NPDES Permit No. IL0001953
Notice No. 13012201.bwc

Public Notice Beginning Date: **June 10, 2013**

Public Notice Ending Date: **July 10, 2013**

National Pollutant Discharge Elimination System (NPDES)
Permit Program

Draft Reissued NPDES Permit to Discharge into Waters of the State

Public Notice/Fact Sheet Issued By:

Illinois Environmental Protection Agency
Bureau of Water
Division of Water Pollution Control
Permit Section
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276
217/782-0610

Name and Address of Permittee:

Aventine Renewable Energy, Inc.
1300 S. 2nd Street
Pekin, Illinois 61554

Name and Address of Facility:

Aventine Renewable Energy, Inc.
1300 S. 2nd Street
Pekin, Illinois 61554
(Tazewell County)

The Illinois Environmental Protection Agency (IEPA) has made a tentative determination to issue a NPDES permit to discharge into the waters of the state and has prepared a draft permit and associated fact sheet for the above named Permittee. The Public Notice period will begin and end on the dates indicated in the heading of this Public Notice/Fact Sheet. The last day comments will be received will be on the Public Notice period ending date unless a commentor demonstrating the need for additional time requests an extension to this comment period and the request is granted by the IEPA. Interested persons are invited to submit written comments on the draft permit to the IEPA at the above address. Commentors shall provide his or her name and address and the nature of the issues proposed to be raised and the evidence proposed to be presented with regards to those issues. Commentors may include a request for public hearing. Persons submitting comments and/or requests for public hearing shall also send a copy of such comments or requests to the permit applicant. The NPDES permit and notice number(s) must appear on each comment page.

The application, engineer's review notes including load limit calculations, Public Notice/Fact Sheet, draft permit, comments received, and other documents are available for inspection and may be copied at the IEPA between 9:30 a.m. and 3:30 p.m. Monday through Friday when scheduled by the interested person.

If written comments or requests indicate a significant degree of public interest in the draft permit, the permitting authority may, at its discretion, hold a public hearing. Public notice will be given 45 days before any public hearing. Response to comments will be provided when the final permit is issued. For further information, please call Brian W. Cox at 217/782-0610.

The applicant is engaged in wet and dry milling of corn with the starch being converted into ethanol, the germ being sold to other facilities for extraction of the corn oil, and the other non-starch materials being sold as animal feeds. In addition, yeast used in the fermentation process is refined, dried, and sold. (SIC 2869 and 2046). Waste water is generated from the production of approximately 156,000,000 gallons per year of fuel grade alcohol, from the treatment of influent water prior to use in boilers and other production processes, from various cooling and condensing processes, from sanitary waste generated from plant personnel, and from stormwater runoff. Plant operation results in an average discharge of 34.73 MGD of non-contact cooling waters, treated process wastewater, boiler blowdown, source water treatment wastes (i.e. filter backwash, reverse osmosis reject, softener regenerant, etc.), and stormwater runoff from outfall 001, 0.87 MGD of treated wet mill process wastewater from outfall B01, 0.26 MGD of dry mill wastewater including sand filter backwash, reverse osmosis reject, cooling tower blowdown, and softener regenerant from outfall C01, and 1.253 MGD of yeast plant non-contact cooling water from outfall 002.

Process wastewaters generated from the wet mill operations are treated in the on-site wastewater treatment plant consisting of screening, equalization, pH adjustment, anaerobic digestion, aeration, and primary and secondary clarification.

All sanitary wastes are collected and discharged to the City of Pekin No. 1 Sewage Treatment Plant.

Process wastes generated from the dry mill are treated utilizing anaerobic digesters permitted under IEPA Permit No. 2006-EB-2626. The treated dry mill process wastes are then recycled for use as process makeup water. Boiler blowdown generated at the dry mill is also recycled to be reused as dry mill process water. The dry mill process wastes are not permitted to be discharged to surface water.

Fly ash generated from the coal-fired boilers is sluiced to the on-site ash holding system consisting of two impoundments each approximately 2 to 3 acres in surface area, with a total storage capacity of approximately 8.5 million cubic feet. IEPA Permit Number 2007-EO-3265 requires complete groundwater recapture which occurs by utilizing a series of production wells. The pumped groundwater is then reused as the facility's non-contact cooling. When one impoundment is filled, the fly ash is removed and reused for the purposes of mine reclamation. The fly ash removal occurs on an annual basis. Currently lime softening sludge is also discharged to the fly ash storage system, which will no longer occur after the lime softening is replaced with reverse osmosis.

The following modifications are proposed:

On November 16, 2011, the facility completed their conversion from direct-contact cooling/condensers to non-contact cooling which was previously described in the October 26, 2006 public notice fact sheet for the permit issued December 4, 2006. The following modifications occurred as part of this project: (11) direct-contact cooling water pre and intermediate condensers were replaced with shell and tube condensers; a new surface condenser for the vacuum flash cooler was installed and the original condenser being repurposed for the replacement of two barometric condensers on evaporators 4-5-6 and 7-8-9; a new surface condenser for the 1-2-3 evaporators was installed to replace the barometric condenser; a closed-loop seal water system was installed on the (3) gluten vacuum pumps eliminating process water coming in contact with cooling water; all condensed process water vapors that were previously discharged untreated have been rerouted to either be recycled for use as process waters in the wet milling process or be treated in the on-site waste water treatment plant (WWTP); and a second anaerobic digester was installed to handle the additional BOD load at the WWTP. This project has seen significant results, by reducing the average concentration of BOD discharged by one half and resulting in an average reduction in loading to the Illinois River of approximately 1,703 lbs of BOD/day.

The facility's dry mill went on-line December 04, 2006 and became fully operational in January 2007. This modification was previously described in the October 26, 2006 public notice fact sheet for the permit issued December 4, 2006.

