



STATE OF MINNESOTA
Minnesota Pollution Control Agency
Industrial Division

State Disposal System (SDS) Permit MNG960000

General Permit Authorization to Land Apply Wastes
Generated from Food and Beverage Processing Facilities

ISSUANCE DATE: December 1, 2008 EXPIRATION DATE: November 30, 2013

The state of Minnesota, on behalf of its citizens through the Minnesota Pollution Control Agency (MPCA), authorizes the Permittee to land apply industrial by-products generated during the processing of food and beverages, in accordance with the requirements of this permit.

The goal of this permit is to protect water quality according to Minnesota and U.S. statutes and rules, including Minn. Stat. chs. 115 and 116, Minn. R. chs. 7001, 7050, and 7060, and the U.S. Clean Water Act.

This permit is effective on the issuance date identified above, or on the date of the attached cover letter, whichever is most recent. This permit supersedes the previous general permit MNG960000 (General Permit Authorization to Land Apply Wastes Generated from Food and Beverage Processing Facilities), issued for these types of facilities on October 17, 2003.

This permit expires at midnight on the expiration date identified above.

Signature: _____

Jeff Stollenwerk
Supervisor, Water Quality Permit Unit
Duluth Office
Industrial Division

for: The Minnesota Pollution Control Agency

Submit DMRs to:

Attention: Discharge Monitoring Reports
Minnesota Pollution Control Agency
520 Lafayette Rd N
St Paul, MN 55155-4194

Submit Other WQ Reports to:

Attention: WQ Submittals Center
Minnesota Pollution Control Agency
520 Lafayette Rd N
St Paul, MN 55155-4194

Questions on this permit?

- For DMR and other permit reporting issues, contact: Belinda Nicholas, 651-296-8838.
- For specific permit requirements or permit compliance status, contact: Justin Barrick, 218-855-5012.
- NPDES program questions, contact: MPCA Customer Assistance Center, 651-296-6300 or 800-657-3864.

520 Lafayette Rd. N.; St. Paul, MN 55155-4194; 651-296-6300 (voice); 651-282-5332 (TTY)

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Industrial By-Product General Summary of Stations

Land Application Stations

<u>Station</u>	<u>Type of Station</u>	<u>Local Name</u>	<u>PLS Location</u>
LA301	Non-biosolids WWT/Sludge Appl Site		

Waste Stream Stations

<u>Station</u>	<u>Type of Station</u>	<u>Local Name</u>	<u>PLS Location</u>
WS301	Solids to Land Treatment/Application		

Industrial By-Product General Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

WS 301

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Nitrogen, Kjeldahl, Total, Solid Fraction, Dry Weight	Monitor Only	%	Single Value	Sep-Aug	Composite	1 x Year	1
Solids, Total	Monitor Only	%	Single Value	Sep-Aug	Composite	1 x Year	1

Notes:

1 -- Refer to Table 1 of the appendix of this permit for additional analysis required for this IBP. Refer to Table 2 of the appendix for minimum analysis frequencies. Analysis must be conducted on samples which are representative of each industrial by-product to be land applied. Samples for each industrial by-product must be sampled and analyzed for the parameters listed in the Limits & Monitoring section of this permit as well as the additional parameters required by Table 1 in the appendix of this permit. Analysis is not required for sweet corn silage. Analysis of 'Oil & Grease, Total' is not required at facilities where oil and grease are not present in the waste stream.

Chapter 1. General Industrial By-Products

1. Authorization

- 1.1 This permit authorizes the Permittee, as identified by name, location and facility description on the accompanying Letter of Coverage, to land apply industrial by-products generated during the processing of foods and beverages in accordance with the provisions of this permit. This permit does not include solid wastes generated at these facilities as part of other operations, such as vehicle maintenance, shipping, and cooling water.

Examples of industrial by-products eligible for coverage under this permit include liquid or dewatered wastewater treatment sludges, wash water from small food preparation industries, pretreatment solids settled from wastewater before discharging to a municipal wastewater system, whey from cheese processing, sweet corn silage, and ethanol by-products. Industries that produce industrial by-products which have characteristics similar to food and beverage processing by-products may also apply for coverage under this permit.

- 1.2 All conditions of this permit must be met in order to be eligible for continued coverage by this permit. The Permittee (generator of the industrial by-product(s)) covered by this permit is responsible for ensuring that all requirements of this permit are met.

2. General Permit Applicability Criteria

- 2.1 All criteria identified in this part must be met in order for an industrial by-product to be eligible for coverage under this permit.
- 2.2 Characterization of the industrial by-product at the time of permit application must indicate all of the eligibility requirements in this part are met.
 - a. The industrial by-product cannot be a hazardous waste.
 - b. Concentrations of any of the analytes in the industrial by-products cannot exceed the limits for the specified analytes below. Industrial by-products cannot be diluted or mixed with other materials before this determination has been made.

Concentration limits for industrial by-products on a dry weight basis:

Total Arsenic: 41 mg/kg
Total Cadmium: 39 mg/kg
Total Copper: 1500 mg/kg
Total Lead: 300 mg/kg
Total Mercury: 5 mg/kg
Total Molybdenum: 75 mg/kg
Total Nickel: 420 mg/kg
Total Selenium: 100 mg/kg
Total Zinc: 2800 mg/kg
Total Dioxin equivalents: 10 parts per trillion
Total Polychlorinated biphenyls: 6 mg/kg

- c. Annual application rates of the industrial by-product cannot exceed a sodium application rate limitation of 170 lb/acre/year.

Chapter 1. General Industrial By-Products

2. General Permit Applicability Criteria

- 2.3 The following industrial by-products do not qualify for coverage under this permit:
- a. Egg shells managed in accordance with Minn. R. 7035.2860 (Beneficial Use Rules);
 - b. Industrial by-products from the processing of sugar beets;
 - c. Animal manures and paunch manure covered under Minn. R. 7020 (Feedlot Rules);
 - d. Dead animals; and,
 - e. Residuals from the treatment of drinking water or for conditioning of industrial process water managed in accordance with Minn. R. chapter 7035.2860 or covered under general permit MNG820000 or MNG640000 (water treatment plant general permits).
- 2.4 If the MPCA finds that the facility site of a permit applicant or a Permittee covered under this permit would be more appropriately covered under an individual permit, the MPCA may require an individual permit for the applicant or Permittee, in accordance with Minn. R. 7001.0210, subp. 6.
- 2.5 If there is any change in the operation of a facility covered by this general permit or conditions exist which may cause the facility to violate any of the terms and conditions of this permit, the Permittee shall notify the MPCA immediately of the changes, and if so requested by the MPCA, shall submit an application for an individual permit.

3. Sampling and Analyses

Plan for Sampling, Analysis, and Field Equipment Calibration

- 3.1 Submit a Sampling, Analysis and Field Equipment calibration plan with permit application to address storage, management, and land application schedules by 60 days after permit issuance.
- 3.2 The Sampling, Analysis and Field Equipment Calibration plan must include, but is not limited to the following:
- a. A description of how samples will be collected to ensure representative samples of the industrial by-product land applied are obtained, which shall include the identification of sampling locations, and a description of a sampling schedule;
 - b. A list of all parameters that will be analyzed, the frequency they will be analyzed, maximum holding times, and preservation methods that will be used;
 - c. The laboratory methods used for analysis and reporting limits necessary;
 - d. A schedule and detailed procedures which will be followed for calibration of field equipment to determine actual application rates of industrial by-product;
 - e. Example of record keeping forms that will be used for sampling, analysis, and equipment calibration;
 - f. Position of the person(s) responsible for sampling and calibration of field equipment; and
 - g. Description of measures and practices that will be implemented to provide reasonable assurance that the land application, staging and/or storage of industrial by-product will not cause nuisance conditions.

Other Sampling Requirements

- 3.3 Sample preservation and test procedures for the analysis of pollutants shall conform to 40 CFR Part 136 and Minnesota Rules, part 7041.3200.

Chapter 1. General Industrial By-Products

3. Sampling and Analyses

- 3.4 All monitoring and analytical instruments used to monitor as required by this permit shall be calibrated and maintained at a frequency necessary to ensure accuracy. The Permittee shall measure flows to ensure accuracy within plus or minus ten percent of the true flow values. The Permittee shall maintain written records of all calibrations and maintenance.
- 3.5 Samples and measurements required by this permit shall be representative of the monitored activity and shall be analyzed by a laboratory certified by the Minnesota Department of Health for the applicable permitted parameters. Analyses of pH do not need to be completed by a certified laboratory.
- 3.6 The "sample type", "sampling frequency" and "effective period" identified in the Limits and Monitoring section of this permit and Table 1 and Table 2 of the appendix together designate the minimum required monitoring frequency.
- 3.7 If a Permittee monitors more frequently than required by this permit, the results and the frequency of monitoring shall be reported on the next regularly scheduled Annual Report, as required by the Annual Report section of this chapter.
- 3.8 For bypasses, upsets, spills or any other discharge that may cause pollution of the waters of the state, the Permittee shall take at least one (1) grab sample for permitted effluent parameters two (2) times per week. If the Permittee believes that measuring these parameters is inappropriate due to known information about the discharge, the monitoring may be modified in consultation with the MPCA. Where there is reason to believe a pollutant other than those limited in the permit is present, the Permittee shall sample for that pollutant. Appropriate sampling shall be determined in consultation with the MPCA.

