WPDES PERMIT

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

PERMIT TO DISCHARGE UNDER THE WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM

Seneca Foods Mayville

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility located at
500 S CLARK ST, MAYVILLE, WISCONSIN
to
an Unnamed tributary of the East Branch of the Rock River and a Wetland in the East Branch Rock River Watershed (UR13) in the Upper Rock River Basin and an indirect Discharge to Groundwaters of the Rock River Drainage Basin via Spray Irrigation and Land Application

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

The permittee shall not discharge after the date of expiration. If the permittee wishes to continue to discharge after this expiration date an application shall be filed for reissuance of this permit, according to Chapter NR 200, Wis. Adm. Code, at least 180 days prior to the expiration date given below.

State of Wisconsin Department of Natural Resources
For the Secretary

By _____
Tim Ryan
Wastewater Field Supervisor

_____
Date Permit Signed/Issued

PERMIT TERM: EFFECTIVE DATE – June 01, 2016 **EXPIRATION DATE – March 31, 2021**

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1 Surface Water Requirements

1.1 Sampling Point(s)

The discharge(s) shall be limited to the waste type(s) designated for the listed sampling point(s).

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
013	Surface water discharge to an Unnamed Tributary of the East Branch of the Rock River: North drain tile discharge located in Spray Field G. Sample taken from the pump valve prior to discharge to the waterway
014	Surface water discharge to a Wetland: South drain tile discharge located in Spray Field H. Sample taken at oufall pipe immediately prior to discharge to waterway.

1.2 Monitoring Requirements and Effluent Limitations

The permittee shall comply with the following monitoring requirements and limitations.

1.2.1 Sampling Point (Outfall) 013 - North Drain Tile

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		gpd	Weekly	Estimated	Monitoring monthly when not spraying.
BOD_5, Total	Daily Max	10 mg/L	Weekly	Grab	Monitoring monthly when not spraying.
BOD_5, Total	Monthly Avg	10 mg/L	Weekly	Grab	Monitoring monthly when not spraying.
Suspended Solids, Total	Daily Max	40 mg/L	Weekly	Grab	Monitoring monthly when not spraying.
Suspended Solids, Total	Monthly Avg	40 mg/L	Weekly	Grab	Monitoring monthly when not spraying.
Suspended Solids, Total	Daily Max	5.67 lbs/day	Weekly	Calculated	Monitoring monthly when not spraying. See TSS Limitations in Subsection below.
Suspended Solids, Total	Monthly Avg	3.46 lbs/day	Weekly	Calculated	Monitoring monthly when not spraying. See TSS Limitations in Subsection below.

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Phosphorus, Total	Monthly Avg	0.7 mg/L	Weekly	Grab	Monitoring monthly when not spraying. Note that this is an interim limit. See the Phosphorus Limitation Subsections in the permit for the final water quality based phosphorus limit effective at the end of the compliance schedule.
Phosphorus, Total		lbs/day	Weekly	Calculated	See phosphorus Subsections in the permit for final limits. Calculate the daily mass discharge of phosphorus in lbs/day on the same day phosphorus sampling occurs. Daily mass (lbs/day) = daily concentration (mg/L) x daily flow (MGD) x 8.34.
pH Field	Daily Min	6.0 su	Weekly	Grab	Monitoring monthly when not spraying.
pH Field	Daily Max	9.0 su	Weekly	Grab	Monitoring monthly when not spraying.
Dissolved Oxygen	Daily Min	7.0 mg/L	Weekly	Grab	Monitoring monthly when not spraying.
Chloride		mg/L	Weekly	Grab	Monitoring monthly when not spraying.
Acute WET		TU_a	See Permit Note	24-Hr Flow Prop Comp	See WET testing Subsection
Chronic WET		rTU_c	See Permit Note	24-Hr Flow Prop Comp	See WET testing Subsection

1.2.1.1 Additives

The permittee shall maintain an onsite report of the dosage rate of all additives used on a monthly basis.

1.2.1.1 Sampling Frequency

The permittee may reduce sampling frequency from weekly to monthly during months where no wastewater is spray irrigated in Spray Field G. No sampling is required when the drain tiles are closed.

1.2.1.2 TSS Limitation(s)

The Rock River TMDL for Total Phosphorus (TP) and Total Suspended Solids (TSS) was approved by the Environmental Protection Agency (EPA) September 2011. The TMDL derived limits for TSS are expressed as daily maximum and monthly average effluent limits. The TSS load reduction target for wastewater treatment facilities in Reach 14 of the Rock River TMDL is 15%. The TSS limitations of 5.67 lbs/day daily maximum and 3.46 lbs/day monthly average are effective immediately.

1.2.1.3 Phosphorus Limitation(s)

The Rock River TMDL for Total Phosphorus (TP) and Total Suspended Solids (TSS) was approved by the Environmental Protection Agency (EPA) September 2011. The TMDL derived limits for TP are expressed as monthly average effluent limits. The approved total phosphorus TMDL limit for this permittee is 0.03 lbs/day monthly average. This limit reflects the 78% reduction target for dischargers to Reach 14 of the East Branch River from Gill Creek to Mile 11. The data available from Outfall 013 suggests that the permittee would not be able to meet the approved mass limitation and therefore an interim limit of 0.7 mg/L monthly average and compliance schedule have been included.

1.2.1.4 Phosphorus Water Quality Based Effluent Limitation(s)

The final TMDL-derived water quality based effluent limit for phosphorus of 0.03 lbs/day as a monthly average limit will take effect per the total phosphorus compliance schedule unless:

As part of the application for the next reissuance, or prior to filing the application, the permittee submits either: 1.) a watershed adaptive management plan and a completed Watershed Adaptive Management Request Form 3200-139; or 2.) an application for water quality trading; or 3.) an application for a variance; or 4.) new information or additional data that supports a recalculation of the numeric limitation; and

(A) The Department modifies, revokes and reissues, or reissues the permit to incorporate a revised limitation before the expiration of the compliance schedule*.

If Adaptive Management or Water Quality Trading is approved as part of the permit application for the next reissuance or as part of an application for a modification or revocation and reissuance, the plan and specifications submittal, construction, and final effective dates for compliance with the total phosphorus WQBEL may change in the reissued or modified permit. In addition, the numeric value of the water quality based effluent limit may change based on new information (e.g. a TMDL) or additional data. If a variance is approved for the next reissuance, interim limits and conditions will be imposed in the reissued permit in accordance with s. 283.15, Stats., and applicable regulations. A permittee may apply for a variance to the phosphorus WQBEL at the next reissuance even if the permittee did not apply for a phosphorus variance as part of this permit reissuance.

Additional Requirements: If a water quality based effluent limit has taken effect in a permit, any increase in the limit is subject to s. NR 102.05(1) and ch. NR 207, Wis. Adm. Code. When a six-month average effluent limit is specified for Total Phosphorus the applicable averaging periods are May through October and November through April.

*Note: The Department will prioritize reissuances and revocations, modifications, and reissuances of permits to allow permittees the opportunity to implement adaptive management or nutrient trading in a timely and effective manner.

1.2.1.5 Alternative Approaches to Phosphorus WQBEL Compliance

Rather than upgrading its wastewater treatment facility to comply with the TMDL-derived WQBELs for total phosphorus, the permittee may use Water Quality Trading or the Watershed Adaptive Management Option, to achieve compliance under ch. NR 217, Wis. Adm. Code, provided that the permit is modified, revoked and reissued, or reissued to incorporate any such alternative approach. The permittee may also implement an upgrade to its wastewater treatment facility in combination with Water Quality Trading or the Watershed Adaptive Management Option to achieve compliance, provided that the permit is modified, revoked and reissued, or reissued to incorporate any such alternative approach. If the Final Compliance Alternatives Plan concludes that a variance will be pursued, the Plan shall provide information regarding the basis for the variance.

1.2.1.6 Submittal of Permit Application for Next Reissuance and Adaptive Management or Pollutant Trading Plan or Variance Application

The permittee shall submit the permit application for the next reissuance at least 6 months prior to expiration of this permit. If the permittee intends to pursue adaptive management to achieve compliance with the phosphorus water quality based effluent limitation, the permittee shall submit with the application for the next reissuance: a completed Watershed Adaptive Management Request Form 3200-139, the completed Adaptive Management Plan and final plans for any system upgrades necessary to meet interim limits pursuant to s. NR 217.18, Wis. Adm. Code. If the permittee intends to pursue pollutant trading to achieve compliance, the permittee shall submit an application for water quality trading with the application for the next reissuance. If system upgrades will be used in combination with pollutant trading to achieve compliance with the final water quality-based limit, the reissued permit will specify a schedule for the necessary upgrades. If the permittee intends to seek a variance, the permittee shall submit an application for a variance with the application for the next reissuance.

1.2.1.7 Whole Effluent Toxicity (WET) Testing

Primary Control Water: Unnamed Tributary to the East Branch of the Rock River upstream of discharge location

Instream Waste Concentration (IWC): 100%

Dilution series: At least five effluent concentrations and dual controls must be included in each test.

- **Acute:** 100, 50, 25, 12.5, 6.25% and any additional selected by the permittee.
- **Chronic:** 100, 75, 50, 25, 12.5% and any additional selected by the permittee.

WET Testing Frequency:

Acute tests shall be conducted twice per permit term in rotating quarters in order to collect seasonal information about the discharge. Tests are required during the pack season of May 1 to October 1. Tests should be completed in various times throughout the pack season to collect effluent changes throughout the pack season.

- **Acute: one acute test in April – June 2017, one acute test in July – September 2020**

  Acute WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified. For example, the next test would be required during the pack season in 2021 and again in 2024.

Chronic tests shall be conducted three time per permit term in rotating quarters during the pack season in order to collect seasonal information about the discharge. Tests are required during the pack season of May 1 to October 1. Tests should be completed in various times throughout the pack season to collect effluent changes throughout the pack season.

- **Chronic: once chronic test in April – June 2017, one chronic test in July – September 2019, one chronic test in July – September 2020**

  Chronic WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified in this permit. For example, the next test would be required during the 2021, 2023, and again in 2024 pack season.

Testing: WET testing shall be performed during normal operating conditions. Permittees are not allowed to turn off or otherwise modify treatment systems, production processes, or change other operating or treatment conditions during WET tests.

