

**TECHNICAL REVIEW AND ADVISORY PANEL**  
**ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS**  
**ADVISORY TO THE DEPARTMENT OF HEALTH**  
AUTHORITY: SECTION 381.0068, FLORIDA STATUTES

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**TECHNICAL REVIEW AND ADVISORY PANEL (TRAP) MEETING**

DATE: Friday, April 21, 2017  
TIME: 3:00 p.m. Eastern Time  
PLACE: Conference call meeting  
Teleconference Phone Number: 888-670-3525  
At the prompt, enter the  
Participant Code: 552 583 4898 #

THIS MEETING IS OPEN TO THE PUBLIC.

**Agenda**

1. Introductions
2. Review minutes of March 31, 2017 meeting
3. Old Business  
16-03 NSF 245 Nitrogen reducing ATU's
4. New Business
5. Other items of interest to the Technical Review and Advisory Panel
6. Public Comment

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Scott Johnson  
*PROFESSIONAL ENGINEER*

Pam Tucker  
*REAL ESTATE INDUSTRY*

Martin Guffey  
*SEPTIC TANK INDUSTRY*

Ron Davenport  
*SEPTIC TANK MANUFACTURER*

Glenn Bryant  
*COUNTY HEALTH DEPARTMENT*

Russ Melling  
*CONSUMER*

Scott Franz  
*SOIL SCIENTIST*

Sonia Cruz  
*ENVIRONMENTAL HEALTH*

Julie Bortles  
*LOCAL GOVERNMENT*

Ken Odom, Chair  
*HOME BUILDING INDUSTRY*

Roy Pence, Vice Chair  
*HOME BUILDING INDUSTRY*

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**TECHNICAL REVIEW AND ADVISORY PANEL (TRAP) MEETING MINUTES**

DATE: Friday, March 31, 2017  
PLACE: Conference Call

**Members present were:**

Roy Pence, *Home Building Industry, Vice Chair*  
Julie Bortles, *Local Government*  
Glenn Bryant, *County Health Department*  
Sonia Cruz, *Environmental Health*  
Ron Davenport, *Septic Tank Manufacturer*  
Scott Johnson, *Florida Engineering Society*  
Russ Melling, *Consumer Representative*  
Pamela Tucker, *Real Estate Professional*

**Alternate members present:**

Mary Howard, *Environmental Health*  
Dewayne Bingham, Jr., *Septic Tank Industry*  
Robert Baker, *Septic Tank Manufacturer*  
Johanna Whelan, *DOH-CHD*

**Department of Health staff present:**

Ed Barranco, *Environmental Administrator*  
Dale Holcomb, *Environmental Administrator*  
Eberhard Roeder, *Engineer*  
David Hammonds, *Env. Consultant*  
Ed Williams, *Environmental Consultant*  
Elke Ursin, *Environmental Manager*  
Gao, Xueqing, *Environmental Consultant*

**Absent members and alternates:**

Vic Godlewski, *Local Government*  
Oren Reedy, *Soil Scientist*  
Joseph Sullivan, *Soil Scientist*  
Mark Tumeo, *Professional Engineer*  
Robert Washam, *Consumer*  
Martin Guffey, *Septic Tank Industry*  
Ken Odom, *Home Building Industry, Chair*  
Scott Franz, *Soil Scientist*

**Others present:**

Roxanne Groover, *Florida Onsite Wastewater Association*  
Damann Anderson, *Hazen and Sawyer*  
Laura Kramer, *DOH-Volusia*  
Mark Fricke, *Presby Environmental*  
Lee Rashkin, *Presby Environmental*  
Rick Hicks, *DEP*  
Dominique Buhot, *Greens Env. Services*  
Greg Mayfield, *Septic Tank Industry*

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Scott Johnson  
PROFESSIONAL ENGINEER

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REAL ESTATE INDUSTRY

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Victor Godlewski  
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Ken Odom, Chair  
HOME BUILDING INDUSTRY

Roy Pence, Vice Chair  
HOME BUILDING INDUSTRY

## 1. INTRODUCTIONS

Vice Chairman Pence called the meeting to order at 1:30 p.m. and invited the members and Department staff present to introduce themselves. Nine member-represented groups were present, representing a quorum.

