April 25, 2016

United States Environmental Protection Agency
Region 5
Barbara Wester and John Colletti
77 West Jackson Blvd.
Chicago, IL 60604-3590
RE: WN-16J

Attorney Wester and Mr. Colletti:

On behalf of the 16 Wisconsin residents who filed a Petition for Corrective Action (Petition) with the U.S. Environmental Protection Agency (EPA) in October 2015, Midwest Environmental Advocates thanks you for the opportunity comment on the draft Petition investigation protocol as transmitted on March 25, 2016. We are copying the Wisconsin Department of Natural Resources (WDNR) on the following comments and ask that EPA provide the WDNR's comments to us if we are not party to the WDNR's transmittal.

As an initial note, EPA states in 1.a of its investigation protocol that it will work with the WDNR to determine which of the 75 issues outlined in the 2011 legal deficiency letter are successfully resolved. Petitioners understand that they will have a later opportunity, *prior to the EPA's Petition findings*, for input on whether we agree with the status of these WPDES Program issues. Please confirm this opportunity; otherwise Petitioners would respectfully request to have a representative at the review meeting mentioned in 1.a of the protocol.

Petitioners have two pressing and overarching concerns that the EPA should consider throughout the entirety of its preliminary investigation into the Petition. The first concern is with respect to allegations within the Petition that the EPA can and should resolve without a formal, lengthy investigation. If, for example, a Wisconsin statute or regulation is on its face in clear violation of the Clean Water Act (CWA), resolution would not require permit reviews or audit meetings and as such should proceed along a much more condensed timeline. We will highlight such issues throughout the following comments.

Petitioners' second concern is with respect to Wis. Stat. § 227.10(2m), referenced in the Petition[1] in the context of concentrated animal feeding

[1] Petition for Corrective Action, October 20, 2015, at pages 35, 52 [hereinafter Petition].

operations and stormwater Wisconsin Pollutant Discharge Elimination System (WPDES) permits, but this provision is almost certain to impact the WDNR's administration of the WPDES Program in its entirety. 2011 Wisconsin Act 21 narrowed the scope of a state administrative agency's authority to interpret implement state statutes and regulations by providing that:

> "No agency may implement or enforce any standard, requirement, or threshold, including as a term or condition of any license issued by the agency, unless that standard, requirement, or threshold is explicitly required or explicitly permitted by statute or by a rule that has been promulgated in accordance with this subchapter."[2]

The impact of this provision on an agency's decision making authority has not been fully realized. However, when the WDNR refused to comply with the administrative order regarding the Kinnard Farms WPDES permit that is discussed in the Petition, the WDNR adopted the extremely narrow interpretation of Wis. Stat. § 227.10(2m) offered by the Wisconsin Department of Justice.[3]

The WDNR's construction of section 227.10(2m) has the potential to render meaningless all statutes and rules that provide general authority to agencies to tailor permits to the specific action being authorized, given site-specific conditions. These circumstances require that throughout the EPA's Petition investigation it must not accept the State's assurances that it will implement necessary WPDES program changes unless WDNR adopts said updates in explicit, unambiguous state statute or agency regulations.

<u>WDNR is not adequately responding to known statutory and regulatory omissions and deficiencies that Wisconsin must resolve in order to meet minimum requirements of the CWA.</u>

In response to Petitioners' allegation, the EPA states that it will investigate the "WDNR's anticipated schedule for submitting the rule packages to resolve outstanding issues." Petitioners request that the preliminary investigation detail not only the "anticipated schedule" but what action(s) the EPA will take if any unresolved issues are not addressed via rulemaking according to the schedule provided by WDNR. This request is particularly important for at least two reasons: (1) the rulemaking packages did not proceed according to the schedule provided by WDNR in response to the EPA's 2011 deficiency letter; and (2) Wisconsin's current rulemaking requirements almost always require gubernatorial approval and as such any commitment from the WDNR to resolve a WPDES Program deficiency via rulemaking does not ensure that the commitment will come to fruition.