4. Limits and Monitoring Requirements

- 4.1 Parameters. Samples for each industrial by-product must be sampled and analyzed for the parameters listed in the Limits & Monitoring Section of this permit as well as the additional parameters required by Table 1 in the appendix of this permit. Analysis is not required for sweet corn silage. Analysis of "Oil and Grease, Total" is not required at facilities where oil and grease are not present in the waste stream.
- 4.2 Analysis Frequency. Refer to Table 2 of the appendix of this permit to determine the minimum frequency of analysis for the analytes identified in the Limits and Monitoring section and Table 1 of the appendix of this permit. Minimum analytical frequency must be determined for each type of industrial by-product land applied. In some cases to obtain representative samples the minimum frequencies of analysis will not be adequate and additional analysis may be required.
- 4.3 If the facility produces more than one type of industrial by-product, it must analyze each industrial by-product individually. Refer to Table 2 of the appendix to determine the minimum sampling frequencies.

Chapter 1. General Industrial By-Products

5. Soil Chemical Suitability Requirements and Limits

- 5.1 Soil samples must be collected and analyzed within the three-year period prior to industrial by-product application for the parameters listed below:

Parameter	Limit	Units
Organic Matter, Total in Soil	Monitor Only	%
pH	Monitor Only	SU
Phosphorus, BRAY-1 Ext in Soil	200	ppm
Phosphorus, Olson Ext in Soil	180	ppm*
Potassium, NH4AC, Exch In Soil	Monitor Only	ppm
Salts, Water Soluble in Soil	4	mmho/cm

* The soil test method used for extractable phosphorus in the soil is either the Bray P-1 test, or the Olson test; the Olson procedure shall be used if the soil pH is 7.4 or higher.

A site shall not be used for land application until sample results are received and evaluated to determine soil suitability.

If any of the soil limits are exceeded, the site shall not be used for land application by the Permittee until sample results show limits are met.

- 5.2 Soil samples shall be a composite sample consisting of a mixture of 15-20 sub-samples taken in the plow layer. A minimum of one composite sample per site is required. On sites that are greater than 40 acres in size, a minimum of one composite sample per 40 acres of area is required.

6. Soil Physical Suitability Requirements

- 6.1 The soil will be considered suitable if the site is used for growing a crop which is harvested and removed during the cropping year that the industrial by-product is land applied.
- 6.2 If the site does not meet this condition or the application site is set aside land (CRP), pasture land, non-agricultural land, or the industrial by-product contain pathogens, all the soil suitability criteria in a through c, below, must be met:
- a. The soil texture at the zone of industrial by-product application must be fine sand, loamy sand, sandy loam, loam, silt, silt loam, sandy clay loam, clay loam, sandy clay, silty clay loam, silty clay or clay.
 - b. The depth to bedrock must be at least 3 feet, unless the soil is classified as a highly permeable soil, in which case the minimum depth is increased to 5 feet.
 - c. The depth to the seasonal high water table must be at least 3 feet, unless the soil is classified as a highly permeable soil, in which case the minimum depth is increased to 5 feet.
- 6.3 On sites where tile drainage is installed, the depth to tile lines is considered the depth to the seasonal high water table. Tiling must be adequate to ensure the three-foot separation distance can be maintained. Maps of the tiling system must be provided indicating their depth and placement in the field. Water tables classified as perched or epi-saturated by the Natural Resources Conservation Service are not considered to be the seasonal high water table.
- 6.4 Soil suitability can be determined by obtaining information from soil surveys published by the Natural Resources Conservation Service or by characterization of the site by a state of Minnesota licensed soil scientist or other qualified person.

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7. Site Suitability Criteria

- 7.1 The criteria in this section detail the suitability of land application sites for receiving industrial by-products. All criteria within this section must be met for a site to qualify as being suitable for land application of an industrial by-product.
- 7.2 The Permittee is responsible for determining the suitability of the site for industrial by-product application, including a determination that the site meets the soil sample limitations identified above for Land Application Stations in the 'Limits and Monitoring' section of this permit, and the 'Site Suitability Criteria' of this part.
- 7.3 Slope Restrictions. The slope restrictions in Table 3 of the appendix to this permit apply to all sites used for land application of industrial by-products.
- 7.4 Separation Distances. The separation distances in Table 4 of the appendix to this permit shall be maintained on all land application sites.

8. Site Management, Limitations, and Restrictions

- 8.1 Hydraulic Loading Limits. Hydraulic loading are set to prevent ponding and runoff from land application sites. The limitations specified in this part shall not cause any other application limits of this permit to be exceeded.

Daily application rates for industrial by-products which are surface applied are limited to:

- a. 10,000 gallons/acre/day for fine textured surface soils with United States Department of Agriculture (USDA) textural classifications of clay loam, silty clay loam, sandy clay, silty clay;
 - b. 15,000 gallons/acre/day for medium textured surface soils with USDA textural classifications of loam, silt, silt loam, and sandy clay loam; and,
 - c. 25,000 gallons/acre/day for coarse textured surface soils with USDA textural classifications of sand, loamy sand, and sandy loam.
- 8.2 Winter Application. During the time that soils are frozen or snow covered, so that incorporation or injection is not possible, the following requirements shall be met:
 - a. A maximum hydraulic loading rate of 15,000 gallons/acre/winter for liquid industrial by-product shall not be exceeded.
 - b. Applications are restricted to areas with 0 % to 2 % slopes.
 - c. All separation distances identified in Table 4 of the appendix to this permit must be maintained.
 - d. For the purposes of this permit, it is assumed that industrial by-product is unable to be incorporated or injected during the months of December, January, February, and March unless specific field or climatic conditions are observed and documented appropriately in the Daily Hauling Record.
 - 8.3 Additional measures may be necessary to prevent runoff of the material during the Spring thaw, such as installation of silt fences and berms and planting of grass buffer strips, to meet the requirement that no runoff of the industrial by-product from the application site is allowed.

Chapter 1. General Industrial By-Products

8. Site Management, Limitations, and Restrictions

- 8.4 Miscellaneous Management Practices/Restrictions. All of the following standards apply to the land application of industrial by-products.
- a. No runoff of the industrial by-product from the application site is allowed. Management tools such as installation of silt fences and berms, and planting of grass buffer strips may be required to meet the no-runoff requirement.
 - b. No ponding of liquid industrial by-products is allowed after 6 hours of application.
 - c. All of the industrial by-product land applied must be uniformly distributed over the area of the site used during application.
 - d. The application area must be clearly identified with flags, stakes, or other easily seen markers at the time of application to identify the site boundaries, separation distances, and unsuitable application areas within the site. Where site boundaries can be identified by field roads, and fences, and so forth, identification is not necessary.
 - e. The industrial by-product must be immediately incorporated or injected on sites subject to flooding.
 - f. Application of the industrial by-product is not allowed on areas of a site ponded with water or industrial by-product.
 - g. Application of the industrial by-product is not allowed on areas that remain fallow for the entire cropping year.
 - h. Liquid industrial by-products must be injected or immediately incorporated when applied on soil with a surface horizon permeability rate of less than 0.2 inches/hour.
 - i. The industrial by-product shall not be applied by spraying from public roads or across road right of ways without prior written MPCA approval.
- 8.5 Nuisance conditions. Land application, staging and/or storage of industrial by-product shall be performed to minimize odors, noise, and vector attraction. The Permittee shall provide reasonable assurance that the land application, staging and/or storage of industrial by-product will not cause nuisance conditions. All aspects of land application of the industrial by-product shall be considered in providing reasonable assurance, to include loading, unloading, transportation, storage and land application of the industrial by-product, and shall be specified in the Sampling, Analysis, and Field Calibration Equipment Plan.

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9. Additional Requirements - Industrial By-Products Supplying Nitrogen

Total Available Nitrogen

- 9.1 For the purposes of this permit, the total quantity of nitrogen available for crop uptake during the cropping year is the sum of available organic nitrogen and ammonia nitrogen.
- a. Available organic nitrogen. The available organic nitrogen shall be determined by one of the methods in items i or ii:
- i. The total quantity of organic nitrogen present in the industrial by-product will be considered 50% available during the cropping year it is applied and 25% the following cropping year (carry over nitrogen)..
- ii. The quantity of organic nitrogen available in the IBP during the cropping year it is applied and subsequent years (carry over) will be determined by a mineralization study. The mineralization study will determine the rate and quantity of organic nitrogen mineralized during the cropping year it is applied and the rate and quantity of nitrogen mineralized during the second cropping year after application. To be used for the purposes of this permit, the mineralization study, including study protocol, must be approved by MPCA prior to initiation of the study.
- b. Ammonia nitrogen. The quantity of ammonia nitrogen used for calculating total available nitrogen is equal to 100% of the ammonia nitrogen contained in the industrial by-product when it is injected or immediately incorporated or 50% of the ammonia nitrogen when it is surface applied without immediate incorporation.