## 2. REVIEW MINUTES OF LAST MEETING

The TRAP reviewed the minutes of the December 9, 2016 meeting.

MOTION by Ron Davenport and seconded by Scott Johnson, for the TRAP to approve the minutes from the December 9, 2016 meeting.

PASSED unanimously.

## 3. OLD BUSINESS

### Issue 15-02 Nitrogen-Reducing Media Lined Drainfields

Dale Holcomb introduced the issue. The changes from the last meeting were incorporated and brought to the Variance Review and Advisory Committee for comments. Damann Anderson suggested the TRAP go over the proposed language before hearing the comments from the Variance Review and Advisory Committee.

The TRAP discussed the issue with the following results:

Line 20: Russ Melling was concerned regarding the language “and provided the results are encouraging” and whether JAPC would allow something that vague to go forward. Based on later language in the section, Scott Johnson suggested replacing the language with “and meet the standards of this section”.

Lines 22-26: Discussion regarding lift dosing vs. low pressure dosing; cost, equal distribution, and nitrification. The lift dosing language was struck and (a)1. was changed to state “The system drainfield shall be low-pressure dosed unless the designer chooses another method that is demonstrated to provide adequate nitrification”.

There were additional questions/discussion regarding language. Those questions were answered and resulted in no changes. The questions included clarification of the location of the nitrification performance boundary (bottom of the 18 inches of unsaturated soil beneath the drainfield at the top of the media), sampling language (only required during the pilot project), setback distances, and observation ports.

Line 94-98: It was decided to move paragraph 19. to variant two at line 150 between 2.d. and 2.e.

Line 111: Replace “used” with “installed”.

Line 125: Replace “shall be a minimum” to “shall be at least” on this line and throughout document to be consistent.

Roy Pence questioned the 6 inches of unsaturated slightly-limited soil shown below the media above the seasonal high water table in several of the system diagrams. It was discussed and Scott Johnson suggested that it was a good cushion. No language change was made.

Line 159: Include language “and at least 12 inches past the perimeter of the layer in 3.a.”.

Line 191: Change “a minimum of” to “at least”.

Line 205: Change “or pH” to “and pH”.

Line 242: Change “to modify the system” to “to be modified”.

Line 246: Replace “equal distribution throughout the drainfield” to “adequate nitrification is achieved”. Provides engineers the flexibility to design.

Line 258: This language partially duplicates an engineer’s certification on line 85 and 86. On line 86, strike the words “and a written certification to the department that the entire installation meets” and insert “meet”.

Lines 253 and 254: Discussion regarding necessity and value of observation ports in gravity-fed drainfields. No language change.

Discussion of system modification techniques for liner systems.  
Discussion of property owner notification.

More discussion of lines 252-254 regarding placement of the observation ports in various products that might not contain “drainfield lines” and the possibility that the variance procedure could be used for systems types that do not necessarily have the physical structures found in the standard drainfield design. No language changes made.

Engineer Representative - Jim Shivinski: Can we do away with the six inches between the media and the seasonal high water table? Language will be kept for bacteria removal, virus attenuation, and constructing the media layer when the soil immediately below it is in a saturated condition.

CHD Representative - Eric Maday: What soil layer is the drainfield to be sized on? Size is based on the texture of the soil in the nitrification layer between the drainfield and the denitrification media.

How will this apply to a repair? Repairs using the media and liner would require 18 inches of separation in the current proposal. If someone was in a repair scenario where the non-denitrification rule would allow a 6 inch or 12 inch separation, the applicant might use an ATU for nitrification and then 6 or 12 inches between the drainfield and the denitrification media layer.

Who determines if the media meets the code? It would be the designer as the media will already be buried when the Department makes its inspection.

What are the specifications for the underdrain in variance two? There are none except what are written. The designer would design it.

DEP Representative - Maurice Barker: Wouldn't it be better to put the design specifications in a guide and incorporate the guide by reference rather than add all this language to the rule itself? Perhaps that will happen in the rule-reduction but at the moment we will go forward with this proposal to amend the rule.

Will Bryant made a MOTION approve 15-02 incorporating the recommended changes.  
Seconded by Scott Johnson  
PASSED Unanimously

#### **Issue 16-03 NSF 245 Nitrogen Reducing ATU's**

There was some discussion regarding this issue. ATU sizing and recirculation rates were discussed.

