

Policy for Processing High-Strength Wastewater POWTS Plans

April 2009

Subject: Designing POWTS for commercial facilities that produce high-strength wastewater or are at-risk of producing high strength wastewater discharging to a POWTS with a soil dispersal component.

The purpose of this document is to describe how the Department of Commerce will process POWTS designs submitted for review and approval for facilities that may produce influent to a POWTS soil dispersal component that exceeds the parameters set forth in s. Comm 83.44(2). This code section limits the quality of influent discharging to a soil dispersal component to be equal to or less than the following:

- a) A monthly average of 30 mg/L fats, oil and grease.
- b) A monthly average of 220 mg/L BOD₅.
- c) A monthly average of 150 mg/L TSS.

Facilities that separate high-strength waste streams and discharge them to a holding tank are not affected by this policy.

The soil application rates in Table 83.44-2 were developed based on the assumption that typical residential strength wastewater would be applied to the soil. Generally, residential strength wastewater falls below the levels listed above. POWTS soil dispersal components that receive wastewater that exceeds these concentrations (referred to herein as high-strength wastewater) have a higher risk of failure and may cause a health hazard if human exposure to partially treated wastewater occurs.

A literature search indicates that restaurants and other food preparation/processing facilities that prepare food as a major part of the operation are expected to produce high-strength wastewater that will exceed the maximum allowable concentrations. Therefore, for plan submittal/approval purposes, unless acceptable justification is provided, the Department will presume that buildings that fall under this type of use will generate high-strength wastewater and must incorporate into the design, measures to account for it. When a replacement system is proposed to serve an existing building the designer may submit sampling data either to prove that the monthly averages are less than the values listed in s. Comm 83.44(2), or use that sampling data or the presumed values listed in this policy to incorporate adequate design measures to reduce the strength of the wastewater below the limits of s. Comm 83.44(2). Due to the difficulty in obtaining reliable samples, it is suggested that a sampling plan be developed by a professional and reviewed by department staff prior to implementing the sampling plan. The collection, storage and testing of samples shall be performed in accordance with accepted scientific methods.

New POWTS

New public/commercial POWTS that may produce wastewater exceeding the limits of s. Comm 83.44(2) will fall into one of two groups – high-strength producing or at-risk of producing high-strength wastewater. Commercial/public occupancies that are not usually expected to produce high-strength wastewater will not fall into one of these two groups and are not required to take additional measures to manage the strength of the wastewater produced from the facility. The categorization of a facility and associated review presumptions are described in further detail below.

High-Strength Wastewater Producing Facilities - For public/commercial buildings that have food preparation as a major part of their daily operation such as fast food and full service restaurants, dining halls, grocery stores with deli's and butcher shops, and similar facilities the department will presume that septic tank effluent will have the following strength unless data acceptable to the Department is provided:

FOG – 200 mg/L
BOD₅ – 1200 mg/L
TSS – 220 mg/L

Designs for these types of facilities must include measures to treat the wastewater to acceptable limits. This generally involves the use of pretreatment. The values listed above assume that exterior grease interceptors are installed. When pretreatment occurs, a pressure distribution system must be incorporated in the design unless otherwise approved.

At-Risk Wastewater Producing Facilities – For public/commercial buildings that have food preparation as part of their operation, but less than that of a full-service restaurant, a different approach will be accepted provided that the local governmental unit (usually the county) in which the POWTS is proposed to be located concurs in writing with the additional oversight role. This alternative approach relies less on presumptions of wastewater strength and more on monitoring the performance of the system and taking a proactive approach should persistent ponding be observed. Some examples of these types of facilities may include but are not limited to daycare facilities and schools with cafeterias. Providing pretreatment is optional, but if pretreatment is not included in the proposed design a more aggressive system monitoring protocol in the management plan will be required. The monitoring protocol will be expected to detect early signs of failure such as persistent ponding of the soil dispersal component so modifications to the design of the system or operation of the facility can be made before the system causes a potential health hazard. The management plan for these types of facilities must provide for inspections of the POWTS on a twelve month or less basis by a person qualified to perform them. A checklist of what will be monitored must be included in the management plan. Within 30 calendar days of the inspection, the inspection report shall be submitted to the governmental unit or delegated agent in accordance with s. Comm 83.55(2). The management plan must be accompanied by a detailed contingency plan which addresses what measures are likely to be taken should signs of early failure be observed.

Replacement POWTS

High-Strength Wastewater Producing Facilities - Existing facilities may submit to the Department a proposed sampling plan to determine the loads and flows of wastewater from an existing building needing a replacement POWTS for concurrence prior to implementing the plan. Review fees may be charged for reviewing the proposed sampling regimen – check with Department staff first. The collection, storage and testing of samples shall be performed in accordance with accepted scientific methods. The plan must outline which methods will be utilized and identify the qualified individual(s) who will be collecting the samples. Sampling points shall be representative of the influent to the soil dispersal component. For acceptable sampling and testing methods, refer to the Commerce-developed guidance documents associated with this policy (documents not available at time of online posting). If samples are collected, the design shall then be based upon the sampling results. If a suitable sampling location is not available, the presumed loading rates listed for new facilities may be used.