The facility has proposed a modification to their wet milling boiler feed water treatment system. Currently the source water which consists of either Illinois River water, groundwater, municipal water, or a combination of each, is treated with warm lime softening, then sand filtration, and then zeolite softening prior to entering the boiler system. The facility has proposed removing the warm lime softening and adding reverse osmosis. The proposed system would then consist of sand filtration, and then reverse osmosis, and then zeolite softening. This modification will generate an average flow of approximately 0.21 MGD of R.O. reject (0.23 MGD DMF) and will eliminate an approximate average of 0.047 MGD of softener sludge which was discharged to the ash holding system. The addition of the reverse osmosis membrane will allow more cycles in the boiler prior to blowdown, thereby reducing the volume of boiler blowdown generated by approximately 50,000 gpd. In turn, there will be smaller quantities of the previously approved boiler blowdown additives used. The addition of the R.O. reject includes the use of two additives: sodium bisulfite to remove any chlorine residual prior to entering the R.O. unit, and a R.O. membrane deposit control agent consisting of a weak acid (2-butenedioic acid). The addition of the sodium bisulfite will result in less total residual chlorine being discharged. The addition of the 2-butenedioic acid will have a negligible effect on the pH of the final effluent as less than 0.086 ppm of the product will be discharged from Outfall 001. This modification will ultimately result in less pollutant loading being added to the Illinois River, so no further antidegradation assessment was conducted.

Based on DMR results, the wastewater treatment plant is currently discharging more than 25 lbs/day of Phosphorus. Therefore, in accordance with Title 35 Ill. Adm. Code 304.123 a concentration limit of 1 mg/L and a load limit of 7.26 lbs/day were added to this permit. Based on DMR results the Outfall B01 discharge is not capable of meeting the concentration limit of 1 mg/L or the load limit of 7.26 lbs/day. Therefore, a compliance schedule is provided in the special conditions of the permit.

The requirements associated with the storm water pollution prevention plan have been changed to reflect the Agency's current recommendations and requirements.

Sulfate, boron, and other metals monitoring requirements were added to Outfall 001 because one of the sources of the cooling waters is on-site groundwater which is pumped from below the fly ash holding system.

Aventine utilizes river water as a primary cooling medium in the corn wet milling operation. Their intake structure is located on the Illinois River. Water is drawn in approximately five feet below the surface of the river through four 24-inch diameter pipelines. Each pipe cutoff is covered by a fixed drum-style perforated stainless steel intake strainer that is 30.75 inches in diameter and 8.5 feet long. The strainer consists of 7/16 inch diameter holes on 5/8 inch centers which results in approximately 45% open area. The intake pipelines are set approximately perpendicular to the flow of the river. Water is drawn using two pumps, a 1750 HP 720 RPM and a 700 HP 900 RPM with an overall maximum pumping capacity of 48.7 cfs.

In the Best Professional Judgment of the Agency, the cooling water intake structure is equivalent of Best Technology Available for the following reasons:

1. The calculated through screen velocity is 0.37 ft/s which is less than the 0.5 ft/s allowed design maximum through screen velocity for new facilities withdrawing greater than 2 MGD.
2. The maximum intake of 48.7 cfs, is only 1.6% of the river's 7Q10 flow, which allows 98.4% of the river for passage during low flow conditions.
3. In order to minimize total cooling waters used at the facility, the dry mill operations utilize closed cycle cooling with makeup water being pumped from on-site wells.
4. Even though the screens are fixed as opposed to the preferred traveling screens, one can be taken off-line to allow for maintenance, while still achieving an intake velocity of less than 0.5 ft/s at the maximum pumping capacity.

Special Condition 16 was added to the permit which requires the resubmission of cooling water intake structure design and operational data for the purpose of reevaluating their intake structure upon the renewal of the permit.

Application is made for the existing discharge(s) which are located in Tazewell County, Illinois. The following information identifies the discharge point, receiving stream and stream classifications:

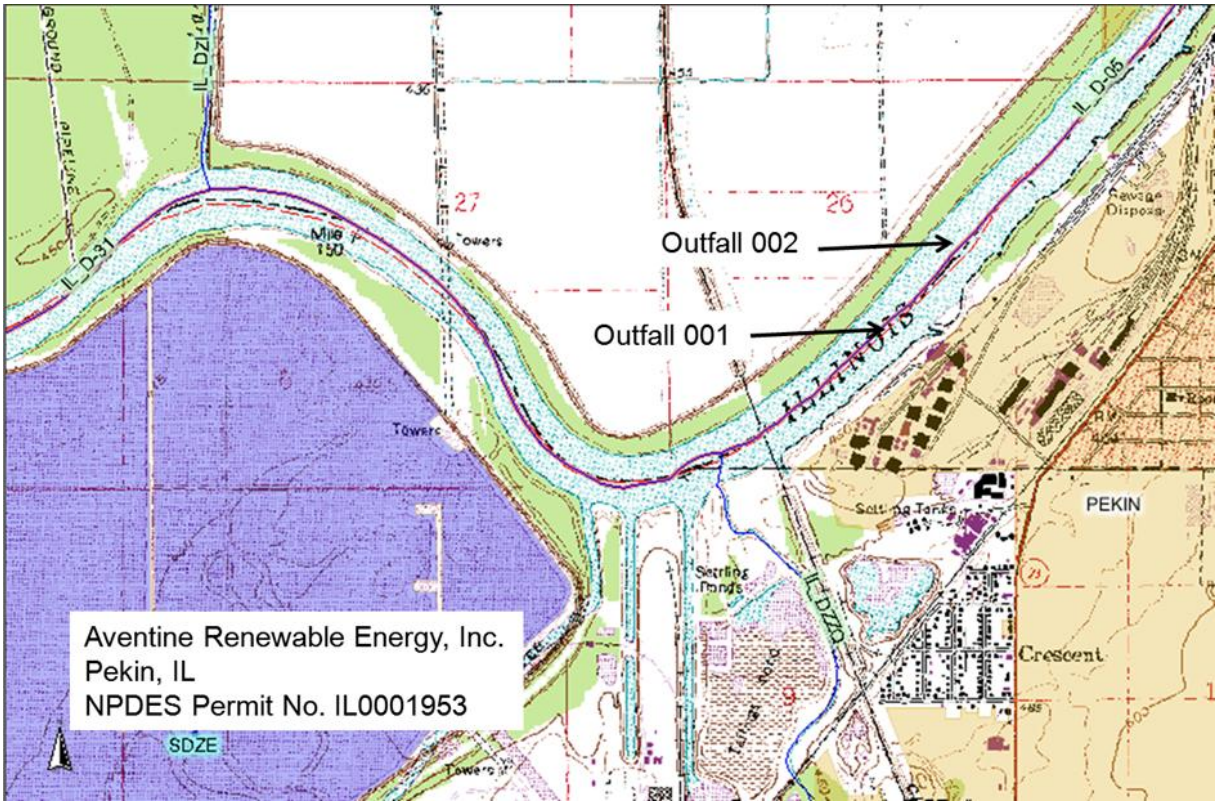
Outfall	Receiving Stream	Latitude	Longitude	Stream Classification	Integrity Rating
001	Illinois River	40° 33′ 27″ North	89° 40′ 04″ West	General Use	Not Rated
002	Illinois River	40° 33′ 35″ North	89° 39′ 54″ West	General Use	Not Rated

To assist you further in identifying the location of the discharge please see the attached map.