Scott Johnson made a MOTION to table the issue until next meeting.  
Seconded by Russ Melling  
PASSED Unanimously

#### **4. NEW BUSINESS**

NONE

#### **5. OTHER ITEMS OF INTEREST TO THE TRAP**

NONE

#### **6. PUBLIC COMMENT**

NONE

Pamela Tucker made a MOTION to Adjourn  
Seconded by Sonia Cruz  
PASSED Unanimously

Discussion regarding next TRAP Committee meeting. Dale Holcomb plans to advertise and have the meeting on April 21 via conference call.

Meeting Adjourned at 4:15 PM

# 16-03 ISSUE FOR TECHNICAL REVIEW AND ADVISORY PANEL CONSIDERATION

Printed 3/23/2017 5:28:59 AM

Next Trap Meeting:

**Subject: NSF 245 Nitrogen reducing ATU's**

**Rule Sections: 64E-6.012**

Issue: NSF has an approval protocol for Nitroden-reducing ATU's that is not incorporated into our rule. Also, our existing NDF references are out of date. The sizing of ATU's has been out-of-sync with the system flows for years requiring ATU's that are sized larger than the actual flows.

Issue Originated By: Eberhard Reoder, DOH

Purpose and Effect The proposed changes incorporate NSF 245 into the rule and updates the references to the NSF standards that ATU's are required to meet. Also a disparity in sizing ATU's is addressed to allow ATU's that are rated for the anticipated flow.

Proposed Rule Change: 16-03--64E-6.012 ATU References, Standard 245 and (See Attached) ATU Sizing.docx

Summary: The proposed changes will update the references to the ATU Standards, incorporate NSF 245 References,

Possible Financial Impacts: None

Date New: 11/10/2016

Initially Reviewed by Trap: 12/9/2016

Tabled by Trap:

Trap Review Finished: 12/9/2016

Variance Committee Reviewed: 3/2/2017

Trap Review Variance Comments:

Trap Final Decision:

Final Outcome:

Comments: 12/9/2016 Approved to go to Variance Committee. TRAP wants to see more information on sizing issue when it returns.

3/2/2017 Presented issue to Variance committee and received comments: REI, DOH - OK; STI - Agree; CHD- Support with no comments; ENG, DEP - No comment

Ready for Rule

In Rule

Rule Date:

1 **64E-6.012 Standards for the Construction, Operation, and Maintenance of Aerobic Treatment**  
2 **Units.**

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

5 (1) Aerobic ~~treatment units systems~~ designed to treat up to 1500 gallons of sewage waste-per day shall  
6 be listed by a third party certifying program approved by the State Health Office. Aerobic treatment units  
7 shall be in compliance with at least one of the following standards: ~~for~~ Class I systems as defined by  
8 ANSI/NSF International Standard Number 40, revised ~~April 2013~~ July 2000, herein incorporated by  
9 reference; nitrogen reduction as defined by ANSI/NSF International Standard Number 245, revised April  
10 2013, herein incorporated by reference; or onsite residential and commercial water reuse treatment systems  
11 as defined by ANSI/NSF Internation Standard Number 350, revised December 2012, herein incorporated  
12 by reference. An approved third party certifying program shall comply with the following provisions in  
13 order for units which it has certified to be approved for use in Florida:

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

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

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

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

22 (e) Provide a registered certification mark or seal which must be affixed in a conspicuous location on  
23 the units it has certified. This mark or seal will alert persons evaluating or maintaining the unit that the unit  
24 is in compliance with ANSI/NSF Standard 40.

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

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

30 1. A padlock.

31 2. An "O" ring with twist lock cover requiring special tools for removal.

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

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

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

37 (c) A visual and audio warning device shall be installed in a conspicuous location so that activation of  
38 such warning device will alert property occupants of aerobic unit malfunction or failure. All warning  
39 devices shall be wired separately from the aerobic unit so that disconnecting the aerobic unit from  
40 electricity will activate the warning device. If installed outside, the alarm shall be waterproof.