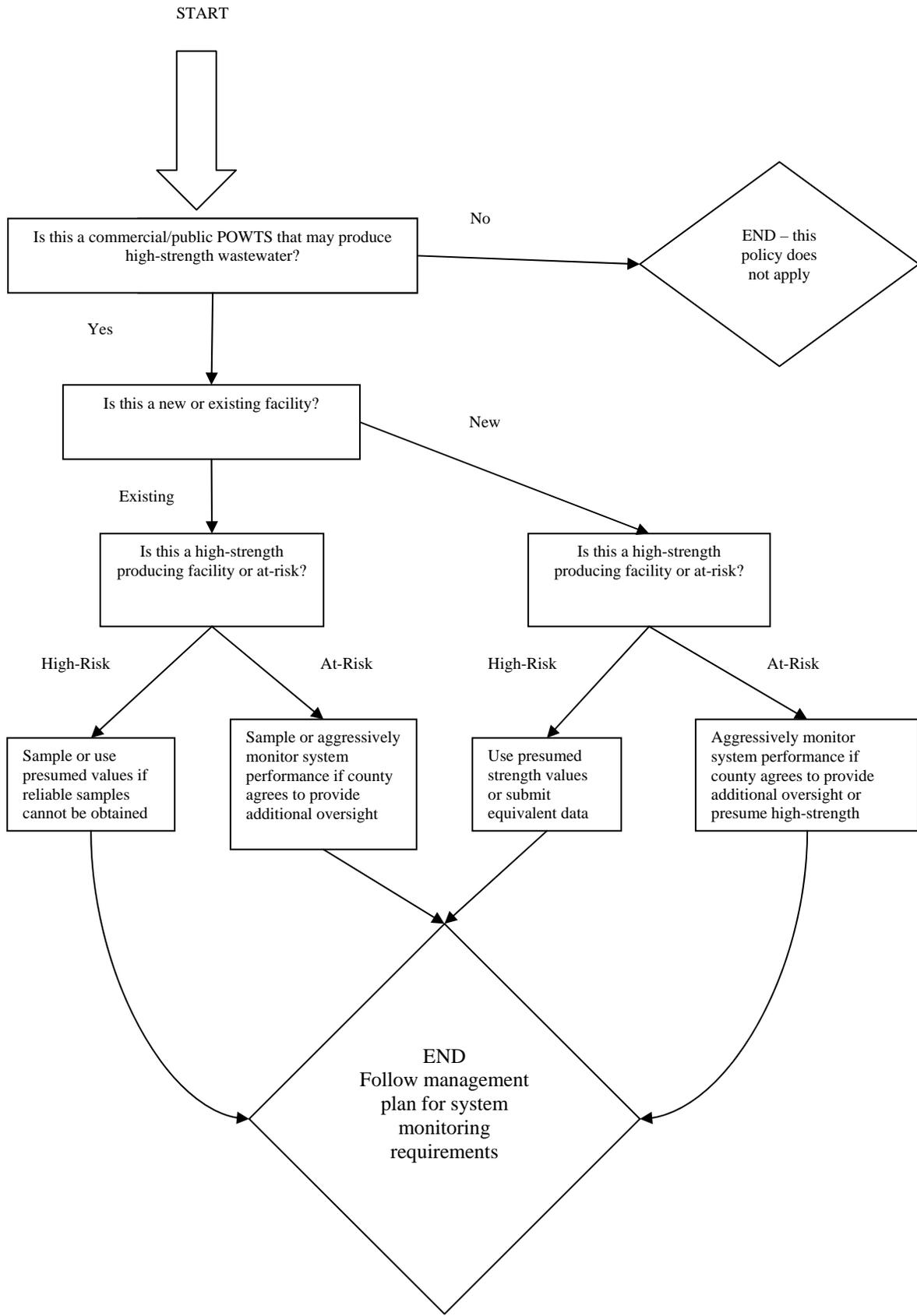
At-Risk Wastewater Producing Facilities – Existing facilities may either follow the steps for new at-risk facilities or submit a wastewater sampling plan prior to sampling. If sampling is conducted, the design shall be based upon those results. If sample results reveal that the average value exceeds the parameters set forth in s. Comm 83.44(2), then the design must include measures to ensure that the parameters are not exceeded.

This policy will be effective for plans submitted from April 1, 2009 until further notice.

DATED: _____

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START

Is this a commercial/public POWTS that may produce high-strength wastewater?

No

END - this policy does not apply

Yes

Is this a new or existing facility?

New

Existing

Is this a high-strength producing facility or at-risk?

Is this a high-strength producing facility or at-risk?

High-Risk

At-Risk

High-Risk

At-Risk

Sample or use presumed values if reliable samples cannot be obtained

Sample or aggressively monitor system performance if county agrees to provide additional oversight

Use presumed strength values or submit equivalent data

Aggressively monitor system performance if county agrees to provide additional oversight or presume high-strength

END
Follow management plan for system monitoring requirements