



WPDES PERMIT

STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES

GENERAL PERMIT TO DISCHARGE UNDER THE WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of Chapter 283, Wisconsin Statutes, any facility engaged in

LAND APPLICATION OF INDUSTRIAL SLUDGE

and meeting the applicability criteria listed in this General Permit, is permitted to land apply materials contained in organic industrial sludge

to approved spreading sites in Wisconsin

in accordance with the effluent limitations, monitoring requirements and other conditions set forth in this permit.

State of Wisconsin Department of Natural Resources
For the Secretary

By *Susan L. Sylvester*
Susan L. Sylvester
Director, Bureau of Water Quality

6/29/12
Date Permit Signed/Issued

PERMIT TERM: EFFECTIVE DATE - July 01, 2012

EXPIRATION DATE - June 30, 2017

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1 APPLICABILITY CRITERIA

1.1 Activities Covered

For this permit “industrial sludge” is defined as the accumulated solids generated during the biological, physical or chemical treatment, coagulation or sedimentation of water or wastewater which result in a point source discharge to a land treatment system, as defined in NR 214.03(24), Wis. Adm. Code. This permit applies to the land application of sludge from any single industrial, commercial or agricultural facility provided that the sludge has been shown to have beneficial properties as a soil conditioner or fertilizer. The Industrial Sludge Land Application general permit may be used on an interim basis for permittees who land apply sludge from multiple sources for the same facility provided a complete application is submitted as part of applying for a specific permit.

1.2 Activities Not Covered

This permit may not be used for the land application of industrial sludge with any of the following characteristics:

- Industrial sludge that contains toxic or hazardous substances (such as metals, PCB, solvents, lubricants, biocides, pesticides, etc.), unless the permittee demonstrates to the Department that the discharge of such pollutants will be in such small quantities that no environmental pollution will result and the groundwater standards established in ch. NR 140, Wis. Adm. Code will be met;
- Industrial sludges that contain chlorides or other substances which the Department determines do not meet the requirements of s. NR 214.18(4), Wis. Adm. Code, and, therefore, may cause an exceedance of the groundwater standards established in ch. NR 140, Wis. Adm. Code;
- Industrial sludge that are regulated under the provisions of ch. NR 518, Wis. Adm. Code.

Coverage under this permit may not be granted to facilities that contract to haul and commingle or mix wastes from any other industrial source prior to land application unless granted on an interim basis.

2 LAND APPLICATION SITE REQUIREMENTS

2.1 Department Approval for Each Land Application Site

The permittee is authorized to landspread industrial sludge only on sites approved in writing by the Department in accordance with s. NR 214.18(2), Wis. Adm. Code. The Department may specify any site use restrictions in the written approval and the permittee shall comply with all specified restrictions. The permittee shall not spread industrial sludge on a site until the Department site approval is received. If an existing spreading site, or portion thereof, is found by the Department to be environmentally unacceptable, a written notice will be issued to withdraw approval of that site or a portion of the site.

The permittee shall request approval for additional sites using Land Application Site Request Form 3400-53 or equivalent. The following information shall be submitted for each site: location maps showing nearby residences and wells, soil maps, soil analyses results, information on separation to groundwater and bedrock, and other information that demonstrates that industrial sludge application on the site will comply with applicable s. NR 214.18, Wis. Adm. Code requirements and the conditions of this permit.