Maximum Allowable Nitrogen Application Rates

- 9.2 Maximum allowable nitrogen application rates shall be based on recommendations from the University of Minnesota Extension Service. These recommendations are based on soil analyses, realistic crop yield goals, and previously grown crops. This information is available from the MPCA upon request. When information on recommended nitrogen application rates is not readily available or agreed upon, MPCA written approval must be obtained for the nitrogen application rate proposed.
- 9.3 Maximum allowable nitrogen application rates for selected crops which do not have University of Minnesota Extension Service recommendations for nitrogen are provided in Table 6 of the appendix to this permit.
- 9.4 Industrial by-products shall not be applied at rates that cause the annual maximum allowable nitrogen application rate to be exceeded. Maximum allowable nitrogen application rates must take into account all available nitrogen supplied by industrial and municipal by-products such as biosolids, compost and septage, and fertilizers applied on the site.

Application Management

- 9.5 When no crop is grown on the application site during the time period between July 1 through August 31, the following requirements apply:
- a. Applications are limited to rates which supply no more than 50 pounds per acre of available nitrogen.
- b. Available nitrogen for the following cropping year shall be the sum of the total amount of nitrogen applied between July 1 and August 31 plus applicable carry over from earlier industrial by-product application.
- 9.6 The maximum application rate of an industrial by-product allowed after the second cutting of a hay crop shall not provide more than 50 percent of the maximum allowable nitrogen based on the recommendations from the University of Minnesota Extension Service or Table 6 in the appendix of this permit.

Chapter 1. General Industrial By-Products

10. Additional Requirements - Industrial By-Products Containing Pathogens

- 10.1 Applicability. Industrial by-products containing pathogens have additional separation distances and site restrictions which must be met. For purposes of this permit, an industrial by-product will be assumed to contain pathogens when it contains waste streams known or likely to contain pathogens, including wastes containing blood, animal feces and raw meats. All requirements of this section must be met for industrial by-products containing pathogens.

Site Restrictions for Industrial By-Products Containing Pathogens

- 10.2 The restrictions on crop harvest and access restriction described below must be met on all land application sites when industrial by-products containing pathogen are land applied. If necessary, the area must be posted to ensure these restrictions are being met. Minimum duration between time of application of an industrial by-product containing pathogens and harvest, grazing, and public access to the site are as follows:
- a. For food crops whose harvested part may touch the soil/industrial by-product mixture, such as melons, squash, and tomatoes, the waiting period is 14 months.
 - b. For food crops whose harvested parts grow in the soil, such as potatoes and carrots, the waiting period is 38 months. This waiting period can be reduced to a 20 month duration between application and harvest when the industrial by-product is surface applied and stays on the soil surface four months or longer prior to incorporation into the soil.
 - c. For feed, other food crops, such as field corn or sweet corn, hay, or fiber crop, the waiting period is 30 days.
 - d. For the grazing of animals, the waiting period is 30 days.
 - e. For public access to land with a high potential for exposure, including public contact sites, reclamation sites located in populated areas, turf farms, or plant nurseries, the waiting period is one year.
 - f. For public access to land with a low potential for exposure, including lands with infrequent public use such as agricultural land, forests, or reclamation sites located in an unpopulated area, the waiting period is 30 days.

11. Notification Procedures

Notification to MPCA

- 11.1 Prior to the use of a site for land application of an industrial by-product for the first time, the Permittee shall submit a completed 'Industrial By-Products Land Application Site Application Form', at least 30 days prior to application of industrial by-product at the respective site. The soil test results submitted with this form shall be collected no greater than six (6) months prior to submittal of the form. This notification must be repeated if any of the properties or conditions of the site changes, including a change in site name, site ownership, acreage used, soil types, slope and/or drainage capacity (tile lines). A copy of the form is included in the appendices section of this permit and is available electronically at <http://www.pca.state.mn.us/water/landapp.html>.
- 11.2 Prior to the use of a structure for the storage of an industrial by-product, the appropriate and respective certifications required by the Industrial By-Product Storage section of this permit shall be provided to the MPCA.

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11. Notification Procedures

Local Notification

- 11.3 Before land application activities are initiated within a county, city or township for the first time, written notification shall be provided to local officials at least 30 days before initiating land application activities in the respective jurisdiction. The first time a Permittee applies an industrial by-product within a county, township, or city, the Permittee must satisfy the following notification procedures:
- a. Notify the county's Planning and Zoning or Solid Waste Officer (whichever is appropriate for the county) in writing 30 days before the industrial by-product is land applied within the county; and,
 - b. Notify the township clerk in writing 30 days before the industrial by-product is land applied within the township; or,
 - c. Notify the mayor or other appropriate official of the city in writing 30 days before the industrial by-product is land applied within the city limits.
- 11.4 Notifications must be dated and contain a description of how the industrial by-product will be managed during land application, to include the following elements:
- a. Description of the industrial by-product to be land applied, including a description of how the industrial by-product is produced, what nutrients/pollutants are present in the industrial by-product, and the limiting nutrient/pollutant in the industrial by-product being applied.
 - b. Description of how any staging and/or short-term storage of the industrial by-product will be conducted prior to land application.
 - c. Description of the applicable slope and setback requirements that will be followed during land application.
 - d. Response section must be provided to notify the local officials there is an opportunity to request additional information regarding copies of records, testing information, individual site information, listing of all sites, etc; and/or a section to provide information to the generator of the waste, applicator(s) and land owner(s) of any local requirements.
- 11.5 If any significant changes in the management of the industrial by-product described in the notification occur, including changes affecting the staging and/or storage of the industrial by-product, the notification process must be repeated.

End User Notification

- 11.6 For each site used for land application of the industrial by-product, the end user must receive, at a minimum, the information necessary to meet the requirements of this permit. This includes information such as actual nutrient application rates, any restrictions on the by-product use, crop restrictions, and so forth.
- 11.7 The end user must be provided with this information in writing as soon as possible and in no case more than 6 weeks after application has been completed. Records demonstrating compliance with end user notification shall be maintained in accordance with the Records section of this permit.
- 11.8 The Permittee shall inform end users that they should take appropriate credits for all plant nutrients supplied by industrial and municipal by-products, manures, and fertilizers so that maximum allowable application rates are not exceeded.

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12. Operator Certification

- 12.1 All land application activities must be done by or under the supervision of a Type IV certified operator. All information submitted to the MPCA related to land application must be completed and signed by a Type IV certified operator.
- 12.2 The number of certified operators required for land application activities is subject to the requirements of Minn. R. 7048.0500.

13. Records

- 13.1 Record Retention. The following records shall be maintained at the facility for a minimum of three (3) years, and shall be available at the facility for review at any time by MPCA staff:
 - a. Copy of the submitted 'Site Notification Form' for each land application site, including the site map identifying the exact site location of the site, soil types on the site, and areas that are required to be excluded from use.
 - b. Documentation of site suitability of each site, including a copy of any lab results and other analytical information related to the industrial by-product or site used for application.
 - c. Documentation of loading calculations for each site, including the maximum allowable industrial by-product application rate for each site being used during the current cropping year.
 - d. Documentation of acres used for application.
 - e. Daily hauling records which indicate quantities of industrial by-product transferred to storage or land applied with the storage or site location identified for each land application site or storage area/structure.
 - f. Sampling and calibration records as required by the Sampling, Analysis and Field Equipment Calibration Plan as well as a copy of the submitted Sampling, Analysis, and Field Equipment Calibration Plan.
 - g. Copy of the submitted Industrial By-Products Annual Report Form and any other reported information necessary to prepare the Annual Report.
 - h. Copy of notification letter(s) and other information submitted to each city, county and township.
 - i. Copy of written information provided to each end user of the industrial by-product.
- 13.2 Record Retention continued:
 - j. Any approved plans or special approvals required by this permit.
 - k. Copy of any 'Transfer to Manure Storage Form' submitted for storage of industrial by-product in a manure storage structure.
 - l. Any applicable records requirements pertaining to the storage of industrial by-product as specified by Industrial By-Products Storage section of this permit.

