

Fact Sheet/Briefing Memo
Discharge of Nondomestic Wastewater to a Subsurface Soil Absorption System

WPDES Permit No. WI-0055611-5

May 1, 2006

General Permits (GPs). Chapter 283.35 Wis. Stats. (formerly Chapter 147.023 Wis. Stats.), authorizes the Department to issue a general permit (GP) for discharges from specific categories or classes of point sources if they are not a significant contributor of pollution. The general permit can be withdrawn if the point source is not in compliance with the terms and conditions of the general permit. The Department also may withdraw a discharge from the coverage of a general WPDES permit and issue an individual WPDES permit on its own motion, or upon the petition of any general permittee, affected state, or 5 or more persons affected by the disposal practices of a general permittee. GP Information is available at:

<http://dnr.wi.gov/org/water/wm/ww/pmttypes.htm#general>.

Nondomestic wastewater treatment and disposal systems must have Department of Natural Resources plan approval, or equivalent regulatory approval before construction. More information is available at:

<http://dnr.wi.gov/org/water/wm/glwsp/facilities/> for review process, and at:

<http://commerce.wi.gov/SB/SB-PowtsProgramRevisedComponentManuals.html> for on-site treatment system design.

A. General Description of Operations Covered Under this GP

Nondomestic Wastewater. Nondomestic wastewater is wastewater that does not originate solely from humans and domestic activities such as: sanitary, bath, laundry, dishwashing, garbage disposal and the cleaning of domestic areas or utensils. Nondomestic wastewater includes, but is not limited to, wastes collected from non-residential garages used for storage, maintenance or washing of motor vehicles; commercial food processing, commercial laundromats, animal shelters or kennels, animal rendering, metal fabricating, electric component manufacturing, chemical manufacturing, and other industrial or commercial process water. Wastewater from restaurants is considered to be domestic wastewater.

Mixed Wastewater. Mixed wastewater is wastewater that contains a combination of domestic and nondomestic wastewater. This general permit can cover mixed wastewater discharges.

Subsurface Soil Absorption System. A subsurface soil absorption system is a soil covered system used to apply pretreated wastewater to an infiltrative soil surface for additional treatment and disposal. Subsurface soil absorption systems include "conventional" in-ground systems, at-grade systems, mound systems and drip irrigation systems.

Wastewater pre-treatment. This general permit is written to require that wastewater be pretreated prior to discharge to a subsurface soil absorption system. Some types of wastewater will not be adequately pretreated using only a septic tank and an alternative type of treatment may be necessary. For example, dairy wastewater generally cannot be adequately treated using only an anaerobic pretreatment system, like a septic tank. Under anaerobic conditions, lactic acid may be formed in dairy wastewater and inhibit wastewater treatment (at pHs below 4). Dairy wastewater can, however, be easily treated in an aerobic pretreatment system.

If the existing disposal system includes a pretreatment system that is not adequate for the particular situation, the system is not eligible for a general permit until improvements are completed in accordance with approved plans. An individual (specific) permit with a compliance schedule may be necessary in these situations. Any modifications or improvements to a pretreatment system require Department approval in accordance with ch. 281.41, Wis. Stats.

Types of facilities covered. This general permit can be used in situations where industrial, commercial, agricultural or mixed wastewater discharged is not a significant contributor of groundwater contamination. The wastewater discharge may include some domestic waste, in which case the Department of Commerce may also have regulatory approval authority. This permit may cover small facilities that generate a type of wastewater containing organic materials that can be adequately treated in a small scale treatment system and safely disposed through a subsurface soil absorption system.

Types of facilities not covered. This permit is not intended to cover facilities that discharge liquid waste that might cause a violation of: a) the groundwater quality standards contained in ch. NR 140, Wis. Adm. Code, b) the surface water quality standards contained in chs. NR 102 through NR 106, Wis. Adm. Code, or c) the requirements of ch. NR 214, Wis. Adm. Code. The general permit cannot be used to cover wastewater discharges that contain significant quantities of non-biodegradable pollutants, toxics or hazardous substances, or high chloride concentrations. In most situations, wastewater from laundromats and car washes, pretreated by using only a septic tank, will not be eligible for this general permit.