2.2 Land Application Site Separation Distances

- The permittee shall not land apply industrial sludge closer than 500 feet from an inhabited dwelling, except this separation distance may be reduced to a distance of less than 500 feet but greater than 200 feet if the owners and occupants of the affected dwelling give their written consent and the industrial sludge is incorporated into the soil.
- The permittee shall not land apply industrial sludge closer than 1000 feet from a well serving a community public water supply well.
- The permittee shall not land apply industrial sludge closer than 250 feet to a potable water supply well that is not a community public water supply well.
- The permittee shall not land apply industrial sludge closer than 200 feet from any surface water, except that, subject to Department approval, the industrial sludge may be spread no closer than 100 feet from the surface water if there is a vegetative buffer strip, at least 20 ft wide, between the surface water and the nearest edge of land application.
- The permittee shall not land apply industrial sludge on any sites located in wetlands or other areas subject to flooding or ponding.
- The permittee shall not land apply industrial sludge at a location where the distance between the land surface and the bedrock or groundwater table is less than 36 inches, except that the permittee may, with written approval from the Department for that specific site, apply industrial sludge during the months of April through September on land with at least 18 inches of separation to bedrock or groundwater when the industrial sludge loading amount is reduced to an amount approved by the Department.
- The permittee shall not apply industrial sludge at any time on land that has a slope of greater than 12%.
- The permittee shall not apply industrial sludge on land with a slope greater than 2% when the ground is frozen or snow-covered, except that the permittee may, when authorized in the Department spreading site approval, apply industrial sludge on land with slopes between 2% and 6% when the ground is frozen or snow-covered.

3 REPORTING REQUIREMENTS

3.1.1 Land Application Characteristic Report

The analytical results from testing of industrial sludge that are land applied shall be reported a minimum of annually on the Characteristic Report, Form 3400-49. All industrial sludge analysis results shall be reported on a dry weight basis. The report shall be submitted no later than January 31, following each year waste is land applied or as specified on the form. The permittee may monitor any parameter more frequently than the minimum requirement of this permit

3.1.2 Land Application Report

The annual total loading for the land application of industrial sludge to each field spreading site shall be submitted on the Annual Land Application Report Form 3400-55 by January 31, following each year waste is land applied.

3.1.3 Other Methods of Disposal or Distribution Report

The annual totals for other methods of industrial sludge disposal shall be submitted on the Other Methods of Disposal or Distribution Report, Form 3400-52 by January 31, following each year waste is land applied.

4 INDUSTRIAL SLUDGE LAND APPLICATION REQUIREMENTS

The discharge shall be limited to land application of industrial sludge to Department approved spreading sites. During periods of discharge, the permittee shall comply with the monitoring requirements, reporting requirements and limitations specified below.

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Discharge Rate		Tons/day	Daily	Daily Record	Keep record on site
Solids Total		Percent, dry wt.	Annual	Composite	
Chloride		Percent, dry wt.	Annual	Composite	
Nitrogen, Total Kjeldahl		Percent, dry wt.	Annual	Composite	
Phosphorus, Total		Percent, dry wt.	Annual	Composite	
Ammonia Nitrogen		Percent, dry wt.	Annual	Composite	
Organic Nitrogen		Percent, dry wt.	Annual	Composite	
Potassium, Total		Percent, dry wt.	Annual	Composite	
pH Field or Lab.		su	Annual	Composite	See part 4.1.1
Lead		mg/kg	Annual	Composite	See part 4.1.1
Zinc		mg/kg	Annual	Composite	See part 4.1.1
Copper		mg/kg	Annual	Composite	See part 4.1.1
Nickel		mg/kg	Annual	Composite	See part 4.1.1
Cadmium		mg/kg	Annual	Composite	See part 4.1.1

Daily Log Requirements				
<p>All discharge and monitoring activity shall be documented on log sheets. Completed log sheets shall be kept in the application vehicle for a minimum of seven days following an application or until the vehicle is moved to a new site. After the seven-day period, the original log sheets shall be kept by the permittee as described under “Records Retention” in the Standard Requirements section, and if requested, made available to the Department.</p>				
Parameters	Limit	Units	Sample Frequency	Sample Type
DNR Site Number(s)	-	Number	Daily	Log
Number of Acres on the Site to Which Sludge is Applied	-	Acres	Daily	Log
Application Rate	-	Tons/Acre/Day	Daily	Calculated

