



## March 2016

## **Executive Summary**

Section 3718.03 of the Ohio Revised Code (ORC) creates the Sewage Treatment Systems (STS) Technical Advisory Committee (TAC), outlines its membership, identifies individuals granted the authority to appoint committee members, and provides guidelines concerning the committee's responsibilities and procedures. Paragraph (G) of ORC 3718.03 requires the chairperson of the committee to prepare an annual report concerning the activities of the committee and submit the report to the Ohio General Assembly. The purpose of this report is to fulfill that requirement.

TAC scheduled monthly meetings to review product applications received in 2015. During 2015, TAC reviewed eleven requests for approval from seven manufacturers of sewage treatment systems (STS) or components. All were requests for modification of existing approvals of STS or components. Eight of the requests for approval modification were recommended for approval. Two of the requests were withdrawn by the manufacturer. One request was recommended for denial.

The systems and components recommended for approval in 2015 by TAC have provided for the use of soil absorption system area sizing reductions, soil depth credits to reduce the thickness of soil required below a soil absorption system, meeting treatment standards for spray irrigation, and allowance for more design options to address varying site and operational issues across the state.

Other activities and actions of the committee included discussion of standards for review and approval of tertiary treatment devices, development of a special device approval to facilitate engineered drainage, and discussion of a proposal for wetlands sewage treatment systems.

TAC will continue to work with system manufacturers to review and recommend approval or disapproval of new technologies to the director of health, and will actively pursue the research, development, and timely approval of innovative and cost-effective, alternative technologies as required under section 3718.03 (F)(4) of the Ohio Revised Code.

## Sewage Treatment Systems Technical Advisory Committee Membership and Meetings

The Sewage Treatment Systems Technical Advisory Committee (TAC) membership and appointment authority is outlined in Section 3718.03 of the Ohio Revised Code.

The members of TAC during 2015 were:

<b>2015 TAC Member</b>	<b>Company</b>	<b>Representing</b>	<b>Appointed By</b>
Rebecca Fugitt, MS, RS	Ohio Department of Health	Director of Health	Director of Health
*	Ohio Environmental Protection Agency	Engineer, Ohio EPA	Governor
*		Academia	Governor
Perry Brock	Fayette Township, Lawrence County	Ohio Township Association	Governor
Christopher Schraff	Porter Wright	Public Member	Governor
Matt Deaton	Ohio Department of Natural Resources, Division of Soil and Water Resources	Soil Scientist, ODNR	Governor
Dan Lark (chair)	Lake County General Health District	OEHA Sanitarian	House
Zak Sherman**	Infiltrator Systems, Inc.	Manufacturer	House
Raymond Saporito, MPH, RS (vice-chair)	Ashtabula County Combined Health District	AOHC Health Commissioner	House
Walt Sandefur, PE	Sandefur Consulting	Professional Engineer	House
Charles Patterson, RS	Clark County Combined Health District	AOHC Health Commissioner	Senate
Dan Michael	Clear Creek Environmental, Inc.	Designer	Senate
Mark Fehring	Fehring Services	System Installer	Senate
Trent Lydic***	Jet, Inc.	Manufacturer	Senate

\*The Academia and Ohio EPA Engineer positions were vacant.

\*\*Mr. Sherman's appointment expired in May 2015. His position remains vacant awaiting re-appointment.

\*\*\*Mr. Lydic passed away unexpectedly in June 2015. His position remained vacant through the remainder of the year. Chris Mandich of Jet, Inc. was appointed to fill the vacant term in January 2016.

TAC scheduled monthly meetings to review products in 2015. TAC held six regular monthly meetings in 2015. Six meetings were canceled due to lack of products to review.

A complete record of the meeting summaries for each monthly meeting and the recommended approvals that were made are located on the Ohio Department of Health's (ODH) website at:

<http://www.odh.ohio.gov/odhprograms/eh/sewage/STSpages/tac1.aspx>

## Sewage Treatment Systems and Components Reviewed by TAC

ORC 3718 review includes an evaluation of detailed system and component information including: product specific technical information, any limitations on use, performance information supporting the manufacturer's request, installation and sizing requirements, installation procedures, materials, and operation and maintenance information including estimates of operation costs and expected service life. In reviewing performance information, the TAC studies raw data and statistical analyses of the sample data (mean and standard deviation for normally distributed data and geometric mean and geometric standard deviation for microbial data) to determine the operational range of the product and its relationship to the documented performance standards. TAC reviews the environmental conditions of the collected data and related confidence intervals to determine if sufficient sample points have been submitted to conclude that the submitted data can be used to predict the products' operation in the range of environmental conditions the product will be exposed to across the state of Ohio.

TAC reviewed 11 requests for approval from seven manufacturers of sewage treatment systems (STS) or components. All were requests for modification of existing approvals of STS or components. Eight of the requests for approval modification were recommended for approval. Two of the requests were withdrawn by the manufacturer. One request was recommended for denial.