Reporting: The permittee shall report test results on the Discharge Monitoring Report form, and also complete the "Whole Effluent Toxicity Test Report Form" (Section 6, "*State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2nd Edition*"), for each test. The original, complete, signed version of the Whole Effluent Toxicity Test

Report Form shall be sent to the Biomonitoring Coordinator, Bureau of Water Quality, 101 S. Webster St., P.O. Box 7921, Madison, WI 53707-7921, within 45 days of test completion. The Discharge Monitoring Report (DMR) form shall be submitted electronically by the required deadline.

Determination of Positive Results: An acute toxicity test shall be considered positive if the Toxic Unit - Acute (TU_a) is greater than 1.0 for either species. The TU_a shall be calculated as follows: If $LC_{50} \geq 100$, then $TU_a = 1.0$. If LC_{50} is < 100, then $TU_a = 100 \div LC_{50}$. A chronic toxicity test shall be considered positive if the Relative Toxic Unit - Chronic (rTU_c) is greater than 1.0 for either species. The rTU_c shall be calculated as follows: If $IC_{25} \geq$ IWC, then $rTU_c = 1.0$. If $IC_{25} <$ IWC, then $rTU_c = IWC \div IC_{25}$.

Additional Testing Requirements: Within 90 days of a test which showed positive results, the permittee shall submit the results of at least 2 retests to the Biomonitoring Coordinator on "Whole Effluent Toxicity Test Report Forms". The 90 day reporting period shall begin the day after the test which showed a positive result. The retests shall be completed using the same species and test methods specified for the original test (see the Standard Requirements section herein).

1.2.2 Sampling Point (Outfall) 014 - South Drain Tile

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		gpd	Weekly	Grab	Monitoring monthly when not spraying.
BOD_5, Total	Daily Max	40 mg/L	Weekly	Grab	Monitoring monthly when not spraying.
BOD_5, Total	Monthly Avg	20 mg/L	Weekly	Grab	Monitoring monthly when not spraying.
Suspended Solids, Total	Daily Max	40 mg/L	Weekly	Grab	Monitoring monthly when not spraying.
Suspended Solids, Total	Monthly Avg	20 mg/L	Weekly	Grab	Monitoring monthly when not spraying.
Suspended Solids, Total		lbs/day	Weekly	Calculated	Calculate the daily mass discharge of TSS in lbs/day on the same day phosphorus sampling occurs. Daily mass (lbs/day) = daily concentration (mg/L) x daily flow (MGD) x 8.34.
Phosphorus, Total		mg/L	Weekly	Grab	Monitoring monthly when not spraying.
Phosphorus, Total		lbs/day	Weekly	Calculated	Calculate the daily mass discharge of phosphorus in lbs/day on the same day phosphorus sampling occurs. Daily mass (lbs/day) = daily concentration (mg/L) x daily flow (MGD) x 8.34.
pH Field	Daily Max	9.0 su	Weekly	Grab	Monitoring monthly when not spraying.

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
pH Field	Daily Min	6.0 su	Weekly	Grab	Monitoring monthly when not spraying.
Dissolved Oxygen	Daily Min	4.0 mg/L	Weekly	Grab	Monitoring monthly when not spraying.
Nitrogen, Ammonia (NH_3-N) Total		mg/L	Weekly	Grab	Monitoring calendar year 2019 only. Monitoring monthly when not spraying.
Chloride		mg/L	Weekly	Grab	Monitoring calendar year 2019 only. Monitoring monthly when not spraying.

1.2.2.1 Additives

The permittee shall maintain an onsite report of the dosage rate of all additives used on a monthly basis.

1.2.2.1 Sampling Frequency

The permittee may reduce sampling frequency from weekly to monthly during months where no wastewater is spray irrigated in Spray Field H. No sampling is required when the drain tiles are closed.

2 Land Treatment Requirements

2.1 Sampling Point(s)

The discharge(s) shall be limited to the waste type(s) designated for the listed sampling point(s).

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, Waste Description/Sample Contents and Treatment Description (as applicable)**
001	Discharge from Outfall 001 shall be limited to process wastewater. Samples shall be collected prior to discharging to the 179 acre spray irrigation system located at the SW 1/4 , SW 1/4 of Section 23, the NW 1/4, NW1/4 of section 26, the SW1/4, NE1/4 of section 27, the SE1/4 of section 27 and the SW1/4, NW1/4 of section 26, the SE1/4, NE1/4 of section 34, and the NE1/4, SE1/4 of section 34 all in T12N, R16E, Dodge County.

2.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations.

2.2.1 Sampling Point (Outfall) 001 - SPRAY IRRIGATION , Spray Irrigation

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Total Daily	Enter zeros for Flow Rate on the DMR for the days that no discharge occurs.
Hydraulic Application Rate	Monthly Avg	3,500 gal/ac/day	Monthly	Calculated	
BOD_5, Total		mg/L	Weekly	Composite	
Chloride		mg/L	Weekly	Composite	
Nitrogen, Total Kjeldahl		mg/L	Weekly	Composite	
Nitrogen, Max Applied On Any Zone	Annual Total	300 lbs/ac/yr	Annual	Total Annual	Report the annual 'Nitrogen, Max Applied on Any Zone' on the December DMR each year. See the Nitrogen Loading Limitation Subsection.

Daily Log – Monitoring Requirements and Limitations
All discharge and monitoring activity shall be documented on log sheets. Originals of the 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.

Parameters	Limit	Units	Sample Frequency	Sample Type
Zone or Location Being Sprayed	-	Number	Daily	Log
Acres Being Sprayed	-	Acres	Daily	Log
Start to End Time	-	Date, Hour	Daily	Log
Maximum Applied Volume	**1.0**	Inches/Load Cycle	Daily	Calculated
Total Nitrogen Loading	**See 3.2.1.4 & 3.2.1.5**	Total Pounds/Acre/Year	Monthly	Calculated Running Total

Annual Report – Monitoring Requirements and Limitations
The Annual Report is due by January 31st of each year for the previous calendar year.

Parameters	Limit	Units	Sample Frequency	Sample Type
Total Volume Per Zone	-	Gallons	Annual	Total Annual
Total Nitrogen per Zone	**See 3.2.1.4 & 3.2.1.5**	Pounds/Acre/Year	Annual	Calculated
Soil Analysis	-	-	Annual	Composite
Fertilizer Used	-	Pounds/Acre/Year	Annual	Total Annual

Note: Inches/load cycle = gallons/acre/load cycle divided by 27,154.

2.2.1.1 Monthly Avg Flow – LT Calculation

The monthly average discharge flow for Land Treatment systems is calculated by dividing the total wastewater volume discharged for the month by the total number of days in the month.

2.2.1.2 Monthly Average Hydraulic Application Rate

Determine the monthly average hydraulic application rate (in gal/acre/day) for each outfall by calculating the total gallons of wastewater applied onto the site for the month, dividing that total by the number of wetted acres loaded during the month, and then dividing this resulting value by the number of days in the month. Enter this calculated monthly value on the Discharge Monitoring Report form in the box for the last day of the month, in the "Hydraulic Application Rate" column.

2.2.1.3 Irrigation Months

Discharge to the spray irrigation sites shall occur only between May 1 to October 31, except the Department may approve spray irrigation in April or November during unusually warm weather that would allow the wastewater to

seep into the ground and be absorbed by the cover crop. During the discharge period, application of wastewater shall not occur on saturated, frozen or snow covered soil where these conditions result in wastewater ponding or runoff.

2.2.1.4 Nitrogen Loading Limitations

The loading limit for spray irrigation is 300 pound total nitrogen/acre/year (Crop needs for Reed Canary Grass) except as provided in subsection Nitrogen Loading Contingent on Groundwater Results below. The permittee is eligible for an increased loading limit, if requested, when all preventative action limits have been met at the DMZ or property boundary.

2.2.1.5 Nitrogen Loading Contingent on Groundwater Results

The maximum nitrogen loading limit for any calendar year shall be 600 lb/acre/year when the previous year's monitoring results for all down-gradient monitoring wells at the DMZ or property boundary demonstrate compliance with groundwater preventive action limits for all nitrogen NR 140.01, Wis. Adm. Code public health related groundwater quality standards.

The maximum nitrogen loading limit for any calendar year shall be 400 lb/acre/year when the previous calendar year's monitoring results for any down-gradient well at the DMZ or property boundary shows two (2) or more sampling events exceeding a Preventive Action Limit (but no Enforcement Standard Exceedence) for any nitrogen public health related groundwater quality parameter, unless the Department approves a different nitrogen loading rate in the management plan. A Preventative Action Limit (PAL) exceedence in any downgradient well will require a response in accordance with NR 140.24, Wis. Adm. Code.

The maximum nitrogen loading limit for any calendar year shall be crop needs lb/acre/year (Reed Canary Grass = 300 lbs/ac/yr) (Mixed Grass = 240 lbs/ac/yr) (Corn = 165 lbs/ac/yr) when the previous calendar year's monitoring results for any down-gradient well at the DMZ or property boundary shows two (2) or more sampling events exceeding an Enforcement Standard for any nitrogen public health related groundwater quality parameter, unless the Department approves a different nitrogen loading rate in the management plan. The Department will require actions specified in s. NR 140.26, Wis. Adm. Code, in response to groundwater standard exceedences and to return the system to compliance with groundwater standards as necessary.

The permittee shall notify the Department of their eligibility to increase their nitrogen loading limit based on groundwater monitoring data for all nitrogen public health related groundwater quality standards.

Note: "Down-gradient" refers to any well that is impacted by the activities of the facility

2.2.1.6 Year to Date Nitrogen Loading Calculations and Recording

Record the calendar year cumulative nitrogen loadings monthly on the facility log by adding the current month's loading to the loading total from the previous months in the calendar year. The following method shall be used to calculate the loading for the month:

$$\frac{\text{(monthly ave. TKN, mg/L) (monthly total water to cell or zone, million gallons) (8.34)}}{\text{acres of cell or zone}} = \text{month lbs/ac}$$

3 Groundwater Requirements

3.1 Monitoring Requirements and Limitations

3.1.1 Groundwater Monitoring System for the north spray fields B and F

Location of Monitoring System: perimeter of the north spray fields

Wells to be Monitored: W-103 (816), W-104 (817), W-113 (813) Background Well , W-115 (819)

Well Used To Calculate Preventive Action Limits (PALs): W-113 (813) Background Well

PALs listed in the table below have been calculated based on background groundwater quality data from this designated well. Groundwater contaminant concentrations shall be minimized and PALs met in groundwater monitoring wells to the extent it is technically and economically feasible.

