

NPDES Permit No. IL0026735
Notice No. JAR:10042901.bah

Public Notice Beginning Date: **August 1, 2012**

Public Notice Ending Date: **August 31, 2012**

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 Discharger:

Torkelson Cheese Company
9453 West Louisa Road
Lena, Illinois 61048

Name and Address of Facility:

Torkelson Cheese Company
9453 West Louisa Road
Lena, Illinois 61048
(Stephenson 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 discharger. 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 Jaime Rabins at 217/782-0610.

The applicant is engaged in the production of cheese including muenster, brick, apple jack, and quesadilla (SIC 2022). Wastewater is generated from periodically purging the boiler water to maintain water chemistry, regenerating the water softeners, sanitary wastes, cleaning production areas and equipment, and from whey which is separated, filtered and then filtered through a reverse osmosis unit.

Plant operation results in an average discharge of 0.1 MGD of boiler blowdown, cheese cooling water, softener regenerant, sanitary, internal clean-up water, and condensate of whey water from outfall 001. Wastewaters are collected in a common sewer and treated in a biological treatment system consisting of two aerated lagoons, a SMF system, an ultra filtration system, and a sludge lagoon.

The following modification is proposed:

The facility is undergoing an expansion in production by approximately 150%. The DAF will increase from 0.04 MGD to 0.1 MGD and the BOD input will increase from 27,331 to 68,328 lbs/day.

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

Outfall	Receiving Stream	Latitude		Longitude		Stream Classification	Biological Stream Characterization
001	Waddams Creek	42° 24' 02"	North	89 47' 50"	West	General Use	Not Rated

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

The stream segment PWQ-04 receiving the discharge from outfall 001 is not on the draft 2010 Illinois Integrated Water Quality Report and Section 303(d) List. The receiving water has not been given an integrity rating or been listed as biologically significant in the 2008 Illinois Department of Natural Resources publication *Integrating Multiple Taxa in a Biological Stream Rating System*.

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

Outfall: 001 Boiler Blowdown, Cheese Cooling Water, Softener Regenerant, Sanitary, Internal Clean-up Water, and Condensate of Whey Water (DAF = 0.1 MGD)

PARAMETER	LOAD LIMITS lbs/day		REGULATION	CONCENTRATION		
	DAF (DMF)			LIMITS mg/l		
	30 DAY AVERAGE	DAILY MAXIMUM		30 DAY AVERAGE	DAILY MAXIMUM	REGULATION
Flow (MGD)						
pH						40 CFR 405.65
Temperature						35 IAC 302.212
BOD ₅	17	33	35 IAC 309.143	20	40	35 IAC 304.120(b)
Total Suspended Solids	21	42	35 IAC 309.143	25	50	35 IAC 304.120(b)
Oil and Grease	13	25	35 IAC 309.143	15	30	35 IAC 304.124
Fecal Coliform						35 IAC 304.121
Phosphorus						35 IAC 309.146
Chloride						35 IAC 309.146
Ammonia (as N)						
Mar-May/Sep-Oct	4.9	4.4		5.9	5.3	35 IAC 302.212
Jun-Aug		6.5			7.8	
Nov-Feb		3.6			4.3	
Dissolved Oxygen				Weekly Avg. not less than	Monthly Avg. not less than	Daily Minimum
Mar-Jun				6.0		5.0
Aug-Feb				4.0	5.5	3.5
						35 IAC 302.206

Load Limit Calculations:

- A. Load limit calculations for the following pollutant parameters were based on an average flow of 0.1 MGD and using the formula of average flow (MGD) X concentration limit (mg/l) X 8.34 = the average or maximum load limit (lbs/day): BOD₅, Oil & Grease, Total Suspended Solids, Chloride, and Ammonia.
- B. Production based load limits were calculated by multiplying the maximum production by the effluent limit contained in 40 CFR 405. Production figures utilized in these calculations for the following subcategories are as follows:

<u>Subcategory</u>	<u>Production Rate</u>
Natural and Processed Cheese	68,328 lbs BOD ₅ Input per Day

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

$$\frac{\text{_____}}{\text{_____}} = \text{_____}$$

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

The following explain the conditions of the proposed permit:

The special conditions clarify: flow reporting, pH, temperature, monitoring location, discharge monitoring reports, usage of water treatment additives, treatment plant operator requirements, re-opening of the permit, zone of initial dilution and mixing zone, stormwater no-exposure.

Antidegradation Assessment for Torkelson Cheese Company
NPDES Permit No. IL00026735 Stephenson County

The subject facility is proposing to expand their design average flow (DAF) from 0.04 MGD to 0.1 MGD. Quad Cities Waterkeeper has identified potential permit violations. The proposed improvements are to address those potential permit violations.