Annual Reporting Requirements and Limitations				
The Annual Report (form 3400-55) is due by January 31 st of each year for the previous calendar year.				
Parameters	Limit	Units	Reporting Frequency	Sample Type
DNR Site Number(s)	-	Number	Annual	Record
Number of Acres on the Site to Which Sludge is Applied	-	Acres	Annual	Record
Total Amount Per Site	-	Tons	Annual	Total Annual
Total Kjeldahl Nitrogen per Site	165, or as required in 4.1.3	Pounds/Acre/Year	Annual	Calculated
Total Chloride per Site	340	Pounds/Acre per 2 Years	Annual	Calculated
Any of the substances required in Monitoring Requirements table above	Limits in s NR 214.18(4)	Limits in s NR 214.18(4)	Annual	Calculated

4.1.1 Sampling

Representative samples shall be collected of the industrial sludge to be land applied and shall be representative of all the sludge being land applied. Samples may be collected from a truckload of sludge that is representative of all the sludge that is being hauled. For interim general permits, unique sample point shall be assigned to each sludge to allow for effective tracking of land application loadings. Monitoring for metals is required only when specified by the Department in the letter of coverage, in the application site approval and/or in the management plan approval.

4.1.2 Chloride Requirements for Industrial Sludge

The total pounds of chloride applied shall be limited to 340 pounds per acre for any 2 consecutive years. Calculate the chloride loading as follows:

$$\text{For Sludge in lbs: } \frac{\text{sludge in lbs X \%solids X \%chloride}}{\text{acres land applied X 100 X 100}} = \text{lbs chloride/acre}$$

$$\text{For Sludge in gals: } \frac{\text{sludge in millions of gallons X mg/L chloride X 8.34}}{\text{acres land applied}} = \text{lbs chloride/acre}$$

4.1.3 Nitrogen Requirements for Industrial Sludge

The total number of pounds of nitrogen that may be land applied per acre per year shall not exceed the nitrogen needs of the cover crop (based on a reliable reference such as: *A2809 Nutrient Application Guidelines for Field, Vegetable and Fruit Crops in Wisconsin*, from UW-Ext., <http://www.soils.wisc.edu/extension/pubs/A2809.pdf>) minus any other nitrogen added to the land application site, including fertilizer or manure. Nitrogen applied can be calculated on the basis of plant available nitrogen, as long as the release of nitrogen from the organic material is credited to future years. This permit requires that the Total Kjeldahl Nitrogen application amount in any calendar year shall not exceed 165 pounds per acre per year on any site, except when alternate numerical nitrogen loading limits are approved in writing via the Department’s land application management plan approval. Calculate nitrogen loading as follows ("TKN" represents "Total Kjeldahl Nitrogen"):

$$\text{For Sludge in lbs: } \frac{\text{sludge in lbs X \%solids X \% TKN}}{\text{acres land applied X 100 X 100}} = \text{ lbs TKN/acre}$$

$$\text{For Sludge in gals: } \frac{\text{sludge in millions of gallons X mg/L TKN X 8.34}}{\text{acres land applied}} = \text{ lbs TKN/acre}$$

4.1.4 General Limitations for Industrial Sludge

The requirements of ss. NR 214.18 (4)(b), (c) and (d) (for groundwater, surface water and nutrients, and application methods) for industrial sludge land application programs are included by reference in this permit..

4.1.5 Cumulative Amount of Metals Applied

The cumulative amount of cadmium, copper, lead, nickel, and zinc applied on any site may not exceed the rates listed in ss. NR 214.18(4)(e), (f) and (g), Table 4, Wis. Adm. Code.

4.1.6 PCB Requirements for Industrial Sludge

If approved by the department in writing, the approval conditions shall be complied with and the requirements of s. NR 214.18 (4)(h) for land application of sludge with PCB.

5 MANAGEMENT PLAN

5.1 Operate Consistent with an Approved Management Plan

The permittee shall operate and maintain the industrial sludge land application system to meet the conditions of this permit in accordance with a management plan approved by the Department as provided in s. NR 214.18(6), Wis. Adm. Code. A copy of the management plan shall be retained by the permittee and the plan shall be available for Department inspection. Whenever the permittee intends to make operational changes affecting the character, quality or quantity of the industrial sludge or procedures of handling or characterizing the sludge, the management plan shall be amended and such amended plan shall be submitted to the Department for approval prior to implementing such changes.