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13. Records

- 13.3 The following information shall be maintained as the 'Daily Hauling Record,' organized by site or storage area/structure for each site or storage unit used for the land application or storage of industrial by-product covered by this permit, including manure storage structures and structures used for the storage of sweet corn silage:
- a. Name of site;
 - b. Date delivered to site/storage area/structure;
 - c. Date applied to site/removed from storage area/structure;
 - d. Volume applied/delivered to site/storage area/structure;
 - e. Application rate;
 - f. Visual observations of site, including but not limited to an indication of whether soils are frozen or snow covered, such that incorporation or injection of industrial by-product is not possible; and
 - g. Running total of industrial by-product applied to site/added to storage unit during the cropping year.
- 13.4 The Permittee shall maintain records for each sample and measurement. The records shall include the following information:
- a. the location and date of the sample or measurement;
 - b. the date of analysis;
 - c. the name of the person who performed the sample collection, measurement, analysis, or calculation;
 - d. the analytical techniques, procedures and methods used; and,
 - e. the results of the analysis.
- 13.5 Records for soil sampling and samples related to the industrial by-products shall be maintained in accordance with the Permittee's Sampling, Analysis and Field Equipment Calibration Plan, as required in the Sampling and Analysis part of this chapter.
- 13.6 The Permittee shall keep the records required by this permit for at least three (3) years, including any calculations, original recordings from automatic monitoring instruments, and laboratory sheets. The Permittee shall extend these record retention periods upon request of the MPCA and/or during the course of an unresolved enforcement action.
- 13.7 Except for data determined to be confidential according to Minnesota Statutes, ch. 116.075, subd. 2, all reports required by this permit shall be available for public inspection at the MPCA St. Paul office. Effluent data shall not be considered confidential. Confidential material shall be submitted according to Minnesota Rules, pt. 7000.1300.
- 13.8 The Permittee shall, when requested by the commissioner, submit within a reasonable time the information and reports that are relevant to the control of pollution regarding the construction, modification, or operation of the facility covered by the permit or regarding the conduct of the activity covered by the permit.

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14. Annual Report

- 14.1 Submit an Industrial By-Product Land Application Annual Report by December 31 of each year following permit issuance. Report on the form provided by the MPCA in the appendices section of this permit or the Annual Report form available electronically at <http://www.pca.state.mn.us/water/landapp.html> or another MPCA approved form.
- 14.2 The Industrial By-Product Land Application Annual Report must include the following information:
- a. Total quantity of each industrial by-product land applied during the cropping year (if none land applied, this can be indicated on the form).
 - b. Results of all analyses conducted and the average of these analyses.
 - c. Site specific information:
 - i. Crops grown/vegetation receiving nutrient benefit;
 - ii. Realistic yield goal;
 - iii. Months site used;
 - iv. Soil analysis results;
 - v. Application rate of industrial by-product;
 - vi. Application rates for sodium, phosphorus, and nitrogen; and,
 - vii. Description of any management problems associated with land application that occurred during the cropping year and how these problems have been or will be resolved.
 - d. Total quantity of industrial by-product transferred to/from a storage area/structure under the terms of the Industrial By-Product Storage section of this permit, if applicable.
- 14.3 The Permittee shall report monitoring results for the completed reporting period in the units specified by this permit on the Industrial By-Product Land Application Annual Report form, as provided in the appendices section of this permit or electronically at <http://www.pca.state.mn.us/water/landapp.html>.
- 14.4 The Permittee shall report monitoring results below the reporting limit (RL) of a particular instrument as "<" the value of the RL. For example, if an instrument has a RL of 0.1 mg/L and a parameter is not detected at a value of 0.1 mg/L or greater, the concentration shall be reported as "<0.1 mg/L." "Non-detected", "undetected", "below detection limit" and "zero" are unacceptable reporting results, and are permit reporting violations.
- 14.5 The Permittee or the duly authorized representative of the Permittee shall sign the reports and documents submitted to the MPCA by the Permittee.
- 14.6 A person who falsifies, tampers with, or knowingly renders inaccurate a monitoring device or method required to be maintained under this permit is subject to penalties provided by federal and state law.
- 14.7 The Permittee shall report noncompliance with the permit not reported under Minnesota Rules, part 7001.0150, subpart 3, item K as a part of the next report which the Permittee is required to submit under this permit. If no reports are required within 30 days of the discovery of the noncompliance, the Permittee shall submit the information listed in Minnesota Rules, part 7001.0150, subpart 3, item K within 30 days of the discovery of the noncompliance.

Chapter 1. General Industrial By-Products

14. Annual Report

- 14.8 A person who knowingly makes a false statement, representation, or certification in a record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance is subject to penalties provided by federal and state law set forth.

15. Industrial By-Product Storage

- 15.1 Applicability. Storage or staging of industrial by-product prior to land application is allowed only under the terms and conditions of this permit for the industrial by-product(s) covered by this permit. This section is divided into several subparts, which specifies the applicable standards to the storage area and/or structure based on the length and method of storage.
- 15.2 Dewatered industrial by-products being spread concurrent with the unloading of bulk material on the land application site and not stockpiled overnight are not considered storage and are not subject to the additional requirements for storage under this part.
- 15.3 For the purposes of this permit, management of industrial by-product in a lagoon or pond system that is an inherent part of a wastewater treatment system that has already been expressly approved by the Agency in writing does not constitute storage and is not covered under this general permit. Inherent to a wastewater treatment system means that the lagoon or pond system is physically connected to the treatment facility, and is closed loop in nature.
- 15.4 Storage of a dewatered industrial by-product that has already been approved under a previous permit action or other written approval must meet the requirements of the applicable parts of this chapter.

A. Requirements Applicable for Storage of Industrial By-Product

- 15.5 Prior to use of an area or structure for storage of an industrial by-product within a county, township, or city, the Permittee must notify the appropriate local authorities as described below. Notification to local officials as required by this section shall include as least the following information, and a response section:
- a. a description of the necessity for storage at the land application site;
 - b. the location of the storage area delineated on maps submitted;
 - c. the dimensions of the storage area;
 - d. the quantity of industrial by-product to be stored;
 - e. expected duration of storage before land application; and,
 - f. a description of precautions or practices to minimize or prevent drainage, runoff or nuisance conditions at the storage area.
- 15.6 Separation Distances. The separation distances in Table 7 of the 'Tables for Industrial By-Product Chapter' appendix of this permit shall be maintained for all areas and structures used for the storage of industrial by-products.

Chapter 1. General Industrial By-Products

15. Industrial By-Product Storage

15.7 Management of Storage Area. All of the following requirements apply to areas and structures used for the storage of industrial by-products:

- a. No runoff of the industrial by-product from the storage site is allowed.
- b. If the storage area contains any particulate matter that may be subject to wind dispersion, the owner or operator must cover or otherwise manage the waste to control wind dispersion.
- c. Nuisance conditions resulting from the storage of industrial by-product must be controlled and managed by the Permittee.

15.8 Records Requirements. In addition to the records retention requirements of this permit, owners and operators of structures used for the storage of industrial by-products shall retain, for the life of the storage structure, the following additional records:

- a. maintenance and repair documentation;
- b. third-party certifications of storage structure(s) used for the storage of industrial by-product; and
- c. as-built drawings of any storage structure(s) used for the storage of industrial by-product.

Additional requirements pertaining to record retention is required in accordance with Minn. R. chapter 7151 for storage of an industrial by-product in a tank or tank system.

B. Requirements for Short-Term Storage of Dewatered Industrial By-Product

15.9 Short-term storage requirements under this section are applicable to industrial by-products that meet the definition of "Dewatered Industrial By-product", as defined by this permit.

15.10 In addition to the requirements under subpart A of this section ("Minimum Requirements for Storage of Industrial By-Products"), the following standards apply to the short-term storage of industrial by-products:

- a. Storage under this section shall not exceed thirty (30) days.
- b. Short-term storage shall only occur on the land application site where the industrial by-product will be applied. The quantity of industrial by-product to be stored at an application site shall not exceed the quantity of material that can be applied to that site.
- c. Short-term storage shall not take place on land with a slope greater than two percent (2%) unless measures are taken to control water runoff.

C. Requirements for Long-Term Storage of Dewatered Industrial By-Product

15.11 Long-term storage requirements under this section are applicable to industrial by-products that meet the definition of "Dewatered Industrial By-product", as defined by this permit.

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15. Industrial By-Product Storage

15.12 In addition to the requirements under subpart A of this section ("Minimum Requirements for Storage of Industrial By-Products"), the following standards apply to the long-term storage of industrial by-products:

- a. Long term storage shall not exceed a period of 7 months.
- b. Long-term storage of an industrial by-product is allowed only when land application will occur on the site where it is stored, or on land that is owned, leased, or rented by the same person, and all sites are within a one-half mile radius of the storage site.
- c. Long-term storage shall not be allowed on land with greater than a two percent (2%) slope unless measures are taken to control water runoff.
- d. Long-term storage areas shall be located in areas where the texture of all the horizons in the soil profile to a depth of five feet is sandy loam or finer, unless an impervious pad with a drainage collection system is constructed.
- e. Long-term storage shall not take place on the same area for two or more consecutive years unless an impervious pad with a drainage collection system is constructed.
- f. Prior to the use of an area for long-term storage (whether or not a pad is constructed), the Permittee shall submit boring logs from at least two soil borings taken to a depth of ten feet at the perimeter of the proposed storage area.

Boring logs must include the following information:

- i. Texture and thickness of each soil horizon encountered;
- ii. Color and presence or absence of mottling for each soil horizon encountered (by the Munsell Soil Color Charts);
- iii. Depth to seasonal high water table, if encountered; and,
- iv. Depth to bedrock, if encountered.

