TECHNICAL REVIEW AND ADVISORY PANEL

ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS

ADVISORY TO THE DEPARTMENT OF HEALTH

AUTHORITY: SECTION 381.0068, FLORIDA STATUTES

TECHNICAL REVIEW AND ADVISORY PANEL (TRAP) MEETING

DATE: Monday, September 30, 2019
TIME: 1 p.m. Eastern Time
PLACE: Lake Ellenor Auditorium
Florida Department of Health in Orange County
6101 Lake Ellenor Drive
Orlando, Florida 32809 or join by Conference Call
Teleconference Phone Number: 888-585-9008
At the prompt, enter the Conference Code: 200-983-436 #

THIS MEETING IS OPEN TO THE PUBLIC.

Agenda

1. Introductions and roll call

2. Ratify the August 27, 2019 meeting.

3. Review minutes of August 27, 2019 meeting

4. Old Business
   a. Innovative System Permitting Process TRAP Issue 19-08 updates to proposed language review
      - Updates to Protocol on Innovative System Permits

5. New Business
   a. Aerobic Treatment Unit Updates TRAP Issue 19-10

6. Other items of interest to the Technical Review and Advisory Panel
   a. Tentatively Planned: Revisit to the proposal regarding repairs and system sizing requirements [64E-6.015(6)(c)2, FAC], by Denworth Cameron

7. Public Comment

Scott Johnson *Professional Engineer* | Vacant *Real Estate Industry* | Dewayne Bingham, Jr. *Septic Tank Industry* | Ron Davenport *Septic Tank Manufacturer*

Glenn W. Bryant *DOH County Health Department* | Robert Washam *Consumer* | Scott Franz *Soil Scientist* | Elias Christ *Environmental Health*

Ronald Oakley *Local Government* | Ken Odom *Home Building Industry* | Roy Pence *Home Building Industry*

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TECHNICAL REVIEW AND ADVISORY PANEL (TRAP) MEETING MINUTES

DATE: Monday, September 30, 2019
PLACE: Lake Ellenor Auditorium
Florida Department of Health in Orange County
6101 Lake Ellenor Drive
Orlando, Florida 32809

Members present were:

G. Will Bryant, *County Health Department*
Elias Christ, *Environmental Health*
Ron Davenport, *Septic Tank Manufacturer, Chair*
Kriss Kaye*, Florida Engineering Society*
Roy Pence, *Home Building Industry*
Robert Washam, *Consumer Representative*

Alternate members present:

Stephen Shepard*, Septic Tank Manufacturer*
Joseph Sullivan, *Soil Scientist*

Department of Health (DOH)staff present:

Ed Barranco, *Environmental Administrator*
Robin Eychaner, *Environmental Administrator*
Dr. Eberhard Roeder*, Engineer*
Dr. Xueqing Gao, *Environmental Consultant*
David Hammonds, *Environmental Consultant*
Ed Williams*, Environmental Consultant*
Debby Tipton, *Environmental Consultant*
Kim Duffek, *Environmental Consultant*
Audra Burchfield*, Environmental Consultant*
Alan Willett, *Environmental Consultant*
Yelitza Jimenez, *Environmental Health Program Consultant*
Bart Harriss, *Environmental Manager*
Samuel Rivera, *Environmental Specialist III*

Absent members and alternates:

Dewayne Bingham, Jr., *Septic Tank Industry*
Scott Franz, *Soil Scientist*
Scott Johnson, *Florida Engineering Society*
Ronald Oakley, *Local Government*
Ken Odom, *Home Building Industry, Vice Chair*

Others present:

Roxanne Groover, *Florida Onsite Wastewater Assoc. (FOWA)*
Denworth Cameron, *Presby Environmental*
Jim Craft, *JC Drainfield*
Pam Tucker, *Greater Orlando Realty USA, Inc*
Dominique Buhot, *Green's Environmental Services*

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1. Call to Order and Roll Call

Robin Eychaner called the meeting to order at 1:00 p.m.
Roll call was completed and Robin also invited the members of the public introduce themselves. At the beginning of the meeting eight panel members and/or their alternates were present.

2. Ratify the August 27, 2019 Meeting

Robin proceeded with the second order of business, which was ratifying the August 27, 2019, TRAP meeting due to the public meeting advertisement in the Florida Administrative Register (FAR) being inadvertently advertised for one day less than the required seven days. Robin reviewed the details and discussions of each portion of the August TRAP meeting. There were no additional discussions or comments. A motion to accept the ratification as presented was made by Will Bryant and seconded by Bob Washam. The motion was unanimously approved, passed, and there were none opposed.

Before turning the meeting over to Ron Davenport, Robin made some corrections to the minutes caught during the ratification process, so she highlighted those changes in yellow and green and share it on the Adobe Connect for everyone to view live.

3. Review minutes of last meeting

The TRAP reviewed the minutes of the August 27, 2019 meeting conference call. Robin Eychaner pointed out the corrected typos. Ron Davenport lead the discussion with the following results:

Will Bryant made a motion to approve the minutes as amended and seconded Kriss Kaye.
Unanimously approved, motion passes, none opposed, minutes approved.

4. Old Business

A) Innovative System Permitting (ISP) Process; TRAP Issue 19-08 proposed language review
- Plus, Protocol on Innovative System Permits

Debby Tipton delivered a PowerPoint presentation via Adobe Connect (live) on Innovative/Performance Based Treatment System (PBTS) Rule Revision. See handouts.
Ed Barranco walked the members through the proposed rule language and pointed out any changes from the previous meeting.
Line 53 delete the s on “components”. (Not part of discussion)
Line 56 add the “t” on “time” (not part of discussion)
Lines 77-79 Ed Barranco explained, on line 79 we talked about a maximum of 50, for disposal components, in the presentation Debby did and in the proposed rule it is 70. It is supposed to be 70 and it was a typo in the slide presentation.
Line 84 (paragraph b) Need to craft additional language to establish a lower limit based on comparable sizing of an alternative product to our aggregate drainfield. Maybe a 2.5 to 1 for example. Establish a base, lower limit, to prevent triggering a 120 variance at the start.
Line 103-108 (paragraph c)

B) Performance Based System Standards TRAP Issue 19-12 formerly Issue 7-23 (recording begin 2:40:06)

5. New Business

A) Aerobic Treatment Unit Updates TRAP Issue 19-10

6. Other items of interest to the TRAP

A) Exempting repairs from the last sentence in sub-section 64E-6.015(6)(c)2, FAC, if they meet current rule sizing, presented by Denworth Cameron.

Denworth Cameron was recognized and withdrew his proposal.

6. PUBLIC COMMENT

MEMBERS OF THE PUBLIC WERE FREE TO SPEAK DURING THE MEETING AND DID SO. THERE WAS NO ADDITIONAL PUBLIC COMMENT.

Kriss Kaye made a motion to adjourn and Ron Davenport move it. Meeting Adjourned at 3:48 p.m.

19-08 ISSUE FOR TECHNICAL REVIEW AND ADVISORY PANEL CONSIDERATION

Printed 9/25/2019 5:12:09 PM

Next Trap Meeting: 9/30/19

Subject: Innovative System Permit Process

Rule Sections: 64E-6.001; 6.002; 6.004;6.009; 6.0152 6.012; 6.025; 6.026; 6.027; 6.028; 6.029; 6.0295

Issue:	The current issue is regarding a need for standardizied streamlined process to more expidiciously issue permits for innovative systems with a strong link to innovative systems evaluation results. The Chapter 120, of the Florida Statutes can be legnthy and the Department would like to have a process identified in rule that meets these new criteria, which would provide a more time-efficient process. Formerly TRAP Issues 08-09 and 10-11.
Issue Originated By:	Ed Barranco
Purpose and Effect	The proposed changes will Reduce Common Roadblocks to Permitting, Address Common Rule Violations in Code, Provide Clearer Expectations, as well as, Standardize Monitoring Protocols and Evaluation Criteria.
Proposed Rule Change:	(See Attached)
Summary:	Reduce Common Roadblocks to Permitting Address Common Rule Violations in Code Provide Clearer Expectations Standardize Monitoring Protocols and Evaluation Criteria
Possible Financial Impacts:	None.
Date New:	5/3/2019
Initially Reviewed by Trap:	8/27/2019
Tabled by Trap:	8/27/2019
Trap Review Finished:	8/27/2019
Variance Committee Reviewed:	
Trap Review Variance Comments:	
Trap Final Decision:	
Final Outcome:	
Comments:	Discussed by TRAP 5/28/19 Proposed language being presented at 8/27/19 meeting. On 8/27/19 the very rough draft language was presented. They made many great comments and had many good discussions. The decision was made to have DOH take the language back and make some edits and then represent the changes at the next TRAP meeting in September. RE 8/29/19 Must be ratified at 9/30/19 meeting due to issue with FAR advertisement. RE
Ready for Rule	☐

In Rule ☐
Rule Date:

TRAP Issue 19-08

Innovative System Permit Process

64E-6.001 General

64E-6.004 Application for System Construction Permit

64E-6.009 Alternative Systems

64E-6.0152 Innovative Systems

64E-6.025 Definitions

64E-6.026 Applications for Innovative System Permits and System Construction Permits

64E-6.027 Permits

~~64E-6.0295 Innovative System Reclassification~~

64E-6.001 General.

(1) The provisions of Part I (rules 64E-6.001-6.016, F.A.C.) of this chapter apply to all areas of the state except where specific provisions in part II (rules 64E-6.017-6.0182, F.A.C.), addressing the Florida Keys, or specific provisions in part IV (rules 64E-6.025-6.029~~5~~, F.A.C.), addressing performance-based treatment systems, exempt or modify compliance with part I. Part III (rules 64E-6.019-6.023, F.A.C.) addresses the registration of septic tank contractors and authorization of partnerships and corporations. Part V (rule 64E-6.030, F.A.C.) addresses fees for services throughout the chapter. The provisions of this chapter must be used in conjunction with chapter 381 and part III of chapter 489, F.S.

(2) though (7) No change.