Petitioners appreciate that the preliminary investigation protocol indicates that the EPA will analyze whether rulemaking will "timely" resolve program deficiencies. We ask for

[2] *See* Wis. Stat. § 227.10(2m).
[3] *See* Petition at 52.

further clarification of what the EPA will consider as "timely," and, again, for information regarding what the EPA will do if promised rulemaking that could be timely resolved is not in fact completed during the agreed-upon timeframe.

Wisconsin has failed to enact new authorities to remedy antidegradation program deficiencies previously identified by EPA.

Petitioners' one additional comment with respect to this allegation is to request that the EPA review a recently re-issued WPDES permit for Agropur, Inc. (Agropur), a cheese-making facility in Luxemburg, Wisconsin. This permit exemplifies an antidegradation program deficiency detailed in the Petition; specifically the WPDES regulation exemption of new or increased discharges that would consume up to one-third of a water's remaining assimilative capacity from compliance with Wisconsin's antidegradation policy and requirements.[4]. The Agropur WPDES permit documentation is attached hereto for reference.

This is an example of a Petition allegation that does not require a prolonged investigation prior to a finding that a WPDES Program change is necessary. Particularly because the EPA and the WDNR already agreed to pertinent revisions to Wis. Admin. Code Ch. NR 207, the EPA should require the beginning of a rulemaking fix prior to the resolution of investigation into other issues raised in the Petition.[5].

Wisconsin's statutory rulemaking process prevents the WDNR from timely revising the WPDES Program to comply with federal law and regulations.

The Petition and supplementary documentation such as the WDNR's own administrative rules procedure flowchart[6] demonstrate that no further investigation is necessary to determine that the DNR cannot complete their permanent rulemaking process within the deadlines imposed by 40 C.F.R. § 123.62(e). The EPA's preliminary investigation and proceeding findings must detail the instances where the WDNR must exercise its emergency rulemaking authority to resolve known WPDES Program deficiencies within the one or two-year timeframe contemplated by federal regulations.

The WDNR interprets its authority to administer the WPDES Program in contradiction of the Department's commitments to the EPA, restricting the rights of Wisconsin residents.

Respectfully, it is not necessary for the EPA to take the time to determine "the State's current interpretation of its legal authority" in the context of restricting WPDES permit review to five or more persons. The WDNR's position, while important, has no legal effect if neither the Attorney General nor the judiciary upholds that position. Petitioners refer the

[4] *See* Wis. Admin. Code § NR 207.05; *see also* Petition at 37-40.
[5] *See* Petition starting at page 37.
[6] See http://dnr.wi.gov/news/input/documents/rules/AdminRuleProcedure.pdf (last visited Apr. 22, 2016).

EPA back to the Petition and its discussion of the thoroughly litigated issue of whether the WDNR can restrict WPDES permit review as it currently does.[7].
Your cohort regional EPA offices have publicly acknowledged the importance of the public participation requirements of the Clean Water Act[8] and noted dedelegation as an authority that the EPA will exercise to fix related deficiencies. It is therefore reasonable without further investigation to ask EPA Region 5 staff to require WDNR and the Legislature to modify state statutes as necessary to comport with corresponding federal law.

The WDNR repeatedly issues WPDES permits that violate the requirements of the CWA.

With respect to the downstream waters component of the Petition, Petitioners refer the EPA back to their correspondence sent to your office in December 2015, detailing a Wisconsin Appeals Court decision that interpreted pertinent statute to allow the WDNR to forgo imposing water quality based effluent limitations (WQBELs) to protect downstream waters, even if the WDNR determines that the discharge will cause or contribute to a violation of downstream water quality standard.[9]. Neither WDNR practice nor policy can fix a regulation that violates the Clean Water Act; a rulemaking change is necessary and this process should begin without waiting for conclusion of the EPA's Petition investigation.

The WDNR fails to reissue expired permits in a timely manner.