The existing wastewater treatment is two treatment ponds followed by a Submerged Microbial Film treatment unit. It is believed that Pond 1 is oversized and that the surface aerators have the tendency to cool the wastewater prior to discharge to Pond 2, which further inhibits the performance of Pond 2.

The facility is proposing to separate the two different types of wastewater (cheese process wastewater and condensate of whey (COW) wastewater) into two lines. The cheese process wastewater will flow into a newly installed equalization tank with a volume of 296,657 gal. The decrease in volume provided for equalization will decrease detention time, and in turn allow the wastewater to maintain temperature and improve biological treatment. It will then flow to a newly installed dissolved air floatation clarifier (DAF) unit to remove a minimum of 30% of the BOD₅ and TSS. This unit utilizes ferric chloride and polymers to form a floc which aides in the removal of solids. Ferric chloride is commonly used for phosphorus removal. The removal of solids provided by the proposed DAF unit is expected to improve phosphorous removal from current performance levels. For these reasons, phosphorous loading increase is not expected on Waddam's Creek as a result of the proposed plant expansion.

Following the DAF unit, cheese process wastewater will combine with the COW wastewater and discharge into the existing Pond 2. The existing Pond 1 will be removed from service. By sending the COW wastewater directly to Pond 2, a higher temperature should be maintained which will provide enhanced treatment during cold weather. The existing aspirators in Pond 2 will be replaced with submerged fine-bubble air diffusers. The submerged media filters will be expanded to handle a 100,000 GPD flow rate. To further improve solids control, solids return piping from the submerged media filter to Pond 2 will be constructed.

The information in this antidegradation assessment came from the July 2011 antidegradation report by Fehr-Graham & Associates titled "Engineering Report, WWTP Improvements, prepared for: Torkelson Cheese Company" and a letter from Fehr-Graham & Associates dated February 10, 2012.

Identification and Characterization of the Affected Water Body.

The subject facility discharges to Waddams Creek at a point where 1.1 cfs of flow exists upstream of the outfall during critical 7Q10 low-flow conditions. Waddams Creek is classified as a General Use Water. Waddams Creek is not listed as a biologically significant stream in the 2008 Illinois Department of Natural Resources Publication *Integrating Multiple Taxa in a Biological Stream Rating System*, nor is it given an integrity rating in that document. Waddams Creek, Waterbody Segment, PWQ-04, is not listed on the draft 2010 Illinois Integrated Water Quality Report and Section 303(d) List. Aquatic Life use is fully supported. Waddams Creek is not subject to enhanced dissolved oxygen standards.

Identification of Proposed Pollutant Load Increases or Potential Impacts on Uses.

The loading of BOD and ammonia will increase in proportion to the increase in flow. Ammonia limits in the permit will be set at water quality standards; however, ammonia loading to the receiving stream will increase over existing background levels. Biochemical oxygen demand (BOD) permit limits will be set at the most stringent effluent standards applicable in 35 IAC 304.120. The stream will nonetheless experience an increase in loading due to the increased effluent discharge.

A dissolved oxygen model was presented in the Engineering Report. No upstream flow was used in the dissolved oxygen model. Since there is a 7Q10 flow of 1.1 cfs, this assumption is conservative. A minimum DO value of 6.12 mg/L is expected to occur approximately 1 mile downstream of the discharge. The additional flow is not expected to affect this calculation.

Phosphorus loading is expected to remain the same or decrease as a result of the expanded facility removing phosphorus in the DAF unit. The Agency is developing state water quality standards that will formulate the basis for future nutrient management strategies. Upon adoption of state standards and development of a management strategy, there may be additional nutrient reduction requirements imposed on this source. At the present time however, the incremental nitrogen loading increase anticipated to result from this project is not expected to increase algae or other noxious plant growth, diminish the present aquatic community or otherwise aggravate existing stream conditions. The Illinois Nutrient Standards Workgroup has been convened to develop nutrient standards and will strive to keep NPDES permitted dischargers aware of its findings, allowing them to anticipate future nutrient permit limits.

Fate and Effect of Parameters Proposed for Increased Loading.

The BOD and ammonia discharged by this facility will decay into simpler and harmless byproducts by naturally occurring organisms in the receiving stream. Some of the nitrogen originating in the ammonia will remain in the stream in the form of nitrates or organic nitrogen. The nutrients discharged will be absorbed by aquatic or riparian terrestrial plants or will remain in the stream. Ammonia and dissolved oxygen standards will be met in the receiving stream.

Purpose and Social & Economic Benefits of the Proposed Activity.