Rulemaking Authority 381.0065(3)(a), 489.553(3), 489.557(1) FS. Law Implemented 381.0065, 381.0067, 386.041, 489.553 FS. History–New 12-22-82, Amended 2-5-85, Formerly 10D-6.41, Amended 3-17-92, 1-3-95, 5-14-96, 2-13-97, Formerly 10D-6.041, Amended 11-19-97, 2-3-98, 3-22-00, 9-5-00, 5-24-04, 11-26-06, 6-25-09, 4-28-10, 7-16-13, XX-XX-XX.

64E-6.004 Application for System Construction Permit.

(1) though (7) No change.

(8) Innovative Systems must be permitted per rule 64E-6.0152. ~~or new product approval for onsite sewage treatment and disposal systems shall be initiated by submittal of an application for permit using Form DH 3143, Jan. 94, hereby incorporated by reference. DOH county health departments are authorized to issue installation permits upon receipt of the temporary permit. Form DH 3144, Jan 94, and Form DH 3145, Jan 94, hereby incorporated by reference, shall be used to record information that describes notification requirements between the temporary permit applicant, the DOH county health department, and the State Health Office. These forms are to be processed by the DOH county health departments.~~

(9) No change.

Rulemaking Authority 381.0065(3)(a), 489.553(3) FS. Law Implemented 381.0065, 489.553 FS. History– New 12-22-82, Amended 2-5-85, Formerly 10D-6.44, Amended 3-17-92, 1-3-95, 5-14-96, 2-13-97, Formerly 10D-6.044, Amended 11-19-97, 3-22-00, 11-26-06, 6-25-09, 4-28-10, XX-XX-XX.

64E-6.009 Alternative Systems.

(1) through (7) No change.

(8) Alternative system component and design approval – ~~After innovative system testing is completed,~~ R~~r~~equests for approval of system components and designs which are not specifically addressed in this chapter must~~shall~~ be submitted to the department's ~~Bureau of~~ Onsite Sewage Program~~s~~ Office.

(a) Requests for non-innovative alternative system component material and design approval must~~shall~~ include the documentation required in Rule 64E-6.0152 (7)(a), except for subparagrph 4.~~:~~

~~1. Detailed system design and construction plans by an engineer licensed in the State of Florida,~~

~~2. Certification of the performance capabilities of the product submitted by an engineer licensed in the state of Florida,~~

~~3. Research supporting the proposed system materials,~~

~~4. Empirical data showing results of innovative system testing in the State of Florida; and.~~

~~5. A design, installation and maintenance manual showing how to design and install the system in accordance with this chapter for standard, filled, mounded, gravity-fed, dosed, bed and trench configurations.~~

(b) through (e) No change.

(f) The manufacturer of an alternative system components, or their agent that has been authorized in writing, must provide training on their system component to include all aspects including installation procedures to the Onsite Sewage Program Office and a least one certified inpsection staff of the county health department, at the ime of the installation of the first system component in each county. Training will be provided free of charge.

(9) through (11) No change.

Rulemaking Authority 381.0065(3)(a) FS. Law Implemented 381.0065 FS. History–New 12-22-82, Amended 2-5-85, Formerly 10D-6.49, Amended 3-17-92, 1-3-95, Formerly 10D-6.049, Amended 11-19-97, 2-3-98, 3-22-00, 4-21-02, 6-18-03, 11-26-06, 6-25-09, 7-31-18, XX-XX-XX.

64E-6.0152 Innovative Systems

(1) Prior to an innovative system being used in any manner with an onsite sewage treatment and disposal system, the applicant intending to have the innovative system approved for use in Florida must make application to the Onsite Sewage Program Office (OSP) using Form DH 3143, 08/19, herein incorporated by reference. If all applicable requirements are met, an Innovative System Permit (ISP) will be issued by the OSP. The ISP will be for a specified testing period and contain requirements for the innovative system to be installed. The department's Protocol on Innovative Systems, September 2019, is hereby incorporated by reference, and is referred to as "Protocol" in this section.

(2) Innovative system applications require a demonstration of the innovative product's efficacy prior to the testing in paragraph (2)(a), below. Where data from previous testing only meets the criteria in 4.B. of

the Protocol, the applicant must install and monitor one system to demonstrate the innovative product's efficacy; or the applicant may provide sufficient data as defined by Protocol. Once the innovative product's efficacy has been determined additional system testing is required as stated in this section.

(a) No less than three innovative systems for treatment components and fifteen innovative systems for disposal components for a specified time period to be determined based on the individual application, to demonstrate the system will function properly and reliably to meet the requirements of this chapter and section 381.0065, FS. The maximum number of systems allowed under the ISP will be twelve for treatment components and seventy for disposal components. Modifications to innovative system design is not allowed during testing required by this subsection.

(b) During innovative system testing, the intent is to test the innovative product as constructed by, and in the manner intended for use by the manufacturer. When installed, the entire system, including the innovative product itself must comply with all required setbacks, separation to seasonal high water table, effective soil depth and loading rates. Any other regulatory requirement that is not part of the innovative product or does not have direct bearing on the innovative product being tested must be installed in compliance with all applicable regulations.

(c) Treatment components, which have already been approved and will be installed as meeting the requirements of rule 64E-6.012(1), are not required to obtain an ISP, provided the treatment component's proposed performance, as a performance-based treatment system, is no better than the average performance reported in the applicable evaluation report.

(3) The applicant for the ISP will be the permit holder and will be held responsible for all information supplied to the department. The signed application and system design plans serve as the basis by which the department determines the issuance of the ISP. Applications for an ISP must be made to the OSP on Form DH 3143 08/19 and must be accompanied by all required exhibits and fees, including all information required in the Protocol. Once the ISP has been issued, no modifications are allowed to the ISP application. Except as provided for in subsection 64E-6.028(3), F.A.C., alternative drainfield materials and designs must not be approved which would result in a reduction in drainfield size using the mineral aggregate drainfield system as described in section 64E-6.014, F.A.C., and the total surface area of soil

at the bottom of the drainfield as the criteria for drainfield sizing comparisons. While the permit is entitled an ISP, and the entire system can be innovative, it is recognized that where the innovative part is an individual item placed within and intended to be used as part of or in conjunction with the system, and not the entire system, that individual item is that part which is termed innovative.

(a) The applicant must respond in writing to requests for additional information within 30 days after receipt of the request.

(b) Modifications to the innovative system application after testing has begun will require an applicant to provide a new application, along with necessary exhibits and fees.

(c) An ISP issued by the OSP on or after the effective date of this rule is valid for five years from the date of issue.

(d) ISPs issued more than five years prior to the effective date of this rule expire 180 days after the effective date of this rule. An applicant having a previously issued ISP that will expire per this paragraph can apply for a new ISP prior to the expiration of their current permit, and must include a new application, including all required exhibits and fees.

(e) The applicant receiving an ISP per paragraph (c) may request a one-time extension for a second five-year period, at no cost. The extension request must be received by the OSP at least 90 days prior to the ISP expiration date and must include a statement from the applicant that the conditions under which the original ISP was issued have not changed. If conditions have changed, or if the extension request has not been received per this paragraph, extensions will not be allowed, and a new application and fee will be required.

(4) Innovative System Permitting - Innovative system permits will be issued by the OSP. Where the innovative system applicant requires any form of maintenance on the innovative system to be tested, the maintenance requirement must be included in the application, as well as the ISP. The applicant must provide information as to how and when the maintenance is to be performed, any determining factors which influence the decision to perform required maintenance, and must allow any septic tank contractor or state-licensed plumber to provide maintenance, as long as the ISP applicant has provided training and

written authorization to the septic tank contractor or state-licensed plumber. ISPs that intend to be classified as a performance-based treatment system require an approved maintenance entity that will perform all required maintenance on the system.

(a) For innovative systems requiring a maintenance contract and operating permit, the applicant must identify, train and certify a maintenance entity, which must be permitted in accordance with the appropriate section of rule, depending on the system or components being used.

(b) An innovative system cannot be used as a component to any performance-based treatment system where any benefit is to be received per rule 64E-6.028, F.A.C. However, where an innovative treatment component is used to enhance what would otherwise be a permittable PBTS, the treatment component may be used to further treat the sewage, but no additional treatment level will be recognized. The component being tested does not receive benefits per 64E-6.028.

(5) ISP incorporation into construction permits issued by county health departments- After the OSP has approved the ISP, DOH county health departments are authorized to issue system construction permits for individual onsite sewage treatment and disposal systems that include the innovative systems. The ISP applicant must comply with the training requirement in rule 64E-6.009(8)(f). The county health department must receive a complete application in accordance with Parts I, II or IV of Chapter 64E-6, FAC and review the application in accordance with all appropriate requirements. All innovative system permit requirements must be incorporated into the construction permit. The innovative system applicant must concurrently notify the OSP when an application is submitted to the county health department. If the system requires an operating permit, all testing requirements in the innovative system permit must be required in the operating permit conditions. An application for system construction permit which intends to incorporate an innovative system or component cannot be reviewed by the county health department until an innovative system permit has been approved by the OSP. All applications for a construction permit that includes an innovative system or component must be reviewed for completeness by the county health department and then referred to the OSP for review and approval, disapproval or approval with modifications.

(a) The design and installation must comply with the conditions of the ISP and the following additional criteria:

1. Innovative systems are allowed in repair, existing-modification and new construction permits, however all application and construction standards for new systems must be met. All flow must be directed into the innovative system and split flow systems are not allowed.

2. Construction permits issued by the CHD for testing any innovative system requires the applicant to include a separate plan for a system that does not include the innovative system being used, which can include removal of the innovative system and installation of the non-innovative system. This will include a site plan that shows both systems and how they will be installed in relationship to each other, and how the other system will replace the innovative system should it not perform in compliance with the design. This can be done using the same application, but as a different proposal, which is required to be used if, or when, the innovative system does not perform in compliance with the design. Where the innovative system will be replaced by the non-innovative system, it will be permitted and inspected as a new system.

(b) The county health department must have received completed form DH 3144, 08/19, herein incorporated by reference.

(c)The county health department has completed and filed form DH 3145, 08/19 with the OSP.

The OSP has reviewed and approved form DH 3145 and provided that information to the county health department.