The EPA's investigation protocol states that "the EPA will develop a list of permits to review." Please clarify whether WDNR will assist the EPA in developing this short list of permits. Petitioners request equal input into this list so as to better ensure an accurate and unbiased sample set. Petitioners have two particular permits that the EPA should include in its investigation: (1) Milwaukee Metropolitan Sewerage District, which was delayed for almost five years; and (2) Valley Power, which was delayed for almost 20 years. This permit documentation is available from MEA if necessary to facilitate EPA's review.

Petitioners also ask the EPA to clarify that its preliminary investigation will consider the extent to which permittee-instituted permit challenges are the cause for permit backlog, and whether such challenges could be instituted intentionally to delay implementation of more stringent WPDES permit terms and conditions. Petitioners outlined this concern on pages 67-68 of the Petition.

The WDNR fails to seek necessary EPA approval of WPDES Program changes.

Please note that Petitioners believe that the failure to include WPDES permit WQBELs for additives in non-contacting cooling water was resolved via litigation in 2012.[10]. Instead, Petitioners set forth this example to demonstrate that the general public has no insurance

[7] *See* Petition at 53-56.
[8] *See* http://www.newsobserver.com/news/business/article44892177.html#storylink=cpy (last visited Apr. 22, 2016).
[9] *See* Letter and attached decision from Jimmy Parra, Staff Attorney, Midwest Environmental Advocates, to EPA Region 5, Dec. 10, 2015 (attached hereto).
[10] *See* Petition, page 73.

that WDNR is seeking necessary approval of WPDES Program changes to ensure that state laws are compliant with minimum federal requirements. Instead, citizens often end up taking on the burden of seeking clarification via lengthy, costly litigation to determine whether the WPDES Program comports with the CWA.

Petitioners still request the EPA thoroughly review the unapproved revisions to Wis. Stat. Ch. 283 that revised the approved WPDES Program as it relates to issuance of permits that authorize an adaptive management option to meet WQBELs for phosphorus or total suspended solids. More broadly, the EPA should look beyond the three specific examples outlined in 2.e of your preliminary investigation protocol and determine whether the WDNR consistently seeks approval of WPDES Program changes as required pursuant to 40 C.F.R. § 123.62.

Petitioners have remaining questions regarding duration and oversight of the Petition investigation timeline.

The EPA intends to visit the WDNR's offices in fiscal year (FY) 2016. Please clarify whether this timeline extends to the completion of the EPA's preliminary investigation. Specifically, does the EPA intend to make available by end of FY 2016 the anticipated draft spreadsheet that details WDNR's progress toward resolving issues identified in the EPA's 2011 letter?

EPA's preliminary investigation and any appropriate next steps include a forthright and realistic discussion about the enforceability the EPA's findings in response to the Petition. Without imposition of an enforceable timeline, the WDNR will likely respond to the EPA's findings in the same protracted, incomplete impact as it did to its July 2011 legal deficiency letter. Both Petitioners and the general public are entitled to full resolution of allegations outlined in the Petition in a reasonable timeframe. Because, for example, change(s) to Wisconsin statute and/or regulations could be necessary to fix a certain WPDES Program deficiency, Petitioners call on the EPA to include within their preliminary investigation and proceeding findings a system for EPA oversight and approval of necessary WPDES Program deficiencies.

Thank you, and please don't hesitate to contact MEA with questions or concerns regarding this letter.

Sincerely,

/s/

Tressie Kamp
Staff Attorney
Midwest Environmental Advocates
tkamp@midwestadvocates.org
608-251-5047 ext. 8

/s/

Jimmy Parra
Staff Attorney
Midwest Environmental Advocates

cc: Cheryl Heilman, Quinn Williams, and Patrick Stevens, WDNR

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DISTRICT IV

November 19, 2015

To:

Hon. Juan B. Colas
Circuit Court Judge
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You are hereby notified that the Court has entered the following opinion and order:

2014AP2465 Petenwell and Castle Rock Stewards, Inc. and River Alliance of Wisconsin, Inc. v. Wisconsin Department of Natural Resources and Domtar A.W. LLC (L.C. # 2013CV290)

Before Kloppenburg, P.J., Lundsten and Blanchard, JJ.

