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2021 ANNUAL REPORT of the
**Sewage Treatment Systems
Technical Advisory Committee**

Ohio

Department
of Health



Executive Summary

Section 3718.03 of the Ohio Revised Code (O.R.C.) 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 for the committee's responsibilities and procedures. O.R.C. 3718.03(G) requires the chairperson of the committee to prepare an annual report concerning the activities of the committee and to submit the report to the Ohio General Assembly. The purpose of this report is to fulfill that requirement.

The TAC is tasked with reviewing and renewing applications and specifications of sewage treatment systems in order to make a well-informed recommendation to the director of health on whether to approve or deny the use of the systems or products in Ohio. This helps ensure systems remain reliable and treated wastewater continues to meet required quality standards. Approved systems and products in Ohio offer a wide range of choices for system owners to ensure the treatment of sewage at a reasonable cost.

The TAC scheduled monthly meetings to review sewage treatment system product applications received in 2021. During 2021, TAC reviewed fifteen requests from six manufacturers of sewage treatment systems (STS) or components. Six of the requests were for modification of existing approvals of STS or components. Nine of the requests were renewal applications. Thirteen of the requests were recommended for approval, and one was recommended for denial with one additional request tabled by the TAC pending further information to be provided by the manufacturer in 2022.

Sewage treatment system review required by O.R.C. 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.
- Maintenance information, including, estimates of operation costs and expected service life.

In reviewing performance information, the TAC requires submission of credible sample data from qualified parties that demonstrates consistent performance within the range of temperature and conditions the system would be exposed to while operating in Ohio. The committee studies raw data and statistical analyses of the sample data¹ 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. This allows the committee to determine if sufficient sample points have been submitted to predict the products' operation in expected conditions.

¹ Mean and standard deviation for normally distributed data and geometric mean and geometric standard deviation for microbial data.



The systems and components recommended for approval in 2021 by TAC have provided for the use of nutrient reductions and of soil depth credits to reduce the thickness of soil required below a soil absorption system. They meet treatment standards for the discharging and spray irrigation of highly pretreated effluent (waste discharged into waterways) and 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 commencement of the five-year product renewal cycle. The purpose of the renewal process is to help ensure that the component reliability and effluent quality of previously approved pretreatment components have been maintained in accordance with the standards and provisions of O.A.C. Chapter 3701-29 and the Ohio EPA Household Sewage Treatment Systems General NPDES Permit Number OHK000003. The TAC had previously developed product renewal standards and guidelines for manufacturers of STS products and components that wish to be considered for renewal in accordance with Ohio Administrative Code (O.A.C. 3701-29-13(D)).

The TAC worked to develop a recommendation to the director of the Ohio Department of Health to extend the renewal deadlines for products that were due for renewal at the beginning of 2021. This extension was due to extenuating circumstances, created by the COVID-19 pandemic, in obtaining the field data required by Appendix E of the Standards, Guidelines, and Protocols for product review.

The 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 TAC membership and appointment authority is outlined in Section 3718.03 of the Ohio Revised Code.

The members of TAC during 2021 were:

2020 TAC Member	Company	Representing	Appointed By
Chris Mandich (Chair)	Jet Inc.	Manufacturer	Senate
Gary Salmon (Vice Chair)	Oxford Township, Butler County	Ohio Township Association	Governor
Rachel Townsend, REHS (Secretary)	Ohio Department of Health	Director of Health	Director of Health
Dr. Karen Mancl	The Ohio State University	Academia	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, REHS	Lake County General Health District	Ohio Environmental Health Association Sanitarian	House
Zak Sherman	Infiltrator Water Technologies, LLC	Manufacturer	House
Julianne Nesbit, REHS, MPH	Clermont County Public Health	Association of Ohio Health Commissioners (Health Commissioner)	House
Joseph Warino, PE, PS	Ohio Society of Professional Engineers	Professional Engineer	House
Frank Migliozi MPH, REHS	Trumbull County Combined Health District	Association of Ohio Health Commissioners (Health Commissioner)	Senate
David Chronister	Onsite Design Solutions	Designer	Senate
Chas Kaiser	CDK Structures	System Installer	Senate
Jonathan Bernstein, PE	Ohio Environmental Protection Agency	Engineer, Ohio EPA	Governor

The TAC scheduled monthly meetings to review products in 2021. TAC held seven regular monthly meetings in 2021. Five 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 under the *Meetings and Minutes of the Sewage Treatment Systems Technical Advisory Committee* header on the Ohio Department of Health (ODH) website at: <https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/sewage-treatment-systems/Resources-and-Education/>.