(6) Innovative System Testing-

After ISP issuance, the applicant must provide quarterly reports to the OSP which includes a tabular summary of installations and testing, and information on the progress of the innovative system evaluation. Reports are due by the 21st day of the month following the completion of a standard calendar quarter. A standard calendar quarter includes the months January through March; April through June; July through September; and October through December. If the 21st day of the month falls on a weekend or holiday, the deadline will be the close of the following business day. Failure to submit quarterly reports within 31 days of the end of the quarter will be considered in violation and subject to fines per s.381.0061, FS.

Where any failure or malfunction of the innovative system itself, or the septic tank system to which it is attached is found, the applicant is required to report the incident to the OSP within five working days.

(7) Following the installation and testing of the number of systems required by the innovative system permit, and the submission of all required information or results, the applicant may request classification of their innovative system by the OSP. Only systems that received final approval from the county health department and were occupied during the entire testing can be used in the department's evaluation for classification. The department will approve the classification request only if the department is satisfied that the system will reliably perform to the standards for which it is being approved. Evaluation criteria will be per the department's Protocol.

(a) Requests for classification as an alternative system component must include the following:

1. Detailed system design and construction plans by an engineer licensed in the State of Florida;

2. Certification of the performance capabilities of the product submitted by an engineer licensed in the State of Florida;

3. Research supporting the proposed system materials;

4. Empirical data showing results of innovative system testing in the state of Florida;

5. A design, installation and maintenance manual showing how to design and install the system in accordance with this chapter for standard, filled, mounded, gravity-fed, dosed, bed and trench configurations.

(b) Requests for classification as a performance-based treatment system must include the following:

1. Complete results and analysis of testing of all systems installed;

2. Complete observations of system performance;

3. Complete records regarding maintenance, repairs or modifications performed on any systems;

4. All comments from the system operators and persons using the system, even if seasonal. The innovative system applicant must contact the system operator and all users by email and specifically

request their comments regarding their experience in the use and operation of the system, to include any issues or problems that were noted;

5. The design engineers who designed the individual system designs.

6. Comments from the county health departments in the counties where the systems were installed;

7. Specification of the proposed classification as performance-based;

8. Rationale for the proposed type of classification desired;

9. Proposed testing;

10. A sample manual addressing the siting, design, installation, inspection, operation, maintenance and abandonment procedures.

Rulemaking Authority 381.0011(13), 381.006, 381.0065(3)(a) FS. Law Implemented 381.0065, 381.0067, 386.041 FS. History–New XX-XX-XX.

64E-6.025 Definitions.

(1) through (8) No change.

~~(9) Innovative System – as defined by Section 381.0065(2)(g), F.S.~~

(9~~10~~) Performance-based treatment system – a specialized onsite sewage treatment and disposal system designed by a professional engineer with a background in wastewater engineering, licensed in the state of Florida, using appropriate application of sound engineering principles to achieve specified levels of $CBOD_5$ (carbonaceous biochemical oxygen demand), TSS (total suspended solids), TN (total nitrogen), TP (total phosphorus), and fecal coliform found in domestic sewage waste, to a specific and measurable established performance standard. ~~This term also includes innovative systems.~~

(11) through (15) change to (10) through (14).

64E-6.026 Applications for Performance-Based Treatment ~~Innovative~~ System Permits and System Construction Permits~~.~~

~~(1) Applications for innovative system permits – Applications for innovative system permits shall be~~

~~made using form DH 3143. The application and all supporting information shall be signed, dated and sealed by an engineer, licensed in the State of Florida. Except as provided for in subsection 64E-6.028(3), F.A.C., alternative drainfield materials and designs shall not be approved which would result in a reduction in drainfield size using the mineral aggregate drainfield system as described in rule 64E-6.014, F.A.C., and the total surface area of soil at the bottom of the drainfield as the criteria for drainfield sizing comparisons. Applications shall include:~~

~~(a) A monitoring protocol designed to validate that the system will perform to the engineer's design specifications.~~

~~(b) Compelling evidence that the system will function properly and reliably to meet the requirements of this chapter and section 381.0065, F.S. Such compelling evidence shall include one or more of the following from a third-party testing organization approved through the NSF Environmental Technology Verification Program:~~

~~1. Side stream testing, where effluent is discharged into a system regulated pursuant to chapter 403, F.S.~~

~~2. Testing of systems in other states with similar soils and climates.~~

~~3. Laboratory testing.~~

(2) and (3) renumbered to (1) and (2) No change.

Rulemaking Authority 381.0011(4), (13), 381.0065(3)(a) FS. Law Implemented 381.0065, 381.0067, Part I 386 FS. History–New 2-3-98, Amended 6-18-03, 11-26-06, 4-28-10, XX-XX-XX.

64E-6.027 Permits.

~~(1) Innovative System Permit – An application for system construction permit for an innovative system cannot be reviewed until the innovative system permit has been approved specifying the number of systems and time limits. The department's decision to grant or deny the innovative system permit shall be based on the presence or absence of compelling evidence that the innovative systems will function properly and reliably to meet the requirements of this chapter and section 381.0065, F.S.~~

(2) Renumbered to (1) No change.

(2~~3~~) Within 15 working days after the department receives a completed application for a performance-based treatment system, the county health department must either issue a permit for the system or must~~shall~~ notify the applicant that the system does not comply with the performance criteria, and refer the application to the ~~Bureau of~~ Onsite Sewage Program~~s~~ Office, who must~~shall~~ review the application for a determination whether the system should be approved, disapproved, or approved with modifications. The determination of the engineer for the ~~Bureau of~~ Onsite Sewage Program~~s~~ Office must~~shall~~ prevail over the action of the local county health department. ~~All applications for a construction permit for an innovative system shall be reviewed for completeness by the county health department and referred to the Bureau of Onsite Sewage Programs for review and approval, disapproval or approval with modifications.~~

(4) through (7) Renumbered to (3) to (6) No change.

Rulemaking Authority 381.0065(3)(a) FS. Law Implemented 381.0065, Part I 386 FS. History–New 2-3-98, Amended 4-21-02, 6-18-03, 6-25-09, 4-28-10, XX-XX-XX.

~~64E-6.0295 Innovative System Reclassification.~~

~~(1) Following the installation and monitoring of the number of systems allowed by the innovative system permit, the applicant may request reclassification of their innovative system by the Bureau of Onsite Sewage Programs. Requests for reclassification as an alternative system component and design shall be made in accordance with subsection 64E-6.009(7), F.A.C. Requests for reclassification as a performance-based treatment system shall include the following:~~

~~(a) Results and analysis of monitoring of the systems installed.~~

~~(b) Observations of system performance.~~

~~(c) Maintenance, repairs or modifications performed on any systems.~~

~~(d) Comments from the system operators or users.~~

~~(e) Comments from the design engineers who designed the individual system designs.~~

~~(f) Comments from the county health departments in the counties where the systems were installed.~~

~~(g) Specification of the proposed classification as performance-based.~~

~~(h) Rationale for the proposed type of classification desired.~~

~~(i) Proposed monitoring protocol.~~

~~(j) A sample manual addressing the siting, design, installation, inspection, operation, maintenance and abandonment procedures.~~

~~(2) The Bureau of Onsite Sewage Programs shall process the request in accordance with chapter 120, F.S. The department shall approve the request only if the department is satisfied that the system will reliably perform to the standards desired under normal operating conditions as demonstrated by the information provided.~~

~~*Rulemaking Authority 381.0011(13), 381.006, 381.0065(3)(a) FS. Law Implemented 381.0065, 381.0067, 386.041 FS. History–New 6-18-03.*~~Renumbered to 64E-6.0152 XX-XX-XX.

Department of Health Protocol on Innovative System Permits
September 2019

1. INTRODUCTION

This Protocol establishes additional requirements for innovative system permits (ISPs) in Rule 64E-6.0152 Florida Administrative Code (FAC).

2. DEFINITIONS

As used in the protocol, the words or terms have the following meanings:

(1) **Disposal component**: arrangement of equipment and/or materials that distributes effluent within a drainfield.

(2) **Independent**: no employee/employer or subsidiary relationships or other relationships that would impact the independence of the testing organization and the manufacturer.

(3) **Performance target**: the frequency of test system observations required to show that the proposed technology meets the proposed performance level reliably as described in Section 5 of this document.

(4) **Proposed performance level**: the specific performance measure that the applicant claims the proposed technology can meet and that is being evaluated during innovative system testing.

(5) **Proposed technology:** materials, devices or techniques proposed by the applicant to serve in whole or in part in an onsite sewage treatment and disposal system. The technology is characterized as a system treatment component, system disposal component, or both.

(6) **Proprietary technology:** a proposed technology protected by patent or trademark.

(7) **Public domain technology:** a proposed technology not protected by patent or trademark.

(8) **Manufacturer:** the entity that develops, designs, and produces the proposed technology.

(9) **Testing organization:** the entity that implements testing of the proposed technology.

(10) **Test plan:** a written document that describes the procedures for conducting testing for a test system.

(11) **Test system:** an installation of the proposed technology for the purposes of innovative system testing.

(12) **Tested parameter:** an observation of interest required to evaluate whether a test system can meet the proposed performance level in accordance with the performance target, such as effluent concentration, sewage disposal, or other applicable measurable and specific measure of functioning.

(13) **Treatment component:** any part of an innovative system that is intended by the applicant to provide sewage treatment. A treatment component may coexist within or after a disposal component.

3. INNOVATIVE SYSTEM APPLICATION REQUIREMENTS

Application for an ISP must include all items required by Rule 64E-6.0152 FAC and Form DH 3143, 08/19. Requirements for items on Form DH 3143 are listed below.

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A. DATA FROM PREVIOUS TESTING

Data from previous testing must include all known data results from testing on performance and reliability of the proposed technology, including observations of failure as defined by Rule 64E-6.002, FAC. For treatment components, reported test results must include all individual sampling data, average, median, concentrations and flows. For disposal components, reported test results must include measurements of water levels within the disposal component, estimated or measured hydraulic and biological loading rates, and surfacing observations. The data must meet minimum requirements in section 4.

B. AN AFFIDAVIT BY THE APPLICANT CERTIFYING THAT THE TECHNOLOGY SUBMITTED FOR APPROVAL IS THE SAME AS THE TECHNOLOGY FOR WHICH TESTING DATA ARE PROVIDED.

