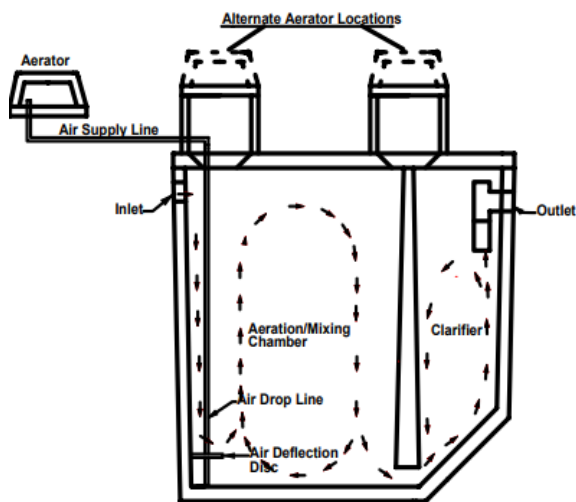
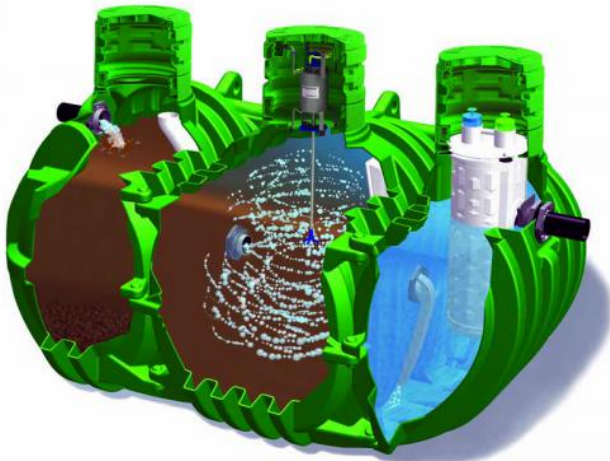




2017 ANNUAL REPORT of the Sewage Treatment Systems Technical Advisory Committee



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. ORC 3718.03(G) 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 sewage treatment system product applications received in 2017. During 2017, TAC reviewed eight requests from four manufacturers of sewage treatment systems (STS) or components. Six of the requests were for modification of existing approvals of STS or components. One of the requests was withdrawn by the manufacturer and later a revised product approval application was resubmitted for approval, and one additional application was formally withdrawn.

TAC also received periodic status updates on a special device approval allowing the installation of two prototype STS for the purpose of data collection.

The systems and components recommended for approval in 2017 by TAC have provided for the use of nutrient reductions, soil depth credits to reduce the thickness of soil required below a soil absorption system, meeting treatment standards for the discharging and spray irrigation of highly pretreated effluent, pretreatment tank reconfigurations, and allowance for more design options to address varying site and operational issues across the state.

Other activities and actions of the committee included the continued discussion of standards for review and approval of tertiary treatment devices, developing updated product standards, guidelines, and procedures for data collection and submission. The TAC also discussed strategies for implementing and staggering the required five-year product approval process.

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 2017 were:

2017 TAC Member	Company	Representing	Appointed By
Rachel Townsend, RS	Ohio Department of Health	Director of Health	Director of Health
Brian Hall, PE	Ohio Environmental Protection Agency	Engineer, Ohio EPA	Governor
Dr. Karen Mancl	Ohio State University	Academia	Governor
Perry Brock*	Fayette Township, Lawrence County	Ohio Township Association	Governor
Christopher Schraff	Porter Wright	Public Member	Governor
Matt Lane**	Ohio Department of Agriculture	Soil Scientist, Division of Soil and Water Conservation	Governor
Dan Lark, RS (chair)	Lake County General Health District	OEHA Sanitarian	House
Zak Sherman	Infiltrator Systems, Inc.	Manufacturer	House
Julianne Nesbit, RS, MPH***	Clermont County Health District	AOHC Health Commissioner	House
Walt Sandefur, PE	Sandefur Consulting	Professional Engineer	House
Kim Cupp, RS, MPH****	Fulton County Health Department	AOHC Health Commissioner	Senate
David Chronister****	Onsite Design Solutions	Designer	Senate
Chas Kaiser****	CDK Structures	System Installer	Senate
Chris Mandich	Jet, Inc.	Manufacturer	Senate

*Mr. Brock's Township Trustee term ended December 31, 2017.

**Mr. Lane was formally appointed March 14, 2017.

***Ms. Nesbit was formally appointed November 1, 2017.

****Ms. Cupp, Mr. Chronister, and Mr. Kaiser were formally appointed March 7, 2017.

TAC scheduled monthly meetings to review products in 2017. TAC held nine regular monthly meetings in 2017. Three meetings were canceled due to lack of products and applications to review.