Petenwell and Castle Rock Stewards, Inc., and River Alliance of Wisconsin, Inc., appeal an order dismissing their petition for judicial review of an administrative decision by the Department of Natural Resources. Based upon our review of the briefs and record, we conclude

at conference that this case is appropriate for summary disposition. *See* WIS. STAT. RULE 809.21 (2013-14).[1]

We further conclude that the circuit court's "final decision and order" identifies and applies the proper legal standards to the relevant facts and reaches the correct conclusion. We therefore adopt as our own the circuit court's decision and incorporate it by reference into this order. We also attach the court's order. On that basis, we summarily affirm. *See* WIS. CT. APP. IOP VI(5)(a).

Our adoption of the circuit court's order makes it unnecessary to consider the arguments of the Department and cross-appellant-respondent Domtar that the petition for judicial review should have been dismissed for failure to exhaust administrative remedies. Even if we were to reach that conclusion, it appears to lead to the same result that we have already affirmed, namely, dismissal of the petition with prejudice.

IT IS ORDERED that the order appealed is summarily affirmed under WIS. STAT. RULE 809.21.

Diane M. Fremgen
Clerk of Court of Appeals

[1] All references to the Wisconsin Statutes are to the 2013-14 version unless otherwise noted.

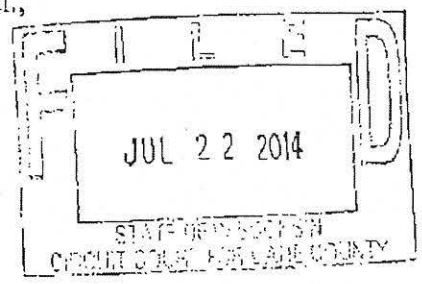
No. 2014AP2465

STATE OF WISCONSIN | CIRCUIT COURT Branch 10 | DANE COUNTY

Petenwell and Castle Rock Stewards, Inc. et al.,
Petitioners

vs.

Wisconsin Department of Natural Resources,
Respondent



Case No. 13CV290

FINAL DECISION AND ORDER

Petitioners seek review of the decision by the Wisconsin Department of Natural Resources ("the DNR" or "the Department") to issue to Domtar A.W. L.L.C. ("Domtar") a Wisconsin Pollutant Discharge Elimination System permit ("WPDES permit" or "permit") authorizing discharge of phosphorous into the Wisconsin River (the "receiving water"). The Petenwell and Castle Rock flowages, or reservoirs, are downstream from the points at which Domtar's permit authorizes the discharges to occur ("downstream waters.") The phosphorous levels allowed by water quality regulations for both flowages are lower than those allowed for the Wisconsin River at the points of the Domtar discharge.

The question is whether the DNR had the authority to issue the permit without including a Water Quality Based Effluent Level ("WQBEL") calculated to protect the downstream waters. The DNR elected to defer setting a level based on protection of the downstream waters until completion of a comprehensive, complex and multi-year study of all point and non-point sources of phosphorous in the entire Upper Wisconsin River Basin. The study is intended to determine the Total Maximum Daily Load ("TMDL") of phosphorous for the entire system and is expected to be completed in 2017.

Wisconsin Administrative Code s. NR217.13(1)(b) states that the WQBELs for phosphorous "shall be calculated based on the applicable phosphorous criteria in s. NR 102.06 at the point of discharge, **except the department may calculate the limitation to protect downstream waters** [emphasis

added]." The DNR reads the last clause as allowing it to issue a permit without making such a calculation. Petitioners argue that such an interpretation is incorrect because it is contrary to other state and federal law.