5.2 Submittal of the Management Plan

If a land application management plan has not been approved by the Department prior to the reissuance of this permit, then the permittee shall submit a management plan to the Department for approval not more than 60 days from the date of reissuance of this permit or from the date that coverage under this permit was granted, whichever is later. If, when granting coverage under this permit, the Department determines that a previously approved management plan must be amended to comply with s. NR 214.18(5), Wis. Adm. Code, the letter granting coverage shall require the permittee to submit an amended management plan not more than 60 days from the date that coverage under this permit was granted.

6 OPERATIONAL REQUIREMENTS

The permittee shall meet all the following requirements when land-applying industrial sludge:

- The volume of industrial sludge applied on any portion of a site may not alter the characteristics or structure of the soil so as to cause excessive erosion or limit permeability of the soil on the site.
- There shall be no runoff or movement of industrial sludge from the approved site. If runoff or movement occurs, all land application shall cease immediately.

- When necessary to prevent nuisance conditions, such as attraction of animals or objectionable odors, liquid industrial sludge shall be incorporated into the soil within 6 hours of land application.
- Cake industrial sludge shall be plowed, disced, injected, or otherwise incorporated in the surface soil layer within the time period specified in the management plan.
- If it is necessary to stockpile industrial sludge, the stockpiled material must be land applied within 72 hours as provided in this permit.
- Any system used for the storage or stacking of sludge prior to land application shall be designed and constructed in accordance with ch. NR 213, Wis. Adm. Code or other approved criteria.
- Vehicles used for transporting or land applying the industrial sludge shall be maintained to prevent spillage or leakage.
- Vehicles used for land applying industrial sludge shall be equipped with a distribution system capable of applying the waste uniformly on the land surface.
- Vehicles land applying sludge shall be moving forward at all times of application unless the vehicle is equipped with a high pressure spray nozzle that uniformly distributes the sludge on the land surface.
- The cover crop grown to utilize the benefits of the sludge shall be harvested and removed each year to avoid excess accumulation of nutrients in the soil.
- Industrial sludge containing viable pathogens, such as those from meat or poultry processing operations, may not be applied on sites used for growing crops that may be consumed raw by humans.

7 STANDARD REQUIREMENTS

7.1 NR 205, Wisconsin Administrative Code

The conditions in ss. NR 205.07(1) and NR 205.07(3), Wis. Adm. Code, are included by reference in this permit. The permittee shall comply with all of these requirements, except for s. NR 205.07(1)(n), which does not apply to facilities covered under general permits. Selected s. NR 205.07, Wis. Adm. Code requirements are listed below for convenience.

7.2 Spill Reporting for Hazardous Substances

The permittee shall immediately notify the Department of an accidental release or spill of any hazardous substance to the environment as specified in ch. NR 706 and s. NR 205.07(3)b, Wis. Adm. Code. The Department shall be notified via the 24-hour toll free spills hotline (1-800-943-0003).

7.3 Duty to Halt or Reduce Activity

Upon failure or impairment of treatment facility operation, the permittee shall as required in s. NR 205.07(3)(e), Wis. Adm. Code and to the extent necessary to maintain compliance with its permit, curtail production or wastewater discharges or both until the treatment facility operations are restored or an alternative method of treatment is provided.

7.4 Permit Noncompliance Reporting

As specified in s. NR 205.07(1)(s), Department notification is required within 24 hours of becoming aware of permit noncompliance.

7.5 Bypassing

As specified in ss. NR 205.07(1)(u) & (v), Wis. Adm. Code, any bypass or overflow of discharges regulated by this permit around a settling, filtration or treatment system is prohibited unless there were no feasible alternatives to the bypass, the bypass is necessary to prevent severe injury or property damage, and the permittee notified the Department as required in s. NR 205.07(1)(u)3, Wis. Adm. Code.

7.6 Planned Changes

The permittee shall report to the Department any facility expansion, production increase or process modifications which will result in new, different or increased discharges of pollutants as set forth in s. NR 205.07(3)(c), Wis. Adm. Code.