The purpose of this proposed activity is to allow Torkelson Cheese Company to continue operations and provide for modest growth while providing adequate treatment of the process wastewater to protect the receiving stream. The benefits of the proposed activity are that Torkelson Cheese Company will continue to employ workers in the region and possibly create more jobs with the proposed expansion.

Assessments of Alternatives for Less Increase in Loading or Minimal Environmental Degradation.

The Engineering Report investigated the feasibility of regionalization; however, it was determined to not be cost effective to discharge to the closest facility (Lena's treatment plant).

The Engineering Report investigated the feasibility of treatment and reuse; however, it was determined to not be feasible since there are no significant users for treated wastewater, either on a sporadic or year-round basis in the area surrounding Torkelson Cheese Company.

The Engineering Report investigated the feasibility of subsurface discharge; however, it was determined to not be feasible because of high groundwater and unsuitable soil conditions (clayey soils).

The Engineering Report investigated the feasibility of land application. Approximately 33.5 acres and 15.0 Million Gallons of storage would be necessary. It was determined that the additional cost for land application would make this option non-viable.

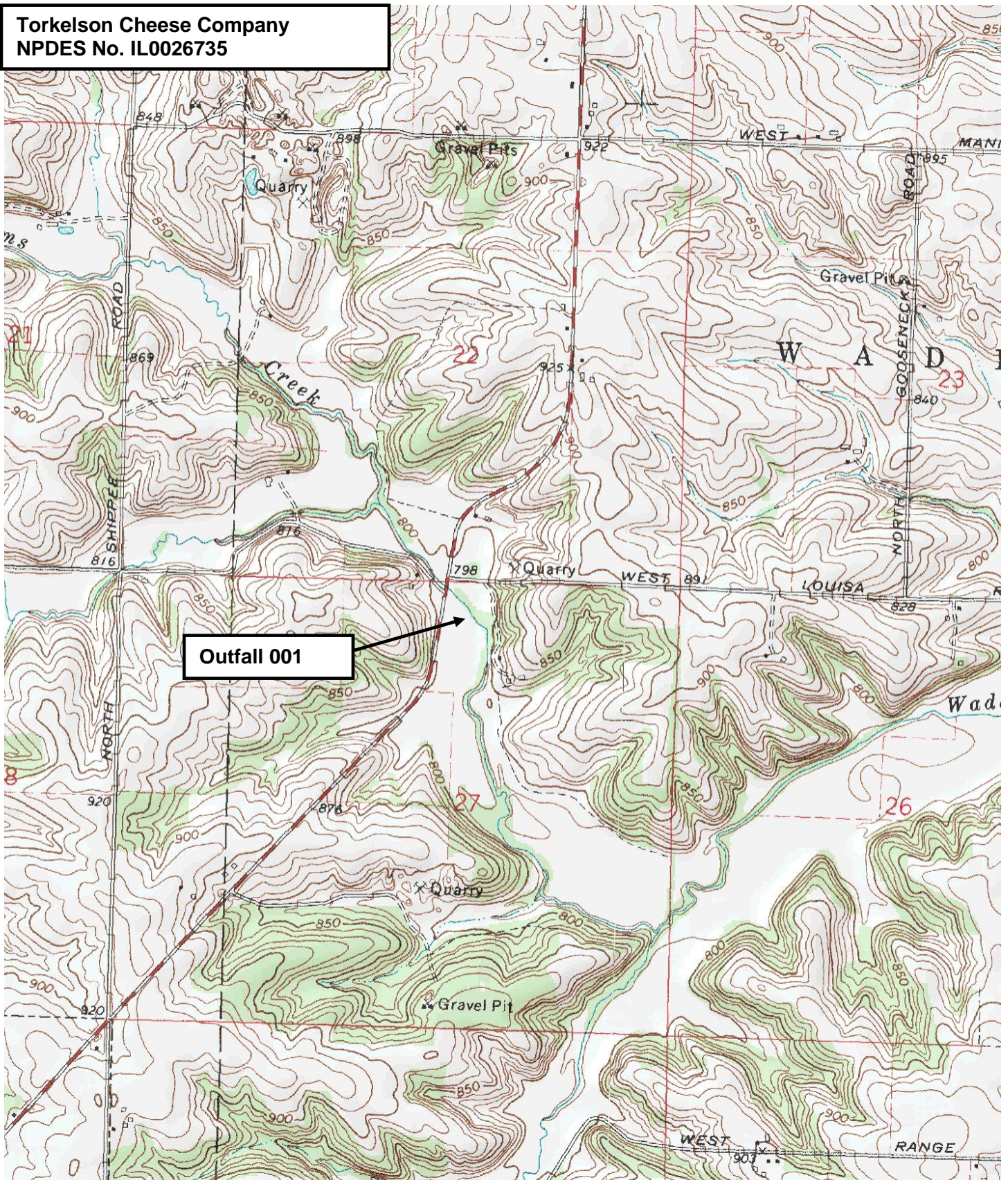
Summary Comments of the Illinois Department of Natural Resources, Regional Planning Commissions, Zoning Boards or Other Entities.