Compliance Well(s) for Enforcement Standards (ESs): W-103 (816), W-104 (817), W-115 (819)

Enforcement standards are to be met in groundwater located beyond the 250 foot design management zone, or beyond the property boundary, whichever is closer to the land treatment system. See the Standard Requirements section of this permit for additional conditions related to exceedance of groundwater standards.

Required Monitoring: Grab samples shall be collected from each well to be monitored per the frequency shown in the table below, except that monthly grab samples shall be collected from each new well during the first 3 months after well installation. The grab samples shall be analyzed for the parameters specified in the table below.

PARAMETER	UNITS	PREVENTIVE ACTION LIMIT	ENFORCEMENT STANDARD	FREQUENCY
Depth To Groundwater	feet	*****	N/A	Quarterly
Groundwater Elevation	feet MSL	*****	N/A	Quarterly
Chloride Dissolved	mg/L	250	250	Quarterly
COD	mg/L	37	N/A	Quarterly
Nitrogen, Ammonia Dissolved	mg/L	0.97	9.7	Quarterly
Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	3.2	10	Quarterly
Nitrogen, Organic Dissolved	mg/L	2.3	N/A	Quarterly
pH Field	su	8.4	N/A	Quarterly
Solids, Total Dissolved	mg/L	940	N/A	Quarterly
Sulfate, Total	mg/L	150	250	Quarterly

3.1.1.1 Alternative Concentration Limit

An alternative concentration limit (ACL) of **250 mg/L** has been established for the **Chloride Preventive Action Limit** at this site. An alternative concentration limit (ACL) of **3.2 mg/L** has been established for the **Nitrogen, Nitrite + Nitrate Preventive Action Limit** at this site. An alternative concentration limit (ACL) of **150 mg/L** has been established for the **Sulfate Preventive Action Limit** at this site These ACLs are authorized in conjunction with an exemption granted under s. NR 140.28, Wis. Adm. Code.

3.1.1.2 pH Preventive Action Limits

A pH monitoring result is considered to have exceeded the pH preventive action limit (PAL) for this site if the result is less than **6.4** s.u. or greater than **8.4** s.u.

3.1.1.3 Preventive Action Limits for Indicator Parameters

Preventive Action Limits (PALs) for NR 140 Indicator Parameters have been established for this site. For more information see "Indicator Parameter – Preventive Action Limits" in the Standard Requirements section.

*****PALs are not calculated for Depth to Groundwater, Groundwater Elevation, nor Total Kjeldahl Nitrogen.

3.1.2 Groundwater Monitoring System for the central spray fields C, D, and E

Location of Monitoring System: perimeter of the central spray fields

Wells to be Monitored: W-105 (818), W-106 (806), W-108 (808), W-111 (811), W-113 (813) BACKGRD

Well Used To Calculate Preventive Action Limits (PALs): W-113 (813) BACKGRD

PALs listed in the table below have been calculated based on background groundwater quality data from this designated well. Groundwater contaminant concentrations shall be minimized and PALs met in groundwater monitoring wells to the extent it is technically and economically feasible.

Compliance Well(s) for Enforcement Standards (ESs): W-106 (806), W-108 (808), W-111 (811)

Enforcement standards are to be met in groundwater located beyond the 250 foot design management zone, or beyond the property boundary, whichever is closer to the land treatment system. See the Standard Requirements section of this permit for additional conditions related to exceedance of groundwater standards.

Required Monitoring: Grab samples shall be collected from each well to be monitored per the frequency shown in the table below, except that monthly grab samples shall be collected from each new well during the first 3 months after well installation. The grab samples shall be analyzed for the parameters specified in the table below.

PARAMETER	UNITS	PREVENTIVE ACTION LIMIT	ENFORCEMENT STANDARD	FREQUENCY
Depth To Groundwater	feet	*****	N/A	Quarterly
Groundwater Elevation	feet MSL	*****	N/A	Quarterly
Chloride Dissolved	mg/L	250	250	Quarterly
COD	mg/L	37	N/A	Quarterly
Nitrogen, Ammonia Dissolved	mg/L	0.97	9.7	Quarterly
Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	3.2	10	Quarterly
Nitrogen, Organic Dissolved	mg/L	2.3	N/A	Quarterly
pH Field	su	8.4	N/A	Quarterly
Solids, Total Dissolved	mg/L	940	N/A	Quarterly
Sulfate, Total	mg/L	150	250	Quarterly

3.1.2.1 Well 105 (818) – Monitoring Requirements

Monitoring is only required for Depth to Groundwater and Groundwater Elevation at Well 105 (818)

3.1.2.2 Alternative Concentration Limit

An alternative concentration limit (ACL) of **250 mg/L** has been established for the **Chloride Preventive Action Limit** at this site. An alternative concentration limit (ACL) of **3.2 mg/L** has been established for the **Nitrogen, Nitrite + Nitrate Preventive Action Limit** at this site. An alternative concentration limit (ACL) of **150 mg/L** has been established for the **Sulfate Preventive Action Limit** at this site These ACLs are authorized in conjunction with an exemption granted under s. NR 140.28, Wis. Adm. Code.

3.1.2.3 pH Preventive Action Limits

A pH monitoring result is considered to have exceeded the pH preventive action limit (PAL) for this site if the result is less than **6.4** s.u. or greater than **8.4** s.u.

3.1.2.4 Preventive Action Limits for Indicator Parameters

Preventive Action Limits (PALs) for NR 140 Indicator Parameters have been established for this site. For more information see "Indicator Parameter – Preventive Action Limits" in the Standard Requirements section.

*****PALs are not calculated for Depth to Groundwater, Groundwater Elevation, nor Total Kjeldahl Nitrogen.

3.1.3 Groundwater Monitoring System for the south spray fields G and H

Location of Monitoring System: perimeter of the south spray fields

Wells to be Monitored: W-116, W-117, W-118, W-119, W120, W-121

Well Used To Calculate Preventive Action Limits (PALs): W-116 BACKGRD

PALs listed in the table below have been calculated based on background groundwater quality data from this designated well. Groundwater contaminant concentrations shall be minimized and PALs met in groundwater monitoring wells to the extent it is technically and economically feasible.

Compliance Well(s) for Enforcement Standards (ESs): W-117, W-118, W-119, W-120, W-121

Enforcement standards are to be met in groundwater located beyond the 250 foot design management zone, or beyond the property boundary, whichever is closer to the land treatment system. See the Standard Requirements section of this permit for additional conditions related to exceedance of groundwater standards.

Required Monitoring: Grab samples shall be collected from each well to be monitored per the frequency shown in the table below, except that monthly grab samples shall be collected from each new well during the first 3 months after well installation. The grab samples shall be analyzed for the parameters specified in the table below.

PARAMETER	UNITS	PREVENTIVE ACTION LIMIT	ENFORCEMENT STANDARD	FREQUENCY
Depth To Groundwater	feet	*****	N/A	Quarterly
Groundwater Elevation	feet MSL	*****	N/A	Quarterly
Chloride Dissolved	mg/L	140	250	Quarterly
COD	mg/L	32	N/A	Quarterly
Nitrogen, Ammonia Dissolved	mg/L	0.97	9.7	Quarterly
Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	2.2	10	Quarterly
Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	*****	10	Quarterly
Nitrogen, Organic Dissolved	mg/L	2.3	N/A	Quarterly
pH Field	su	8.4	N/A	Quarterly
Solids, Total Dissolved	mg/L	620	N/A	Quarterly
Sulfate, Total	mg/L	170	250	Quarterly

3.1.3.1 Alternative Concentration Limit

An alternative concentration limit (ACL) of **140 mg/L** has been established for the **Chloride Preventive Action Limit** at this site. An alternative concentration limit (ACL) of **2.2 mg/L** has been established for the **Nitrogen, Nitrite + Nitrate Preventive Action Limit** at this site. An alternative concentration limit (ACL) of **170 mg/L** has

been established for the **Sulfate Preventive Action Limit** at this site. These ACLs are authorized in conjunction with an exemption granted under s. NR 140.28, Wis. Adm. Code.

3.1.3.2 pH Preventive Action Limits

A pH monitoring result is considered to have exceeded the pH preventive action limit (PAL) for this site if the result is less than **6.4** s.u. or greater than **8.4** s.u.

3.1.3.3 Preventive Action Limits for Indicator Parameters

Preventive Action Limits (PALs) for NR 140 Indicator Parameters have been established for this site. For more information see "Indicator Parameter – Preventive Action Limits" in the Standard Requirements section.

*****PALs are not calculated for Depth to Groundwater, Groundwater Elevation, nor Total Kjeldahl Nitrogen.

4 Land Application Requirements

4.1 Sampling Point(s)

The discharge(s) shall be limited to land application of the waste type(s) designated for the listed sampling point(s) on Department approved land spreading sites or by hauling to another facility.

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
003	Land Spreading of Liquid Wastes (silage leachate and/or process waste water)
004	Landspreading of Byproduct Solids

4.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations.

4.2.1 Sampling Point (Outfall) 003 - Land Spreading of Liquid Waste

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		gal/month	Monthly	Total Monthly	
BOD_5, Total		mg/L	Monthly	Grab	
Nitrogen, Total Kjeldahl		mg/L	Monthly	Grab	
Chloride		mg/L	Monthly	Grab	
Phosphorus, Total		mg/L	Monthly	Grab	
Potassium, Total Recoverable		mg/L	Monthly	Grab	

Daily Log – Monitoring Requirements and Limitations

All discharge and monitoring activity shall be documented on log sheets. Originals of the 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.

Parameters	Limit	Units	Sample Frequency	Sample Type
DNR Site Number(s)	-	Number	Daily	Log
Acres Applied	-	Acres	Daily	Log
Frozen Site Maximum Daily Loading Volume	6,800	Gal/Acre/Day	Daily	Calculated

Daily Log – Monitoring Requirements and Limitations All discharge and monitoring activity shall be documented on log sheets. Originals of the 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.				
Parameters	**Limit**	**Units**	**Sample Frequency**	**Sample Type**
Unfrozen Site Maximum Daily Loading Volume	13,500	Gal/Acre/Day	Daily	Calculated
Weekly Loading Volume	See NR 214 - Tbl 3	Inches/Week	Weekly	Calculated

Annual Report – Monitoring Requirements and Limitations The Annual Report is due by January 31st of each year for the previous calendar year.				
Parameters	**Limit**	**Units**	**Reporting Frequency**	**Sample Type**
DNR Site Number(s)	-	Number	-	-
Acres Land Applied	-	Acres	Annual	-
Total Volume Per Site	-	Gallons	Annual	Total Annual
Total Kjeldahl Nitrogen per Site	165, or alternate approved in writing	Pounds/Acre/Year	Annual	Calculated
Total Chloride per Site	340	Pounds/Acre per 2 Years	Annual	Calculated

4.2.1.1 Annual Site Nitrogen Loading

For details on nitrogen loading requirements, including approval of an alternate nitrogen pounds/acre/year site loading, see the "Nitrogen Requirements for Liquid Wastes, By-Product Solids and Sludges" paragraph in the Standard Requirements section of this permit.