The DNR and Domtar believe the DNR's interpretation should be given great (controlling) weight. An agency's interpretation of a statute is given great weight when 1) the agency is charged with interpreting the statute, 2) the agency's interpretation is long-standing, 3) the agency employed its expertise or specialized knowledge in forming its interpretation and 4) the agency's interpretation will provide uniformity and consistency in the application of the statute. *Andersen v. DNR*, 2011 WI 19, par. 27, 332 Wis. 2d 41, 796 N.W.2d 1. The DNR also argues that its interpretation of its own regulations is entitled to great weight deference, citing *Sierra Club v. DNR*, 2010 WI App 89, par. 24, 327 Wis. 2d 706, 787 N.W.2d 855.

In this case the DNR is charged with carrying out Ch. 283, has long experience in interpreting and applying the statute and expertise and specialized knowledge were used in forming its interpretation. However, the application of Ch. 283 to WQBEL limitations of phosphorous discharges is not long-standing. Subchapter III of Wis. Adm. Code Ch. NR 217, of which NR 217.13 is a part, had been in effect only 2 years when the Domtar permit was issued. Neither the DNR nor Domtar point to any judicial or administrative decisions interpreting Ch. 283 and Ch. NR 217 as they apply to phosphorous discharges. In addition, NR 217.13,(1)(b), as interpreted by the DNR, purports to give the DNR discretion in whether and when to calculate WQBEL limits for phosphorous based on the protection of downstream waters. As an interpretation concerning the scope of the agency's own authority and discretion, it is owed no deference by the courts. *Loomis v. Wisconsin Personnel Com'n*, 179 Wis.2d 25, 30, 505 N.W.2d 462.

Therefore, the court will give no weight to the DNR's interpretation of NR 217.13(1)(b) and due weight deference to the DNR's interpretation of Ch. 238. Nonetheless, the plain meaning of the language of NR 217.13(1)(b) in its context is unambiguous. It uses the word "may" in contrast with the use of "shall" in NR 217.13(1)(a). It authorizes, but does not require, the DNR to calculate a WQBEL limit on phosphorous in order to protect downstream waters.

The petitioners argue that a reading allowing the DNR to consider only the applicable standards at the point of discharge is contrary to Wis. Stat. secs. 283.13(5) and 283.31(3) and (4). Petitioners do not clearly identify specific language in the cited statutes that requires the DNR to calculate WQBELs using the impact on downstream waters and it is not apparent to the court that it is so. A reading of NR 217.13(1)(b) as permissive, not mandatory, is not inconsistent with or contrary to Ch. 283.

The remaining issue is whether the DNR properly exercised that discretion. It electing to base the permit's WQBEL on the water quality standards of the receiving water at the point of discharge and wait until completion of the TMDL studies before setting WQBELs for Domtar that include consideration of protection of downstream waters. There is substantial evidence in the record to support the DNR's conclusion, though other decisions might also have been reasonable. Under those circumstances the court will not substitute its judgment for the agency's decision.

CONCLUSION AND ORDER

For the reasons stated above, the issuance of the permit is affirmed and the petition is dismissed with prejudice. This is a final order for purposes of appeal as defined by Wis. Stat. sec. 808.03(1).

Dated: July 22, 2014

BY THE COURT:

Juan B. Colás
Circuit Court Judge

Copy: Counsel BY FAX ONLY

December 10, 2015

United States Environmental Protection Agency
Region 5
Barbara Wester and John Colletti
77 West Jackson Blvd.
Chicago, IL 60604-3590
RE: WN-16J

Attorney Wester and Mr. Colletti:

As you're now aware, Midwest Environmental Advocates, on behalf of 16 Wisconsin residents, filed a Petition for Corrective Action (Petition) with the U.S. Environmental Protection Agency (EPA) in October 2015. Inadequate consideration of downstream waters in water pollution permitting decisions made by the Wisconsin Department of Natural Resources (DNR) was among the list of issues analyzed by Petitioners. *See* Petition for Corrective Action, October 20, 2015, at 61-63. This letter updates EPA Region 5 staff regarding a recent Wisconsin Court of Appeals decision that reaffirms Petitioners' allegations that the Wisconsin Pollutant Discharge Elimination System (WPDES) Program as administered by the DNR is not compliant with the Clean Water Act.

