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Governor

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State Surgeon General

INTEROFFICE MEMORANDUM

**INFORMATION
HSES 10-001**

DATE: February 16, 2010

TO: County Health Department Directors/Administrators
ATTN: Environmental Health and Engineering Directors

THROUGH: Lisa Conti, D.V.M., M.P.H., Dipl. ACVPM, CEHP
Director, Division of Environmental Health

FROM: Gerald Briggs, Chief
Bureau of Onsite Sewage Programs

SUBJECT: Review of Performance-Based Treatment System Applications

This memo updates and replaces HSES 02-022 and provides guidance on how to assess treatment claims by engineers and review construction applications for performance-based treatment systems. Performance data of treatment systems approved for use in Florida as innovative, performance-based or aerobic treatment units are posted at:
http://www.doh.state.fl.us/environment/ostds/pdfiles/forms/PBTS_components.pdf:

Plan reviewers can use the attached checksheets for assessing questions about performance claims and reviewing construction applications for a PBTS. For monitoring requirements, see memo HSES-08-003.

Please note that ss. 381.0065(4)(j), FS, provides specific timeframes for reviewing and acting on PBTS applications. You have 5 working days to request additional information. Within 15 days of receiving a completed application you must approve the application or notify the applicant in writing that the application "does not comply with performance criteria and is being forwarded to the Bureau of Onsite Sewage Programs for a final determination." **Please note that you cannot deny a performance based treatment system without our engineer's review.**

Unless a local ordinance or other state law requires a broader use, PBTS are restricted to "single-family residences." PBTS for multi-family or commercial use require a variance unless a local ordinance, such as in Wakulla County, or other state law, such as 99-395 for the Florida Keys, requires a broader use. Where aerobic treatment units (ATUs) are required, the applicant may install a PBTS designed to meet or exceed NSF Class 40 standards for ATUs (CBOD₅ < 25 mg/L and TSS < 30 mg/L).

If you have any questions on PBTS please call Paul Booher in Gainesville at (352) 955-2159 or Eb Roeder in Tallahassee at (850) 245-4070.



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ASSESSING PERFORMANCE CLAIMS

What are the proposed performance treatment standards?

64E-6.026(2)(a) FAC requires that performance standards are indicated as baseline, secondary, advanced secondary, or advanced wastewater treatment standards. Chapter 99-395, Laws of Florida, and 64E-6.017, FAC, establish separate treatment standards for the Florida Keys. Systems that are required to meet only a standard for a particular parameter, for example nitrogen, or cBOD5 and TSS for drainfield size reduction, may be specified as baseline treatment standard with a numerical treatment standard for the specific parameter.

What is the information provided by the engineer to support the treatment claims as part of the design calculations?

Is a reference to testing or other information included that supports the claim that the proposed treatment system can meet the treatment standard? If not, ask for it.

If the testing data stems from a system smaller than the proposed system, did the engineer accept responsibility for the transfer of performance claims based on the rated hydraulic capacity of the treatment system? For treatment systems that include ATUs, NSF's certification is acceptable for systems from 400 gpd up to 1500 gpd. The rated hydraulic capacity of the treatment system must equal or exceed the estimated sewage flow of the establishment.

If the treatment system is not included on the bureau's webpage, forward the application to the Bureau's engineers for further review.

If the average performance claimed as treatment performance is a numerical value that is less than the values found in the table, forward the application to the Bureau's engineers for further review.

For fecal coliform, either chlorination in accordance with the treatment standards or soil-based treatment by 2 feet of unsaturated slightly or moderately limited soil have been utilized by engineers in the past to meet secondary treatment and advanced secondary treatment standards for this parameter.

If soil-based treatment is proposed, additional site plan and monitoring elements are required, per 64E-6.026(2)(d), 64E-6.029, and 64E-6.029(5).

For total phosphorus, 64E-6.025(3) indicates that baseline treatment is sufficient to meet a treatment standard of 10 mg/L.

PERFORMANCE BASED TREATMENT SYSTEM CHECKLIST

APPLICATION [64E-6.026(2)]			
1. Application, site plan and site evaluation signed, dated and sealed by engineer. [64E-6.026(2)]			
2. System design criteria [64E-6.026(2)(a)]:			
Performance Level: Baseline <input type="checkbox"/> STS <input type="checkbox"/> ASTS <input type="checkbox"/> AWTS <input type="checkbox"/> Florida Keys <input type="checkbox"/>			
Parameter	Performance level required (annual average)	Treatment accomplished by which system component	Supporting information for treatment level [y/n/comment]
CBOD5	mg/L		
Total Suspended Solids	mg/L		
Total Nitrogen	mg/L		
Total Phosphorus	mg/L		
Fecal Coliform	cfu/100mL		
Other system design calculations:			
3. Monitoring requirements [64E-6.026(2)(a), 64E-6.029, see HSES memo 08-003]			
Parameters to be monitored: CBOD5 <input type="checkbox"/> TSS <input type="checkbox"/> TN <input type="checkbox"/> TP <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> Other <input type="checkbox"/>			
Sampling frequency:			
Monitoring ports provided:			
Monitoring locations identified:			
Method of monitoring flow through system.			
4. System design calculations. [64E-6.026(2)(b)]			
5. System design plans and drawings, including installation instructions [64E-6.026(2)(c)]			
6. If soil is used for treatment, a site plan showing direction of groundwater movement, location of monitoring wells, and extent of effluent plume. [64E-6.026(2)(d)]			
7. Contingency plan for system failure. [64E-6.026(2)(e)]			
8. "Certification of Design" statement signed, dated and sealed by the engineer? [64E-6.026(2)(f)]			
9. Operation and maintenance manual [64E-6.026(g)]?			
10. Cover letter from engineer requesting the approval of a PBTS.			
DESIGN REVIEW CONSIDERATIONS FOR SPECIFIED PERFORMANCE LEVELS			
1. Are there any modifications to setback requirements?			
2. Is there a modification to the separation from the wet season high water table?			
3. Is there a request for an increase in authorized sewage flow?			
4. Is there a drainfield size reduction?			
DRAINFIELD MODIFICATIONS [64E-6.028(3)-(5)]			
1. Drainfield infiltration surface reductions adhere to treatment level design?			
2. Drainfield infiltration surfaces identification?			
3. Drainfield infiltration surface calculations?			
4. Design meets effective storage volume requirements?			
5. Design meets total storage volume requirements?			
6. Design meets unobstructed area requirements?			
7. Modeling programs [footnote 2, Table IX]?			
PRIOR TO FINAL APPROVAL [64E-6.027(5)]			
1. As-built provided by engineer?			
2. "Certification of Installation" statement by engineer?			
3. CHD inspection and construction approval?			
4. PBTS notice in public records at courthouse completed?			
5. Copy of signed maintenance agreement with a permitted maintenance entity?			
6. Application for operating permit and fee?			