7.7 Inspection and Entry

The permittee shall allow an authorized representative of the Department, upon the presentation of credentials, to enter the permittee's premises, have access to records, and inspect and monitor the discharge as described in s. NR 205.07(1)(d), Wis. Adm. Code.

7.8 Authorized Signature

Reports, records, and monitoring results required by this permit shall be signed by the permittee's authorized representative or, in his or her absence, as specified in s. NR 205.07(1)(g), Wis. Adm. Code.

7.9 Water Quality Sampling and Testing Procedures

Sampling and laboratory testing procedures shall be performed as specified in s. NR 205.07(1)(p), Wis. Adm. Code and as set forth below. Sampling and analysis of effluent samples shall be performed as specified in chapters NR 218 and NR 219, Wis. Adm. Code, respectively and shall be performed by a laboratory certified or registered in accordance with the requirements of ch. NR 149, Wis. Adm. Code.

7.10 Retention and Submittal of Reports, Records, and Monitoring Results

The permittee shall retain records of all monitoring required by this permit and report monitoring results as set forth in ss. NR 205.07(1)(f) and (r), Wis. Adm. Code. Reports (including storm water inspection reports), records, and monitoring results required by this permit shall be retained by the permittee for the duration of this permit or three years after this information is generated, whichever is longer.

7.11 Recording of Results

For each effluent measurement or sample taken, the permittee shall record the following information as required in s. NR 205.07(1)(e), Wis. Adm. Code:

- The date, exact place, method and time of sampling or measurements,
- The individual who performed the sampling or measurements,
- The date of the analysis and the individual who performed the analysis,
- The analytical techniques or methods used, and the results of the analysis.

7.12 More Frequent Monitoring

If the permittee monitors any parameter more frequently than required by the permit, using test procedures specified in chs. NR 204 or 219, Wis. Adm. Code, or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharge monitoring report.

7.13 Conventions for the Reporting and Use of Low Level Results

The permittee shall use the following conventions when reporting effluent monitoring results: (a) non-detected pollutant results shall be reported as < (less than) the value of the analytical method's limit of detection; (b) pollutant concentrations equal to or greater than the limit of detection, but less than the limit of quantitation, shall be reported and the limit of quantitation shall be specified; and (c) a zero value may be substituted for any non-detected pollutant result for the purposes of calculating an average or a mass discharge.

7.14 Continuation of an Expired General Permit

As provided in s. NR 205.08(9), Wis. Adm. Code, the terms and conditions of this general permit shall continue to apply until this general permit is reissued or revoked or until an individual permit is issued for the discharge to which the general permit applied. The status of expired general permits and forms for requesting continued permit coverage can be accessed at <http://dnr.wi.gov/org/water/wm/ww/gpindex/gpinfo.htm>.

7.15 Severability

The provisions of this permit are severable, and if any provisions of this permit or the application of any provision of this permit to any circumstance is held invalid, the remainder of this permit shall not be affected thereby.

8 SUMMARY of REPORTS DUE

FOR INFORMATIONAL PURPOSES ONLY

Description	Date	Page
Characteristic Form 3400-49	no later than the date indicated on the form or annually by January 31, following each year waste is land applied	2
Annual Land Application Report Form 3400-55	January 31, following each year waste is land applied	2
Other Methods of Disposal or Distribution Report Form 3400-52	January 31, following each year waste is land applied	2

Monitoring results obtained during the specified reporting period shall be summarized and reported on the forms listed above or other reporting form or system approved by the Department (including an electronic land application reporting system when available for General WPDES permits). When submitting a paper discharge monitoring reporting form, the original (and one copy if required on the reporting form) shall be submitted to the return address printed on the form. A copy of the land application report forms submitted or an electronic file of the report shall be retained.

Any facility plans or plans and specifications for industrial pretreatment and industrial wastewater systems shall be submitted to the Bureau of Water Quality Management, 101 South Webster Street, P.O. Box 7921, Madison, WI 53707-7921.