A complete record of the meeting summaries 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

Sewage treatment system review required by ORC Chapter 3718 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 eight requests from four manufacturers of sewage treatment systems (STS) or components. Six of the requests were for modification of existing approvals of STS or components. One of the requests was withdrawn by the manufacturer and later a revised product approval application was resubmitted for approval, and one additional application was formally withdrawn.

TAC received periodic status updates on a special device approval granted to a manufacturer to install two prototype sewage treatment systems for the purpose of data collection. The special device approval allowed the installation of the prototype systems to facilitate data collection for a future product approval application from the manufacturer. The manufacturer delivered quarterly updates to the TAC in support of a future product application.

The systems and components recommended for approval in 2017 by TAC have provided for the use of nutrient reductions, soil depth credits to reduce the thickness of soil required below a soil absorption system, meeting treatment standards for the discharging and spray irrigation of highly pretreated effluent, pretreatment tank reconfigurations, and allowance for more design options to address varying site and operational issues across the state.

2017 TAC Product Review Summary

Manufacturer	Product	Approval Date (ODH Director)	Notes
Hydro-Action Industries	LP-AP500 SNG with UV Disinfection	Manufacturer withdrew application 3/15/2017	Modification request to add the LP-AP series to the already existing AP series SNG with UV disinfection.
Hydro-Action Industries	LP-AP500 SNG with UV Disinfection	5/22/2017	Modification request to add the LP-AP series to the already existing AP series SNG with UV disinfection.
Ecological Tanks, Inc.	Aqua Aire AA500-35C NR	7/12/2017	Modification request to add the AA500-35C NR to the already existing AA500-35 NR to meet the standard for nutrient reduction.
Ecological Tanks	Aqua Aire Model AA500-35C NR plus Disinfector ultraviolet (UV)	7/12/2017	A request to modify previously approved Ecological Tanks Inc. Aqua Aire Model AA500-35NR when used with a Disinfector ultraviolet (UV) device to include the Aqua Aire Model AA500-35C NR when used with a Disinfector ultraviolet (UV) to meet the standards for: <ul style="list-style-type: none"> • BOD/TSS • < 10,000 fecal coliform for a one foot soil depth credit • < 1,000 fecal coliform for a two foot soil depth credit • < 200 fecal coliform for restricted surface spray application
Ecological Tanks	Aqua Aire Model AA500-35C plus Disinfector ultraviolet (UV) device, Hi Blow HP40 re-aeration, and pump lockout or telemetry	7/12/2017	A request to modify previously approved Ecological Tanks Inc Aqua Aire Model AA500-35 when used with a Disinfector ultraviolet (UV) device, Hi Blow HP40 re-aeration, and pump lockout or telemetry to include the Aqua Aire Model AA500-35C to meet the standards for: <ul style="list-style-type: none"> • BOD/TSS reduction • <10,000 fecal coliform for 1-foot sol depth credit • <1,000 fecal coliform for 2-foot soil depth credit • <200 fecal coliform for restricted surface application • For discharge under the household sewage treatment system General National Pollutant Discharge Elimination System (NPDES) Permit No. OHK000003
Norweco, Inc.	1.) Singulair Model TNT plus AT1500 UV disinfection plus re-aeration. 2.) Singulair Model N11 3.) Singulair Model TNT plus chemcheck chlorination/dechlorination 4.) Singulair model TNT plus chemcheck chlorination/dechlorination with re-aeration	10/4/2017	Modification of previous approvals to allow system reconfiguration.

Norweco, Inc.	1.) Singulair 960 (All sizes) 2.) Singulair Green 960 (500/600 GPD)	Awaiting Director Approval	Modification of previous approvals to Singulair 960 and Singulair Green 960 to meet the standards for: <ul style="list-style-type: none"> • <20 fecal coliform for unrestricted surface spray application • For discharge under the household sewage treatment system General National Pollutant Discharge Elimination System (NPDES) Permit No. OHK000003
EPIC Systems Solutions, LLC	Epic Evaporator	Manufacturer withdrew application 12/20/2017	Requesting approval for a sewage treatment system component that disperses aerosolized effluent meeting the unrestricted surface spray irrigation standards of <20 fecal coliform.

Other TAC Activities and Actions

Standards for Tertiary Treatment Products

The Ohio Department of Health and the 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. A workgroup was established to work on development of these standards. TAC will continue to work in 2018 to develop the standards needed for consistent review of tertiary product approval requests.

Standards, Guidelines, and Protocols for ORC 3718.04

The Sewage Treatment Systems Technical Advisory Committee has been working to update the Standards, Guidelines, and Protocols for product review. Members of the TAC have been working with Ohio Department of Health staff to update the guidance in the Standards, Guidelines and Protocols for statistical analysis. In addition, the TAC is working to develop a spreadsheet that can serve as a statistical instrument for the product standards, guidelines, protocols, and appendices. This should streamline the application process for manufacturers and provide consistency in how the required geometric mean and standard deviations that are needed in the product approval are calculated and assist in the calculation of confidence interval for data that is submitted to support a product approval application.