The stream segment, IL_D-05, receiving the discharges from outfall(s) 001 and 002 is on the 2012 303(d) list of impaired waters and is not a biologically significant stream on the 2008 Illinois Department of Natural Resources Publication – *Integrating Multiple Taxa in a Biological Stream Rating System*..

The following parameters have been identified as the pollutants causing impairment:

Designated Use	Potential Cause
Fish Consumption	Mercury, Polychlorinated biyphenyls



The discharge(s) from the facility shall be monitored and limited at all times as follows:

Outfall: 001

	LOAD LIMITS lbs/day DAF (DMF)			CONCENTRATION LIMITS mg/L		
PARAMETER	30 DAY AVERAGE	DAILY MAXIMUM	REGULATION	30 DAY AVERAGE	DAILY MAXIMUM	REGULATION
Flow (MGD)				Monitor Only		
pH				Shall be within range 6–9 s.u.		35 IAC 304.125
Temperature						35 IAC 302.211
Total Residual Chlorine					0.05	40 CFR 125.3 & 35 IAC 302.208
BOD_5					Monitor Only	
Phosphorus					Monitor Only	
Sulfate					Monitor Only	
Boron					Monitor Only	

Outfall: B01

	LOAD LIMITS lbs/day DAF (DMF)			CONCENTRATION LIMITS mg/L		
PARAMETER	30 DAY AVERAGE	DAILY MAXIMUM	REGULATION	30 DAY AVERAGE	DAILY MAXIMUM	REGULATION
Flow (MGD)				Monitor Only		
Total Suspended Solids	181.3	468.4	35 IAC 304.120(b)	25	50	35 IAC 304.120(b)
BOD_5	145.1	374.7	35 IAC 304.120(b)	20	40	35 IAC 304.120(b)
Ammonia (as N)			35 IAC 304.122			35 IAC 304.122
Phosphorus	7.26		35 IAC 304.123(g)	1.0		35 IAC 304.123(g)

Outfall: C01

	LOAD LIMITS lbs/day DAF (DMF)			CONCENTRATION LIMITS mg/L		
PARAMETER	30 DAY AVERAGE	DAILY MAXIMUM	REGULATION	30 DAY AVERAGE	DAILY MAXIMUM	REGULATION
Flow (MGD)						

Outfall: 002

	LOAD LIMITS lbs/day DAF (DMF)			CONCENTRATION LIMITS mg/L		
PARAMETER	30 DAY AVERAGE	DAILY MAXIMUM	REGULATION	30 DAY AVERAGE	DAILY MAXIMUM	REGULATION
Flow (MGD)						
pH				Shall be within range 6–9 s.u.		35 IAC 304.125
Temperature						35 IAC 302.211
Total Residual Chlorine					0.05	40 CFR 125.3 & 35 IAC 302.208

Load Limit Calculations:

A. Load limit calculations for Outfall B01 for the following pollutant parameters were based on an average flow of 0.87 MGD and a maximum flow of 1.123 MGD and using the formula of average or maximum flow (MGD) X concentration limit (mg/l) X 8.34 = the average or maximum load limit (lbs/day): BOD_5, TSS, and Phosphorus..

B. Production based load limits were calculated by multiplying the average production by the effluent limit contained in 40 CFR 406.17(a). Production figures utilized in these calculations for the following subcategories are as follows:

Subcategory	Production Rate
Subpart A – Wet Corn Milling Subcategory	105,340 stdbu

Federal production based load limits were calculated for BOD_5 and TSS.

The following sample calculation shows the methodology utilized to determine production based load limitations:

BOD 30 Day Average: 105,340 stdbu * 20 lbs/day BOD/1,000 stdbu = 2,107 lbs/day
BOD Daily Max: 105,340 stdbu * 60 lbs/day BOD/1,000 stdbu = 6,320 lbs/day
TSS 30 Day Average: 105,340 stdbu * 30 lbs/day BOD/1,000 stdbu = 3,160 lbs/day
TSS Daily Max: 105,340 stdbu * 90 lbs/day BOD/1,000 stdbu = 9,481 lbs/day

The load limits appearing in the permit will be the more stringent of the State and Federal Guidelines.

The following explain the conditions of the proposed permit:

The special conditions of the permit serve the purpose of clarifying monitoring requirements, monitoring location, DMR submission, ammonia limitations, temperature limitations, thermal study requirements, submission of intake structure information and related intake impingement and/or entrainment studies, operator certification requirements, additional monitoring requirements for Outfall 001, and Storm Water Pollution Prevention Plan (SWPPP) requirements.

Public Notice of Draft Permit

Public Notice Number 13012201.bwc is hereby given by Illinois EPA, Division of Water Pollution Control, Permit Section, 1021 North Grand Avenue East, Post Office Box 19276, Springfield, Illinois 62794-9276 (herein Agency) that a draft National Pollutant Discharge Elimination System (NPDES) Permit Number IL0001953 has been prepared under 40 CFR 124.6(d) for Aventine Renewable Energy, Inc., 1300 S. 2nd Street, Pekin, Illinois 61554 for discharge into the Illinois River from the facility, Aventine Renewable Energy, Inc., 1300 S. 2nd Street, Pekin, Illinois 61554, (Tazewell County). The applicant is engaged in wet and dry milling of corn with the starch being converted into ethanol, the germ being sold to other facilities for extraction of the corn oil, and the other non-starch materials being sold as animal feeds. In addition, yeast used in the fermentation process is refined, dried, and sold. (SIC 2869 and 2046). Waste water is generated from the production of approximately 156,000,000 gallons per year of fuel grade alcohol, from the treatment of influent water prior to use in boilers and other production processes, from various cooling and condensing processes, from sanitary waste generated from plant personnel, and from stormwater runoff. Plant operation results in an average discharge of 34.73 MGD of non-contact cooling waters, treated process wastewater, boiler blowdown, source water treatment wastes (i.e. filter backwash, reverse osmosis reject, softener regenerant, etc.), and stormwater runoff from outfall 001, 0.87 MGD of treated wet mill process wastewater from outfall B01, 0.26 MGD of dry mill wastewater including sand filter backwash, reverse osmosis reject, cooling tower blowdown, and softener regenerant from outfall C01, and 1.253 MGD of yeast plant non-contact cooling water from outfall 002. All discharges are to the Illinois River.