If there are differences between the technology as it was tested and the technology as it is submitted for approval, the applicant must identify this to the department.

C. DESIGN CRITERIA

Design criteria must include a description of the proposed technology, detailed drawings of the configuration or configurations of the proposed technology to be tested, the design treatment capacity, structure, function mechanism, and the proposed performance level. The design criteria must address sizing the technology to estimated sewage flows ranging from 200 to 5000 gallons per day and to differing domestic and commercial wastewater strengths and characteristics.

D. PRODUCT LITERATURE

Product literature must include the following

1. An owner's manual including the system's model designation; a functional description of system operation; a list of household substances that could adversely affect the system or the environment; operating instructions, methods to be used to identify system malfunction; electrical schematics (if applicable); instructions for extended periods of non-use; and a description of service policies.
2. An installation manual, including a process overview; a list of components, electrical wiring schematics (if applicable); installation requirements and procedures, repair or replacement instructions; and detailed start-up procedures.
3. An operation and maintenance manual, including a maintenance schedule (if required), detailed procedures for evaluation of system components and system effluent, and methods for collecting effluent samples for treatment components. It must also include a trouble shooting guide and a guide for repairing and replacing all system components.
4. Inspection procedures previously used by the applicant to inspect the test system installation to ensure it is properly installed.

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The applicant must provide product literature that complies with departmental regulations.

E. WARRANTY.

A sample of a five-year warranty by the applicant to be issued to the owner of an installed test system must provide and pay all costs for system permitting, engineering services, contractor equipment, and material and labor necessary to secure permits, and if necessary, the installation of a department-approved non-innovative system meeting new system standards in Chapter 64E-6, FAC. The warranty can contain provisions regarding if failure is due to owner-non-compliance with operating and maintenance instructions.

F. CONSUMABLES MEETING REQUIREMENTS OF RULE 64E-6.0151, AND ESTIMATED REPLACEMENT INTERVALS AND METHODS, IF APPLICABLE

G. TEST PLAN

All test plans must identify the testing organization and provide testing protocols. The testing organization must be independent and have knowledge and experience in conducting such testing.

Test plans must include the proposed performance level and tested parameter of the system to be tested. The proposed performance level for treatment components must include at least one annual average/individual sample level for at least one of the parameters specified in Rule 64E-6.025(10), FAC, and no failure of the system as defined in section 64E-6.002, FAC. The proposed performance level for disposal components, at a minimum, will be that water levels measured within the disposal component will not exceed 6” above the absorption surface and no failure of the system as defined in section 64E-6.002, FAC. Some technologies may require additional test parameters and performance levels depending on their design and treatment levels.

Procedures to address system malfunction and replacement, premature termination of the testing protocol and innovative system evaluation, and criteria for removal of the test system at the end of the evaluation, or warranty period must also be provided.

Test plans must address the following: method of water use monitoring, sampling/monitoring points for all measurements to obtain complete and representative observations, sampling/monitoring procedures, testing schedule and duration, and field observations including indicators of failure. Where a single component is intended to provide both treatment and disposal functions, the applicant must adhere to the disposal component criterion for the number of tested systems.

I. TESTING FOR TREATMENT COMPONENT EFFECTIVENESS

Testing for treatment component performance effectiveness must provide valid influent and effluent sampling data from a minimum of four quarterly testing events gathered from each of at least three test systems. If influent sampling is not feasible, nutrient removal effectiveness may be assessed assuming average total nitrogen concentrations and total phosphorus concentrations of 55 and 10 mg/L, respectively. Quarterly testing events must occur at least 10 weeks and no more than 16 weeks

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apart. If applicable, testing protocols must identify what parameters will be analyzed in the laboratory, what parameters will be measured in the field, and what laboratory will be used. The laboratory identified for testing must either be accredited by a recognized National Environmental Laboratory Accreditation Program (NELAP) accreditation body or maintain a comprehensive quality assurance program that, at a minimum, complies with the requirements of ISO/IEC Guide 17025 General Requirements for the Competence of Calibration and Testing Laboratories and demonstrate it is qualified to perform the assigned analyses in accordance with required methods. Test plans for treatment components must identify the laboratory to be used and submission of a quality assurance project plan (QAPP). The QAPP must include blank and duplicate sample collection procedures in the amount of at least 10% and chain of custody procedures.

II. TESTING FOR DISPOSAL COMPONENT EFFECTIVENESS

Testing for disposal components must result in valid measurements of water levels within the disposal component from a minimum of four viable quarterly testing events gathered from at least 15 test systems. Quarterly testing events must occur at least 10 weeks and no more than 16 weeks apart.

H. AN INDEPENDENT THIRD-PARTY TESTING ORGANIZATION REPORT, OR A FLORIDA LICENSED ENGINEER REPORT EVALUATING THE TECHNOLOGY

4. REQUIREMENTS FOR DATA FROM PREVIOUS TESTING

Data from previous testing must either meet requirements of 4.A. or meet requirements of 4.B. Where only the requirements of 4.B. are met, one system must be tested in Florida using the testing protocol in 3.G. The one system tested in Florida must achieve the proposed performance level and in order to meet requirements of 4.A. for data from previous testing.

A. REQUIREMENTS FOR DATA FROM PREVIOUS TESTING – LEVEL A

The data must meet all the following conditions:

(a) Full-scale testing with an average measured daily domestic or commercial strength sewage waste flow as defined by Rule 64E-6.003(13) and (15), FAC, of at least 200 gallons per day and not more than 5000 gallons per day.

(b) The results of previous testing include all influent and performance observations for at least one test system. Treatment component testing must include influent and effluent observations in at least ten separate weeks over at least five months. Disposal component testing must include at least monthly observations for at least 12 months.

The results must show that the average of each test system meets the proposed performance level and the minimum number of individual data points meet the designated performance level as required by Tables 2 and 3 in Section 5.

The testing of the system must meet the following criteria:

i) The testing organization is independent. The testing organization must provide all data to the Onsite Sewage Program Office.

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ii) The testing organization has knowledge and experience in conducting such testing. Testing during EPA's national demonstration projects or testing by government agencies and contractors for government agencies that regulate onsite sewage components or wastewater treatment will be deemed to comply. Testing by entities that perform certification testing for organizations accredited to ISO/IEC 17065:2012 (Conformity assessment - Requirements for bodies certifying products, processes and services) also will be deemed to comply. Other entities, including department-accredited analytical laboratories, faculty or staff of an accredited college or university, must provide documentation demonstrating staff competence, knowledge and experience in environmental testing.

iii) The testing protocol and its implementation are documented and provide standardized procedures and standards to show how objectives such as completeness, accuracy and precision are met. Testing according to ANSI-standards or certification standards required for approval in other states or countries, or during EPA's national demonstration projects shall be deemed to comply with this criterion. Documentation for testing of treatment components must include chain-of-custody procedures and certification of analytical laboratories providing data as described in 3.G, if applicable.

B. REQUIREMENTS FOR DATA FROM PREVIOUS TESTING – LEVEL B

The results of previous testing include all influent and performance observations for at least one test system. Treatment component testing must include influent and effluent observations. Test data meets Level B requirements if the test system achieves the proposed performance level as described in section 3.G. and the data set scores at least 10 using the following scoring criteria. In addition, the dataset cannot score a zero on any attribute except for data source. Data must be associated with domestic strength sewage, unless the component is specifically intended for different strengths. Amount of data is measured by in how many separate calendar weeks and over which time period (first to last observation) observations occurred.

Scoring criteria: For each data set attribute, calculate assign the point rating. Multiply the point rating (PR) by the weight to calculate the weighted points for each data set attribute. Sum up point ratings weighted points for all attributes.

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	Attributes				
Point Rating (PR)	**Sewage**	**Tested Flows**	**Amount of Data on Test Parameter**	**Data Source**	**Test Result Data Quality Documentation**
PR = 0	Non-sewage	< 1 gpd	Less than five data weeks or less than 90 days	Data collected by applicant	Unknown
PR = 1	Synthetic sewage	1 up to 20 gpd	Less than eight data weeks or less than 120 days	Data collected by maintenance entity	Unknown/unqualified sampling but lab procedures standardized
PR = 2	Real sewage off-site	20 to <200 gpd, or > 5,000 to 50,000 gpd)	Less than ten data weeks or less than 180 days	Independent and: University study, Consulting company, or professional engineer	Documented sampling procedures, Chain of custody, standard lab procedures
PR = 3	Real sewage on-site	≥200 to 5,000 gpd	ten or more data weeks and 180 or more days	Certification testing entity	With documented QAPP, results of duplicates and blanks; lab certified to NELAP or ISO…

5. DATA REQUIREMENTS FOR CLASSIFICATION

Data collected on test systems during innovative testing must meet performance targets for the proposed performance level specified in the test plan to pass innovative system testing.

1. TREATMENT COMPONENT PERFORMANCE TARGETS

For treatment test systems to pass innovative system testing, they must

a) achieve the annual average performance target and
b) achieve the individual sample performance target specified in the test plan.

I. ANNUAL PERFORMANCE STANDARD TARGETS

For each test system, the median of each tested parameter must be compared to the annual average proposed performance level to determine if the level is achieved or not. The minimum number of test system medians must meet the annual average proposed performance level according to Table 1.

II. INDIVIDUAL SAMPLE PERFORMANCE TARGETS

Each individual test parameter result must be compared to the individual sample proposed performance level to determine if the level is met for each individual sample. The minimum number of individual samples must meet the individual proposed performance level according to Table 2.

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219 2. DISPOSAL COMPONENTS TARGET

220 The results of each test system will be compared to the proposed performance level. The
221 minimum number of individual samples must meet the proposed performance level according to
222 Table 3.