4.2.1.2 Biennial Site Chloride Loading

For details on chloride requirements see the "Chloride Requirements for Liquid Wastes and By-Product Solids" paragraph in the Standard Requirements section of this permit.

4.2.1.3 Exemption Notices

The permittee is exempt from the specified monitoring and reporting requirements for sites storing less than 150 tons of sweet corn silage. The permittee is also exempt from the monitoring and reporting requirements for sites storing sweet corn silage between 150 tons and 1200 tons if the permittee: 1) has an approved "Stack Inventory and Evaluation" form; 2) provides the site owner a letter describing approved leachate storing and spreading requirements as outlined in chs. NR 213 and 214, Wis. Adm. Code, and provides an aerial photo delineating restricted spreading areas; and 3) the site is included in an annual report submitted by the permittee following the year of silage storage which records the total amount of silage received and stored at the site.

4.2.2 Sampling Point (Outfall) 004 - Spreading of Byproduct Solids

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Volume		gal/month	Monthly	Total Monthly	
Solids, Total		Percent	Annual	Grab	
Nitrogen, Total Kjeldahl		Percent	Annual	Grab	
Chloride		Percent	Annual	Grab	
Phosphorus, Total		Percent	Annual	Grab	

Daily Log – Monitoring Requirements and Limitations
All discharge and monitoring activity shall be documented on log sheets. Originals of the 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.

Parameters	**Limit**	**Units**	**Sample Frequency**	**Sample Type**
DNR Site Number(s)	-	Number	Daily	Log
Acres Applied	-	Acres	Daily	Log
Application Rate	-	Tons/Acre/Day	Daily	Calculated

Annual Report – Monitoring Requirements and Limitations
The Annual Report is due by January 31st of each year for the previous calendar year.

Parameters	**Limit**	**Units**	**Reporting Frequency**	**Sample Type**
DNR Site Number(s)	-	Number	-	-
Acres Land Applied	-	Acres	Annual	-
Total Amount Per Site	-	Tons	Annual	Total Annual
Total Kjeldahl Nitrogen per Site	165, or alternate approved in writing	Pounds/Acre/Year	Annual	Calculated
Total Chloride per Site	340	Pounds/Acre per 2 Years	Annual	Calculated

4.2.2.1 Annual Site Nitrogen Loading

For details on nitrogen loading requirements, including approval of an alternate nitrogen pounds/acre/year site loading, see the "Nitrogen Requirements for Liquid Wastes, By-Product Solids and Sludges" paragraph in the Standard Requirements section of this permit.

4.2.2.2 Biennial Site Chloride Loading

For details on chloride requirements see the "Chloride Requirements for Liquid Wastes and By-Product Solids" paragraph in the Standard Requirements section of this permit.

4.2.2.3 Sampling

Representative samples shall be collected of the byproduct solids to be land applied. When the byproduct solids are large pieces, a large sample should be collected and ground to a homogenous slurry for analysis.

4.2.2.4 Exemption Notices

The permittee is exempt from the specified monitoring and reporting requirements for sites storing less than 150 tons of sweet corn silage. The permittee is also exempt from the monitoring and reporting requirements for sites storing sweet corn silage between 150 tons and 1200 tons if the permittee: 1) has an approved "Stack Inventory and Evaluation" form; 2) provides the site owner a letter describing approved leachate storing and spreading requirements as outlined in chs. NR 213 and 214, Wis. Adm. Code, and provides an aerial photo delineating restricted spreading areas; and 3) the site is included in an annual report submitted by the permittee following the year of silage storage which records the total amount of silage received and stored at the site.

5 Schedules

5.1 Land Application Management Plan

Submit an updated land application management plan.

Required Action	Due Date
Operating Requirements & Land Application Management Plan: Operating Requirements & Land Application Management Plan: All land application sites used for treatment of liquid waste, by-product solids, and/or industrial sludge shall be operated in accordance with a Department Approved Land Application Management Plan. The management plan shall be consistent with the requirements of this permit and ch. NR 214, Wis. Adm. Code. The plan shall specify information on pretreatment processes, site identification on plat and soil maps, aerial photographs, if available, description of all site limitations, vegetative cover management and removal, availability of storage, type of transporting and spreading vehicle, load and rest schedules, monitoring procedures, contingency plans for periods of adverse weather or odor or nuisance abatement and any other pertinent information. If operational changes are needed, the land application management plan shall be amended by submitting a written request to the Department for approval of such amendments.	01/31/2017

5.2 Land Treatment Management Plan

Submit an updated land treatment management plan for the wastewater irrigation treatment system.

Required Action	Due Date
Management Plan: Management Plan: Submit a management plan to optimize the land treatment system performance and demonstrate compliance with Wisconsin Administrative Code NR 214. The management plan shall be consistent with the requirements of this permit and ch. NR 214,14(5)(d), Wis. Adm. Code. The plan shall specify information on pretreatment processes, load and rest schedules, schedules maintenance, vegetation cover management and removal, scheduling of annual soil nutrient testing, operational strategies for periods of adverse weather, monitoring procedures, and any other pertinent information.	01/31/2017

5.3 COD Source Reduction Measures (SRMs) for Groundwater Discharges

Submit a COD reduction Investigation and annual COD reduction updates for Wells 118 and 120.

Required Action	Due Date
COD Reduction Plan Update: COD Source Investigation: The permittee shall complete and submit for Department review and approval a COD Source Investigation report for Wells 118 and 120. This report shall include at a minimum the potential sources of COD, a plan for identifying sources of COD, step toward controlling COD and attain the COD PAL. The report shall include a COD Reduction Plan (CRP) to evaluate new applicable source reduction measures (SRMs), evaluate SRMs previously implemented, and establish appropriate implementation activities for the SRMs. The report shall include a schedule for implementing the selected SRMs and reevaluation of implemented SRMs.	01/31/2017
Annual Progress Report: Once the COD investigation and COD reduction plan (CRP) is approved by the Department, the permittee shall submit an annual progress report, under the authority of s. NR	01/31/2018

205.07(1)(h), Wis. Adm. Code. If a SRM implementation date of an approved CRP is not met, this may constitute a violation of the permit. Submittal of the first annual progress report is required by the Date Due.	
Second Annual Progress Report: Submit progress report in implementing the COD reduction plan (CRP).	01/31/2019
Third Annual Progress Report: Submit progress report in implementing the COD reduction plan (CRP).	01/31/2020
Fourth Annual Progress Report: Submit progress report in implementing the COD reduction plan (CRP).	01/31/2021
Annual COD Reduction Reports Required After Permit Expiration: In the event that this permit is not reissued on time for an April 1, 2020 effective date, the permittee shall continue to submit annual COD reduction reports by January 31 of each year covering source reduction measures implemented and COD concentration and mass discharge trends for the previous calendar year (i.e., the annual report covering year 2020 shall be due January 31, 2021; the annual report covering calendar year 2021 shall be due January 31, 2022; etc.).	

5.4 Chloride Source Reduction Measures (SRMs) for Groundwater Discharges

Submit a Chloride SRM plan and annual Chloride reduction updates.

Required Action	Due Date
Chloride Reduction Plan: The permittee shall complete and submit for Department review and approval a chloride reduction plan (CRP). The CRP is an initial step toward controlling chloride and ensuring compliance with chloride limits based on applicable groundwater standards. The CRP shall evaluate all applicable source reduction measures (SRMs) and establish appropriate implementation activities for the SRMs. The CRP shall include a schedule for implementing the selected SRMs.	01/31/2017
Annual Progress Report: Once the chloride reduction plan (CRP) is approved by the Department, the permittee shall submit an annual progress report, under the authority of s. NR 205.07(1)(h), Wis. Adm. Code. If a SRM implementation date of an approved CRP is not met, this may constitute a violation of the permit. Submittal of the first annual progress report is required by the Date Due.	01/31/2018
Second Annual Progress Report: Submit progress report in implementing the chloride reduction plan (CRP).	01/31/2019
Third Annual Progress Report: Submit progress report in implementing the chloride reduction plan (CRP).	01/31/2020
Fourth Annual Progress Report: Submit progress report in implementing the chloride reduction plan (CRP).	01/31/2021
Final Annual Progress Report: Submit progress report in implementing the chloride reduction plan (CRP).	

5.5 Byproduct Solid Storage Pad and Leachate Containment Operation Plan

Report on by-product storage pads and leachate containments.

Required Action	Due Date
Storage Stack and Leachate Containment Standard Operations Plan: The permittee shall submit a report to the Department documenting compliance with the requirements of chs. NR 213 and 214,	04/30/2017

Wis. Adm. Code. This report shall include, at a minimum, review and inspection procedures completed by the permittee, timing of inspections, a sample inspection log, record retention procedures, and process used for facilities not in compliance with chs. NR 213 and 214, Wis. Adm. Code. It shall also include a list of all byprodcut solid storage pads and leachate containment systems.	
Updated Operation Plan: The permittee shall submit an updated byproduct solid storage stack and leachate containment structures management plan for approval prior to implementing changes to the plan.	

5.6 Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus

The permittee shall comply with the WQBELs for Phosphorus as specified. No later than 30 days following each compliance date, the permittee shall notify the Department in writing of its compliance or noncompliance. If a submittal is required, a timely submittal fulfills the notification requirement.