The application, draft permit and other documents are available for inspection and may be copied at the Agency between 9:30 a.m. and 3:30 p.m. Monday through Friday. A Fact Sheet containing more detailed information is available at no charge. For further information, call the Public Notice Clerk at 217/782-0610.

Interested persons are invited to submit written comments on the draft permit to the Agency at the above address. The NPDES Permit and Joint Public Notice numbers must appear on each comment page. All comments received by the Agency not later than 30 days from the date of this publication shall be considered in making the final decision regarding permit issuance.

Any interested person may submit written request for a public hearing on the draft permit to the Agency at the above address. The NPDES Permit and joint public notice must appear on each comment page. All comments received by the Agency not later than 30 days from the date of this publication shall be considered in making the final decision regarding permit issuance.

If written comments and/or requests indicate a significant degree of public interest in the draft permit, the permitting authority may, at its discretion, hold a public hearing. Public notice will be given 30 days before any public hearing.

NPDES Permit No. IL0001953

Illinois Environmental Protection Agency

Division of Water Pollution Control

1021 North Grand Avenue East

Post Office Box 19276

Springfield, Illinois 62794-9276

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Reissued (NPDES) Permit

Expiration Date:

Issue Date:
Effective Date:

Name and Address of Permittee:

Aventine Renewable Energy, Inc.
1300 S. 2nd Street
Pekin, Illinois 61554

Facility Name and Address:

Aventine Renewable Energy, Inc.
1300 S. 2nd Street
Pekin, Illinois 61554
(Tazewell County)

Discharge Number and Name:	Receiving Waters:
Outfall 001 – Total Plant Effluent	Illinois River
Outfall B01 - Treated Process Wastewater	Illinois River via Outfall 001
Outfall C01 - Dry Milling Waste Streams	Illinois River via Outfall 001
Outfall 002 - Yeast Plant Non-Contact Cooling Water	Illinois River

In compliance with the provisions of the Illinois Environmental Protection Act, Title 35 of Ill. Adm. Code, Subtitle C and/or Subtitle D, Chapter 1, and the Clean Water Act (CWA), the above-named permittee is hereby authorized to discharge at the above location to the above-named receiving stream in accordance with the standard conditions and attachments herein.

Permittee is not authorized to discharge after the above expiration date. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit the proper application as required by the Illinois Environmental Protection Agency (IEPA) not later than 180 days prior to the expiration date.

Alan Keller, P.E.
Manager, Permit Section
Division of Water Pollution Control

SAK:BWC:13012201.bwc

NPDES Permit No. IL0001953

Effluent Limitations and Monitoring

1. From the effective date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

Outfall(s): 001 – Total Plant Effluent
(DAF = 34.73 MGD; 45.571 MGD)

This discharge consists of:	DAF:	DMF:
1. Non-Contact Cooling Water	33.46 MGD	44.2 MGD
2. Boiler Blowdown	0.14 MGD	0.14 MGD
3. Discharges from B01	0.87 MGD	1.12 MGD
4. Discharges from C01	0.26 MGD	0.26 MGD
5. Stormwater Runoff	Intermittent	Intermittent

	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/L			
PARAMETER	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM	SAMPLE FREQUENCY	SAMPLE TYPE
Flow (MGD)	See Special Condition 1				Daily	Total
pH	See Special Condition 2				2/Week*	Grab
Temperature	See Special Condition 3				Daily*	Continuous
Total Residual Chlorine***				0.05	1/Month*	Grab
BOD_5				Monitor Only**	1/Month*	Composite
Phosphorus				Monitor Only	Semi-Annual*	Composite
Sulfate				Monitor Only	Semi-Annual*	Composite
Boron				Monitor Only	Semi-Annual*	Composite

Additional monitoring requirements for Outfall 001 are provided in Special Condition 16.
*For Outfall 001, during conditions when the sampling manhole will not provide representative samples due to the high water level of the receiving stream and alternative locations for representative sampling are not available, the monitoring requirements during that period for the indicated parameters shall be waived.
**See Special Condition 17.
***See Special Condition 19.

Outfall(s): B01 - Treated Process Wastewater
(DAF = 0.87 MGD; DMF = 1.1232 MGD)

	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/L			
PARAMETER	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM	SAMPLE FREQUENCY	SAMPLE TYPE
Flow (MGD)	See Special Condition 1				2/Week	Total
Total Suspended Solids	181.3	468.4	25	50	2/Week	Composite
BOD_5	145.1	374.7	20	40	2/Week	Composite
Ammonia (as N)	See Special Condition 5				2/Week	Composite
Phosphorus	7.26*		1.0*		1/Week	Composite

* See Special Condition 22 for compliance schedule.

NPDES Permit No. IL0001953

Effluent Limitations and Monitoring

1. From the effective date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

Outfall(s): C01 - Dry Milling Waste Streams
(DAF = 0.26 MGD; DMF = 0.26 MGD)

This discharge consists of:	DAF:
1. Sand Filter Backwash	0.035 MGD
2. Reverse Osmosis Reject	0.097 MGD
3. Cooling Tower Blowdown	0.125 MGD
4. Zeolite Softener Regenerant	0.00003 MGD
5. Boiler Blowdown	*

*Boiler Blowdown is recycled for reuse as dry milling process waters. However, there may be incidental discharges of boiler blowdown to Outfall C01.

	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/L			
PARAMETER	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM	SAMPLE FREQUENCY	SAMPLE TYPE
Flow (MGD)	See Special Condition 1				2/Week	Total

Outfall(s): 002 - Yeast Plant Non-Contact Cooling Water
(DAF = 1.224 MGD; DMF = 1.224 MGD)

	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/L			
PARAMETER	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM	SAMPLE FREQUENCY	SAMPLE TYPE
Flow (MGD)	See Special Condition 1				2/Week	Total
pH	See Special Condition 2				2/Week	Grab
Temperature	See Special Condition 3				2/Week	Single Reading
Total Residual Chlorine				0.05	1/Month	Grab

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Special Conditions

SPECIAL CONDITION 1. Flow shall be measured in units of Million Gallons per Day (MGD) and reported as a monthly average and a daily maximum on the Discharge Monitoring Report.