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TABLE 1. ***MINIMUM NUMBER OF TEST SYSTEM MEDIANS REQUIRED TO MEET THE ANNUAL PROPOSED PERFORMANCE LEVEL*(TREATMENT SYSTEMS)***

Total Number of Test Systems	Number of Test System Medians Required to Meet the Proposed Performance Level (Annual)		Total Number of Test System	Number of Test System Medians Required to Meet the Proposed Performance Level (Annual) **
3	3		31	20
4	4		32	20
5	4		33	21
6	5		34	21
7	6		35	22
8	6		36	22
9	7		37	23
10	8		38	23
11	8		39	24
12	9		40	25
13	9		41	25
14	10		42	26
15	10		43	26
16	11		44	27
17	12		45	27
18	12		46	28
19	13		47	28
20	13		48	29
21	14		49	29
22	15		50	30
23	15		51	31
24	16		52	31
25	16		53	32
26	17		54	32
27	17		55	33
28	18		56	33
29	18		57	34
30	19		58	34

**The target is to be 90% confident that more than 50% of data points meet the proposed performance level. Median system treatment performance compared to average treatment standard in 64E-6.025.*

***Based on normal approximation to the binomial distribution. For larger number of system tested use (minimum meeting=round (number systems *(0.5+1.28*Sqrt(0.5*(1-0.5)/number systems))+0.5).*

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TABLE 2. ***MINIMUM NUMBER OF DATA POINTS REQUIRED TO MEET THE INDIVIDUAL PROPOSED PERFORMANCE LEVEL*(TREATMENT SYSTEMS)***

Total Number of Individual Data Points	Number of Data Points Required to Meet the Proposed Performance Level (Individual)		Total Number of Individual Data Points	Number of Data Points Required to Meet the Proposed Performance Level (Individual)**
10	10		40	34
11	11		41	35
12	11		42	36
13	12		43	36
14	13		44	37
15	14		45	38
16	15		46	39
17	16		47	40
18	16		48	40
19	17		49	41
20	18		50	42
21	19		51	43
22	20		52	43
23	20		53	44
24	21		54	45
25	22		55	46
26	23		56	47
27	24		57	47
28	24		58	48
29	25		59	49
30	26		60	50
31	27		61	51
32	28		62	51
33	28		63	52
34	29		64	53
35	30		65	54
36	31		66	55
37	32		67	55
38	32		68	56
39	33		69	57

**The target is to be 90% confident that more than 75% of the data points meet the proposed performance level. Grab sample treatment performance compared to grab sample standard in 64E-6.025.*

***Based on normal approximation to the binomial distribution. For larger number of data points use (minimum meeting=round (number systems *(0.75+1.28*Sqrt(0.75*(1-0.75)/number systems))+0.5).*

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TABLE 3. ***MINIMUM NUMBER OF SYSTEMS REQUIRED TO MEET THE PROPOSED PERFORMANCE LEVEL (DISPOSAL COMPONENTS)***

Total Number of Test Systems	Number of Systems Required to Meet the Proposed Performance Level		Total Number of Test Systems	Number of Systems Required to Meet the Performance Level**
15	15		42	41
16	16		43	42
17	17		44	43
18	18		45	44
19	19		46	45
20	20		47	45
21	21		48	46
22	22		49	47
23	23		50	48
24	24		51	49
25	25		52	50
26	26		53	51
27	27		54	52
28	28		55	53
29	29		56	54
30	30		57	55
31	31		58	56
32	31		59	57
33	32		60	57
34	33		61	58
35	34		62	59
36	35		63	60
37	36		64	61
38	37		65	62
39	38		66	63
40	39		67	64
41	40		68	65

**The target is to be 90% confident that more than 90% of the data points meet the proposed performance level. System hydraulic functioning without excessive ponding.*

***Based on normal approximation to the binomial distribution. For larger number of data points use (minimum meeting=round (number systems *(0.9+1.28*Sqrt(0.9*(1-0.9)/number systems))+0.5).*

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19-10 ISSUE FOR TECHNICAL REVIEW AND ADVISORY PANEL CONSIDERATION

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Next Trap Meeting: 9/30/19

Subject: Aerobic Treatment Unit Updates

Rule Sections: 64E-6.012 Standards for the Construction, Operation, and Maintenance of Aerobic Treatment Units.

Issue:	Applicants are not responding to requests for information in a timely fashion. Additionally, like PBTS and INRB, it is important to ensure property owners or potential property owners are aware the property contains a septic system requiring perpetual maintenance, so adding a requirement to be noticed in the property record is needed. In the event of an electrical, mechanical, or hydraulic malfunction of the system, visual and auditory signals are not required to function continuously. Plus, there is no requirement for audio/visual alarms to restart after a power failure.
Issue Originated By:	Eb Roeder
Purpose and Effect	The proposed changes Requires the property owner to execute and record in the public property records, through the county court house, the property contains a septic system requiring perpetual maintenance. Requires a response time of 45 days for department requests for additional information from the applicant. Requires audio/visual alarms to function during an event of an electrical, mechanical, or hydraulic malfunction of the system and resume once power is restored to the system after a power outage.
Proposed Rule Change:	ATU rule 20190916b.docx (See Attached)
Summary:	The proposed changes detail what is required for the audio/visual alarm when an electrical, mechanical, or hydraulic malfunction of the system occurs. Additionally, it sets a response time period for department requests for additional information and requires audio/visual equipment to resume working when power is restored after a power failure.
Possible Financial Impacts:	Yes. Pump failures would require working alarms, which, if dammaged, may need repair at a cost.
Date New:	7/23/2019
Initially Reviewed by Trap:	9/30/2019
Tabled by Trap:	
Trap Review Finished:	

Variance Committee Reviewed:
Trap Review Variance Comments:
Trap Final Decision:
Final Outcome:
Comments:
Ready for Rule ☐
In Rule ☐
Rule Date:

Issue 19-10 Aerobic treatment unit updates

This issue revises and clarifies several issues for aerobic treatment units. If discussion at the TRAP indicates that some of these will need more discussion, these will be separated into their own TRAP issue to move others forward.

- 64E-6.012(1) update edition of referenced standards
- 64E-6.012(2)(a)2 protection of access openings with screws that have special heads (NSF40 language)
- 64E-6.012(2)(c) Making wiring language consistent with NSF40 requirements
- 64E-6.012(2)(e)/Table IV clarify how multiple residences served by one ATU will be sized; add "non-residential" to clarify use of the table for all establishments.
- 64E-6.012(2)(h) allow 25% drainfield size reduction for all ATUs
- 64E-6.012(2)(i) clarify approval process for ATUs: ATU installations have to be to code, manufacturer's documents have to show that
- 64E-6.012(2)(i) require applicant to respond within certain time frames
- 64E-6.012(2)(j)/(k) clarify interactions between Onsite Sewage Program~~State Health~~ Office and Manufacturer, no distributor
- 64E-6.012(2)(l) delete old language referring to building occupancy
- 64E-6.012(2)(n) move reporting requirements for maintenance entities from subparagraph on maintenance contract into their own paragraph; requires operating permit as part of the report, requires electronic reporting.
- 64E-6.012(2)(o) renumbering from (n)
- 64E-6.012(2)(p) add requirement of property record notice (similar to PBTS and INRB) to provide notice of perpetual maintenance requirement.
- 64E-6.012(3)(d) technical change to update reference

64E-6.012 Standards for the Construction, Operation, and Maintenance of Aerobic Treatment Units.

When aerobic treatment units are used for treating domestic and commercial sewage waste, each unit must~~shall~~ be installed, operated and maintained in conformance with the following provisions:

(1) Aerobic treatment units designed to treat up to 1500 gallons of sewage waste per day must~~shall~~ be listed by

a third party certifying program approved by the State Health Office. Aerobic treatment units mustshall be in compliance with at least one of the following standards: Class I systems as defined by NSF International Standard/American National Standard (NSF/ANSI) 40-20182013, "Residential Wastewater Treatment Systems", revised April 2013; nitrogen reduction as defined by NSF/ANSI 245-20182013, "Wastewater Treatment Systems – Nitrogen Reduction," revised April 2013; onsite residential and commercial graywater treatment systems as defined by NSF/ANSI 350-20172013, "Onsite Residential and Commercieal Water Reuse Treatment Systems," revised December 2012 . These NSF/ANSI standards are hereby incorporated by reference, have been deemed copyright protected, and are available for inspection at the Department of Health, Bureau of Environmental Health, 4025 Esplanade Way, Tallahassee, Florida 32399-1710 or at the Department of State, R.A. Gray Building, 500 South Bronough Street, Tallahassee, Florida 32399-0250. An approved third party certifying program mustshall comply with the following provisions in order for units which it has certified to be approved for use in Florida:

(a) Be accredited by the American National Standards Institute.

(b) Have established procedures which send representatives to distributors in Florida on a recurring basis to conduct evaluations to assure that distributors of certified aerobic units are providing proper maintenance, have sufficient replacement parts available, and are maintaining service records.

(c) Notify the department State Health Office of the results of monitoring visits to manufacturers and distributors within 60 days of the conclusion of the monitoring. Approved distributors must be reported by the manufacturer to the certifying agency.

(d) Submit completion reports on testing for review by the State Health Office.

(e) Provide a registered certification mark or seal which must be affixed in a conspicuous location on the units it has certified. This mark or seal will alert persons evaluating or maintaining the unit that the unit is in compliance with the NSF/ANSI standard appropriate for the application.

(2) The following additional requirements willshall also apply to the construction, design, and operation of aerobic treatment units treating 1500 gallons per day or less:

(a) An appropriate mechanism mustshall be provided to make access ports vandal, tamper, and child resistant as specified by the manufacturer and accepted by the certifying program. Acceptable protection of openings mustshall consist of one or more of the following methods as specified by the tank manufacturer:

1. A padlock.

~~2. A cover that can be removed only with specialized tools. This shall include covers fastened using special screws.~~An ~~"~~O~~"~~ ring with twist lock cover requiring special tools for removal

~~3. Covers weighing 65 pounds or more, net weight.~~

~~4. A hinge and hasp mechanism which uses stainless steel or other corrosion resistant fasteners to fasten the hinge and hasp to the lid and tank for fiberglass, metal, or plastic lids.~~

(b) A minimum of a 4-inch diameter sampling access port located between the treatment unit outlet and the drainfield.

(c) A visual and audio warning device must~~shall~~ be installed in a conspicuous location so that activation of such warning device will alert property occupants of aerobic unit malfunction or failure. The visual and auditory signals must continue to be functional in the event of an electrical, mechanical, or hydraulic malfunction of the system provided power is available to the system and must resume once power is restarted following the power outage. This does not mandate a battery back-up for the alarm system.~~All warning devices shall be wired separately from the aerobic unit so that disconnecting the aerobic unit from electricity will activate the warning device.~~ If installed outside, the alarm must~~shall~~ be waterproof.