Required Action	Due Date
Operational Evaluation Report: The permittee shall prepare and submit to the Department for approval an operational evaluation report. The report shall include an evaluation of collected effluent data, possible source reduction measures, operational improvements or other minor facility modifications that will optimize reductions in phosphorus discharges from the treatment system during the period prior to complying with final phosphorus WQBELs and, where possible, enable compliance with final phosphorus WQBELs by April 30, 2019. The report shall provide a plan and schedule for implementation of the measures, improvements, and modifications as soon as possible, but not later than April 30, 2019 and state whether the measures, improvements, and modifications will enable compliance with final phosphorus WQBELs. Regardless of whether they are expected to result in compliance, the permittee shall implement the measures, improvements, and modifications in accordance with the plan and schedule specified in the operational evaluation report. If the operational evaluation report concludes that the facility can achieve final phosphorus WQBELs using the existing treatment system with only source reduction measures, operational improvements, and minor facility modifications, the permittee shall comply with the final phosphorus WQBEL by April 30, 2019 and is not required to comply with the milestones identified below for years 3 through 9 of this compliance schedule ('Preliminary Compliance Alternatives Plan', 'Final Compliance Alternatives Plan', 'Final Plans and Specifications', 'Treatment Plant Upgrade to Meet WQBELs', 'Complete Construction', 'Achieve Compliance'). STUDY OF FEASIBLE ALTERNATIVES - If the Operational Evaluation Report concludes that the permittee cannot achieve final phosphorus WQBELs with source reduction measures, operational improvements and other minor facility modifications, the permittee shall initiate a study of feasible alternatives for meeting final phosphorus WQBELs and comply with the remaining required actions of this schedule of compliance. If the Department disagrees with the conclusion of the report, and determines that the permittee can achieve final phosphorus WQBELs using the existing treatment system with only source reduction measures, operational improvements, and minor facility modifications, the Department may reopen and modify the permit to include an implementation schedule for achieving the final phosphorus WQBELs sooner than April 30, 2025.	04/30/2017
Compliance Alternatives, Source Reduction, Improvements and Modifications Status: The permittee shall submit a 'Compliance Alternatives, Source Reduction, Operational Improvements and Minor Facility Modification' status report to the Department. The report shall provide an update on the permittee's: (1) progress implementing source reduction measures, operational improvements, and minor facility modifications to optimize reductions in phosphorus discharges and, to the extent that such measures, improvements, and modifications will not enable compliance with the WQBELs,	04/30/2018

(2) status evaluating feasible alternatives for meeting phosphorus WQBELs.	
Preliminary Compliance Alternatives Plan: The permittee shall submit a preliminary compliance alternatives plan to the Department. If the plan concludes upgrading of the permittee's wastewater treatment facility is necessary to achieve final phosphorus WQBELs, the submittal shall include a preliminary engineering design report. If the plan concludes Adaptive Management will be used, the submittal shall include a completed Watershed Adaptive Management Request Form 3200-139 without the Adaptive Management Plan. If water quality trading will be undertaken, the plan must state that trading will be pursued.	04/30/2019
Final Compliance Alternatives Plan: The permittee shall submit a final compliance alternatives plan to the Department. If the plan concludes upgrading of the permittee's wastewater treatment is necessary to meet final phosphorus WQBELs, the submittal shall include a final engineering design report addressing the treatment plant upgrades, and a facility plan if required pursuant to ch. NR 110, Wis. Adm. Code. If the plan concludes Adaptive Management will be implemented, the submittal shall include a completed Watershed Adaptive Management Request Form 3200-139 and an engineering report addressing any treatment system upgrades necessary to meet interim limits pursuant to s. NR 217.18, Wis. Adm. Code. If the plan concludes water quality trading will be used, the submittal shall identify potential trading partners. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	04/30/2020
Progress Report on Plans & Specifications: Submit progress report regarding the progress of preparing final plans and specifications. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	04/30/2021
Final Plans and Specifications: Unless the permit has been modified, revoked and reissued, or reissued to include Adaptive Management or Water Quality Trading measures or to include a revised schedule based on factors in s. NR 217.17, Wis. Adm. Code, the permittee shall submit final construction plans to the Department for approval pursuant to s. 281.41, Stats., specifying treatment plant upgrades that must be constructed to achieve compliance with final phosphorus WQBELs, and a schedule for completing construction of the upgrades by the complete construction date specified below. (Note: Permit modification, revocation and reissuance, and reissuance are subject to s. 283.53(2), Stats.) Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	04/30/2022
Treatment Plant Upgrade to Meet WQBELs: The permittee shall initiate construction of the upgrades. The permittee shall obtain approval of the final construction plans and schedule from the Department pursuant to s. 281.41. Stats. Upon approval of the final construction plans and schedule by the Department pursuant to s. 281.41, Stats., the permittee shall construct the treatment plant upgrades in accordance with the approved plans and specifications. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	07/31/2022
Construction Upgrade Progress Report #1: The permittee shall submit a progress report on construction upgrades. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in	07/31/2023

the Surface Water section of this permit.	
Construction Upgrade Progress Report #2: The permittee shall submit a progress report on construction upgrades. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	07/31/2024
Complete Construction: The permittee shall complete construction of wastewater treatment system upgrades. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	01/31/2025
Achieve Compliance: The permittee shall achieve compliance with final phosphorus WQBELs. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	03/31/2025

6 Standard Requirements

NR 205, Wisconsin Administrative Code (Conditions for Industrial Dischargers): 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. Some of these requirements are outlined in the Standard Requirements section of this permit. Requirements not specifically outlined in the Standard Requirement section of this permit can be found in ss. NR 205.07(1) and NR 205.07(3).

6.1 Reporting and Monitoring Requirements

6.1.1 Monitoring Results

Monitoring results obtained during the previous month shall be summarized and reported on a Department Wastewater Discharge Monitoring Report. The report may require reporting of any or all of the information specified below under 'Recording of Results'. This report is to be returned to the Department no later than the date indicated on the form. A copy of the Wastewater Discharge Monitoring Report Form or an electronic file of the report shall be retained by the permittee.

Monitoring results shall be reported on an electronic discharge monitoring report (eDMR). The eDMR shall be certified electronically by a principal executive officer, a ranking elected official or other duly authorized representative. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

If the permittee monitors any pollutant more frequently than required by this permit, the results of such monitoring shall be included on the Wastewater Discharge Monitoring Report.

The permittee shall comply with all limits for each parameter regardless of monitoring frequency. For example, monthly, weekly, and/or daily limits shall be met even with monthly monitoring. The permittee may monitor more frequently than required for any parameter.

6.1.2 Sampling and Testing Procedures

Sampling and laboratory testing procedures shall be performed in accordance with Chapters NR 218 and NR 219, Wis. Adm. Code and shall be performed by a laboratory certified or registered in accordance with the requirements of ch. NR 149, Wis. Adm. Code. Groundwater sample collection and analysis shall be performed in accordance with ch. NR 140, Wis. Adm. Code. The analytical methodologies used shall enable the laboratory to quantitate all substances for which monitoring is required at levels below the effluent limitation. If the required level cannot be met by any of the methods available in NR 219, Wis. Adm. Code, then the method with the lowest limit of detection shall be selected. Additional test procedures may be specified in this permit.

6.1.3 Recording of Results

The permittee shall maintain records which provide the following information for each effluent measurement or sample taken:

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

6.1.4 Reporting of Monitoring Results

The permittee shall use the following conventions when reporting effluent monitoring results:

- Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 0.1 mg/L, report the pollutant concentration as < 0.1 mg/L.

- 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.

- For purposes of calculating NR 101 fees, the 2 mg/l lower reporting limits for BOD_5 and Total Suspended Solids shall be considered to be limits of quantitation

- For the purposes of reporting a calculated result, average or a mass discharge value, the permittee may substitute a 0 (zero) for any pollutant concentration that is less than the limit of detection. However, if the effluent limitation is less than the limit of detection, the department may substitute a value other than zero for results less than the limit of detection, after considering the number of monitoring results that are greater than the limit of detection and if warranted when applying appropriate statistical techniques.

6.1.5 Records Retention

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit for a period of at least 3 years from the date of the sample, measurement, report or application, except for sludge management forms and records, which shall be kept for a period of at least 5 years.

6.1.6 Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or correct information to the Department.

6.2 System Operating Requirements

6.2.1 Noncompliance Reporting

The permittee shall report the following types of noncompliance by a telephone call to the Department's regional office within 24 hours after becoming aware of the noncompliance:

- any noncompliance which may endanger health or the environment;
- any violation of an effluent limitation resulting from a bypass;
- any violation of an effluent limitation resulting from an upset; and
- any violation of a maximum discharge limitation for any of the pollutants listed by the Department in the permit, either for effluent or sludge.

A written report describing the noncompliance shall also be submitted to the Department as directed at the end of this permit within 5 days after the permittee becomes aware of the noncompliance. On a case-by-case basis, the Department may waive the requirement for submittal of a written report within 5 days and instruct the permittee to submit the written report with the next regularly scheduled monitoring report. In either case, the written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; the steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance; and if the noncompliance has not been corrected, the length of time it is expected to continue.

A scheduled bypass approved by the Department under the 'Scheduled Bypass' section of this permit shall not be subject to the reporting required under this section.

NOTE: Section 292.11(2)(a), Wisconsin Statutes, requires any person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance to notify the Department of Natural Resources **immediately** of any discharge not authorized by the permit. **The discharge of a hazardous substance that is not authorized by this permit or that violates this permit may be a hazardous substance spill. To report a hazardous substance spill, call DNR's 24-hour HOTLINE at 1-800-943-0003**.

6.2.2 Bypass

Except for a controlled diversion as provided in the 'Controlled Diversions' section of this permit, any bypass is prohibited and the Department may take enforcement action against a permittee for such occurrences under s. 283.89, Wis. Stats. The Department may approve a bypass if the permittee demonstrates all the following conditions apply:

- The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities or adequate back-up equipment, retention of untreated wastes, reduction of inflow and infiltration, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance. When evaluating feasibility of alternatives, the department may consider factors such as technical achievability, costs and affordability of implementation and risks to public health, the environment and, where the permittee is a municipality, the welfare of the community served; and
- The bypass was reported in accordance with the 'Noncompliance Reporting' section of this permit.

6.2.3 Scheduled Bypass

Whenever the permittee anticipates the need to bypass for purposes of efficient operations and maintenance and the permittee may not meet the conditions for controlled diversions in the 'Controlled Diversions' section of this permit, the permittee shall obtain prior written approval from the Department for the scheduled bypass. A permittee's written request for Department approval of a scheduled bypass shall demonstrate that the conditions for unscheduled bypassing are met and include the proposed date and reason for the bypass, estimated volume and duration of the bypass, alternatives to bypassing and measures to mitigate environmental harm caused by the bypass. The department may require the permittee to provide public notification for a scheduled bypass if it is determined there is significant public interest in the proposed action and may recommend mitigation measures to minimize the impact of such bypass.