SPECIAL CONDITION 2. The pH shall be in the range 6.0 to 9.0. The monthly minimum and monthly maximum values shall be reported on the DMR form.

SPECIAL CONDITION 3. This facility is currently not allowed any mixing with the receiving stream in order to meet applicable water quality thermal limitations. Therefore, discharge of wastewater from this facility must meet the following thermal limitations prior to discharge into the receiving stream. The permittee may apply for the establishment of a mixing zone for thermal discharges pursuant to 35 IAC 302.102. If the Agency provides written approval of a mixing zone, then the water quality standards for temperature listed in the table below must be met at every point outside of the approved mixing zone.

A

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
°F	60	60	60	90	90	90	90	90	90	90	90	60
°C	16	16	16	32	32	32	32	32	32	32	32	16

B. There shall be no abnormal temperature changes that may adversely affect aquatic life unless caused by natural conditions. The normal daily and seasonal temperature fluctuations which existed before the addition of heat due to other than natural causes shall be maintained.

C. The discharge shall not cause the maximum temperature rise above natural temperatures to exceed 2.8° C (5° F).

D. The monthly maximum value shall be reported on the DMR form.

E. If the Agency provides written approval of a mixing zone and a methodology for determining compliance at the edge of the mixing zone, then the water temperature at the edge of the approved mixing zone shall not exceed the maximum limits in the table above during more than one percent of the hours in the 12 month period ending with any month. Moreover, at no time shall the water temperature at the edge of the mixing zone exceed the maximum limits in the table above by more than 1.7° C (3° F). Additionally, if the Agency provides written approval of a mixing zone, the temperature at the edge of the mixing zone shall be reported on the DMR.

F. The requirements of this condition except that of Part D, are not applicable until one year from the effective date of this permit or until the Agency provides written approval of a mixing zone, whichever is earlier. The purpose of this condition is to allow the permittee time to conduct the field study described in Special Condition 4, and apply to the Agency for inclusion of a thermal mixing zone.

SPECIAL CONDITION 4. The permittee must conduct a field study during the first summer after the issuance of this permit during which the river flow is at or below the harmonic mean stream flow as determined by the Illinois State Water Survey (10,840 cfs). The river flow during this study must be at or below the harmonic mean stream flow as determined by the Illinois State Water Survey (10,840 cfs). The field study in conjunction with the modeling study must allow the delineation of the thermal plume in the Illinois River such that a relationship (model) may be determined that will provide dimensions for the mixing zone under any likely combination of effluent flows and temperatures and upstream river flows and temperatures. Of particular importance are the dimensions of the mixing zone during 7Q10 low river flow conditions. The study plan for this work is due to the Agency within three months of the effective date of this permit. Field work may begin upon approval of the study plan by the Agency. A report outlining the findings of the study, including illustrations of the thermal plume showing isopleths is due three months upon completion of the field work. The results of the study shall be utilized to demonstrate compliance with the thermal limitations contained in Special Condition 3 for winter and summer time periods.

SPECIAL CONDITION 5. The permittee shall monitor Ammonia as N and report the concentration in mg/L and the lbs/day being discharged. If the 30 day average exceeds 100 lbs/day then the effluent concentration shall not exceed 3 mg/L on a 30 day average basis. If the daily maximum exceeds 200 lbs/day then the effluent concentration shall not exceed 6 mg/L on a daily basis.

SPECIAL CONDITION 6. If an applicable effluent standard or limitation is promulgated under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act and that effluent standard or limitation is more stringent than any effluent limitation in the permit or controls a pollutant not limited in the NPDES Permit, the Agency shall revise or modify the permit in accordance with the more stringent standard or prohibition and shall so notify the permittee.

SPECIAL CONDITION 7. Samples taken in compliance with the effluent monitoring requirements for Outfall B01 and C01 shall be taken at a point representative of each discharge, but prior to mixture with Outfall 001 or any other discharges.

NPDES Permit No. IL0001953

Special Conditions

SPECIAL CONDITION 8. Samples taken in compliance with the effluent monitoring requirements for Outfalls 001 and 002 shall be taken at a point representative of the discharge, but prior to entry into the receiving stream.

SPECIAL CONDITION 9. The use or operation of this facility shall be by or under the supervision of a Certified Class K operator.

SPECIAL CONDITION 10. The Permittee shall record monitoring results on Discharge Monitoring Report (DMR) Forms using one such form for each outfall each month.

In the event that an outfall does not discharge during a monthly reporting period, the DMR Form shall be submitted with no discharge indicated.

The Permittee may choose to submit electronic DMRs (eDMRs) instead of mailing paper DMRs to the IEPA. More information, including registration information for the eDMR program, can be obtained on the IEPA website, http://www.epa.state.il.us/water/edmr/index.html.

The completed Discharge Monitoring Report forms shall be submitted to IEPA no later than the 15th day of the following month, unless otherwise specified by the permitting authority.

Permittees not using eDMRs shall mail Discharge Monitoring Reports with an original signature to the IEPA at the following address:

Illinois Environmental Protection Agency
Division of Water Pollution Control
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

Attention: Compliance Assurance Section, Mail Code # 19

SPECIAL CONDITION 11. The provisions outlined in 40 CFR 122.41(m) and (n) are applicable to this permit.

SPECIAL CONDITION 12. The concentration and load limits contained in the monitoring and limitation section of this permit (pages 2 and 3) shall not apply to stormwater contributions.

SPECIAL CONDITION 13. For the purposes of this permit, the discharge from Outfall C01 is limited to non-contact cooling water, reverse osmosis (R.O) reject water, softener regeneration water, sand filter backwash and boiler blowdown, free from process and other wastewater discharges.

SPECIAL CONDITION 14. Pursuant to 40 CFR 406.73, there shall be no discharge of process waters generated from the manufacturing of animal feeds (formula feed concentrate) using primarily grain and grain by-products which may be supplemented by proteins, pharmaceuticals, vitamins or mineral additives.