Laundromat wastewater. Septic tanks alone do not provide adequate pretreatment for the lint, detergents, and surfactants that are present in laundromat and diaper service clothes washing wastewater. Lint may plug up absorption bed soil and sodium may reduce bed soil permeability.

Car wash wastewater. A septic tank is not a good pre-treatment system for removal of the grit, oil and grease present in wastewater from car washes. A car-wash facility with an appropriate pretreatment system, designed so that the oil can easily be skimmed off and grit dewatered and removed, may be eligible for coverage under this general permit. The representative concentration of dissolved chloride (from road salt) present in this wastewater must be determined prior to discharge to a subsurface system. The discharge of volatile organic chemical degreasing agents cannot be covered under this permit. Truck washes may be included, if they meet all car wash requirements except that the cleaning of the inside of truck tanks and cargo areas must receive a specific approval. For more information on car-wash wastewater treatment systems refer to the Department's guidance at: <http://www.dnr.state.wi.us/org/caer/cea/assistance/auto/wastewater.htm#septic>.

Slaughterhouse and Butchering. This permit is not intended to cover the discharge of wastewater from slaughterhouse and butchering operations, unless significant pretreatment to biodegrade the wastewater is provided. Fats, oils and grease and high BOD of wastewater from such operations do not breakdown readily in subsurface soil absorption systems. Specialty meat processing and packaging facilities will usually not have high BOD wastewater, but provisions are necessary to effectively remove fats, oils and grease prior to discharge.

Required information. This general permit requires that the permittee submit pertinent information about the industrial, commercial, or agricultural process that generate the wastewater, the wastewater characteristics and the wastewater pre-treatment and subsurface soil absorption systems used. It also requires that the wastewater volume be measured periodically during system operation, and that a representative wastewater sample be analyzed for pollutants that are expected to be present in significant quantities in the system discharge.

B. Changes From Previous (WI-0055611-4) General Permit Issuance

Although there are no significant changes in this reissuance of the permit, clarifying language is included regarding the following:

- Clearer and more restrictive requirements regarding the applicability of discharges to be covered by the permit;

- More specific monitoring requirements (most monitoring requirements were previously contained in the letters granting coverage, a practice that is not legally supported) including the addition of the pH parameter; and
- Clarification regarding the submittal, updating and approval of Management Plans for the operation of the system.

C. **Information Required to be Submitted**

To determine eligibility for coverage under this permit, the discharger shall submit information about the processes that generate the wastewater, the wastewater quantity and characteristics, the wastewater pre-treatment and subsurface absorption systems and a Management Plan. More specifically, the following information is needed to make this determination:

1. **Type of Commercial, Agricultural, or Industrial Process Generating Wastewater** including the source of the wastewater, the raw materials, products, and additives that are used and the quantity of wastewater generated.
2. **Description of the Wastewater Treatment and Disposal System** including a general site plan with location of wells, dwellings and property boundaries, types of pretreatment system components and method of soil dispersion.
3. **Management Plans for Facilities Currently Covered by the GP.** Any facility covered under the previously issued permit must be granted coverage to discharge under this reissued permit (effective date May 1, 2005). If an existing, approved Management Plan complies with the reissued general permit requirements, the letter of coverage may indicate a Management Plan update is not needed. If necessary, the letter granting coverage may specify that an updated, new or revised Management Plan shall be submitted not more than 60 days after the date on the letter of coverage. This Management Plan must comply with the reissued general permit requirements, including monitoring information and details. Permittees who submitted a Management Plan, but did not receive a formal approval by the Department, or where no Management Plan was previously submitted, must submit the Plan not more than 60 days after the date on the letter of coverage. The Management Plan shall include operation, maintenance and monitoring details for the facility as specified in the GP and in the letter of coverage.