15.13 Locational Prohibitions. All of the locational standards in Table 7 apply to all areas and structures used for the storage of industrial by-products.

15.14 Certification Required. Prior to use of a constructed pad or other structure for the long-term storage of an industrial by-product under this section, owners and operators must obtain and submit written certification from a Professional Engineer registered in the state of Minnesota stating that the storage area and/or structure (storage facility), based on their assessment of the requirements of the Long Term Storage of Dewatered Industrial By-Products section of this permit, is suitable for the long-term storage of the industrial by-product.

15.15 Certification Required. Prior to the use of an area for the long-term storage of an industrial by-product, the Permittee shall submit written certification by a Professional Soil Scientist registered by the state of Minnesota or a Professional Engineer registered in the state of Minnesota, that the site, based on their assessment of the boring logs required under the Long Term Storage of Dewatered Industrial By-Products of this permit, is suitable for the long-term storage of the industrial by-product.

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15. Industrial By-Product Storage

D. Additional Requirements for the Permanent Storage of Dewatered Industrial By-Product

- 15.16 Permanent Storage Requirements are applicable to Industrial By-Products that are stored for a period of more than seven months and are not stored in a tank or tank system.

If manure becomes co-mingled with industrial by-products, all the waste in the structure is considered an industrial by-product.

- 15.17 In addition to part A (Minimum Standards for Storage of Industrial By-Products), the following standards apply to the permanent storage of industrial by-products:

- a. Any basin, pit or lagoon used to store liquid industrial by-products shall not seep at a rate greater than 500 gallons per acre per day.
- b. Any area used to store dewatered industrial by-products must be paved with asphalt, concrete, or other material meeting the seepage requirement above, and must be sufficient to bear the weight of unloading and loading trucks and equipment without cracking. The pad must be sloped and curbed to collect all runoff water. Runoff water must be collected and used in a manner approved by the MPCA.
- c. The industrial by-product shall not be stored at the permanent storage location for more than three years without being processed or utilized.
- d. Prior to operation of a storage facility, the Permittee shall evaluate the potential for migration of contaminants into adjacent subsurface soil, groundwater, or surface water from the stored industrial by-product. This evaluation must take into consideration the characteristics of the industrial by-product, the quantity of industrial by-product to be stored, and the length of time the industrial by-product will be stored.

- 15.18 Certification Required. Prior to use of a constructed area or structure for the permanent storage of an industrial by-product under this section, the Permittee must obtain and submit written certification from an engineer licensed in Minnesota stating that the storage area and/or structure (storage facility), based on their assessment of the requirements of this permit are suitable for the permanent storage of the industrial by-product.

E. Requirements for the Storage of Industrial By-Product in a Tank or Tank System

- 15.19 Certification Required. Prior to use of a tank for the storage of an industrial by-product under this section, owners and operators must obtain written certification from an engineer licensed in Minnesota stating that the tank, based on their assessment of the applicable provisions of Minn. R. chapter 7151 is compliant with the Above Ground Storage Tank Rules.

F. Additional Requirements for the Transfer of Industrial By-Products to Manure Storage Structures

- 15.20 Applicability. Structures designed primarily for the storage of manure wherein industrial by-product and manure are co-mingled are regulated by the requirements of Part F of this section.
- 15.21 Maximum Amount Transferred to Each Structure. A maximum of 50,000 gallons of industrial by-product, or up to 10 % of the available volume of the structure, whichever is greater, is allowed to be transferred to each approved manure storage structure. A second transfer to the manure storage structure during a cropping year is also subject to a maximum of 50,000 gallons, or up to 10% of the available volume of the structure, whichever is greater. Two transfers of product are allowed as long as the first quantity is removed prior to receiving the second transfer. The available capacity of the structure at the time of transfer and the amount transferred shall be maintained in the Daily Hauling Record, as required by the Records section of this permit.

Chapter 1. General Industrial By-Products

15. Industrial By-Product Storage

15.22 Storage Structure Minimum Standards. The following restrictions apply to the storage of industrial by-product in a manure storage structure:

- a. The structure shall meet the design and operational standards of Minn. R. 7020.2100 pertaining to liquid manure storage areas.
- b. Biological treatment lagoons shall not be used for the storage of industrial by-product.
- c. The manure storage structure shall be operated to maintain a minimum of three-foot freeboard at all times.
- c. Industrial by-products must be compatible with the structure and manure to prevent damage to the structure and changes in biological activity. Examples of problems associated with incompatible wastes are damage to concrete and soil liners, physical or chemical changes in the mixture which make it difficult to agitate or pump, cause odors, or cause other nuisance or structural problems.

15.23 Approval Required. Use of manure storage structures for the storage of industrial by-products requires written MPCA approval prior to use of these structures.

15.24 To request approval of the manure storage structure, the Permittee shall:

- a. Complete an Industrial By-Product Transfer to Manure Storage Application Form and submit it to the appropriate county official (feedlot officer in delegated counties or the county solid waste official in nondelegated counties) in the county in which the manure storage structure is located. A copy of the 'Industrial By-Product Transfer to Manure Storage' form is included in the appendices section of this permit and is available electronically at <http://www.pca.state.mn.us/water/landapp.html>.
- b. Submit a copy of the county completed and signed form to the township or city where the manure storage structure is located.
- c. Submit a copy of the county completed and signed form to the MPCA for review and approval.

15.25 Feedlot Facility Minimum Standards

In consideration for approval of a manure storage structure for industrial by-product use, the following standards apply to the facility storing the industrial by-product:

- a. The feedlot receiving the industrial by-product must have a valid permit or certificate of compliance which identifies the manure storage structure.
- b. The feedlot receiving the industrial by-product must be in compliance with agency feedlot and manure management requirements and have no unresolved compliance issues.

Chapter 1. General Industrial By-Products

15. Industrial By-Product Storage

15.26 Land Application of Industrial By-product/Manure Mixtures. The following requirements apply to the land application of mixtures of industrial by-products and manure:

- a. Sampling and analysis of the industrial by-product/manure mixture must occur prior to land application to determine allowable application rates.
- b. Land application of the mixture shall be in accordance with Minn. R. 7020.2225, pertaining to the land application of manure.
- c. The Permittee shall provide the following information to the owner and operator of the manure storage structure at the time of transfer:
 - i. a copy of the analysis of the industrial by-product as required in the 'Limits and Monitoring' section and Table 1 of the appendix to this permit.
 - ii. a copy of the analysis of the industrial by-product/manure mixture.
 - iii. an account of the volume transferred to the manure storage facility.

15.27 Land Application of Industrial By-product/Manure Mixtures (continued)

- d. The Permittee shall obtain a copy of the Manure Management Plan from the owner or operator of the manure storage structure and ensure that the addition of the industrial by-product is appropriately addressed in the Plan. A Manure Management Plan is required by Minn. R. chapter 7020 for operations with more than 300 animal units; for operations with less than 300 animal units, a MMP is not required, but the manure must be land applied in accordance with the requirements of Minn. R. chapter 7020.
- e. The Permittee shall not relinquish control of the industrial by-product until the Manure Management Plan has been appropriately updated or if there is reason to believe that the industrial by-product will not be managed in accordance with this permit or Minn. R. 7020.2225.
- f. The total quantity of by-product transferred and a copy of analysis results shall be submitted to the agency in accordance with the 'Annual Report' part of this chapter.
- g. Daily Hauling Records pertaining to the transfer of the industrial by-product to/from a manure storage structure, as required by the Records section of this permit.

16. Compliance Responsibility

- 16.1 The Permittee shall perform the actions or conduct the activity authorized by the permit in accordance with the plans and specifications approved by the agency and in compliance with the conditions of the permit.
- 16.2 Whether or not this permit includes effluent limitations for toxic pollutants, the Permittee shall not discharge a toxic pollutant except according to Code of Federal Regulations, title 40, sections 400 to 460 and Minnesota Rules, parts 7050.0100 to 7050.0221 and 7052.0010 to 7052.0110 (applicable to toxic pollutants in the Lake Superior Basin) and any other applicable MPCA rules.

17. Noncompliance

- 17.1 Noncompliance with the requirements of this permit subjects the Permittee to penalties provided by federal and state law including monetary penalties, imprisonment, or both.