SPECIAL CONDITION 15. In order for the Agency to reevaluate the potential impacts of cooling water intake structure operation pursuant to 40 CFR 125.90(b), the permittee shall prepare and submit information with their NPDES Permit renewal application outlining current intake structure conditions at this facility, including a detailed description of the current intake structure operation and design, description of any operational or structural modifications from original design parameters, source waterbody flow information, actual through-screen velocity or other information as necessary.

The information shall also include a summary of historical 316(b) related intake impingement and/or entrainment studies, if any, as well as current impingement mortality and/or entrainment characterization data.

This permit may be revised or modified in accordance with any laws, regulations, or judicial orders issued pursuant to Section 316(b) of the Clean Water Act.

SPECIAL CONDITION 16. The Permittee shall conduct semi-annual monitoring of the Outfall 001 effluent and report concentrations (in mg/l) of the following listed parameters. Monitoring shall begin three (3) months from the effective date of this permit. The sample shall be a 24-hour effluent composite except as otherwise specifically provided below and the results shall be submitted on Discharge Monitoring Report Forms to IEPA unless otherwise specified by the IEPA. The parameters to be sampled and the minimum reporting limits to be attained are as follows:

STORET CODE	PARAMETER	Minimum reporting limit
01002	Arsenic	0.05 mg/L
01007	Barium	0.5 mg/L

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01027	Cadmium	0.001 mg/L
01032	Chromium (hexavalent) (grab)	0.01 mg/L
01034	Chromium (total)	0.05 mg/L
01042	Copper	0.005 mg/L
00718	Cyanide (weak acid dissociable) (grab)	5.0 ug/L
00720	Cyanide (total) (grab not to exceed 24 hours)	5.0 ug/L
00951	Fluoride	0.1 mg/L
01045	Iron (total)	0.5 mg/L
01046	Iron (Dissolved)	0.5 mg/L
01051	Lead	0.05 mg/L
01055	Manganese	0.5 mg/L
71900	Mercury (grab)**	1.0 ng/L*
01067	Nickel	0.005 mg/L
00556	Oil (hexane soluble or equivalent) (Grab Sample only)	5.0 mg/L
32730	Phenols (grab)	0.005 mg/L
01147	Selenium	0.005 mg/L
01077	Silver (total)	0.003 mg/L
01092	Zinc	0.025 mg/L

Unless otherwise indicated, concentrations refer to the total amount of the constituent present in all phases, whether solid, suspended or dissolved, elemental or combined, including all oxidation states.

*1.0 ng/L = 1 part per trillion.
**Utilize USEPA Method 1631E and the digestion procedure described in Section 11.1.1.2 of 1631E.

SPECIAL CONDITION 17. For Outfall 001, if the daily maximum concentration of BOD_5 exceeds 40 mg/L then the permittee shall submit to the Agency an explanation as to the cause of the increase in BOD_5 concentration. This explanation shall be submitted in writing to the address noted in Special Condition 10.

SPECIAL CONDITION 18. This permit authorizes the use of water treatment additives that were previously approved and those that were requested as part of the permit application. The use of any new additives, or change in those previously approved by the Agency, or if the permittee increases the feed rate or quantity of the additives used beyond what has been approved by the Agency, the permittee shall request a modification of this permit in accordance with the Standard Conditions – Attachment H

SPECIAL CONDITION 19. All samples for Total Residual Chlorine shall be analyzed by an applicable method contained in 40 CFR 136, equivalent in accuracy to low-level amperometric titration. Any analytical variability of the method used shall be considered when determining the accuracy and precision of the results obtained.

For the purposes of this permit, TRC means those substances which include combined and uncombined forms of both chlorine and bromine and which are expressed, by convention, as an equivalent concentration of molecular chlorine.

SPECIAL CONDITION 20. No effluent shall contain settleable solids, floating debris, visible oil, grease, scum or sludge solids. Color, odor and turbidity must be reduced to below obvious levels.

SPECIAL CONDITION 21. Results of semi-annual sampling shall be submitted with the June and December DMR's each year.

SPECIAL CONDITION 22. Schedule of Compliance for Outfall B01 with Final Effluent Limitations for Phosphorus:

The Total Phosphorus limits specified for Outfall B01 on page 2 of this permit, shall become effective upon completion of the following compliance schedule:

	Compliance Item	Compliance Date
1.	Perform a study to examine if additional treatment equipment is necessary to comply with the proposed limits.	6 Months from the Effective Date of This Permit
2.	Submit an Interim Report on the findings of the study*	8 Months from the Effective Date of This Permit
3.	Determine necessary equipment to achieve compliance and submit construction permit application	12 Months from the Effective Date of This Permit
4.	Complete installation of necessary equipment to achieve compliance and submit Interim Report	18 Month from the Effective Date of This Permit

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5.	Achieve Compliance	24 Months from the Effective Date of this Permit

*The Interim Report shall be submitted to the IEPA to the address identified in Special Condition 10. Should the study identify that additional equipment is not needed to comply with the limits, the compliance date shall be moved to 9 months from the effective date of this permit and items 3, 4 and 5 shall be dropped from the compliance schedule.

Total Phosphorus shall be monitored until the limits specified for Outfall B01 on page 2 of this permit become effective.

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The Permittee shall submit a report no later than fourteen (14) days following the completion dates indicated above for each numbered item in the compliance schedule, indicating, a) the date the item was completed, or b) that the item was not completed, the reason for non-completion, and the anticipated completion date.

SPECIAL CONDITION 23.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

A. A storm water pollution prevention plan shall be maintained by the permittee for the storm water associated with industrial activity at this facility. The plan shall identify potential sources of pollution which may be expected to affect the quality of storm water discharges associated with the industrial activity at the facility. In addition, the plan shall describe and ensure the implementation of practices which are to be used to reduce the pollutants in storm water discharges associated with industrial activity at the facility and to assure compliance with the terms and conditions of this permit. The permittee shall modify the plan if substantive changes are made or occur affecting compliance with this condition.

   1. Waters not classified as impaired pursuant to Section 303(d) of the Clean Water Act.

      Unless otherwise specified by federal regulation, the storm water pollution prevention plan shall be designed for a storm event equal to or greater than a 25-year 24-hour rainfall event.