41 (d) Each unit shall be designed or equipped so that regardless of unusual patterns or frequencies of  
42 sewage flow into the system effluent discharged to the drainfield will be in compliance with the applicable  
43 standards of 64E-6.012(1)Class I effluent quality standards as defined by ANSI/NSF Standard 40.

44 (e) Minimum required treatment capacities for systems serving any structure, building or group of  
45 buildings shall be based on estimated daily sewage flows as determined from Table IV.  
46

TABLE IV  
AEROBIC SYSTEMS  
PLANT SIZING

RESIDENTIAL:

Number of Bedrooms	Building Area in square feet	Minimum Required Treatment Capacity gallons per c
1 or 2	Up to 1200	400
3	1201-2250	<del>500</del> 400
4	2251-3300	<del>600</del> 500

47 For each additional bedroom or each additional 750 square feet of building area, or fraction thereof,  
48 treatment capacity shall be increased by ~~60~~40 gallons.

COMMERCIAL:

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

49  
50 Footnotes to Table IV

51 1. Where the number of bedrooms and the corresponding building area in Table IV do not coincide, the  
52 criteria which results in the greatest required treatment capacity shall apply.

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

58 (f) There shall be no bypass capability designed into the system which will allow waste to be  
59 discharged to the drainfield without undergoing all the treatment processes necessary to achieve the desired  
60 effluent quality. Bypassing, removing, or excluding any component or components of a system after the  
61 system has received final installation approval is prohibited. For units discharging into alternative systems  
62 according to 64E-6.009(5), the designing engineer may specify recirculation up 50% of the disposal rate.

63 (g) Effluent from an aerobic treatment unit shall be disposed of on the owner's property in  
64 conformance with other requirements of this chapter except as provided for in paragraph 64E-6.012(2)(f),  
65 F.A.C. Effluent quality which is found to not meet ~~its~~ Class-I standards as ~~specified by ANSI/NSF Standard~~  
66 ~~40~~ shall be reported to the maintenance entity for correction within 10 working days.

67 (h) ~~Units meeting Class I Standards as specified by ANSI/NSF Standard 40 shall receive consideration,~~  
68 ~~via the variance review process, for use where daily domestic sewage flow limitations of Rule 64E-6.005,~~  
69 ~~F.A.C., are exceeded or where a high level of sewage treatment is warranted. Also, for Class I units~~  
70 ~~Where slightly limited soil textures exist on a site, the required drainfield size may be reduced by 25~~  
71 ~~percent from the requirements in subsection 64E-6.008(5) or paragraph 64E-6.009(3)(d), F.A.C.~~

72 (i) A manufacturer, distributor or seller of aerobic treatment units shall furnish, to the State Health  
73 Office, in Microsoft Word document format, Portable Document Format (PDF) or other electronic format  
74 accepted by the Department, a copy of the completion reports and engineering drawings showing the  
75 design and construction details of all models of approved Class I units to be constructed or installed under  
76 the provisions of this rule. The State Health Office will forward these reports and drawings to each DOH  
77 county health department. No aerobic unit shall receive final installation approval until the unit is found to  
78 be in compliance with all provisions of this rule, including compliance with design and construction details  
79 shown on the engineering plans filed with DOH county health departments and the State Health Office.

80 (j) Manufacturers shall provide a listing of approved maintenance entities they have authorized to

81 provide service in the state and shall demonstrate that the entire state is covered by at least one maintenance  
82 entity. A system using a manufacturer's unit shall not be approved in the state if the manufacturer cannot  
83 demonstrate that there are maintenance entities to service it.

84 (k) A distributor of a specific manufacturer's brand or model of an approved aerobic treatment unit  
85 shall provide to the DOH county health department and State Health Office written assurance that spare  
86 mechanical and structural parts are available, upon request, for purchase, to all other approved maintenance  
87 entities.

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

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

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

98 2. Provide that a maintenance entity which desires to discontinue the provision of maintenance  
99 services, notify in writing, the property owners and lessees and the DOH county health department at least  
100 30 days prior to discontinuance of service.

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

105 4. Provide that each aerobic unit is inspected by an approved maintenance entity at least two times  
106 each year. Aerobic treatment units serving commercial establishments shall be inspected four times per  
107 year. The maintenance entity shall furnish to the DOH county health department a listing of all aerobic  
108 units inspected or serviced during the respective reporting period. As a minimum, reports shall indicate the  
109 system owner or building lessee, the street address of the system, the date of system inspection or service  
110 and a statement as to the maintenance or service performed. The maintenance entity shall also include a list  
111 of the owners who have refused to renew their maintenance agreement.