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17. Noncompliance

- 17.2 If the Permittee discovers that noncompliance with a condition of the permit has occurred, the Permittee shall:
- a. take all reasonable steps to minimize the adverse impacts to human health, public drinking water supplies, or the environment resulting from a permit violation.
 - b. notify the Minnesota Department of Public Safety Duty Officer at 1(800)422-0798 or (651)649-5451 within 24 hours of becoming aware of a permit violation that may endanger human health, public drinking water supplies or the environment. The Permittee shall submit a written description of the exceedance to the MPCA within five (5) days of discovery of the exceedance.
- Nothing in this requirement relieves the Permittee from immediately notifying the MPCA of any release to surface waters of the state.
- 17.3 If sampling by the Permittee indicates a violation of any limitation specified in this permit, the Permittee shall notify the Commissioner and the Publicly Owned Treatment Works (POTW) within 24 hours after the Permittee becomes aware of such violation. The Permittee shall also resample their discharge and submit the results of the repeat analysis to the Commissioner and the POTW within 30 days of becoming aware of the violation(s).
- 17.4 The Permittee shall submit a written description of any bypass, spill, upset or permit violation during the reporting period to the MPCA with its Discharge Monitoring Report (DMR). If no DMR is required within 30 days, the Permittee shall submit a written report within 30 days of the discovery of the noncompliance. This description shall include the following information:
- a. a description of the event including volume, duration, monitoring results and receiving waters;
 - b. the cause of the event;
 - c. the steps taken to reduce, eliminate and prevent reoccurrence of the event;
 - d. the exact dates and times of the event; and
 - e. steps taken to reduce any adverse impact resulting from the event.
- 17.5 It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

18. Duty to Notify and Avoid Water Pollution

- 18.1 The Permittee shall notify the Minnesota Department of Public Safety Duty Officer at (800)422-0798 or (651)649-5451 immediately of the discharge, accidental or otherwise, of any substance or material under its control which, if not recovered, may cause pollution of waters of the state. Notification is not required for a discharge of five (5) gallons or less of petroleum.
- 18.2 The Permittee shall report to the Duty Officer all pertinent information regarding the discharge. Refer to the MPCA "Emergency Notification Guidance for Wastewater Treatment Systems" for further information.
- 18.3 The Permittee shall take all reasonable steps to minimize the adverse impacts to human health, public drinking water supplies or to the environment resulting from the discharge. This may include restricting or preventing untreated or partially treated wastewater, plant chemicals or feedlot materials from entering waterways, containing spilled materials, recycling by-passed wastewater through the plant, or using auxiliary treatment methods.
- 18.4 The Permittee shall maintain a plan designed to adequately notify the public of potential health threats due to discharges of untreated or partially treated wastewater. The Permittee shall notify the public in accordance with the plan.

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19. Facilities Operation

- 19.1 The Permittee shall properly operate and maintain the systems used to achieve permit compliance. Proper operation and maintenance includes effective performance, adequate funding, adequate staffing and training, and adequate process and laboratory controls, including appropriate quality assurance procedures.
- 19.2 The Permittee is responsible for insuring system reliability and shall install adequate backup or support systems to achieve permit compliance and prevent the discharge of untreated or inadequately treated waste. These systems may include alternative power sources, auxiliary treatment works and sufficient storage volume for untreated wastes.
- 19.3 In the event of a reduction or loss of effective treatment of wastewater at the facility, the Permittee shall control production or curtail its discharges to the extent necessary to maintain compliance with the terms and conditions of this permit. The Permittee shall continue this control or curtailment until the wastewater treatment facility has been restored or until an alternative method of treatment is provided.
- 19.4 The Permittee shall store, transport and dispose of sediments, residual solids, filter backwash, screenings, oil, grease and other substances so that pollutants do not enter surface waters or ground waters of the state.
- 19.5 The Permittee shall remove the deltas and sediment deposited in drainageways, catch basins, and waters of the state, and restabilize the areas where sediment removal results in exposed soil, unless these sediment deposits have received approval or certification from the Army Corps of Engineers for depositing fill into waters of the state. This removal and stabilization shall occur within seven days of discovery unless precluded by legal, regulatory, or physical access restraints. If precluded, removal and stabilization shall occur within seven calendar days of obtaining access. The Permittee is responsible for contacting the local, regional, state and federal authorities before working in waters of the state, and receiving the applicable permits.
- 19.6 The Permittee's discharge shall not cause any nuisance conditions, acutely toxic conditions to aquatic life or other adverse impact on the receiving water.
- 19.7 The Permittee shall comply with all applicable water quality, air quality, solid waste and hazardous waste statutes and rules in the operation and maintenance of the facility.
- 19.8 The Permittee shall schedule maintenance of the treatment works during non-critical water quality periods to prevent degradation of water quality.
- 19.9 In-plant control tests shall be conducted at a frequency adequate to ensure continuous efficient operation of the treatment facility.

20. Chemical Additives

- 20.1 The Permittee shall receive prior written approval from the MPCA before increasing the use of a chemical additive authorized by this permit, or using a chemical additive not authorized by this permit. "Chemical additive" includes processing reagents, water treatment products, cooling water additives, freeze conditioning agents, chemical dust suppressants, detergents and solvent cleaners used for equipment and maintenance cleaning, among other materials.
- 20.2 The Permittee shall request approval for an increased or new use of a chemical additive 60 days before the proposed increased or new use.

Chapter 1. General Industrial By-Products

20. Chemical Additives

20.3 This written request shall include the following information for the proposed additive:

- a. Material Safety Data Sheet.
- b. A complete product use and instruction label.
- c. The commercial and chemical names of all ingredients.
- d. Aquatic toxicity and human health or mammalian toxicity data including a carcinogenic, mutagenic or teratogenic concern or rating.
- e. Environmental fate information including, but not limited to, persistence, half-life, intermediate breakdown products, and bioaccumulation data.
- f. The proposed method, concentration, and average and maximum rates of use.
- g. If applicable, the number of cycles before wastewater bleedoff.
- h. If applicable, the ratio of makeup flow to discharge flow.

20.4 This permit may be modified to restrict the use or discharge of a chemical additive.

21. Inspection And Entry

21.1 The Permittee shall allow a representative of the MPCA, in accordance with Section 308 of the Act and Minnesota Statutes, section 115.04, and upon presentation of proper credentials, to:

- a. enter the premises where the facility is located or activity conducted;
- b. review and copy the records required by this permit;
- c. inspect the facilities, systems, equipment, practices or operations regulated or required by this permit;
- d. sample or monitor to determine compliance; and
- e. bring equipment upon the Permittee's premises necessary to conduct surveys and investigations.

22. Permit Modifications

22.1 Changes to the facility or operation of the facility may require a permit modification. The Permittee shall submit an application describing the changes to the facility or operation to the MPCA and receive a permit modification prior to implementing the changes. The Permittee must submit the permit modification application fee in accordance with Minnesota Rules, part 7002.0250 with the application.

22.2 The following changes may require a permit modification:

- a. Increased use or new use of a chemical additive.
- b. Changes in the characteristics, concentrations or frequency of the wastewater flow, which may include new significant industrial discharges to a sanitary sewage treatment system, significant changes in existing industrial discharges to a sanitary system, significant rerouting of wastewater for reuse or for land disposal or significant changes in the levels of indicator characteristics.
- c. Changes in biosolids or residual solids use and disposal practices.

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22. Permit Modifications

- 22.3 The procedures as set forth in Minnesota Rules, pt. 7001.0100 through 7001.0130, including public notice, apply to applications for permit modifications, with the following exceptions:
- a. Modifications solely as to ownership or control as described in Minnesota Rules, pt. 7001.0190, subp. 2.
 - b. Minor modifications as described in Minnesota Rules, pt. 7001.0190, subp. 3.
- 22.4 No permit may be assigned or transferred by the holder without the approval of the MPCA. A person to whom the permit has been transferred shall comply with the conditions of the permit.

23. Permit Modification, Suspension or Revocation

- 23.1 The Permittee's coverage under this permit may be suspended, or revoked for the following reasons:
- a. A violation of permit requirements.
 - b. Misrepresentation or failure to disclose fully all relevant information to obtain the permit.
 - c. A change in a condition that alters the discharge.
 - d. The establishment of a new or amended pollution standard, limitation or effluent guideline that is applicable to the permitted facility or activity.
 - e. Failure to pay permit fees.
 - f. Other reasons listed in Minnesota Rules, pt. 7001.0170.

24. Permit Reissuance

- 24.1 The Permittee shall submit an application for permit reissuance at least 180 days before permit expiration.
- 24.2 If the Permittee has submitted a timely application for permit reissuance, the Permittee may continue to conduct the activities authorized by this permit, in compliance with the requirements of this permit, until the MPCA takes final action on the application, unless the MPCA determines one of the following:
- a. The Permittee is not in substantial compliance with the requirements of this permit, or with a stipulation agreement or compliance schedule designed to bring the Permittee into compliance with this permit.
 - b. The MPCA, as a result of an action or failure to act by the Permittee, has been unable to take final action on the application on or before the expiration date of the permit.
 - c. The Permittee has submitted an application with major deficiencies or has failed to properly supplement the application in a timely manner after being informed of deficiencies.
- 24.3 If the Permittee does not intend to continue the activities authorized by this permit after the expiration date of this permit, the Permittee shall notify the MPCA. The MPCA may require the Permittee to apply for reissuance or a major modification of this permit to authorize facility closure.

25. Facility Closure

- 25.1 Facility closure that could result in a potential long-term water quality concern, such as the ongoing discharge of wastewater to surface or ground water, may require a permit modification. An application for permit modification shall be submitted to the MPCA for approval before the proposed change is implemented.
- 25.2 The Permittee is responsible for closure and postclosure care of the facility. The Permittee shall notify the MPCA of a significant reduction or cessation of operations described in this permit.