   2. Waters classified as impaired pursuant to Section 303(d) of the Clean Water Act

      For any site which discharges directly to an impaired water identified in the Agency's 303(d) listing, and if any parameter in the subject discharge has been identified as the cause of impairment, the storm water pollution prevention plan shall be designed for a storm event equal to or greater than a 25-year 24-hour rainfall event. If required by federal regulations, the storm water pollution prevention plan shall adhere to a more restrictive design criteria.

B. The operator or owner of the facility shall make a copy of the plan available to the Agency at any reasonable time upon request.

   Facilities which discharge to a municipal separate storm sewer system shall also make a copy available to the operator of the municipal system at any reasonable time upon request.

C. The permittee may be notified by the Agency at any time that the plan does not meet the requirements of this condition. After such notification, the permittee shall make changes to the plan and shall submit a written certification that the requested changes have been made. Unless otherwise provided, the permittee shall have 30 days after such notification to make the changes.

D. The discharger shall amend the plan whenever there is a change in construction, operation, or maintenance which may affect the discharge of significant quantities of pollutants to the waters of the State or if a facility inspection required by paragraph H of this condition indicates that an amendment is needed. The plan should also be amended if the discharger is in violation of any conditions of this permit, or has not achieved the general objective of controlling pollutants in storm water discharges. Amendments to the plan shall be made within 30 days of any proposed construction or operational changes at the facility, and shall be provided to the Agency for review upon request.

E. The plan shall provide a description of potential sources which may be expected to add significant quantities of pollutants to storm water discharges, or which may result in non-storm water discharges from storm water outfalls at the facility. The plan shall include, at a minimum, the following items:

   1. A topographic map extending one-quarter mile beyond the property boundaries of the facility, showing: the facility, surface water bodies, wells (including injection wells), seepage pits, infiltration ponds, and the discharge points where the facility's storm water discharges to a municipal storm drain system or other water body. The requirements of this paragraph may be included on the site map if appropriate. Any map or portion of map may be withheld for security reasons.

2. A site map showing:

   i. The storm water conveyance and discharge structures;

   ii. An outline of the storm water drainage areas for each storm water discharge point;

   iii. Paved areas and buildings;

   iv. Areas used for outdoor manufacturing, storage, or disposal of significant materials, including activities that generate significant quantities of dust or particulates.

   v. Location of existing storm water structural control measures (dikes, coverings, detention facilities, etc.);

   vi. Surface water locations and/or municipal storm drain locations

   vii. Areas of existing and potential soil erosion;

   viii. Vehicle service areas;

   ix. Material loading, unloading, and access areas.

   x. Areas under items iv and ix above may be withheld from the site for security reasons.

3. A narrative description of the following:

   i. The nature of the industrial activities conducted at the site, including a description of significant materials that are treated, stored or disposed of in a manner to allow exposure to storm water;

   ii. Materials, equipment, and vehicle management practices employed to minimize contact of significant materials with storm water discharges;

   iii. Existing structural and non-structural control measures to reduce pollutants in storm water discharges;

   iv. Industrial storm water discharge treatment facilities;

   v. Methods of onsite storage and disposal of significant materials.

4. A list of the types of pollutants that have a reasonable potential to be present in storm water discharges in significant quantities. Also provide a list of any pollutant that is listed as impaired in the most recent 303(d) report.

5. An estimate of the size of the facility in acres or square feet, and the percent of the facility that has impervious areas such as pavement or buildings.

6. A summary of existing sampling data describing pollutants in storm water discharges.

F. The plan shall describe the storm water management controls which will be implemented by the facility. The appropriate controls shall reflect identified existing and potential sources of pollutants at the facility. The description of the storm water management controls shall include:

1. Storm Water Pollution Prevention Personnel - Identification by job titles of the individuals who are responsible for developing, implementing, and revising the plan.

2. Preventive Maintenance - Procedures for inspection and maintenance of storm water conveyance system devices such as oil/water separators, catch basins, etc., and inspection and testing of plant equipment and systems that could fail and result in discharges of pollutants to storm water.

3. Good Housekeeping - Good housekeeping requires the maintenance of clean, orderly facility areas that discharge storm water. Material handling areas shall be inspected and cleaned to reduce the potential for pollutants to enter the storm water conveyance system.

4. Spill Prevention and Response - Identification of areas where significant materials can spill into or otherwise enter the storm water conveyance systems and their accompanying drainage points. Specific material handling procedures, storage

requirements, spill cleanup equipment and procedures should be identified, as appropriate. Internal notification procedures for spills of significant materials should be established.

5. Storm Water Management Practices - Storm water management practices are practices other than those which control the source of pollutants. They include measures such as installing oil and grit separators, diverting storm water into retention basins, etc. Based on assessment of the potential of various sources to contribute pollutants, measures to remove pollutants from storm water discharge shall be implemented. In developing the plan, the following management practices shall be considered:

   i. Containment - Storage within berms or other secondary containment devices to prevent leaks and spills from entering storm water runoff. To the maximum extent practicable storm water discharged from any area where material handling equipment or activities, raw material, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water should not enter vegetated areas or surface waters or infiltrate into the soil unless adequate treatment is provided.

   ii. Oil & Grease Separation - Oil/water separators, booms, skimmers or other methods to minimize oil contaminated storm water discharges.

   iii. Debris & Sediment Control - Screens, booms, sediment ponds or other methods to reduce debris and sediment in storm water discharges.

   iv. Waste Chemical Disposal - Waste chemicals such as antifreeze, degreasers and used oils shall be recycled or disposed of in an approved manner and in a way which prevents them from entering storm water discharges.

   v. Storm Water Diversion - Storm water diversion away from materials manufacturing, storage and other areas of potential storm water contamination. Minimize the quantity of storm water entering areas where material handling equipment of activities, raw material, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water using green infrastructure techniques where practicable in the areas outside the exposure area, and otherwise divert storm water away from exposure area.

   vi. Covered Storage or Manufacturing Areas - Covered fueling operations, materials manufacturing and storage areas to prevent contact with storm water.

   vii. Storm Water Reduction - Install vegetation on roofs of buildings within adjacent to the exposure area to detain and evapotranspirate runoff where precipitation falling on the roof is not exposed to contaminants, to minimize storm water runoff; capture storm water in devices that minimize the amount of storm water runoff and use this water as appropriate based on quality.