In a case where there is a uncertainty of qualifying for coverage under the reissued permit, the Department letter will state that coverage will be determined and confirmed following submittal of the Management Plan. The completed "General Permit, Request for Coverage" form, any additional specific information including test results and, as necessary, an updated Management Plan shall be submitted not more than 60 days after the date of the Department's letter on qualifying for coverage.

4. **Management Plans for Facilities Applying for First Time Coverage.** Facilities seeking coverage under this permit must submit a completed "GENERAL PERMIT REQUEST FOR COVERAGE Subsurface Absorption Systems, Rev. 4/01/06" form and any other specific information needed to determine GP applicability. Unless qualifying otherwise, a Department plan approval is required for a subsurface adsorption system. A Management Plan specifying the operation, maintenance and monitoring of the facility may be required before granting coverage or, if the Department determines that coverage may be granted, an acceptable Management Plan must be submitted no more than 60 days after the date of the letter of coverage.

D. Operational Requirements & Discharge Limitations

The conditions in the operational requirements section of the general permit have been established in accordance with s. NR 214.16(3), Wis. Adm. Code. The wastewater treatment system must be operated in conformance with the system Management Plan. If a facility wishes to operate their wastewater treatment system differently than specified in the approved system Management Plan, a written request must be submitted to the Department for approval to amend the Plan. The primary determinant of compliance with the terms of this permit is whether the system is operated in conformance with these requirements. The permit requires the following:

1. **Wastewater pretreatment.** Prior to discharge to a subsurface soil absorption field all wastewater shall be pretreated to remove settleable solids and floating scum and to reduce biodegradable material to acceptable levels for a soil adsorption system.
2. **Compliance with state groundwater quality standards.** There are no numerical discharge limits on any parameters specified in this permit. If coverage under this permit is granted, the Department has determined that the permittee is reducing pollutant concentrations to the extent technically and economically feasible and that groundwater is being protected as provided in NR 140, Wis. Adm. Code.
3. **Flow volume.** The monthly average volume of wastewater discharged to the subsurface soil absorption system shall be limited to the system design loading rate or to 5,000 gallons per day (gpd) whichever is less. In addition, the volume of discharge to the system shall be limited to prevent the discharge of liquid waste to the ground surface, to agricultural drain tile, to any surface waters of the state, or back-up of the wastewater to any structures served by the system.
4. **Solids/Sludge.** Sludge and scum must be removed from the pretreatment system on a regular basis to maintain the treatment efficiency and hydraulic capacity of the system and to prevent carryover of suspended solids or scum to the soil absorption system. Sludge and scum removed from the pretreatment system may be hauled to a publicly owned wastewater treatment works (POTW) or may be landspread in accordance with s. NR 214.18, Wis. Adm. Code (note: a separate WPDES permit is required for landspreading sludge).

E. Monitoring and Reporting Requirements

1. **Flow Volume Measurement.** The permittee shall measure the volume of wastewater discharged to the system and maintain a record of the average flow in units of gallons per day.
2. **Sampling of Wastewater.** The permittee shall collect a representative sample of the pretreated wastewater prior to discharge to the subsurface soil absorption system (note: a "3-hour grab sample" consisting of separate samples collected over a 3 hour period is recommended). The sample must be analyzed for pollutants that are expected to be present in significant concentrations as stated in the permit requirements and as proposed in the Management Plan and approved by the Department. All facility monitoring must include pH, BOD₅, total suspended solids, organic nitrogen, ammonia nitrogen, nitrate nitrogen, and chloride. For meat processing facilities and car washes, oil and grease must be added to the list of parameters. If the Department determines that additional substances needed to be routinely monitored to assure compliance with this GP, then a specific permit is needed and this general permit is not applicable.
3. **Sampling Frequency.** The sample frequency shall be annually.

4. **Discharge Monitoring Report.** An annual discharge monitoring report shall be submitted to the Department by **February 15 of each year**. The report shall include the record of the monthly average discharge volume and the wastewater sample analysis results.

Respectfully submitted,

Nile A. Ostenso, P.E., P.G., P.H.
Bureau of Watershed Management