Chapter 1. General Industrial By-Products

25. Facility Closure

25.3 The MPCA may require the Permittee to establish financial assurance for closure, postclosure care and remedial action at the facility.

26. Property Rights

26.1 The permit does not convey a property right or an exclusive privilege.

27. Liability Exemption

27.1 In issuing this permit, the state and the MPCA assume no responsibility for damage to persons, property, or the environment caused by the activities of the Permittee in the conduct of actions, including those activities authorized, directed, or undertaken to achieve compliance with this permit. To the extent the state and MPCA may be liable for the activities of its employees, that liability is explicitly limited to that provided in the Tort Claims Act, Minnesota Statutes, section 3.736.

27.2 The MPCA's issuance of this permit does not obligate the MPCA to enforce local laws, rules or plans beyond what is authorized by Minnesota Statutes.

28. Liabilities

28.1 The MPCA's issuance of this permit does not release the Permittee from any liability, penalty or duty imposed by Minnesota or federal statutes or rules or local ordinances, except the obligation to obtain the permit.

28.2 The issuance of a permit does not prevent the future adoption by the MPCA of pollution control rules, standards or orders more stringent than those now in existence and does not prevent the enforcement of these rules, standards or orders against the Permittee.

29. Severability

29.1 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 application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

30. Incorporation By Reference

30.1 The Permittee shall comply with the provisions of 40 CFR Parts 122.41 and 122.42, Minnesota Rules, pt. 7001.0150, subp. 3, and pt. 7001.1090, which are incorporated into this permit by reference, and are enforceable parts of this permit.

31. Definitions

31.1 "Agency" means the Minnesota Pollution Control Agency (MPCA).

31.2 "Agronomic Rate" means the industrial by-product application rate (dry weight basis) designed to:

- a. provide the amount of nitrogen which can be utilized by the food crop, feed crop, fiber crop, cover crop, or vegetation grown on the land; and
- b. minimize the amount of nitrogen in the industrial by-product that passes below the root zone of the crop or vegetation grown on the land to the ground water.

31.3 "Available Nitrogen" means the nitrogen present in the industrial by-product which is available for the plant to use during the cropping year.

31.4 "By-Product" has the the same meaning as solid waste given in Minn. R. 7035.0300.

31.5 "Carbon to Nitrogen Ratio" means the calculated ratio of total elemental carbon to total elemental nitrogen reported on a dry weight basis.

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- 31.6 "Class 2 Surface Water," as defined in Minn. R. 7050.0200, means all waters of the state that are or may be used for fishing, fish culture, bathing, or any other recreational purpose, and for which quality control is or may be necessary to protect aquatic or terrestrial life, or the public health, safety, or welfare.
- 31.7 "Compatible" means the ability of two or more substances or materials in a tank system to maintain their respective physical and chemical properties upon contact with one another.
- 31.8 "Cover Crop" means vegetation which is planted specifically to prevent soil erosion and to take up nutrients that may otherwise be lost before the next cropping year. This typically includes crops such as rye, oats, or other types of fast-growing vegetation. Cover crops, in general, are not harvested.
- 31.9 "Cropping Year" means a year beginning on September 1 of the year prior to the growing season and ending August 31 the year the crop is harvested. For example, the 1994 cropping year began September 1, 1993 and ended August 31, 1994.
- 31.10 "Crop Year Total" is the calculated total quantity of a given measurement for a cropping year (September 1 - August 31). For example, total quantity of biosolids land applied during the cropping year. The "Crop Year Total" limit is an upper limit.
- 31.11 "Dewatered Industrial By-product" means an industrial by-product which can be handled as a dry material and when stacked has the ability to maintain a 4:1 slope.
- 31.12 "Dike" means an embankment, ridge, or wall which is impermeable to stored substances and which forms the perimeter of the secondary containment area.
- 31.13 "Dry Weight Basis" means calculated on the basis of having been dried at 105 degrees Celsius until reaching a constant mass, or essentially 100 percent solids content.
- 31.14 "End User" means the person that has accepted the by-product for their use as a soil amendment.
- 31.15 "Fallow Land" means land which is not cropped throughout a cropping year and has a vegetative cover of less than 25 percent.
- 31.16 "Farm Tank" means an aboveground storage tank located on a tract of land devoted to the production of crops or raising of animals, and whose contents are used by the tank owner or operator for farming purposes and are not being commercially distributed.
- 31.17 "Field-Erected Tank" means an aboveground storage tank that is constructed by final assembly at a facility.
- 31.18 "Grassed Waterways" means natural or constructed and seeded to grass as protection against erosion. Separation distances are from the centerline of grassed waterways. For a grassed waterway which is wider than the separation distances required, application is allowed to the edge of the grass strip.
- 31.19 "Highly Permeable Soil" means soils whose soil leaching potentials are rated as severe, poor filter for soil pesticide loss, by the Natural Resources Conservation Service using the procedure found in part 620, Soil Interpretation Rating Guides of the United States Department of Agriculture-Natural Resources Conservation Service National Soils Survey Handbook.
- 31.20 "Immediately Incorporated" means incorporated into the soil with tillage within 48 hours after surface application of an industrial by-product.

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- 31.21 "Indoor tank" means an aboveground storage tank located inside a building or other type of enclosed structure, resting on or elevated above an impermeable floor surface, from which a release would:
- a. be entirely contained within a secondary containment structure;
 - b. not escape from the buildings through any doorways, floor drains, or other means; or,
 - c. be directed by any drainage system of the building either to a permitted on-site wastewater treatment facility or to a permitted municipal wastewater treatment facility.
- 31.22 "Industrial By-Product" has the same meaning as solid waste given in Minn. R. 7035.0300.
- 31.23 "Intermittent Stream" means a drainage channel with definable banks that provides for runoff flow to any of the surface waters during snow melt or rainfall events.
- 31.24 "Karst topography" means an area underlain by fractured carbonate bedrock in which erosion has produced geological characteristics such as: sinkholes; springs, subsurface drainage; caves; sinking streams; dissolutionally enlarged joints (grikes) or bedding planes, and bedrock surface channels (karren). Counties known for karst features include parts of Dakota, Rice, Dodge, and Mower, and most of Goodhue, Olmsted, Winona, Wabasha, Houston and Fillmore.
- 31.25 "Maximum Allowable Nitrogen Application Rate" means the maximum amount of available nitrogen which can be applied to a site during a single cropping year.
- 31.26 "MPCA" means the Minnesota Pollution Control Agency, or Minnesota Pollution Control Agency staff as delegated by the Minnesota Pollution Control Agency.
- 31.27 "Other Regulated Substances" means any substance, including a food-based product intended for human or animal consumption, which may cause pollution of waters of the state and is not:
- a. a petroleum substance under standard temperature and pressure; or,
 - b. a hazardous material.
- 31.28 "Pathogens" means organisms that are capable of producing an infection or disease in a susceptible host.
- 31.29 "Perched Water Table" means the soil is saturated with water in one or more layers within 200 centimeters of the mineral soil surface and has one or more unsaturated layers with an upper boundary above 200 centimeters in depth below the saturated layer. The zone of saturation, i.e. the water table is perched on top of a relatively impermeable layer. The Natural Resources Conservation Service also classifies this as epi-saturation.
- 31.30 "Permittee" means the entity identified as Permittee on the cover letter authorizing coverage under this permit.
- 31.31 "Public Contact Site" means land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, and golf courses.
- 31.32 "Realistic Yield Goal" means the most recent five-year average of crop yields, excluding the worst year, or the most recent three to five year average yield increased by ten percent. If the crop has never been grown, the yield goal can be determined based on information provided by the Natural Resources Conservation Service, county Extension agent, or crop consultant.
- 31.33 "Single Value" is a reported value from a single sample or measurement for which there is no limit.
- 31.34 "Soil Horizon" means a layer of soil that is approximately parallel to the soil surface and has some set of properties that has been produced by soil-forming processes, and has some properties that are not like those of the layers above and beneath it. These properties include color, structure, texture, consistency, and bulk density.

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- 31.35 "Soil Texture" means the relative portion of the soil separates sand, silt, and clay. It can be measured using methods described in Minn. R. 7041.3400, subp. 1. Coarse texture is US Department of Agriculture textural classifications sand, loamy sand, and sandy loam. Medium texture is US Department of Agriculture classifications loam, silt, silt loam, and sandy clay loam. Fine texture is US Department of Agriculture classifications clay loam, silty clay loam, sandy clay, and clay.
- 31.36 "Type C substances" means asphalt cement, roofing flux, fuel oil numbers 5 and 6, and other regulated substances.
- 31.37 "Type IV Certified Operator or Inspector" means a person certified according to Minn. R. ch. 7048 for land application. A Type IV facility is any disposal facility that applies on the land any sewage sludge or semisolids from commercial or industrial operations.
- 31.38 "Underground Storage Tank" means any one or combination of containers including tanks, vessels, enclosures, or structures and appurtenances connected to them that is used to contain or dispense regulated substances pursuant to Minn. R. 7150, and the volume of which, including the volume of piping connected to them, is ten percent or more beneath the surface of the ground.
- 31.39 "Vector Attraction" means the characteristic of industrial by-product that attracts rodents, flies, mosquitoes, or other organisms capable of transporting infectious agents.
- 31.40 "Waters of the State" means all streams, lakes, ponds, marshes, wetlands, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion thereof.
- 31.41 "Wetlands" means those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Constructed wetlands designed for wastewater treatment are not waters of the state. Wetlands must have the following attributes:
- a. a predominance of hydric soils;
 - b. inundated or saturated by surface water or groundwater at a frequency and duration to support a prevalence of hydrophytic vegetation typically adapted for life in a saturated soil condition; and,
 - c. under normal circumstances support a prevalence of such vegetation.

