

CORRESPONDENCE/MEMORANDUM

State of Wisconsin
Department of Commerce

DATE: January 9, 2008

TO: All Interested Parties

FROM: Bradley Johnson, P.E., Integrated Services Section Chief

SUBJECT: Proposed Plan Review Policy for Processing Designs from High-Strength Wastewater Producing Facilities

The Department is soliciting comments on a proposed plan review policy regarding POWTS designs for high-strength wastewater producing facilities. The proposed policy is included as an attachment to the email message as a second document. Your input is important to assist us in developing a workable policy. Written comments may either be sent to the following email address, bradley.johnson@wi.gov or to the following postal address:

Wisconsin Department of Commerce
Attn: Bradley Johnson, P.E., Section Chief
2331 San Luis Place
Green Bay, WI 54304

In order to allow sufficient time to have this policy in place prior to the anticipated start date of April 1, 2008, please submit your comments by **February 15, 2008**. It is our intent to develop technical guidance documents to supplement this policy to assist designers and regulators in implementing this policy.

If you have any questions, you may contact me at (920)492-5605.

Policy Document for Processing High-Strength Wastewater January 2008

Subject: Designing POWTS for commercial facilities with food preparation as a significant part of its operation

The purpose of this document is to describe how the Department will process POWTS designs submitted 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 as follows:

- 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.

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 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, 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), use the measured data from the sampling regime, or use the presumed values listed in this policy. 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 a sampling plan. Samples should be collected by an experienced professional knowledgeable with POWTS systems and wastewater sampling.

New Facilities

New public/commercial POWTS that may produce wastewater exceeding the limits of s. Comm 83.44(2) will be considered one of two groups – high strength producing or at-risk of producing high strength wastewater. Commercial/public occupancies that are usually not expected to produce high-strength wastewater will not fall into one of these two groups. Existing facilities that are unable to obtain reliable sample results may be placed into one of these categories. 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 and similar facilities the Department will presume that septic tank effluent will have the following strength unless data acceptable to the Department is provided:

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

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 that 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. Such facilities include, but are not limited to, churches, daycare facilities, schools, and convenience stores without cooking facilities. 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 component so modifications to the design of the system or operation of the facility will 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 an annual basis by a person qualified to perform them including a checklist of what will be monitored. Within 30 calendar days of the inspection, the inspection report shall be submitted in accordance with s. Comm 83.55(2)(b). The management plan must be accompanied by a contingency plan which addresses what measures are likely to be taken should signs of early failure be observed.

Existing Facilities

High-Strength Wastewater Producing Facilities - Existing facilities must submit a proposed sampling plan prior to implementing it to determine the loads and flows of wastewater. 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 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 NR 218 and 219, Wis. Adm. Code. The design shall 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, 2008 until further notice.