112 (n) The DOH county health department shall, at least annually, inspect the maintenance and  
113 performance of aerobic treatment units. The DOH county health department shall also inspect each  
114 authorized maintenance entity, including review of their service records and maintenance agreements.

115 (3) An aerobic treatment unit used for treating domestic or commercial sewage flows in excess of 1500  
116 gallons per day, ~~or a combination of aerobic treatment units treating flows according to 64E-6.004(4)(a) or~~  
117 ~~(b), F.A.C.~~ shall be designed and certified by an engineer licensed in the State of Florida. The design shall  
118 include an assessment of wastewater strength. The certification shall state that the unit is capable of  
119 consistently meeting, at minimum, secondary treatment standards for CBOD<sub>5</sub> and TSS established by DEP  
120 in Rule ~~64E-6.025(12)(a)~~ ~~62-600.420~~, F.A.C. In addition, the following requirements shall also be met:

121 ~~(a) The drainfield system shall meet minimum setback and elevation requirements specified by this~~  
122 ~~rule.~~

123 ~~(a)(b)~~ The owner or lessee of a system shall comply with the applicable safety, maintenance and  
124 operational requirements of subsection 64E-6.012(2), F.A.C. Unless the system owner or lessee is a state  
125 licensed wastewater treatment plant operator, the owner or lessee shall be required to have a system  
126 maintenance agreement with a permitted aerobic unit maintenance entity which has at least a Class D state  
127 certified operator who has been certified under the provisions of Chapter 61E12-41, F.A.C.

128 ~~(b)(e)~~ A permitted aerobic unit maintenance entity ~~with a minimum Class D certified operator, or a~~  
129 ~~system owner or lessee holding at minimum a Class D certification under the provisions of Chapter 61E12-~~  
130 ~~41, F.A.C.,~~ shall collect effluent quality samples and submit the sample analysis reports to the DOH county  
131 health department. Effluent quality samples for CBOD<sub>5</sub>, ~~and~~ suspended solids ~~and fecal coliform~~ shall be  
132 collected at least semi-annually and such samples shall be analyzed by a department-approved laboratory.

133 ~~(c)(d)~~ Written sample analysis reports shall be submitted to the DOH county health department by no  
134 later than the 15th of the next month following the semi-annual sampling period. However, if the sample  
135 analysis for CBOD<sub>5</sub> or suspended solids exceeds secondary treatment standards by more than 100 percent,  
136 the maintenance entity or certified operator shall notify the DOH county health department by telephone or

137 in person within 24 hours after receipt of sample analysis results.

138 (d)(e) The DOH county health department shall monitor the maintenance and performance of aerobic  
139 treatments units as required by paragraph 64E-6.012(2)(m), F.A.C.

140 (4) No aerobic treatment unit shall be serviced or repaired by a person or entity engaged in an aerobic  
141 treatment unit maintenance service until the service entity has obtained an annual written permit issued on  
142 Form DH 4013 from the DOH county health department in the county where the service company is  
143 located. Each service entity shall employ at least one plumbing contractor licensed under Section  
144 489.105(3)(m), F.S., septic tank contractor registered under Part III of Chapter 489, F.S., or a state-licensed  
145 wastewater treatment plant operator, who is responsible for maintenance and repair of all systems under  
146 contract. Application for a Maintenance Service Permit, Form DH 4066, 02/10, herein incorporated by  
147 reference, shall be made to the DOH county health department and shall contain the following information:

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

154 (b) A signed statement from the applicant attesting that the applicant has adequate staff, possesses  
155 proper equipment and has sufficient spare structural and mechanical parts and components to perform  
156 routine system monitoring and servicing and is able to make a service response within 36 hours after  
157 notification of the need for emergency repairs.