Intrastate and downstream waters were one of the 75 issues analyzed in the EPA's July 2011 legal deficiency letter. *See* Letter from Susan Hedman, Regional Administrator, EPA Region 5, to Cathy Stepp, Secretary, DNR (July 18, 2011) at ¶ 12. Specifically, the EPA expressed concern that Wisconsin law might fall short of the Clean Water Act without a mandatory requirement(s) that WPDES permits contain water quality-based effluent limitations (WQBELs) when a discharge has the potential to cause or contribute to violation of water quality standards, including those waters downstream from a permittee's effluent pipe. *See id.*; *see also* 33 U.S.C. §§ 1311(a), 1342(a); 40 C.F.R. §§ 122.4(d), 131.10(b).

Wisconsin law provides that "[WQBELs] for phosphorus shall be calculated based on the applicable phosphorus criteria ... at the point of discharge, except the department may calculate the limitation to protect downstream waters." Wis. Admin. Code § NR 217.13(1)(b). The DNR and the Wisconsin Attorney General have argued that this language allows the DNR to forgo imposing WQBELS to protect downstream waters, even where the DNR has determined that the discharge will cause or contribute to a violation of the downstream water quality standard. *See* Petition at 62.

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The Wisconsin Court of Appeals has since affirmed the argument that the terms "except" and "may" unambiguously grant the DNR discretion not to protect downstream waters when establishing WQBELS for phosphorus. *See Petenwell and Castle Rock Stewards v. Dep't of Natural Res.*, Case No. 2014AP2465 (Nov. 19, 2015), decision also attached hereto for reference. In doing so, the Wisconsin Court of Appeals has unfortunately allowed the DNR to continue administering the WPDES Program in violation of the Clean Water Act and to continue issuing WPDES permits that violate the Clean Water Act.

MEA and Petitioners urge the EPA to consider these recent developments when proceeding in its response to the Petition. These developments provide concrete support for the need to robustly review the DNR's assertions that certain WPDES program deficiencies are resolved or close to resolution. These assertions are not sufficiently translating into statutes, rules, and/or permitting practices that protect Wisconsin's waters pursuant to minimum Clean Water Act requirements.

Thank you, and please don't hesitate to contact MEA with questions or concerns regarding this letter.

Sincerely,

/s/

Jimmy Parra
Staff Attorney
Midwest Environmental Advocates, Inc.
612 W. Main Street, Suite 302
Madison, WI 53703
Phone: (608) 251-5047 ext 6

STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES
PUBLIC NOTICE OF INFORMATIONAL HEARING AND INTENT TO REISSUE A WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM (WPDES) PERMIT No.WI-0050237-08-0

Permittee: Agropur Inc., Luxemburg, N2915 County Road AB, Luxemburg, WI 54217-7713

Facility Where Discharge Occurs: Agropur Inc., Luxemburg, N2915 County Road AB, Luxemburg

Receiving Water and Location: Unnamed tributary of the East Twin River of the East Twin River Watershed (TK02) of the Twin-Door-Kewaunee River Basin and groundwater via landspreading in Kewaunee, Manitowoc and Brown Counties