Appendix 1
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Table 1. Analytical requirements for specific industrial by-products.

The “Limits and Monitoring” section of this permit contains the parameters that must be analyzed in each industrial by-product that is land applied, except as specified on this table. Other monitoring may be required for specific industrial by-products and will be determined at the time of permit application. Any additional monitoring requirements will be specified on the cover letter accompanying this permit. Any sample coming from storage facilities must be sampled for the appropriate parameters below.

Analyte	Units ¹	Dairy			All	Vegetable		Miscellaneous
		Whey	Antibiotic Milk or Milk	Rinse & Wash Waters	Primary & Secondary Wastewater Treatment Sludges	Vegetative Screenings	Sweet Corn Silage ²	Miscellaneous Food and Beverage By-Products and Wash Waters
Chloride, Dry Weight (as Cl)	mg/kg	X		X	X	X		X
Nitrogen, Ammonia, Dry Weight	%			X	X			X
Nitrogen, Kjeldahl, Total, Solids Fraction, Dry Weight	%	X	X	X	X	X		X
Oil and Grease, Total	mg/kg			X ³	X ³			X ³
pH, sludge	SU	X		X	X			X
Phosphorus, Total, Dry Weight (as P ₂ O ₅)	%	X	X	X	X			X
Sodium, Dry Weight (as Na)	mg/kg	X		X	X	X		X
Solids, Total	%	X	X	X	X	X		X
Solids, Total Volatile, Percent of Total	%				X			X
Process Controls: • Temperature • Solids Retention Time	Varies				X			X
Other ⁴								

¹Reported on a dry weight basis, except for pH.

²Monitoring not required because of adequate information on constituents present.

³Required only at facilities where grease and oil are present in waste stream.

⁴See cover letter accompanying your permit for any special analysis requirements.

Table 2. Minimum analysis frequencies for industrial by-products (IBPs).

<i>When Total Solids of IBP are Greater Than or Equal to 5 %, use this analysis frequency</i>	<i>When Total Solids of IBP are Less Than 5 %, use this analysis frequency</i>	
Quantity Land Applied Per Year (dry tons)	Quantity Land Applied Per Year (million gallons)	Minimum Frequency of Analysis per Cropping Year
0	0	No Sampling Required
> 0 but < 320	> 0 but < 1.5	Once
> 320 but < 1,650	> 1.5 but < 8.0	Four
> 1,650 but < 16,500	> 8.0 but < 80	Six
> 16,500	> 80	Twelve

Table 3. Slope restrictions for application sites where industrial by-product is applied.

Slope (percent)	Surface application	Injection or Immediate Incorporation ¹
0 - 6	Allowed	Allowed
>6 - 12	Not allowed	Allowed
>12	Not Allowed	Not Allowed

¹Immediate incorporation is mixing of the by-product into the soil with some form of tillage within 48 hours of application.

Table 4. Minimum separation distances from the land application site.

Separation Distances (feet)				
Feature		Surface Applied	Incorporated within 48 hours	Injected
Private drinking water supply wells		200 feet	200 feet	200 feet
Public drinking water supply wells		1000 feet	1000 feet	1000 feet
Down gradient lakes, rivers, streams, type 3, 4, and 5 wetlands, intermittent streams, or tile inlets connected to these surface water features ¹ , and sinkholes	Slope 0 % to 6 %	200 feet	50 feet	50 feet
	Slope 6 % to 12 %	Not Allowed	100 feet	100 feet
	Winter (0 % to 2 %)	600 feet	Not Applicable	Not Applicable
Grassed Water Ways ²	Slope 0 % to 6 %	100 feet	33 feet	33 feet
	Slope 6 % to 12 %	Not Allowed	33 feet	33 feet

¹Intermittent stream means a drainage channel with definable banks that provides for runoff flow to any of the surface waters listed in the above table during snow melt or rainfall events.

²Grassed waterways are natural or constructed and seeded to grass as protection against erosion. Separation distances are from the centerline of grassed waterways. For a grassed waterway which is wider than the separation distances required, application is allowed to the edge of the grass strip.

Table 5. Additional minimum separation distances from application sites when the industrial by-product contains pathogens.

Separation Distances (feet)			
Feature	Surface Applied	Incorporated within 48 hours	Injected
Residences	200 ¹ feet	200 ¹ feet	100 feet
Residential development	600 ¹ feet	600 ¹ feet	300 feet
Public contact site	600 feet	600 feet	300 feet
Depth to Bedrock	5 ² feet	5 ² feet	5 ² feet
Depth to Seasonal High Water Table or drain tile ³	5 ² feet	5 ² feet	5 ² feet

¹This distance may be reduced with written permission from all persons responsible for residential developments, places of recreation, and all persons inhabiting residence within the designated separation distance.

²The separation distance may be decreased to 3 feet if the soil is not classified as a “highly permeable soil,” as defined by this permit.

³The depth to subsurface drainage tiles shall be considered the depth to the seasonal high water table for sites that are designed according to Natural Resources Conservation Services engineering standards and criteria.

Table 6. Maximum allowable nitrogen application rates for selected crops.

Crop	Maximum Allowable Nitrogen Application Rates - When Actual Yields Are Not Measured (lb/acre)	Maximum Allowable Nitrogen Application Rates - When Actual Yields Are Measured
Non-harvested vegetation, set aside acreage, cover crops ¹	50	—
Soybeans	—	Yield goal (bu/acre) x 3.5 lbs N
Alfalfa	200	Yield goal (tons/acre) x 50 lbs N/acre
Clover, alfalfa-grass, or clover-grass mixtures	100	Yield goal (tons/acre) x 50 lbs N/acre
Brome grass, orchard grass, or timothy	75	Yield goal (tons/acre) x 30 lbs N/acre

¹This category does not include land used as pasture.

Table 7. Minimum separation distances for storage areas and structures of industrial by-products.

Feature		Short-Term Storage Area/Structure	Long-Term Storage Area/Structure	Permanent Storage Structure
Depth to Bedrock		3 feet	5 ¹ feet	3 feet
Depth to Seasonal High Water Table or drain tile ²		3 feet	5 ¹ feet	3 feet
Private drinking water supply wells		200 feet	200 feet	200 feet
Public drinking water supply wells		1000 feet	1000 feet	1000 feet
Irrigation Wells		50 feet	50 feet	50 feet
Residences		200 feet	1000 ³ feet	1000 ³ feet
Residential Development		600 feet	1000 feet	1000 feet
Public Contact Site		600 feet	1000 feet	1000 feet
Adjacent Properties/Roads		100 feet	100 feet	100 feet
Down gradient lakes, rivers, streams, type 3, 4, and 5 wetlands, intermittent streams, or tile inlets connected to these surface water features ⁵ , and sinkholes	Slope 0 % to 2 %	200 feet	1000 ⁴ feet	1000 ⁴ feet
	Slope 2 % to 12 %	Not Allowed	Not Allowed	Not Allowed
Grassed Water Ways ⁶	Slope 0 % to 2 %	100 feet	100 feet	100 feet
	Slope 2 % to 12 %	Not Allowed	Not Allowed	Not Allowed

¹ The separation distance may be decreased to 3 feet if the storage area or structure includes an engineered pad or liner.

² The depth to subsurface drainage tiles shall be considered the depth to the seasonal high water table for sites that are designed according to Natural Resources Conservation Services engineering standards and criteria.

³ Storage of industrial by-products at a location of 40 acres or less shall not take place within 400 feet from any residence. This separation distance shall increase 100 feet for every additional ten acres of land application area, or portion thereof, up to a maximum of 1,000 feet. Separation distances may be reduced if written permission is obtained from all persons residing within the otherwise protected distance.

⁴ Storage of industrial by-product shall not take place within 1,000 feet of any downgradient surface waters, wetlands, tile inlets, or sinkholes unless measures are taken to control runoff; in which case the separation distance may be reduced to 200 feet.

⁵ Intermittent stream means a drainage channel with definable banks that provides for runoff flow to any of the surface waters listed in the above table during snow melt or rainfall events.

⁶ Grassed waterways are natural or constructed and seeded to grass as protection against erosion. Separation distances are from the centerline of grassed waterways. For a grassed waterway which is wider than the separation distances required, application is allowed to the edge of the grass strip.