(d) Each unit must~~shall~~ be designed or equipped so that regardless of unusual patterns or frequencies of sewage flow into the system effluent discharged to the drainfield will be in compliance with the applicable standards of subsection (1) above.

(e) Minimum required treatment capacities for systems serving any structure, building or group of buildings must~~shall~~ be based on estimated daily sewage flows as determined from Table IV.

TABLE IV

AEROBIC SYSTEMS

PLANT SIZING

RESIDENTIAL

Number of Bedrooms	Building Area in square feet	Minimum Required Treatment Capacity Gallons Per Day
1 or 2	Up to 1200	400
3	1201-2250	400
4	2251-3300	500

~~For each additional bedroom or each additional 750 square feet of building area, or fraction thereof, treatment capacity shall be increased by 60 gallons.~~

~~COMMERCIAL~~ NON-RESIDENTIAL:

Estimated Sewage Flow in Gallons Per Day	Minimum Required Treatment Capacity in Gallons Per Day
0-400	400
401-500	500
501-600	600
601-700	700
701-750	750
751-800	800
801-1000	1000
1001-1200	1200
1201-1500	1500

Footnotes to Table IV

1. Where the number of bedrooms and the corresponding building area in Table IV do not coincide, the criteria which results in the greatest required treatment capacity will~~shall~~ apply. For each additional bedroom or each

additional 750 square feet of building area, or fraction thereof in a dwelling unit, treatment capacity must be increased by 60 gallons. For aerobic treatment units treating sewage from more than one dwelling unit or from residential establishments sized as other per occupant, the minimum required treatment capacity must be 100 gallons greater than the combined estimated sewage flow calculated by adding up the estimated sewage flows from each dwelling unit from Table I.

2. These figures assume that the aerobic system will be treating domestic strength sewage with $CBOD_5$ and suspended solids values typically not exceeding 300 and 200 milligrams per liter, respectively. For wastewaters with higher $CBOD_5$, higher suspended solids values, or for facilities that exhibit short-term hydraulic surge conditions, additional treatment or pre-treatment facilities willshall be required when specified by design engineers, plant manufacturers, or by the DOH county health department.

(f) There mustshall be no bypass capability designed into the system which will allow waste to be discharged to the drainfield without undergoing all the treatment processes necessary to achieve the desired effluent quality. Bypassing, removing, or excluding any component or components of a system after the system has received final installation approval is prohibited.

(g) Effluent from an aerobic treatment unit mustshall be disposed of on the owner's property in conformance with other requirements of this chapter except as provided for in paragraph (f) above. Effluent quality which is found to not meet appropriate average treatment standards as provided by their certification mustshall be reported to the maintenance entity for correction within 10 working days.

(h) Where slightly limited soil textures exist on a site, the required drainfield size may be reduced by 25 percent from the requirements in Rule 64E-6.008(5) or Rule 64E-6.009(3)(d), F.A.C. This shall apply to all aerobic treatment units permitted under Rule 64E-6.012.

(i) To apply for approval of aerobic treatment unit models, Aa manufacturer, distributor or seller of aerobic treatment units mustshall furnish, to the Onsite Sewage ProgramState Health Office, in Microsoft Word document format, Portable Document Format (PDF) or other electronic format accepted by the Department, a written request for approval, a copy of the completion reports, owner manual, part list, and engineering drawings showing the design and construction details of all models of approved Class I aerobic treatment units to be constructed or installed under the provisions of this rule in Portable Document Format (PDF) or other electronic format accepted by the Department. The documentation submitted must demonstrate for each unit model, the treatment receptacle in

which it will be installed, and its installation and operation, complies with all provisions of this chapter. The applicant must respond to requests for additional information about their application for aerobic treatment unit approval from the Onsite Sewage Program Office within 45 days after receipt of a request for additional information. The Onsite Sewage Program~~State Health~~ Office will forward ~~these~~ completion reports and drawings to each DOH county health department. No aerobic unit will~~shall~~ receive final installation approval until the unit is found to be in compliance with all provisions of this rule, including compliance with design and construction details shown on the engineering plans filed with DOH county health departments and the Onsite Sewage Program~~State Health~~ Office.

(j) Manufacturers must~~shall~~ provide to the Onsite Sewage Program Office a listing of approved maintenance entities they have authorized to provide service in the state and must~~shall~~ demonstrate that the entire state is covered by at least one maintenance entity. A system using a manufacturer's unit will~~shall~~ not be approved in the state if the manufacturer cannot demonstrate that there are maintenance entities to service it.

(k) A manufacturer~~distributor~~ of a specific ~~manufacturer's~~ brand or model of an approved aerobic treatment unit must~~shall~~ provide to the DOH county health department and Onsite Sewage Program~~State Health~~ Office written assurance that spare mechanical and structural parts, as well as the mechanisms used to make the access ports vandal, tamper, and child resistant, are available, upon request, for purchase, to all ~~other~~ approved maintenance entities.

(l) ~~Where local building occupancy codes require that the DOH county health department approve the means of sewage disposal prior to building occupancy or change of occupancy, and w~~Where an aerobic treatment unit is used~~utilized~~, a current, unexpired aerobic treatment unit maintenance contract between the property owner or lessee and an approved maintenance entity must~~shall~~ be one of the required conditions of system approval.

(m) A copy of the signed maintenance agreement between the property owner or property lessee and an approved maintenance entity must~~shall~~ be provided to the DOH county health department by the maintenance entity. The maintenance agreement must~~shall~~:

1. Initially be for a period of at least 2 years and subsequent maintenance agreement renewals must~~shall~~ be for at least 1 year periods for the life of the system.

2. Provide that a maintenance entity which desires to discontinue the provision of maintenance services, notify in writing, the property owners and lessees and the DOH county health department at least 30 days prior to

discontinuance of service.

3. Provide that, if a private maintenance entity discontinues business, property owners who have previously contracted with the discontinued maintenance service mustshall, within 30 days of the service termination date, contract with an approved maintenance service and provide the DOH county health department a copy of the newly signed maintenance agreement.

4. Provide that each aerobic unit is inspected by an approved maintenance entity at least two times each year. Aerobic treatment units serving commercial establishments mustshall be inspected four times per year.

(n) The maintenance entity mustshall furnish to the DOH county health department a reportlisting of all aerobic treatment units inspected or serviced during the respective reporting period. As a minimum, reports mustshall indicate the operating permit, system owner or building lessee, the street address of the system, the date of system inspection or service and a statement as to the maintenance or service performed. The maintenance entity mustshall also include a list of the owners who have refused to renew their maintenance agreement.

(no) The DOH county health department willshall, at least annually, inspect the maintenance and performance of aerobic treatment units. The DOH county health department willshall also inspect each authorized maintenance entity, including review of their service records and maintenance agreements.

(p) Final installation approval must not be granted until the county health department has confirmed the property owner has executed and recorded in the public property records at the county courthouse, a written notice that informs all subsequent property owners of the use of the aerobic treatment unit, and of the requirement for the system to be maintained, in perpetuity, in compliance with all lawful requirements.

(3) An aerobic treatment unit used for treating domestic or commercial sewage flows in excess of 1500 gallons per day, or a combination of aerobic treatment units treating flows according to Rule 64E-6.004(4)(a) or (b), F.A.C., mustshall be designed and certified by an engineer licensed in the State of Florida. The design mustshall include an assessment of wastewater strength. The certification mustshall state that the unit is capable of consistently meeting, at minimum, secondary treatment standards for $CBOD_5$ and TSS established in Rule 64E-6.025(12)(a), F.A.C. In addition, the following requirements mustshall also be met:

(a) The owner or lessee of a system mustshall comply with the applicable safety, maintenance and operational requirements of subsection (2) above. Unless the system owner or lessee is a state licensed wastewater treatment plant operator, the owner or lessee isshall be required to have a system maintenance agreement with a permitted

aerobic unit maintenance entity which has at least a Class D state certified operator who has been certified under the provisions of Chapter 62-602, F.A.C.

(b) A permitted aerobic unit maintenance entity mustshall collect effluent quality samples and submit the sample analysis reports to the DOH county health department. Effluent quality samples for $CBOD_5$ and suspended solids mustshall be collected at least semi-annually and such samples mustshall be analyzed by a department-approved laboratory.

(c) Written sample analysis reports mustshall be submitted to the DOH county health department by no later than the 15th of the next month following the semi-annual sampling period. However, if the sample analysis for $CBOD_5$ or suspended solids exceeds secondary treatment standards by more than 100 percent, the maintenance entity or certified operator mustshall notify the DOH county health department by telephone or in person within 24 hours after receipt of sample analysis results.

(d) The DOH county health department mustshall monitor the maintenance and performance of aerobic treatment units as required by paragraph (om) above.

(4) No aerobic treatment unit mustshall be serviced or repaired by a person or entity engaged in an aerobic treatment unit maintenance service until the service entity has obtained an annual written permit issued on Form DH 4013 from the DOH county health department in the county where the service company is located. Each service entity mustshall employ at least one plumbing contractor licensed under Section 489.105(3)(m), F.S., septic tank contractor registered under Part III of Chapter 489, F.S., or a state-licensed wastewater treatment plant operator, who is responsible for maintenance and repair of all systems under contract. Application for a Maintenance Service Permit, Form DH 4066, 02/10, herein incorporated by reference, mustshall be made to the DOH county health department and mustshall contain the following information:

(a) Evidence that the maintenance entity possesses a manufacturer's maintenance and operations manual and has received training from the manufacturer in proper installation and service of the unit and has received written approval from the manufacturer to perform service on their units. The manual mustshall contain detailed instructions on proper operation and maintenance procedures, a replacement parts list for all models being installed and maintained, a statement giving the capabilities of each unit, instructions on how to detect a malfunctioning unit and what to expect from a properly functioning unit.

(b) A signed statement from the applicant attesting that the applicant has adequate staff, possesses proper

equipment and has sufficient spare structural and mechanical parts and components to perform routine system monitoring and servicing and is able to make a service response within 36 hours after notification of the need for emergency repairs.

(c) Payment of $25.00 to the DOH county health department per annum for the aerobic treatment unit maintenance service permit.