2020 TAC Product Review Summary

Manufacturer	Product	Approval Date (ODH Director)	Notes*
Tangent Company, LLC	Landsaver MBR 2x	February 9, 2021	Modification request seeking approval for their plastic tank model rated up to 1,200 gallons per day design capacity for: <ul style="list-style-type: none"> • BOD/TSS reduction. • <10,000 fecal coliform for 1-foot soil depth credit. • <1,000 fecal coliform for 2-foot soil depth credit. • <200 fecal coliform for restricted surface application. • < 20 fecal coliform for unrestricted surface application. • Meeting the requirements for continuous flush drip distribution. • For use in NPDES systems.
Norweco, Inc.	AT 1500 Ultraviolet Disinfection	February 9, 2021	Modification request to allow installation of AT 1500 UV in pump chamber/tank for Singulair Concrete and Green model 960 when used in restricted/unrestricted surface spray applications.
Norweco, Inc.	Singulair Concrete and Green model 960	February 25, 2021	Modification request to allow for the removal of the post aeration requirement for the Singulair Concrete and Green model 960 for restricted/unrestricted surface spray applications.
Jet, Inc.	XP-40 Hiblow Compressor	March 25, 2021	Modification request to allow use of XP-40 as an approved alternative to HP-40 compressor in NPDES systems utilizing pump lockout.
ANUA	Aerocell Series	May 14, 2021	Renewal request seeking re-approval for: <ul style="list-style-type: none"> • BOD/TSS reduction. • <10,000 fecal coliform for 1-foot soil depth credit. • Nutrient Reduction.



Manufacturer	Product	Approval Date (ODH Director)	Notes*
Ecological Tanks, Inc.	Aqua Safe + Salcor Ultraviolet Disinfection	October 26, 2021	Renewal request seeking re-approval for: <ul style="list-style-type: none"> <10,000 fecal coliform for 1-foot soil depth credit. <1,000 fecal coliform for 2-foot soil depth credit. <200 fecal coliform for restricted surface application. < 20 fecal coliform for unrestricted surface application.
Ecological Tanks, Inc.	Aqua Aire + Salcor Ultraviolet Disinfection	November 9, 2021	Renewal request seeking re-approval for: <ul style="list-style-type: none"> <10,000 fecal coliform for 1-foot soil depth credit. <1,000 fecal coliform for 2-foot soil depth credit. <200 fecal coliform for restricted surface application. < 20 fecal coliform for unrestricted surface application.
Delta Treatment Products	DF Series + Salcor Ultraviolet Disinfection	November 24, 2021	Renewal request seeking re-approval for: <ul style="list-style-type: none"> <10,000 fecal coliform for 1-foot soil depth credit. <1,000 fecal coliform for 2-foot soil depth credit. <200 fecal coliform for restricted surface application.
Delta Treatment Products	DF Series + Salcor Ultraviolet Disinfection + Reaeration with telemetry or pump lockout	December 7, 2021 (Denial)	Renewal request seeking re-approval for: <ul style="list-style-type: none"> Use in NPDES systems.
ANUA	Aerocell Series	December 7, 2021	Modification request to allow for pad dispersal.
ANUA	BioCoir Series	December 7, 2021	Modification request to allow for pad dispersal.
Consolidated Treatment Systems, Inc.	MultiFlo FTB Series + Salcor Ultraviolet Disinfection	December 8, 2021	Renewal request seeking re-approval for: <ul style="list-style-type: none"> <10,000 fecal coliform for 1-foot soil depth credit. <1,000 fecal coliform for 2-foot soil depth credit.



Manufacturer	Product	Approval Date (ODH Director)	Notes*
Consolidated Treatment Systems, Inc.	MultiFlo FTB Series + Salcor Ultraviolet Disinfection + Reaeration with telemetry or pump lockout	December 8, 2021	Renewal request seeking re-approval for: <ul style="list-style-type: none"> • Use in NPDES systems
Ecological Tanks, Inc.	Aqua Safe Series	Pending	Renewal request seeking re-approval for: <ul style="list-style-type: none"> • Nutrient Reduction
Norweco, Inc.	Singulair Concrete and Green 960 Series + AT 1500 Ultraviolet Disinfection	Tabled	Renewal request seeking re-approval for: <ul style="list-style-type: none"> • <10,000 fecal coliform for 1-foot soil depth credit. • <1,000 fecal coliform for 2-foot soil depth credit. • <200 fecal coliform for restricted surface application. • < 20 fecal coliform for unrestricted surface application.

**Sewage treatment systems are designed to minimize the risk of exposure to sewage effluent, to reduce contamination of groundwater and surface water, and to provide for treatment of effluent through infiltration and movement through an adequate thickness of unsaturated soil. When site and soil limitations restrict adequate treatment, selection and use of pretreatment components meeting one of the treatment levels indicated above may be necessary.*



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