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

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

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

166 *Rulemaking Authority 381.0065(3)(a), 489.553(3) FS. Law Implemented 381.0065, Part 1 386 FS. History—*  
167 *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-*  
168 *26-06, 6-25-09, 4-28-10,\_\_\_\_\_.*

169

Variance Committee Comments for TRAP Issue:  
16-03 (NSF 245 Nitrogen-Reducing ATU's

REI – OK

DOH – OK

STI – Agree

CHD - Support with no comments

**Supporting Information to part of TRAP Issue 16-03**  
**Results of the ATU-Sizing Survey as of 4/13/17**

Sent out by e-mail 3/23/2017 to 19 representatives of manufacturers. Received one response.  
 Sent out reminder 3/29/2017 to remaining representatives.  
 Total responses by 11:40 am 3/31/17: seven  
 Sent out reminder 4/3/2017 to remaining representatives.  
 Total responses by 4:45 pm 4/13/2017: eleven  
 Copies of the comments are provided below the results table. Responses eight through eleven have been received since the TRAP conference call of March 31 and *are in italics*.

Table of survey results

Option	Summary	Number or Responses
A	Increase minimum required treatment capacity compared to current requirements (make systems larger for a given residence)	1
B	Keep current sizing (minimum treatment capacity requirement is residential estimated sewage flow +200 gpd)	1+1 (modified to+100 gpd)
C	Go with the proposed sizing (minimum treatment capacity is residential estimated sewage flow +100 gpd, making some systems smaller)	7.5*
D	Further reduce sizing to estimated sewage flow (minimum treatment capacity is residential estimated sewage flow, making systems smaller)	0.5*

(\* split one unspecific vote based on comments that current sizing results in too large systems)

**1. Comments**

Response 1 c

My recommendation is for #3. My reasoning is that an ATU must treat both the hydraulic and the organic loading to be successful. The use of water saving fixtures (e.g. low volume toilets) reduces the hydraulic flow, but the organic load remains unchanged. However, the 2013 changes in the sizing of systems over 4 bedrooms for conventional systems, which must also treat both loadings, creates an unjustified barrier to using ATUs on larger homes, where I feel they could do a better job of controlling eutrophication than conventional systems in most cases.

On a related note, with the changes already made in table I, one acre of land served by public water (2500 gallons of estimated sewage flow) can now support 2 eight bedroom home lots and 2 seven bedroom home lots. My point? The Department has an obligation to critically think proposals all the way through before they adopt them.

Response 2 c

Sorry for the late response. We at ... would chose option "C" proposed sizing. Our system in particular would accommodate the new regulation perfectly and actually make the system perform better. In most states because of the increased size our system is under fed. Meaning that there is not enough in a 4 br home to sustain the system because there may only be two persons living there. However, what happens when 4 move in or 6? Nothing negative! Our system is so robust that is adjusts to higher flow to allow for the concentration of waste.

Response 3 (c or d)?

The methods used to size the systems in FL are something I have never agreed with. Aerobic digestion is a biological action requiring more than just sizing as a factor for maximum efficiency. When a system is over sized, as most are in FL, the balance of the factors involved is thrown off and you do not get the quality of effluent the system is capable of producing.

ATU's function best at the upper end of their rated capacity's not the lower end. So reducing the sizing per household to what the national average is will produce a better effluent in a greater majority of installations than what you have now.

Last but by no means least. Some Mfg's agree with the larger sizes for different reasons and the fact that we make more money on the larger ones is a reason. This issue is not about economics but environmental.

Also on this issue BIGGER IS NOT BETTER,

Response 4 c (no comment)

Response 5 c

Onsite system components are traditionally sized according to peak daily flow rate that may really occur only few days within a year (ex: Christmas period). The fact that most of the regulations are prescriptive rather than performance based motivate such an approach in order to provide additional safety factors to take into account many uncontrolled conditions, such as:

- The performance of conventional septic tank and soil based system have never been evaluated over a rigorous third party protocol as applied in standards;
- Soil and Sand used in sand filter beds varies a lot from one site to another and quality control is very difficult to apply for onsite individual systems, and
- Soil evaluation to design a drain field is imprecise according to the high heterogeneity of soil on a same site (vertical and horizontal variations), etc.

On the other hand proprietary/manufactured wastewater treatment technologies must be tested according to rigorous third party protocol and different stress test conditions to certify their performance and certification program includes quality control of the manufactured systems (all main components such as tank, filtering media, blower, etc.) as well as annual audit. These treatment units when tested receive the peak design flow every day.