6. Sediment and Erosion Prevention - The plan shall identify areas which due to topography, activities, or other factors, have a high potential for significant soil erosion. The plan shall describe measures to limit erosion.

7. Employee Training - Employee training programs shall inform personnel at all levels of responsibility of the components and goals of the storm water pollution control plan. Training should address topics such as spill response, good housekeeping and material management practices. The plan shall identify periodic dates for such training.

8. Inspection Procedures - Qualified plant personnel shall be identified to inspect designated equipment and plant areas. A tracking or follow-up procedure shall be used to ensure appropriate response has been taken in response to an inspection. Inspections and maintenance activities shall be documented and recorded.

G. Non-Storm Water Discharge - The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharge. The certification shall include a description of any test for the presence of non-storm water discharges, the methods used, the dates of the testing, and any onsite drainage points that were observed during the testing. Any facility that is unable to provide this certification must describe the procedure of any test conducted for the presence of non-storm water discharges, the test results, potential sources of non-storm water discharges to the storm sewer, and why adequate tests for such storm sewers were not feasible.

H. Quarterly Visual Observation of Discharges - The requirements and procedures for quarterly visual observations are applicable to all outfalls covered by this condition.

1. You must perform and document a quarterly visual observation of a storm water discharge associated with industrial activity from each outfall. The visual observation must be made during daylight hours. If no storm event resulted in runoff during daylight hours from the facility during a monitoring quarter, you are excused from the visual observations requirement for that quarter,

provided you document in your records that no runoff occurred. You must sign and certify the document.

2. Your visual observation must be made on samples collected as soon as practical, but not to exceed 1 hour or when the runoff or snow melt begins discharging from your facility. All samples must be collected from a storm event discharge that is greater than 0.1 inch in magnitude and that occurs at least 72 hours from the previously measureable (greater than 0.1 inch rainfall) storm event. The observation must document: color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. If visual observations indicate any unnatural color, odor, turbidity, floatable material, oil sheen or other indicators of storm water pollution, the permittee shall obtain a sample and monitor for the parameter or the list of pollutants in Part E.4.

3. You must maintain your visual observation reports onsite with the SWPPP. The report must include the observation date and time, inspection personnel, nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

4. You may exercise a waiver of the visual observation requirement at a facility that is inactive or unstaffed, as long as there are no industrial materials or activities exposed to storm water. If you exercise this waiver, you must maintain a certification with your SWPPP stating that the site is inactive and unstaffed, and that there are no industrial materials or activities exposed to storm water.

5. Representative Outfalls - If your facility has two or more outfalls that you believe discharge substantially identical effluents, based on similarities of the industrial activities, significant materials, size of drainage areas, and storm water management practices occurring within the drainage areas of the outfalls, you may conduct visual observations of the discharge at just one of the outfalls and report that the results also apply to the substantially identical outfall(s).

6. The visual observation documentation shall be made available to the Agency and general public upon written request.

I. The permittee shall conduct an annual facility inspection to verify that all elements of the plan, including the site map, potential pollutant sources, and structural and non-structural controls to reduce pollutants in industrial storm water discharges are accurate. Observations that require a response and the appropriate response to the observation shall be retained as part of the plan. Records documenting significant observations made during the site inspection shall be submitted to the Agency in accordance with the reporting requirements of this permit.

J. This plan should briefly describe the appropriate elements of other program requirements, including Spill Prevention Control and Countermeasures (SPCC) plans required under Section 311 of the CWA and the regulations promulgated there under, and Best Management Programs under 40 CFR 125.100.

K. The plan is considered a report that shall be available to the public at any reasonable time upon request.

L. The plan shall include the signature and title of the person responsible for preparation of the plan and include the date of initial preparation and each amendment thereto.

M. Facilities which discharge storm water associated with industrial activity to municipal separate storm sewers may also be subject to additional requirement imposed by the operator of the municipal system

Construction Authorization

Authorization is hereby granted to construct treatment works and related equipment that may be required by the Storm Water Pollution Prevention Plan developed pursuant to this permit.

This Authorization is issued subject to the following condition(s).

N. If any statement or representation is found to be incorrect, this authorization may be revoked and the permittee there upon waives all rights there under.

O. The issuance of this authorization (a) does not release the permittee from any liability for damage to persons or property caused by or resulting from the installation, maintenance or operation of the proposed facilities; (b) does not take into consideration the structural stability of any units or part of this project; and (c) does not release the permittee from compliance with other applicable statutes of the State of Illinois, or other applicable local law, regulations or ordinances.

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P. Plans and specifications of all treatment equipment being included as part of the stormwater management practice shall be included in the SWPPP.

Q. Construction activities which result from treatment equipment installation, including clearing, grading and excavation activities which result in the disturbance of one acre or more of land area, are not covered by this authorization. The permittee shall contact the IEPA regarding the required permit(s).

REPORTING

R. The facility shall submit an electronic copy of the annual inspection report to the Illinois Environmental Protection Agency. The report shall include results of the annual facility inspection which is required by Part I of this condition. The report shall also include documentation of any event (spill, treatment unit malfunction, etc.) which would require an inspection, results of the inspection, and any subsequent corrective maintenance activity. The report shall be completed and signed by the authorized facility employee(s) who conducted the inspection(s). The annual inspection report is considered a public document that shall be available at any reasonable time upon request.

S. The first report shall contain information gathered during the one year time period beginning with the effective date of coverage under this permit and shall be submitted no later than 60 days after this one year period has expired. Each subsequent report shall contain the previous year's information and shall be submitted no later than one year after the previous year's report was due.

T. If the facility performs inspections more frequently than required by this permit, the results shall be included as additional information in the annual report.

U. The permittee shall retain the annual inspection report on file at least 3 years. This period may be extended by request of the Illinois Environmental Protection Agency at any time.

Annual inspection reports shall be mailed to the following address:

Illinois Environmental Protection Agency
Bureau of Water
Compliance Assurance Section
Annual Inspection Report
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

V. The permittee shall notify any regulated small municipal separate storm sewer owner (MS4 Community) that they maintain coverage under an individual NPDES permit. The permittee shall submit any SWPPP or any annual inspection to the MS4 community upon request by the MS4 community.

SPECIAL CONDITION 24. The effluent, alone or in combination with other sources, shall not cause a violation of any applicable water quality standard outlined in 35 Ill. Adm. Code 302.