The systems and components recommended for approval in 2015 by TAC have provided for the use of soil absorption system area sizing reductions, soil depth credits to reduce the thickness of soil required below a soil absorption system, meeting treatment standards for spray irrigation, and allowance for more design options to address varying site and operational issues across the state.

## 2015 TAC Product Review Summary

Manufacturer	Product	Approval Date (ODH Director)	Notes
Norweco, Inc.	Model AT UV Disinfection	2/26/2015	Approval modification to incorporate changes to the design and construction of the UV unit.
Norweco, Inc.	Singulair Model 960 Singulair Green Model 960 Singulair Model TNT (NPDES) Singulair Green Model TNT (NPDES)	2/26/2015	Approval modification to allow addition of Hydro-Kinetic Biofilm Reactor to approved treatment trains.
Jet, Inc.	Jet 1500 Series BAT Media Systems (J-500 – P500)	2/27/2015	Approval modification to allow for addition of separate pump tanks for NPDES upgrade installations
Eljen	Eljen GSF A42 Eljen GSF B43	Request withdrawn by manufacturer 4/13/2015	Requested approval modifications: 1) allow soil depth credit for gravity fed systems 2) modification to design requirements for mound application 3) allow bed configurations
Ecological Tanks, Inc.	Aqua Safe series Aqua Aire series	11/19/2015	Approval modification to include multiple new control panels to be used with the product series.
HydroAction	AP SNG series with UV disinfection CLP SNG series with UV disinfection	11/19/2015	Approval modification to allow use of integrated or optional pretreatment tank, pump and filter tanks for treatment trains approved for 2 foot soil depth credit, NPDES discharge, and spray irrigation.
Anua	Type A Puraflo Peat Fiber Biofilter with Pad Dispersal Type B Puraflo Peat Fiber Biofilter with Mounded Pad Dispersal	11/19/2015	Approval modification for removal of in situ soil requirement to allow design options that align with new rule language.
Ecological Tanks, Inc.	Aqua Safe advance treatment system series + Disinfector UV + Reaeration + Pump Lock-out or Telemetry	Approval Pending	Approval modification to include approval for meeting restricted and unrestricted spray irrigation standards with substitution of Salcor UV for Disinfector UV and optional use of pretreatment tank and removal of re-aeration basin, and use of Control Panel 209.
Infiltrator Systems, Inc.	Infiltrator ATL	Approval Pending	Approval modification to include CBOD <sub>5</sub> /TSS sizing reduction in 2 and 3 foot wide trench configurations and six inch soil depth credit when utilizing pressure distribution.
Infiltrator Systems, Inc.	Infiltrator ATL	Denial Pending	Approval modification to include CBOD <sub>5</sub> /TSS sizing reduction in 4 and 5 foot wide trench configurations.
Infiltrator Systems, Inc.	Infiltrator ATL	Withdrawn by manufacturer 1/27/2016	Approval modification to include 12 inch soil depth credit when utilizing timed micro-dosing.

## **Other TAC Activities and Actions**

### Standards for Tertiary Treatment Products

The Ohio Department of Health and Sewage Treatment Systems Technical Advisory Committee discussed the need to develop standards for review and approval of tertiary treatment products. The new statewide sewage rules require that tertiary treatment devices designed to provide additional treatment for discharging systems that are unable to meet the effluent quality standards of the household general NPDES permit shall be reviewed by the sewage treatment systems TAC. TAC will continue to work in 2016 to develop the standards needed for consistent review of tertiary product approval requests.

### Special Device Approvals

Provisions within rule 3701-29-20 of the Administrative Code allow the Director of Health to authorize systems differing in design or principle of operation from those set forth in rule through establishment of a special device approval. TAC reviews and provides recommendation to the Director on special device approval requests.

### *Engineered Drainage*

The Ohio Department of Health worked with Dr. Larry Brown of the Ohio State University to use DRAINMOD to model several soil series to determine the efficacy of engineered drainage to adequately lower the seasonal water table. The report from the models was intended for use by local health districts and sewage treatment system designers to determine the effectiveness of engineered drains at specified depths and spacings. The drain spacings used in the OSU models do not meet the requirements in 3701-29-16. TAC worked with residential sewage program staff to develop a special device approval that allows systems to be designed using the closer drain spacing provided in the OSU models.

### *Wetlands Sewage Treatment Systems*

Mr. Joel Helms met with TAC to discuss his proposal for use of wetlands for sewage treatment. Mr. Helms is seeking statewide approval of wetlands sewage treatment systems and proposed that TAC create a special device approval. During his presentation to TAC, Mr. Helms provided some background on the history and concepts for wetlands sewage treatment systems, but did not provide any specifics on system design or testing. TAC requested that Mr. Helms provide a specific proposal with data to support his request.