6.2.4 Controlled Diversions

Controlled diversions are allowed only when necessary for essential maintenance to assure efficient operation provided the following requirements are met:

- Effluent from the wastewater treatment facility shall meet the effluent limitations established in the permit. Wastewater that is diverted around a treatment unit or treatment process during a controlled diversion shall be recombined with wastewater that is not diverted prior to the effluent sampling location and prior to effluent discharge;
- A controlled diversion may not occur during periods of excessive flow or other abnormal wastewater characteristics;
- A controlled diversion may not result in a wastewater treatment facility overflow; and
- All instances of controlled diversions shall be documented in wastewater treatment facility records and such records shall be available to the department on request.

6.2.5 Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of this permit. The wastewater treatment facility shall be under the direct supervision of a state certified operator as required in s. NR 108.06(2), Wis. Adm. Code. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training as required in ch. NR 114, Wis. Adm. Code, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

6.2.6 Spill Reporting

The permittee shall notify the Department in accordance with ch. NR 706 (formerly NR 158), Wis. Adm. Code, in the event that a spill or accidental release of any material or substance results in the discharge of pollutants to the waters of the state at a rate or concentration greater than the effluent limitations established in this permit, or the spill or accidental release of the material is unregulated in this permit, unless the spill or release of pollutants has been reported to the Department in accordance with s. NR 205.07 (1)(s), Wis. Adm. Code.

6.2.7 Planned Changes

In accordance with ss. 283.31(4)(b) and 283.59, Stats., 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. The report shall either be a new permit application, or if the new discharge will not violate the effluent limitations of this permit, a written notice of the new, different or increased discharge. The notice shall contain a description of the new activities, an estimate of the new, different or increased discharge of pollutants and a description of the effect of the new or increased discharge on existing waste treatment facilities. Following receipt of this report, the Department may modify this permit to specify and limit any pollutants not previously regulated in the permit.

6.2.8 Duty to Halt or Reduce Activity

Upon failure or impairment of treatment facility operation, the permittee shall, 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.

6.3 Surface Water Requirements

6.3.1 Permittee-Determined Limit of Quantitation Incorporated into this Permit

For pollutants with water quality-based effluent limits below the Limit of Quantitation (LOQ) in this permit, the LOQ calculated by the permittee and reported on the Discharge Monitoring Reports (DMRs) is incorporated by reference into this permit. The LOQ shall be reported on the DMRs, shall be the lowest quantifiable level practicable, and shall be no greater than the minimum level (ML) specified in or approved under 40 CFR Part 136 for the pollutant at the time this permit was issued, unless this permit specifies a higher LOQ.

6.3.2 Appropriate Formulas for Effluent Calculations

The permittee shall use the following formulas for calculating effluent results to determine compliance with average concentration limits and mass limits and total load limits:

Weekly/Monthly/Six-Month/Annual Average Concentration = the sum of all daily results for that week/month/six-month/year, divided by the number of results during that time period. [Note: When a six-month average effluent limit is specified for Total Phosphorus the applicable periods are May through October and November through April.]

Weekly Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the week.

Monthly Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the month.

Six-Month Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the six-month period. [Note: When a six-month average effluent limit is specified for Total Phosphorus the applicable periods are May through October and November through April.]

Annual Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the entire year.

Total Monthly Discharge: = monthly average concentration (mg/L) x total flow for the month (MG/month) x 8.34.

Total Annual Discharge: = sum of total monthly discharges for the calendar year.

12-Month Rolling Sum of Total Monthly Discharge: = the sum of the most recent 12 consecutive months of Total Monthly Discharges.

6.3.3 Effluent Temperature Requirements

Weekly Average Temperature – The permittee shall use the following formula for calculating effluent results to determine compliance with the weekly average temperature limit (as applicable): Weekly Average Temperature = the sum of all daily maximum results for that week divided by the number of daily maximum results during that time period.

Cold Shock Standard – Water temperatures of the discharge shall be controlled in a manner as to protect fish and aquatic life uses from the deleterious effects of cold shock. 'Cold Shock' means exposure of aquatic organisms to a rapid decrease in temperature and a sustained exposure to low temperature that induces abnormal behavior or physiological performance and may lead to death.

Rate of Temperature Change Standard – Temperature of a water of the state or discharge to a water of the state may not be artificially raised or lowered at such a rate that it causes detrimental health or reproductive effects to fish or aquatic life of the water of the state.

6.3.4 Visible Foam or Floating Solids

There shall be no discharge of floating solids or visible foam in other than trace amounts.

6.3.5 Surface Water Uses and Criteria

In accordance with NR 102.04, Wis. Adm. Code, surface water uses and criteria are established to govern water management decisions. Practices attributable to municipal, industrial, commercial, domestic, agricultural, land development or other activities shall be controlled so that all surface waters including the mixing zone meet the following conditions at all times and under all flow and water level conditions:

a) Substances that will cause objectionable deposits on the shore or in the bed of a body of water, shall not be present in such amounts as to interfere with public rights in waters of the state.

b) Floating or submerged debris, oil, scum or other material shall not be present in such amounts as to interfere with public rights in waters of the state.

c) Materials producing color, odor, taste or unsightliness shall not be present in such amounts as to interfere with public rights in waters of the state.

d) Substances in concentrations or in combinations which are toxic or harmful to humans shall not be present in amounts found to be of public health significance, nor shall substances be present in amounts which are acutely harmful to animal, plant or aquatic life.

6.3.6 Compliance with Phosphorus Limitation

Compliance with the concentration limitation for phosphorus shall be determined as a rolling twelve-month average and shall be calculated as follows:

First, determine the pounds of phosphorus for an individual month by multiplying the average of all the concentration values for phosphorus (in mg/L) for that month by the total flow for the month in Million Gallons times the conversion factor of 8.34.

Then, the monthly pounds of phosphorus determined in this manner shall be summed for the most recent 12 months and inserted into the numerator of the following equation.

$$\text{Average concentration of P in mg/L} = \frac{\text{Total lbs of P discharged (most recent 12 months)}}{\text{Total flow in MG (most recent 12 months)} \times 8.34}$$

The compliance calculation shall be performed each month with a reported discharge volume after substituting data from the most recent month(s) for the oldest month(s). A calculated value in excess of the concentration limitation will be considered equivalent to a violation of a monthly average.

6.3.7 Whole Effluent Toxicity (WET) Monitoring Requirements

In order to determine the potential impact of the discharge on aquatic organisms, static-renewal toxicity tests shall be performed on the effluent in accordance with the procedures specified in the *"State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2nd Edition" (PUB-WT-797*, November 2004) as required by NR 219.04, Table A, Wis. Adm. Code). All of the WET tests required in this permit, including any required retests, shall be conducted on the *Ceriodaphnia dubia* and fathead minnow species. Receiving water samples shall not be collected from any point in contact with the permittee's mixing zone and every attempt shall be made to avoid contact with any other discharge's mixing zone.

6.3.8 Whole Effluent Toxicity (WET) Identification and Reduction

This standard requirement applies only to acute or chronic WET monitoring that is not accompanied by a WET limit. Within 60 days of a retest which showed positive results, the permittee shall submit a written report to the Biomonitoring Coordinator, Bureau of Water Quality, 101 S. Webster St., PO Box 7921, Madison, WI 53707-7921, which details the following:

- A description of actions the permittee has taken or will take to remove toxicity and to prevent the recurrence of toxicity;

- A description of toxicity reduction evaluation (TRE) investigations that have been or will be done to identify potential sources of toxicity, including some or all of the following actions:

  (a) Evaluate the performance of the treatment system to identify deficiencies contributing to effluent toxicity (e.g., operational problems, chemical additives, incomplete treatment)
  (b) Identify the compound(s) causing toxicity
  (c) Trace the compound(s) causing toxicity to their sources (e.g., industrial, commercial, domestic)

(d) Evaluate, select, and implement methods or technologies to control effluent toxicity (e.g., in-plant or pretreatment controls, source reduction or removal)

- Where corrective actions including a TRE have not been completed, an expeditious schedule under which corrective actions will be implemented;

- If no actions have been taken, the reason for not taking action.

The permittee may also request approval from the Department to postpone additional retests in order to investigate the source(s) of toxicity. Postponed retests must be completed after toxicity is believed to have been removed.

6.4 Land Treatment Requirements for Industrial Discharges

NR 214, Wisconsin Administrative Code: The requirements of this section are based on ss. NR 214.12-16, Wis. Adm. Code, and apply to wastewater discharges to designed and constructed absorption pond, ridge & furrow, spray irrigation, overland flow and subsurface absorption treatment systems.

6.4.1 Formulas for Land Treatment Calculations

The permittee shall use the following formulas for land treatment calculations, unless an alternate calculation method is approved by the Department in the Land Treatment Management Plan.

6.4.1.1 Monthly Average Hydraulic Application Rate

Determine the monthly average hydraulic application rate (in gal/acre/day) for each outfall by calculating the total gallons of wastewater applied onto the site for the month, dividing that total by the number of wetted acres loaded during the month, and then dividing this resulting value by the number of days in the month. Enter this calculated monthly value on the Discharge Monitoring Report form in the box for the last day of the month, in the "Hydraulic Application Rate" column.

6.4.1.2 Annual Total Nitrogen per Cell or per Zone

$$\frac{\text{(annual ave. concentration in mg/L) (tot. annual flow in million gallons per cell or zone) (8.34)}}{\text{acreage of cell or zone}} = \text{lbs/ac/yr}$$

6.4.1.3 Annual Total Chloride per Cell or per Zone

$$\frac{\text{(annual ave. concentration in mg/L) (tot. annual flow in million gallons per cell or zone) (8.34)}}{\text{acreage of cell or zone}} = \text{lbs/ac/yr}$$

6.4.2 Land Treatment Annual Report

Annual Land Treatment Reports are due by January 31st of each year for the previous calendar year.

6.4.3 Chloride Requirements for Land Treatment Systems

Since chloride is not significantly treated by the soil, the chloride level of the wastewater treated on land shall be minimized to the extent that is technically and economically feasible. The goal is to protect groundwater quality and prevent exceedance of the 125 mg/L groundwater preventive action limit.

6.4.4 Nitrogen Loading Requirements for Spray Irrigation

The total annual nitrogen loading (pounds/acre/year) to the wastewater spray irrigation acreage shall not exceed the limitation contained in the land treatment annual report table of this permit, except that the Department may approve (in writing) an alternative nitrogen loading limit in a spray irrigation management plan based on the annual nitrogen needs of the cover crop and the permittee's demonstration of nitrogen losses for the site as specified in s. NR 214.14(3)(c), Wis. Adm. Code.

6.4.5 Ponding

The intensity of wastewater spray shall be limited to prevent ponding, except for temporary conditions following rainfall events.