Considering the previous elements, it appears logical that application of additional safety factors is not required and testing/sizing of these certified technologies should be done using the average flow rate (or a lesser safety factor applied on the average flow), since the certification process and adequate classification of technologies conjugated to manufacturing and process control required to maintain the certification reduce significantly the risk related to the use to these technologies.

To the contrary, it would make sense to provide additional safety factors by using the peak daily flow rate for design purpose, for all other components of the treatment train, such as septic tanks, conventional soil based leaching beds, sand filter and final disposal leaching beds, which are prescriptive and are not subject to any performance certification and classification.

Thus, we propose to go with the option C below, as long as those apply only to Advanced Treatment Units and not to conventional systems or soil based systems.

Response 6 a

Okay, from a big picture perspective, we don't believe these are the right questions in order to ensure optimum treatment.

But if we are limited to one choice, it would be A.

Response 7 b (modified to +100 gpd)

... is not in favor of reducing the sizing of the plants – with nitrogen being an important consideration in Florida making them smaller would only make it more difficult for the treatment plants to reduce the nitrogen level, so we are against the rule change.

We would recommend b – but only a 100 gpd for each additional bedroom or additional 750 square feet.

b) Keep current sizing (minimum treatment capacity requirement is residential estimated sewage flow +100 gpd)

follow-up:

What we are saying to keep the flow currently in the rules and only increase by 100 gallon per extra bedroom – we were a little confused also.

Yes on your second question for same reason – nitrogen – septic is different

*Response 8 b*

*I would recommend the State continue using the current sizing. We feel that decreasing the flow rate would exacerbate a number of issues faced in the State.*

*Response 9 c*

*My vote would be for “C”. Water saving fixtures and people having a better understanding of water conservation measures is resulting in an overall reduction in the average daily flow. Option C brings the Florida design flows to a level that better reflect the ½ to 1 times the daily flow for the settling tank.*

*Response 10 c*

*I would prefer option c) Go with the proposed sizing (minimum treatment capacity is residential estimated sewage flow +100 gpd, making some systems smaller)*

*Please see attached for comments. Thank you for the opportunity to comment on the proposed rule changes.*

*(Note, E. Roeder: attached comments commented on sampling requirements and proposed to require sampling by a third-party DOH-approved lab instead of the maintenance entity).*

*Response 11 c*

*Your proposal looks good and will bring your loading more in line with what we see in other states. This will also allow ATU loading to better agree with the loading you have for septic tanks and PBTS Systems.*

*... is in support of this change.*

## 2. Survey email

Dear ATU-manufacturer,

We ask for your feedback on a rule change proposal currently under consideration by the Florida Department of Health's Technical Review and Advisory Panel (TRAP). The proposal would reduce the minimum treatment capacity required for installations of residential aerobic treatment units certified to NSF/ANSI Standard 40. Shown at the bottom of this e-mail is the proposed language in strike/add format.

To allow for easier summary of your responses, please indicate which of the following you refer:

- a) Increase minimum required treatment capacity compared to current requirements (make systems larger for a given residence)
- b) Keep current sizing (minimum treatment capacity requirement is residential estimated sewage flow +200 gpd)
- c) Go with the proposed sizing (minimum treatment capacity is residential estimated sewage flow +100 gpd, making some systems smaller)
- d) Further reduce sizing to estimated sewage flow (minimum treatment capacity is residential estimated sewage flow, making systems smaller)

**Please respond with your preference and any additional comments by March 30, 2017.**

For context, if an aerobic treatment unit is used as part of an engineer-designed performance-based treatment system, the minimum required treatment capacity has to be sufficient for the estimated sewage flow, rather than the aerobic treatment unit Table IV, resulting in smaller systems.

For further information, find attached the complete rule proposal, which also covers some other issues. Please contact me with any further questions.

Regards,

Eberhard Roeder

The rule change proposal looks as follows:

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	<del>500</del> <u>400</u>
4	2251-3300	<del>600</del> <u>500</u>

For each additional bedroom or each additional 750 square feet of building area, or fraction thereof, treatment capacity shall be increased by ~~60~~40 gallons.

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 shall apply.