion to deny the request for approval of the Earthbuster™ 2015 as submitted. Matt Deaton seconded the motion. There were 10 Yes and one No vote. Motion passed.

Tangent Company Special Device Approval

There have been two revisions to the previous special device approval document. Program staff has tried to capture all the comments and notes that were sent in. Have we missed anything?

There was some question about wording in a specific provision in the SDA. ODH legal counsel suggested alternate language that was acceptable to TAC members in attendance. The SDA will be further revised to reflect this change.

TAC also suggested language to reflect that the sampling protocols are not approved or endorsed by the TAC, and the manufacturer should not assume that the data generated from the proposal will be considered acceptable to TAC at the time of the product approval application. Program staff indicated it will work with ODH legal counsel to address this concern in the language of the SDA or the Journal Entry to approve the SDA.

Brian Hall asked how things will be tracked to prevent more than indicated number of systems authorized by the SDA. The SDA will not be posted on the ODH website to limit the exposure of the approval, which should help limit the possibility of more than two systems being installed. ODH program staff will work with the manufacturer and affected local health districts in accordance with the SDA.

Dan Lark asked if there was a motion to recommend approval – with noted revisions - of the special device approval, authorizing installation of two Tangent HSTS for the purpose of data collection. Matt Deaton made a motion to approve the Tangent special device approval as amended. Mark Fehring seconded the motion. All were in favor.

Update on the TAC Standards and Guidelines for Data Submission

Walt Sandefur said the file is awaiting feedback from Dr. Tumeo regarding his revisions to the standards, guidelines and protocols for the Ohio Revised Code Section 3718.04. Walt is expecting a response from Dr. Tumeo in the next couple of weeks. His preference would be to receive input from Dr. Tumeo and possibly Dr. Miles before using the revised standards and guidelines and protocols and developing a spreadsheet.

Update on the Tertiary Treatment guidelines

A draft of the tertiary treatment guidelines was distributed to the TAC via email prior to the meeting. TAC discussed the intent of the tertiary treatment guidelines. By rule, tertiary treatment products will be for existing Ohio EPA NPDES covered systems installed since 2007. If the sampling data does not comply with the effluent standards outlined under the General Permit, tertiary treatment device may be required to comply with the General Permit.

Points of discussion included:

- When/if concurring request is required from manufacturer of NPDES system
- Where would the tertiary treatment device be installed? At end of NPDES treatment train, or within the approved NPDES treatment train?
- How does the insertion of a third-party tertiary treatment device impact the warranty of the NPDES system
- What certifications/training would be required for the service provider if a third-party tertiary treatment device is inserted into a treatment train.

TAC members were asked if to send comments to Dusty Gurney before January 3, 2017, so he can compile them for further discussion at the next TAC meeting.

Additional Items

Dan Lark asked if there were any other items to discuss.

Mark Fehring mentioned TAC approval for the Flow 2 UV unit and need for manufacturer concurrence. In a similar product approval the TAC gave administrative approval to ODH staff to allow for manufacturer concurrence to occur. The Flow 2 UV unit was not granted that same approval.

Rachel Townsend said that any modifications to manufacturer's equipment need to go through TAC as applications and should include any new specifications.

Karen Mancl announced that the Ohio On-Site Wastewater Association yearly conference will be held January 11 and 12, 2017 at Deer Creek State Park.

Next meeting:

The next TAC meeting is scheduled for January 10, 2017, at BWC/OCOSH.

Adjourn:

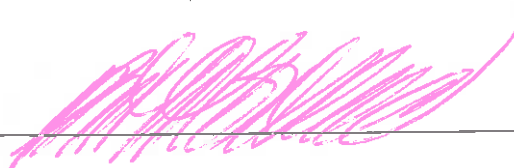
Motion to adjourn was made by Chris Schraff and seconded by Chris Mandich. Motion carried and the meeting was adjourned at 12:15 p.m.

Approved on January 10, 2017 as signified by:



Dan Lark, TAC Chairperson

Charles Patterson, vice chair



Rachel Townsend, Secretary