6.4.6 Runoff

The volume of wastewater sprayed shall be limited to prevent runoff of any wastewater mixed with rainwater as specified in s. NR 214.14(3)(f), Wis. Adm. Code. If wastewater runoff occurs, spray irrigation shall cease immediately.

6.4.7 Seasonal Irrigation Restriction

Discharge to the spray irrigation field shall occur only between May 1 and October 31 each year, unless otherwise specified in the approved Land Treatment Management Plan.

6.4.8 Irrigation Management Plan

The spray irrigation treatment system shall be operated and managed in accordance with a Department approved management plan. The management plan shall be consistent with the conditions listed in this permit and s. NR 214.14(5), Wis. Adm. Code, which requires a load/rest cycle, cover crop removal, annual soil testing, etc. If operational changes are needed, the management plan shall be amended and such plan shall be submitted to the Department for approval prior to implementing such changes.

6.5 Groundwater Standard Requirements

6.5.1 Application of NR 140 to Substances Discharged

This permit does not authorize the permittee to discharge any substance in a concentration which would cause an applicable groundwater standard of ch. NR 140, Wis. Adm. Code, to be exceeded. The Department may seek a response under NR 140 if the permittee’s discharge causes exceedance of an applicable groundwater standard for any substance, including substances not specifically limited or monitored under this permit.

6.5.2 Groundwater Sampling

Groundwater sampling shall be performed in accordance with procedures contained in the WDNR publications, Groundwater Sampling Desk Reference (PUBL-DG-037-96) and Groundwater Sampling Field Manual (PUBL-DG-038-96).

6.5.3 Indicator Parameter - Preventive Action Limits

Preventive action limits for indicator parameters are calculated using a minimum of eight sample analysis results available from a representative background well in accordance with the procedures in s. NR 140.20, Wis. Adm. Code.

6.5.4 Groundwater Monitoring Forms

Results of the groundwater analyses shall be summarized and reported on Groundwater Monitoring Forms. This report form is to be returned to the Department no later than the date indicated on the form. A copy of the groundwater monitoring form or an electronic file of the form shall be retained by the permittee. Groundwater monitoring results shall be reported on an electronic groundwater monitoring form and certified electronically via the 'eReport Certify' page by a principal executive officer, a ranking elected official or other duly authorized representative. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

6.5.5 Appropriate Formulas for Groundwater

Total Nitrogen = Total Kjeldahl Nitrogen (mg/L) + [NO_2 + NO_3] Nitrogen (mg/L)

Organic Nitrogen (mg/L) = Total Kjeldahl Nitrogen (mg/L) - Ammonia Nitrogen (mg/L)

6.5.6 Reporting Depth to Groundwater

Depth to groundwater shall be reported in feet, to the nearest 0.01 foot, below the top of the well casing. A report shall be on file with the Department stating the well casing top elevation in feet above mean sea level (MSL), to the nearest 0.01 foot, for each groundwater monitoring well.

6.5.7 Groundwater Elevation

Groundwater elevations shall be calculated by subtracting the depth to groundwater measurement from the well casing top elevation and shall be reported in feet above mean sea level (MSL) to the nearest 0.01 foot.

6.5.8 Groundwater Grab Samples

Grab samples shall be taken of the groundwater only after adequate removal or purging of standing water within the well casing has been performed. For those wells which will refill with water as fast as the water can be removed by bailing or pumping, four well volumes shall be removed prior to sample collection and analysis. For those wells which will not refill with water as fast as the water can be removed by bailing or pumping, the existing volume of water inside the well casing shall be removed and samples collected after the well has refilled to at least half the original volume in the well.

6.5.9 Filtering of Groundwater Samples

All groundwater monitoring well samples shall be filtered prior to analysis, except for the portion used to measure pH or field specific conductance, which shall be done using an unfiltered sample. While in-field analysis is preferred for these two tests, laboratory analysis done within two hours of sample collection is acceptable. For the portion to be filtered, it is preferred that filtering be performed in the field immediately following sample collection. However, laboratory filtering is acceptable. Filtering shall be performed through a standard 0.45 micron filter.

6.5.10 Groundwater Data Log

A data log shall be used to record the results of all field sampling and analysis events. This log shall include date of sampling event, groundwater sampler's name, well identification, depth from pipetop to water, depth from pipetop to well bottom, time of purging (start to end), volume of water purged, indication of whether the well was purged dry, time of sample withdrawal, and the following applicable field observations: pH, field conductivity, temperature, color, odor and turbidity, indication of whether field filtering was performed and time of filtering, indication of cap and lock replaced, and comments.

6.5.11 Notification of Attaining or Exceeding Groundwater Quality Standards

The permittee shall notify the Department when monitoring results indicate that a Preventive Action Limit or Enforcement Standard has been attained or exceeded. This notification may be provided in the general remarks section of the groundwater monitoring form or by letter attached to the groundwater monitoring form. Any values reported as exceeding a groundwater standard shall be confirmed as being from a representative sample and as a correct laboratory analysis result.

6.5.12 Preventive Action Limit (PAL) Exceedance

Analysis results (from the land treatment monitoring wells) that are less than this permit's PALs indicate that operation of the land treatment system is protective of groundwater quality. Substance concentrations that exhibit a trend over time of being greater than the PAL may indicate that additional technically and economically feasible actions are needed to reduce the discharge of the substance to the groundwater. In such a case, the Department may request an evaluation and response or propose a permit modification to require submittal of a groundwater evaluation report and implementation of a feasible response as specified in NR 140.24(1)(b), Wis. Adm. Code.

6.5.13 Enforcement Standard Exceedance Within the Design Management Zone

Substance concentrations greater than this permit's enforcement standard (ES) in a permittee's monitoring well located within the property boundary and within the design management zone of the land treatment system may indicate that the groundwater concentration exceeds an ES outside of these boundaries. If the Department determines there is reasonable evidence that an ES is being attained or exceeded beyond the property boundary or beyond the design management zone, the Department may request an evaluation and response or propose a permit modification to require an evaluation report and appropriate response as specified in s. NR 140.26, Wis. Adm. Code.

6.5.14 Enforcement Standard Exceedance Outside the Design Management Zone

The permittee's land treatment system shall not cause the concentration of a substance in groundwater to attain or exceed this permit's enforcement standard at any point of present groundwater use, at any point beyond the property boundary, or at any point beyond the design management zone established under s. NR 140.22, Wis. Adm. Code. When this condition is not met, **the permittee shall, within 120 days following notification by the Department of the attainment or exceedance of an ES beyond the compliance boundary, submit a groundwater quality evaluation and response report** as specified in NR 140.26(1)(b), Wis. Adm. Code. The Department may propose modification of this permit to require the permittee to implement additional treatment or other actions as specified in s. NR 140.26, Wis. Adm. Code.

6.6 Land Application Requirements

6.6.1 General Sludge Management Information

The General Sludge Management Form 3400-48 shall be completed and submitted prior to any significant sludge management changes.

6.6.2 Land Application Characteristic Report

The analytical results from testing of liquid wastes, by-product solids and sludges that are land applied shall be reported annually on the Characteristic Report Form 3400-49. The report form shall be submitted electronically no later than the date indicated on the form. Following submittal of the electronic Characteristic Report Form 3400-49, this form shall be certified electronically via the 'eReport Certify' page by a principal executive officer or duly authorized representative. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

The permittee shall use the following convention when reporting sludge monitoring results: Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 1.0 mg/kg, report the pollutant concentration as < 1.0 mg/kg .

All sludge results shall be reported on a dry weight basis.

6.6.3 Monitoring and Calculating PCB Concentrations in Sludge

When sludge analysis for "PCB, Total Dry Wt" is required by this permit, the PCB concentration in the sludge shall be determined as follows.

Either congener-specific analysis or Aroclor analysis shall be used to determine the PCB concentration. The permittee may determine whether Aroclor or congener specific analysis is performed. Analyses shall be performed in accordance with the following provisions and Table EM in s. NR 219.04, Wis. Adm. Code.

- EPA Method 1668 may be used to test for all PCB congeners. If this method is employed, all PCB congeners shall be delineated. Non-detects shall be treated as zero. The values that are between the limit of detection and the limit of quantitation shall be used when calculating the total value of all congeners. All results shall be added together and the total PCB concentration by dry weight reported. **Note**: It is recognized that a number of the congeners will co-elute with others, so there will not be 209 results to sum.
- EPA Method 8082A shall be used for PCB-Aroclor analysis and may be used for congener specific analysis as well. If congener specific analysis is performed using Method 8082A, the list of congeners tested shall include at least congener numbers 5, 18, 31, 44, 52, 66, 87, 101, 110, 138, 141, 151, 153, 170, 180, 183, 187, and 206 plus any other additional congeners which might be reasonably expected to occur in the particular sample. For either type of analysis, the sample shall be extracted using the Soxhlet extraction (EPA Method 3540C) (or the Soxhlet Dean-Stark modification) or the pressurized fluid extraction (EPA Method 3545A). If Aroclor analysis is performed using Method 8082A, clean up steps of the extract shall be performed as necessary to remove interference and to achieve as close to a limit of detection of 0.11 mg/kg as possible. Reporting protocol, consistent with s. NR 106.07(6)(e), should be as follows: If all Aroclors are less than the LOD, then the Total PCB Dry Wt result should be reported as less than the highest LOD. If a single Aroclor is detected then that is what should be reported for the Total PCB result. If multiple Aroclors are detected, they should be summed and reported as Total PCBs. If congener specific analysis is done using Method 8082A, clean up steps of the extract shall be performed as necessary to remove interference and to achieve as close to a limit of detection of 0.003 mg/kg as possible for each congener. If the aforementioned limits of detection cannot be achieved after using the appropriate clean up techniques, a reporting limit that is achievable for the Aroclors or each congener for the sample shall be determined. This reporting limit shall be reported and qualified indicating the presence of an interference. The lab conducting the analysis shall perform as many of the following methods as necessary to remove interference:

3620C – Florisil	3611B - Alumina
3640A - Gel Permeation	3660B - Sulfur Clean Up (using copper shot instead of powder)
3630C - Silica Gel	3665A - Sulfuric Acid Clean Up

6.6.4 Annual Land Application Report

The annual totals for the land application loadings of liquid wastes, by-product solids and sludges to field spreading sites shall be submitted electronically on the Annual Land Application Report Form 3400-55 by January 31, each year whether or not waste is land applied. Following submittal of the electronic Annual Land Application Report Form 3400-55, this form shall be certified electronically via the 'eReport Certify' page by a principal executive officer or duly authorized representative. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

6.6.5 Other Methods of Disposal or Distribution Report

The permittee shall submit electronically the Other Methods of Disposal or Distribution Report Form 3400-52 by January 31, each year whether or not waste is hauled to another facility, landfilled, incinerated, or stored in a manure pit. Following submittal of the electronic Report Form 3400-52, this form shall be certified electronically via the 'eReport Certify' page by a principal executive officer or duly authorized representative. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

6.6.6 Land Application Site Approval

The permittee is authorized to landspread permitted liquid wastes, by-product solids and sludges on sites approved in writing by the Department in accordance with ss. NR 214.17(2) and 214.18(2), Wis. Adm. Code. Any site use restrictions or granting of case-by-case exceptions shall be identified in the approval letter. If the permittee wishes to have approval for additional sites, application shall be made using Land Application Site Request Form 3400-053. Complete information shall be submitted about each site, including location maps and soil maps, any soil analyses results and other information showing that the site complies with all application requirements and permit conditions. Spreading on a site may commence upon receipt of Department approval. If an existing spreading site is found by the Department to be environmentally unacceptable, a written notice will be issued to withdraw approval of that site.