On March 13, 2012, the IDNR EcoCAT web-based tool was used and indicated that there were no endangered/threatened species present in the vicinity of the discharge. The IDNR EcoCAT web-based tool terminated the consultation.

Agency Conclusion.

This preliminary assessment was conducted pursuant to the Illinois Pollution Control Board regulation for Antidegradation found at 35 Ill. Adm. Code 302.105 (antidegradation standard) and was based on the information available to the Agency at the time the draft permit was written. We tentatively find that the proposed activity will result in the attainment of water quality standards; that all existing uses of the receiving stream will be maintained; that all technically and economically reasonable measures to avoid or minimize the extent of the proposed increase in pollutant loading have been incorporated into the proposed activity; and that this activity will benefit the community at large by continuing to employ workers in the region and possibly create more jobs with the proposed expansion. Comments received during the NPDES permit public notice period will be evaluated before a final decision is made by the Agency.

Torkelson Cheese Company
NPDES No. IL0026735



NPDES Permit No. IL0026735

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:

Torkelson Cheese Company
9453 West Louisa Road
Lena, Illinois 61048

Facility Name and Address:

Torkelson Cheese Company
9453 West Louisa Road
Lena, Illinois 61048
(Stephenson County)

Discharge Number and Name:

001 Boiler Blowdown, Cheese Cooling Water, Softener
Regenerant, Sanitary, Internal Clean-up Water, and
Condensate of Whey Water

Receiving Waters:

Waddams Creek

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:JAR:10042901.bah

NPDES Permit No. IL0026735

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: 001 Boiler Blowdown, Cheese Cooling Water, Softener Regenerant, Sanitary, Internal Clean-up Water, and Condensate of Whey Water (DAF = 0.1 MGD)

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l			SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM			
Flow (MGD)	See Special Condition 1					1/Month	
pH	See Special Condition 2					1/Month	Grab
Temperature	See Special Condition 3					1/Month	Single Reading
BOD ₅	17	33	20	40		1/Month	Composite
Total Suspended Solids	21	42	25	50		1/Month	Composite
Oil and Grease	13	25	15	30		1/Month	Grab
Fecal Coliform	See Special Condition 7					1/Month	Grab
Phosphorus						1/Quarter	Grab
Chloride						1/Quarter	Grab
Ammonia (as N)							
Mar-May/Sep-Oct Jun-Aug Nov-Feb	4.9	4.4 6.5 3.6	5.9	5.3 7.8 4.3		1/Month	Grab
Dissolved Oxygen			Weekly Average not less than	Monthly Average not less than	Daily Minimum		
Mar-Jun Aug-Feb			6.0 4.0	5.5	5.0 3.5	1/Month	Grab

Dissolved Oxygen shall be reported on the DMR as minimum.

The results for phosphorus and chloride monitoring shall be submitted on the March, June, September and December DMR's.

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 value on the monthly 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 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.

- A. The discharge must not exceed the maximum limits in the following table 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 of the discharge exceed the maximum limits in the following table by more than 1.7° C (3° F).

	<u>Jan.</u>	<u>Feb.</u>	<u>Mar.</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.</u>
°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. In addition, the discharge shall not cause abnormal temperature changes that may adversely affect aquatic life unless caused by natural conditions.
- 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.

SPECIAL CONDITION 4. Samples taken in compliance with the effluent monitoring requirements shall be taken at a point representative of the discharge, but prior to entry into the receiving stream.

SPECIAL CONDITION 5. 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 6. A condition of "No Exposure" as defined by 40 CFR 122.26 (g) shall be maintained at the facility.

SPECIAL CONDITION 7. The daily maximum fecal coliform count shall not exceed 400 per 100 ml.

SPECIAL CONDITION 8. The use or operation of this facility shall be by or under the supervision of a Certified Class K operator.

Special Conditions

SPECIAL CONDITION 9. 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 10. In the event that the permittee shall require the use of water treatment additives, the permittee must request a change in this permit in accordance with the Standard Conditions -- Attachment H.

SPECIAL CONDITION 11. A zone of initial dilution (ZID) is recognized with dimensions of 0.22 foot across the width of the river from the end-of-pipe and 0.22 foot downstream from this point. Within the ZID, 0.13:1 dilution is afforded. A mixing zone is recognized with dimensions extending 7.5 feet across the width of the river and 7.5 feet downstream. Within the mixing zone 4.7:1 dilution is afforded.