(5) Emergency service necessary to prevent or eliminate an imminent sanitary nuisance condition caused by failure of a mechanical component of any aerobic treatment unit must~~shall~~ be reported by the approved aerobic unit maintenance entity, in writing, to the DOH county health department no later than 5 working days after the date of the emergency service.

(6) All materials incorporated herein may be obtained from the Bureau of Onsite Sewage Programs at www.MyFloridaEH.com or 4052 Bald Cypress Way, Bin A08, Tallahassee, Florida 32399-1713.

Rulemaking Authority 381.0065(3)(a), 489.553(3) FS. Law Implemented 381.0065, Part I 386 FS. History–New 3-17-92, Amended 1-3-95, Formerly 10D-6.0541, Amended 11-19-97, 4-21-02, 6-18-03, 5-24-04, 11-26-06, 6-25-09, 4-28-10, 7-31-18.

19-12 ISSUE FOR TECHNICAL REVIEW AND ADVISORY PANEL CONSIDERATION

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Next Trap Meeting: 9/30/19

Subject: Performance-Based Systems-Standards

Rule Sections: 64E-6.025

Issue:	Replaces current 7-day and 30-day average discharge limits with a percent removal.
Issue Originated By:	Eb Roeder
Purpose and Effect	The proposed changes replace current 7-day and 30-day average discharge limits with a percent removal., summarizes the performance requirements into a table format
Proposed Rule Change:	07-23--64E-6.025-PBTS_revised_standards_er06_30_2010.doc (See Attached)
Summary:	Rewrites the definition and standards for Performance Based Treatment Systems •This proposal resurrects the previously TRAP-approved issue 07-23, which had not been adopted into rule so far. Since then, the 2013 legislature (HB375/7019, CH 2013-79/213) established a Florida Keys nitrogen reduction standard of 70% as alternative to 10 mg/L. This proposal includes that, and reformatted Table IX to fit in portrait orientation. •The proposal replaces treatment standards for 7-day and 30-day averages with a percent removal performance standard. 7-day and 30-day averages are not meaningful in current practice. Percent removal allows some consideration of variability in influent concentrations. •The standards are reformatted in a table for ease of reading. •Baseline standards are provided for all pollutants. Domestic sewage strength and septic tank effluent standards are now consistent with 64E-6.002(15)(c) (domestic sewage strength). •ATU standards are defined to clarify PBTS standards in locations where ATUs are required. •Florida Keys standards are amended by grab sample and percent removal standards •Advanced secondary treatment grab sample standards for nitrogen is loosened to make a distinction from Florida Keys standard. •Effluent is defined and treatment standards are adjusted for soil-based treatment. •Disposal and treatment component are defined

Possible Financial Impacts:	should not be any for systems that meet the existing standards.
Date New:	8/20/2019
Initially Reviewed by Trap:	8/27/2019
Tabled by Trap:	
Trap Review Finished:	8/27/2019
Variance Committee Reviewed:	10/3/2019
Trap Review Variance Comments:	
Trap Final Decision:	
Final Outcome:	

Comments:
Formerly 07-23
12/2/2010 TRAP Approved for Rule
5/21/12 Not included in 2012 rule package.
8/20/19 Renumbered 19-12
Heard by TRAP on 8/27/19 and passed with some edits by the panel. RE 8/29/19
Must be ratified at 9/30/19 meeting due to issue with FAR advertisement. RE

Ready for Rule	☐
In Rule	☐
Rule Date:	

64E-6.025 Definitions

Due to extensive revision, strike entire section and add the following:

Definitions in Chapter 64E-6, Parts I and II, are also applicable to Chapter 64E-6, Part IV.

(1) Bottom infiltrative surface - the vertical projection of the bottom surface of the drainfield that is no lower in elevation than 30 inches below grade.

(2) Composite sample –a defined mixture of grab samples of wastewater or effluent taken in proportion to either time or flow, to minimize the effect of the variability of the individual sample.

(3) Disposal component – arrangement of equipment and/or materials that distributes effluent within a drainfield

(4) Effluent – treated sewage at the point of discharge to the drainfield or disposal system. Where the site specific application proposes to use soil as component of the treatment system, effluent refers to the mixture of soil water, effluent and shallow groundwater recovered from the monitoring points and treatment concentration standards shall be decreased by 50% for cBOD5,TSS, TN, and TP, and by 90% for fecal coliform, and percent removal standards of table IX shall be correspondingly adjusted. For systems designed to meet the standards of 64E-6.017(4), effluent refers to the recovered water product from a sampling point following the final design treatment step.

(5) Failure - in addition to 64E-6.002(23), exceedance by an individual sample of the applicable performance standards, unless the maintenance entity performs and documents maintenance, and a second individual sample is taken within 30 days of the first individual sample and meets the applicable individual performance standard.

(6) Grab sample - a sample which is taken from wastewater or effluent over a period of time not to exceed fifteen minutes.

(7) Effective drainfield depth - the vertical distance from the bottom of the drainfield to the invert of the distribution pipe.

(8) Innovative System – as defined by s. 381.0065(2)(g), F.S.

(9) Performance-based treatment system - a specialized onsite sewage treatment and disposal system designed by a professional engineer with a background in wastewater engineering, licensed in the state of Florida, using appropriate application of sound engineering principles to achieve specified levels of $CBOD_5$

(carbonaceous biochemical oxygen demand), TSS (total suspended solids), TN (total nitrogen), TP (total phosphorus), and fecal coliform found in domestic sewage waste, to a specific and measurable established performance standard. This term also includes innovative systems.

(10) Performance-based treatment system maintenance entity - any person or business entity which has obtained an annual written permit issued on form DH4013 from the DOH county health department in the county where the maintenance entity is located ~~and has been authorized to perform maintenance by the design engineer or manufacturer of all treatment components used in the performance-based treatment system and provides operation and maintenance services associated with that performance-based treatment system.~~

(11) Sidewall infiltrative surfaces - the horizontal projection of the drainfield measured from the invert of the drainfield distribution pipe to the bottom infiltrative surface, or to 30 inches below finished grade, whichever is less.

(12) Total drainfield depth - the vertical distance from the bottom of the drainfield to the top of the drainfield.

(13) Treatment component - any arrangement of equipment and/or material that treats sewage in preparation for further treatment and/or disposal. Treatment components may incorporate a disposal component.

(14) Treatment performance standards -

(a) Performance standards for effluent from performance-based treatment systems consist of three criteria:

1. Annual average concentration is the arithmetic mean of the results of all effluent samples taken within the previous 365 days, expressed as a concentration.

2. Individual sample - result of analysis of one effluent sample, whether grab sample or composite sample, expressed as a concentration.

3. Percent removal – annual average removal of a pollutant from the discharge of the treatment system compared to the influent from the establishment. The influent stems from a septic tank or similar treatment compartment; percent removal= (1- effluent concentration/influent concentration)*100

(b) Treatment performance standards are established for five pollutants.

1. Carbonaceous biochemical oxygen demand after five days ($CBOD_5$), measured in mg oxygen per liter

2. Total suspended solids (TSS), measured in mg per liter

3. Total nitrogen (TN), the sum of nitrite, nitrate and total Kjeldahl nitrogen, measured in mg nitrogen per liter

4. Total phosphorus (TP), measured in mg phosphorus per liter

5. Fecal coliform, measured in colony forming units (cfu) or most probable number (MPN) per 100 mL

(c) Numerical values for several levels of common treatment performance standards for the five pollutants are defined in Table IX. Compliance during monitoring shall consist of meeting at least one of the three criteria. To achieve compliance the values determined from samples of the system shall be equal to or better than the treatment standards listed. For concentrations, better means lower, for percent removal, better means higher.

(15) Wastewater strength - the sum of the $CBOD_5$ and TSS concentrations.

TABLE IX

PERFORMANCE STANDARDS

POLLUTANT	Domestic Advanced Sewage Wastewater Waste Treatment Range Effluent Standards	Baseline Septic Tank Effluent Standards	Baseline Treatment Standard 24" below bottom infiltrative surface	Aerobic Treatment Unit Effluent Standards	Secondary Treatment Effluent Standards	Advanced Secondary Treatment Effluent Standards	Florida Keys Nutrient Reduction Effluent Standards	
$CBOD_5$ (mg/L)								
-annual average	300	150	10	20	20	10	10	5
-individual sample	500	300	20	60	60	30	30	10
-removal	NA*	NA	95%	90%	90%	95%	95%	97%
TSS (mg/L)								
-annual average	200	100	30	20	20	10	10	5
-individual sample	500	200	100	60	60	30	30	10
-removal	NA 97%	NA	85%	90%	90%	95%	95%	
TN (mg/L)								
-annual average	100	100	70	NR**	NR	20	10	3
-individual sample	150	150	100			50	40	6
-removal	NA 90%	NA	30%			50%	7062%	
TP (mg/L)								
-annual average	18	18	12	NR	NR	10	1	1
-individual sample	25	25	18			20	4	2
-removal	NA 90%	NA	30%			25%	50%	
Fecal coliform (cfu/100ml)								
-annual average	2.0E+6	2.0E+6	20	NR	200	200	NR	1
-individual sample	2.0E+7	2.0E+7	200		800	800		25
-percent reduction	NA 99.9999%	NA	99.999%		99.99%	99.99%	NR	

* NA = Not applicable

** NR = No requirement

Footnote 1. Where chlorine is used for disinfection in a system designed to meet advanced wastewater treatment standard for fecal coliform the design shall include provisions for rapid and uniform mixing; and the total chlorine residual of at least 1.0 mg/l shall be maintained at all times. The minimum acceptable contact time shall be 15 minutes at the peak hourly flow. No individual sample shall exceed 5 mg/L TSS after the last treatment step before application of the disinfectant.

Footnote 2. Where chlorine is used for disinfection in a system designed to meet either the secondary treatment standard or the advanced secondary treatment standard for fecal coliform, the design shall include provisions for rapid

and uniform mixing and a total chlorine residual of at least 0.5 mg/l shall be maintained after at least 15 minutes contact time at the peak hourly flow.