6.6.7 Operating Requirements/Management Plan

All land application sites used for treatment of liquid wastes, by-product solids and sludges shall be operated in accordance with a Department approved management plan. The management plan shall be consistent with the requirements of this permit, ss. NR 214.17 (3) and (6), and NR 214.18 (3) and (6), Wis. Adm. Code. If operational changes are needed, the land application management plan shall be amended by submitting a written request to the Department for approval. A land application management plan shall be submitted for approval at least 60 days prior to land application.

6.6.8 Chloride Requirements for Liquid Wastes and By-Product Solids

The total pounds of chloride applied shall be limited to 340 pounds per acre per 2 year period. Calculate the chloride loading as follows:

$$\text{Wet Weight Solids: } \frac{\text{lbs of solids X \%solids X \%chloride}}{\text{acres land applied X 100 X 100}} = \text{lbs chloride/acre}$$

$$\text{Liquid: } \frac{\text{mg/L chloride X (millions of gallons) X 8.34}}{\text{acres land applied}} = \text{lbs chloride/acre}$$

6.6.9 Nitrogen Requirements for Liquid Wastes and By-Product Solids and Sludges

NR 214.17(4) and NR 214.18(4) Wis. Adm. Code specify that the total pounds of nitrogen land applied per acre per year shall be limited to the nitrogen needs of the cover crop 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 calendar year application amount shall not exceed 165 pounds per acre per year, except when alternate numerical nitrogen loading limits (consistent with the above sections of NR 214) are approved in writing via the Department's land application management plan approval. Calculate nitrogen loading as follows ("TKN" represents "Total Kjeldahl Nitrogen"):

Wet Weight Solids and Sludges: $\frac{\text{lbs of solids X \%solids X \% TKN}}{\text{acres land applied X 100 X 100}}$ = lbs TKN/acre

Liquid: $\frac{\text{mg/L TKN X (millions of gallons) X 8.34}}{\text{acres land applied}}$ = lbs TKN/acre

6.6.10 Ponding

The volume of liquid wastes land applied shall be limited to prevent ponding, except for temporary conditions following rainfall events. If ponding occurs all land application shall cease immediately. The permittee shall land apply only the liquid wastes that are permitted.

6.6.11 Runoff

The volume of liquid wastes land applied shall be limited to prevent runoff. If runoff occurs all land application shall cease immediately. The permittee shall land apply only the liquid wastes that are permitted.

6.6.12 Soil Incorporation Requirements

- Liquid Sludge Requirements: The Department may require that liquid sludge be incorporated into the soil on specific land application sites when necessary to prevent surface runoff or objectionable odors. Requirements and procedures for incorporation of liquid sludge, when such incorporation may be necessary, shall be specified in the management plan or in specific site applications, subject to Department approval. The permittee shall comply with the requirements in the Department approved management plan, specific site-approval requirements and the terms and conditions of this permit.

- Cake Sludge Requirements: After land application, cake sludge shall be incorporated into the soil. The timing of such incorporation and other related requirements and procedures shall be specified in the management plan or in specific site applications, subject to Department approval. The permittee shall comply with the requirements in the Department approved management plan, specific site-approval requirements and the terms and conditions of this permit.

- Liquid Wastewater Requirements: The Department may require that liquid wastewater be incorporated or injected into the soil on specific land application sites when necessary to prevent surface runoff or objectionable odors. Requirements and procedures for injection or incorporation of liquid wastewater, when such injection or incorporation is necessary, shall be specified in the management plan or in specific site applications, subject to Department approval. The permittee shall comply with the requirements in the Department approved management plan, specific site-approval requirements and the terms and conditions of this permit.

- By-Product Solids Requirements: The Department may limit the volume of by-products solids that are landspread on a specific site when necessary to prevent surface runoff or leaching of contaminants to groundwater and objectionable odors. By-product solids shall, after application, be plowed, disced, or otherwise incorporated into the soil. Requirements and procedures for the incorporation of byproduct solids into the soil shall be specified in the management plan or in specific site applications, subject to Department approval. The permittee shall comply with the requirements in the Department approved management plan, specific site-approval requirements and the terms and conditions of this permit.

6.6.13 Field Stockpiles

The permittee is encouraged to landspread the by-product solids or sludges as they are transported to the fields; but if it becomes necessary to stockpile solids in the fields, the stockpiles shall be spread within 72 hours or as specified in the approved management plan.

6.6.14 By-Product Storage Sites

All sites used for storage of by-product solids shall be located such that surface water or groundwater pollution does not occur. Written Department approval is required prior to storage of more than 150 tons of by-product solids on a site at any one time.

6.6.15 Annual Inspections-Stacking Pads and Leachate Containment

Stacking pads for more than 1200 tons of silage and all leachate containment facilities shall be inspected annually for cracks and shall be repaired as necessary to prevent leakage from the containment system. The inspection reports shall be available for inspection by Department personnel for a period of three years, and shall include at a minimum the following information:

- date and name of person(s) performing the inspection
- description of what the inspection consisted of
- details of what was discovered during the inspection
- recommendations for repair or maintenance
- details or repair completed

6.6.16 Additional Requirements from ch. NR 214, Wis. Adm. Code

The requirements of s. NR 214.17 (4)(c) [pathogen prohibition for human consumption crop fields], (4)(d)1 [no adverse soil effects], (4)(d)10 [allowable whey spreading rates], and (4)(e)1-3 [by-product solids spreading within agricultural practices and not cause contamination] for landspreading of liquid wastes and by product solids and s. NR 214.18 (4)(b),(d)-(h) [application, nutrient, pH, metals, and PCB limitations] for sludge spreading systems are included by reference in this permit. The permittee shall comply with these requirements.

7 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

Description	Date	Page
Land Application Management Plan -Operating Requirements & Land Application Management Plan	January 31, 2017	18
Land Treatment Management Plan -Management Plan	January 31, 2017	18
COD Source Reduction Measures (SRMs) for Groundwater Discharges - COD Reduction Plan Update	January 31, 2017	18
COD Source Reduction Measures (SRMs) for Groundwater Discharges - Annual Progress Report	January 31, 2018	19
COD Source Reduction Measures (SRMs) for Groundwater Discharges - Second Annual Progress Report	January 31, 2019	19
COD Source Reduction Measures (SRMs) for Groundwater Discharges - Third Annual Progress Report	January 31, 2020	19
COD Source Reduction Measures (SRMs) for Groundwater Discharges - Fourth Annual Progress Report	January 31, 2021	19
COD Source Reduction Measures (SRMs) for Groundwater Discharges - Annual COD Reduction Reports Required After Permit Expiration	See Permit	19
Chloride Source Reduction Measures (SRMs) for Groundwater Discharges - Chloride Reduction Plan	January 31, 2017	19
Chloride Source Reduction Measures (SRMs) for Groundwater Discharges - Annual Progress Report	January 31, 2018	19
Chloride Source Reduction Measures (SRMs) for Groundwater Discharges - Second Annual Progress Report	January 31, 2019	19
Chloride Source Reduction Measures (SRMs) for Groundwater Discharges - Third Annual Progress Report	January 31, 2020	19
Chloride Source Reduction Measures (SRMs) for Groundwater Discharges - Fourth Annual Progress Report	January 31, 2021	19
Chloride Source Reduction Measures (SRMs) for Groundwater Discharges - Final Annual Progress Report	See Permit	19
Byproduct Solid Storage Pad and Leachate Containment Operation Plan - Storage Stack and Leachate Containment Standard Operations Plan	April 30, 2017	20
Byproduct Solid Storage Pad and Leachate Containment Operation Plan - Updated Operation Plan	See Permit	20
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Operational Evaluation Report	April 30, 2017	20
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Compliance Alternatives, Source Reduction, Improvements and Modifications Status	April 30, 2018	21

Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Preliminary Compliance Alternatives Plan	April 30, 2019	21
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Final Compliance Alternatives Plan	April 30, 2020	21
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Progress Report on Plans & Specifications	April 30, 2021	21
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Final Plans and Specifications	April 30, 2022	21
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Treatment Plant Upgrade to Meet WQBELs	July 31, 2022	21
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Construction Upgrade Progress Report #1	July 31, 2023	22
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Construction Upgrade Progress Report #2	July 31, 2024	22
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Complete Construction	January 31, 2025	22
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Achieve Compliance	March 31, 2025	22
General Sludge Management Form 3400-48	prior to any significant sludge management changes	32
Characteristic Report Form 3400-49	no later than the date indicated on the form	32
Land Application Report Form 3400-55	January 31, each year whether or not waste is land applied	33
Report Form 3400-52	by January 31, each year whether or not waste is hauled to another facility, landfilled, incinerated, or stored in a manure pit	34
Groundwater Monitoring Forms.	no later than the date indicated on the form	31
Annual Land Treatment Reports	by January 31st of each year for the previous calendar year	29
Wastewater Discharge Monitoring Report	no later than the date indicated on the form	23

Report forms shall be submitted electronically in accordance with the reporting requirements herein. Any facility plans or plans and specifications for municipal, industrial, industrial pretreatment and non industrial wastewater systems shall be submitted to the Bureau of Water Quality, P.O. Box 7921, Madison, WI 53707-7921. All other submittals required by this permit shall be submitted to:
Southeast Region - Plymouth, 1155 Pilgrim Road, Plymouth, WI 53073