Rulemaking Authority 381.0011(4), (13), 381.0065(3)(a), FS. Law Implemented 381.0065, 381.0067, 386.041, FS. History—New 2-3-98, Amended 3-22-00, 06-18-03, 11-26-06, .

~~(1) Advanced Secondary Treatment Standards: A wastewater system with the following operational criteria:~~

~~(a) $CBOD_5$ and TSS~~

~~1. The arithmetic mean of the $CBOD_5$ or TSS values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 10 mg/l.~~

~~2. The arithmetic mean of the $CBOD_5$ or TSS values for a minimum of four effluent samples, each collected (whether grab or composite technique is used)on a separate day during a period of 90 consecutive days (quarterly) shall not exceed 12.5 mg/l.~~

~~3. The arithmetic mean of the $CBOD_5$ or TSS values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day of seven consecutive days shall not exceed 15 mg/l.~~

~~4. Maximum permissible concentrations of $CBOD_5$ or TSS values in any effluent grab sample at any time shall not exceed 20 mg/l.~~

~~(b) TN~~

~~1. The arithmetic mean of the TN values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 20 mg/l.~~

~~2. The arithmetic mean of the TN values for a minimum of four effluent samples, each collected (whether grab or composite technique is used)on a separate day during a period of 90 consecutive days (quarterly) shall not exceed 25 mg/l.~~

~~3. The arithmetic mean of the TN values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day of seven consecutive days shall not exceed 30 mg/l.~~

~~4. Maximum permissible concentrations of TN values in any effluent grab sample at any time shall not exceed 40 mg/l.~~

~~(c) TP~~

~~1. The arithmetic mean of the TP values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 10 mg/l.~~

~~2. The arithmetic mean of the TP values for a minimum of four effluent samples, each collected (whether grab or composite technique is used)on a separate day during a period of 90 consecutive days (quarterly) shall not exceed 12.5 mg/l.~~

~~3. The arithmetic mean of the TP values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day of seven consecutive days shall not exceed 15 mg/l.~~

~~4. Maximum permissible concentrations of TP values in any effluent grab sample at any time shall not exceed 20 mg/l.~~

~~(d) Fecal coliform - system operation shall result in not more than 200 fecal coliform colonies per 100 ml of effluent sample. Where chlorine is used for disinfection, the design shall include provisions for rapid and uniform mixing and a total chlorine residual of at least 0.5 mg/l shall be maintained after at least 15 minutes contact time at the peak hourly flow. To determine compliance of a system, the following operational criteria (using either MF or MPN methods) are applicable.~~

~~1. The arithmetic mean of the fecal coliform colonies collected during the annual period shall not exceed 200 per 100 ml of effluent.~~

~~2. The median value of the fecal coliform colonies for a minimum number of 10 samples of effluent, each collected on a separate day during a period of 30 days (monthly) shall not exceed 200 per 100 ml of sample.~~

~~3. No more than 10% of the samples collected during the period of 30 consecutive days shall exceed 400 fecal coliform colonies per 100 ml of sample.~~

~~4. Any one sample shall not exceed 800 fecal coliform colonies per 100 ml of sample.~~

~~(2) Advanced Wastewater Treatment Standards: A wastewater system with the following operational criteria:~~

~~(a) $CBOD_5$ and TSS~~

~~1. The arithmetic mean of the $CBOD_5$ or TSS values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 5 mg/l.~~

~~2. The arithmetic mean of the $CBOD_5$ or TSS values for a minimum of four effluent samples, each collected (whether grab or composite technique is used)on a separate day during a period of 90 consecutive days (quarterly) shall not exceed 6.25 mg/l.~~

~~3. The arithmetic mean of the $CBOD_5$ or TSS values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day of seven consecutive days shall not exceed 7.5 mg/l.~~

~~4. Maximum permissible concentrations of $CBOD_5$ or TSS values in any effluent grab sample at any time shall not exceed 10 mg/l.~~

~~(b) TN~~

~~1. The arithmetic mean of the TN values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 3 mg/l.~~

~~2. The arithmetic mean of the TN values for a minimum of four effluent samples, each collected (whether grab or composite technique is used)on a separate day during a period of 90 consecutive days (quarterly) shall not exceed 3.75 mg/l.~~

~~3. The arithmetic mean of the TN values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day of seven consecutive days shall not exceed 4.5 mg/l.~~

~~4. Maximum permissible concentrations of TN values in any effluent grab sample at any time shall not exceed 6 mg/l.~~

~~(c) TP~~

~~1. The arithmetic mean of the TP values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 1 mg/l.~~

~~2. The arithmetic mean of the TP values for a minimum of four effluent samples, each collected (whether grab or composite technique is used)on a separate day during a period of 90 consecutive days (quarterly) shall not exceed 1.25 mg/l.~~

~~3. The arithmetic mean of the TP values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day of seven consecutive days shall not exceed 1.5 mg/l.~~

~~4. Maximum permissible concentrations of TP values in any effluent grab sample at any time shall not exceed 2.0 mg/l.~~

~~(d) Fecal coliform - system operation shall result in an effluent in which fecal coliform colonies (per 100 ml of sample) are below detectable limits. Where chlorine is used for disinfection, the design shall include provisions for rapid and uniform mixing; and the total chlorine residual of at least 1.0 mg/l shall be maintained at all times. The minimum acceptable contact time shall be 15 minutes at the peak hourly flow. To determine compliance of a system, the following operational criteria (using either MF or equivalent MPN methods) shall be applicable~~

~~1. Fecal coliform shall be below the detection limits for 75% of the samples collected over a 30 day period.~~

~~2. Any one sample shall not exceed 25 fecal coliform colonies per 100 ml of sample.~~

~~3. Any one sample shall not exceed 5.0 mg/l of TSS at a point before application of the disinfectant.~~

~~(3) Baseline system standards - A wastewater system with the following operational criteria:~~

~~(a) Effluent concentrations from the treatment tank:~~

~~1. $CBOD_5$ - <240 mg/l~~

~~2. TSS - <176 mg/l~~

~~3. TN - < 45 mg/l~~

~~4. TP - < 10 mg/l~~

~~(b) Percolate concentrations from the baseline system prior to discharge to groundwater:~~

~~1. $CBOD_5$ - <5 mg/l~~

~~2. TSS - <5 mg/l~~

~~3. TN - < 25 mg/l~~

~~4. TP - <5 mg/l~~

~~(4) Bottom infiltrative surface - the vertical projection of the bottom surface of the drainfield that is no lower in elevation than 30 inches below grade.~~

~~(5) Composite sample - means a combination of individual samples of wastewater or effluent taken at selected intervals, generally hourly or less for some specified period, to minimize the effect of the variability of the individual sample.~~

~~(6) Grab sample - a sample which is taken from a wastestream without regard to the flow in the wastestream and over a period of time not to exceed fifteen minutes.~~

~~(7) Effective drainfield depth - the vertical distance from the bottom of the drainfield to the invert of the distribution pipe.~~

~~(8) Florida Keys nutrient reduction treatment - a treatment which will provide a recovered water product that contains not more, on a permitted annual average basis, than the following concentrations from a sampling point located following the final design treatment step of the onsite sewage treatment and disposal system:~~

~~1. Biochemical Oxygen Demand ($CBOD_5$) - 10 mg/l~~

~~2. Suspended Solids - 10 mg/l~~

~~3. Total Nitrogen, expressed as N - 10 mg/l~~

~~4. Total Phosphorus, expressed as P - 1 mg/l~~

~~(9) Innovative System - as defined by s. 381.0065(2)(g), F.S.~~

~~(10) Performance-based treatment system - a specialized onsite sewage treatment and disposal system designed by a professional engineer with a background in wastewater engineering, licensed in the state of Florida, using appropriate application of sound engineering principles to achieve specified levels of $CBOD_5$ (carbonaceous biochemical oxygen demand), TSS (total suspended solids), TN (total nitrogen), TP (total phosphorus), and fecal coliform found in domestic sewage waste, to a specific and measurable established performance standard. This term also includes innovative systems.~~

~~(11) Performance System Maintenance Entity - any person or business entity which has been issued a written permit by the county health department and has been authorized by the design engineer or manufacturer of all treatment components used in the performance-based treatment system and provides operation and maintenance services associated with performance-based treatment system.~~

~~(12) Secondary Treatment Standards: A wastewater system with the following operational criteria:~~

~~(a) $CBOD_5$ and TSS~~

~~1. The arithmetic mean of the $CBOD_5$ or TSS values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 20 mg/l.~~

~~2. The arithmetic mean of the $CBOD_5$ or TSS values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day during a period of 30 consecutive days (monthly) shall not exceed 30 mg/l.~~

~~3. The arithmetic mean of the $CBOD_5$ or TSS values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day of seven consecutive days shall not exceed 45 mg/l.~~

~~4. Maximum permissible concentrations of $CBOD_5$ or TSS values in any effluent grab sample at any time shall not exceed 60 mg/l.~~

~~(b) Fecal coliform - system operation shall result in not more than 200 fecal coliform colonies per 100 ml of effluent sample. Where chlorine is used for disinfection, the design shall include provisions for rapid and uniform mixing and a total chlorine residual of at least 0.5 mg/l shall be maintained after at least 15 minutes contact time at the peak hourly flow. To determine compliance of a system, the following operational criteria (using either MF or equivalent MPN methods) are applicable.~~

~~1. The arithmetic mean of the fecal coliform colonies collected during the annual period shall not exceed 200 per 100 ml of effluent.~~

~~2. The geometric mean of the fecal coliform colonies for a minimum of 10 samples of effluent, each collected on a separate day, shall not exceed 200 per 100 ml of sample.~~

~~3. No more than 10% of the samples collected during a period of 30 consecutive days shall exceed 400 fecal coliform colonies per 100 ml of sample.~~

~~4. Any one sample shall not exceed 800 fecal coliform values per 100 ml of sample.~~

~~(13) Sidewall infiltrative surfaces - the horizontal projection of the drainfield measured from the invert of the drainfield distribution pipe to the bottom infiltrative surface, or to 30 inches below finished grade, whichever is less.~~

~~(14) Total drainfield depth - the vertical distance from the bottom of the drainfield to the top of the drainfield.~~

~~(15) Wastewater strength - the sum of the $CBOD_5$ and TSS concentrations in the effluent.~~