Brief Facility Description and Summary of Proposed Changes: This facility makes cheese and processes whey at their plant in southern Kewaunee County. Process wastewater from cleaning and sanitizing production equipment is treated onsite in a wastewater treatment facility (WWTF). The facility underwent an expansion during the previous permit term which resulted in an increase in the wastewater discharge volume of approximately 20%. To accommodate the increased wastewater discharge associated with the facility expansion and production increase, the onsite WWTF was upgraded also. The WWTF upgrade was scheduled to be completed and operational prior to the production increase. The upgraded WWTF was fully operational in early 2014. The upgraded WWTF consists of an equalization tank, anaerobic conditioning tank, two anaerobic digesters, anoxic selector tank, aeration basin, secondary clarification, post aeration tank, and two dissolved air flotation (DAF) units for sludge thickening. Chemical addition of ferric chloride and polymer are added for phosphorus removal and additional sludge thickening and solids removal, respectively. Outfall 009 discharges to an unnamed tributary of the East Twin River and consists of the combination of treated process wastewater, excess polished condensate of whey (COW), retentate from the industrial water treatment reverse osmosis (RO) unit, and noncontact cooling water (NCCW) from the cheese plant. High strength wastewater that was previously segregated and land applied is now treated in the WWTF and discharged as treated process wastewater. The facility still has the option of segregating high strength waste for land application to approved sites and storage facilities via Outfall 002 as necessary. The high strength wastewater could be comprised of whey, whey-by-products, permeate, antibiotic contaminated milk, separator de-sludge and/or cooker water. Sludge from the WWTF was previously land applied on approved sites via Outfall 004 but is now disposed of at a landfill. The facility still has the option of land applying sludge to approved sites via Outfall 004 if that is deemed necessary. An additional emergency outfall (005) has been retained for land application of untreated process wastewater in the event of an emergency. It is possible that the facility may increase production over the next 5-year permit term. The upgraded WWTF would be able to treat an increased flow as long as it remains within the design flow for the treatment system and the facility is able to meet all permit limits. The average annual flow from Outfall 009 is 0.49 million gallons per day. The average annual total discharge volumes from Outfalls 002 (high strength wastewater), 004 (WWTP sludge) and 005 (untreated process wastewater) could reach 2.0, 1.6 and 0.275 million gallons per year to land application.

The permit has been altered to include flow reporting for four separate in-plant sample points which represent different waste streams discharged to the head end of the WWTP. A tighter temperature limit and stringent phosphorus limits have been included along with accompanying compliance schedules. In the interim, temperature is limited to 120 degrees Fahrenheit and the phosphorus limit of 1 mg/L has been carried over from the previous permit. The chloride concentration limit has been reduced to the water quality criteria for the receiving stream. The mass limit for chloride has increased to accommodate for facility expansion and increased flows. The antidegradation evaluation is deemed to be satisfied in that the discharge accommodates important social and economic development per NR 207.04(1)(c), Wis. Adm. Code. Whole effluent toxicity testing (WET) has been retained in the permit. The aforementioned detail applies at Outfall 009. The three land application Outfalls have all been altered to be consistent with the current general permits for land application of liquids or sludge, as appropriate.

Permit Drafter: Nanette E. Jameson, DNR, 2984 Shawano Avenue, Green Bay, WI 54313-6727, (920) 662-5174, nan.jameson@wisconsin.gov

Basin Engineer: Heidi Schmitt Marquez, DNR, 2984 Shawano Avenue, Green Bay, WI 54313-6727, (920) 662-5145, Heidi.SchmittMarquez@Wisconsin.gov

The Department has tentatively decided that the above specified WPDES permit should be reissued.

Limitations and conditions which the Department believes adequately protect the receiving water are included in the proposed permit. Land application of waste shall be done in accordance with permit conditions and applicable codes. All land application sites shall be approved prior to their use. To receive a list of approved sites, or to be notified of potential approvals, contact the basin engineer.

Hearing Date, Time, and Location: March 15, 2016, 3:00 pm, Kewaunee County Land and Water Conservation Department, 4H Room, 625 Third Street, Luxemburg, WI 54217

Hearing Officer: Robert Rosenberger, DNR, 101 N Ogden Road, Ste. A, Peshtigo, WI 54157-1734, (715) 582-5041

The Department of Natural Resources, pursuant to Section 283.49, Wisconsin Statutes, has scheduled for the time and place listed above, a public hearing for the purpose of giving all interested persons an opportunity to make a statement with respect to the above announced permit action for this existing discharge.

A hearing officer will conduct the hearing in an orderly and speedy way and will use procedures specified in Subchapter II of ch. NR 203, Wis. Adm. Code, necessary to insure broad public participation in the hearing.

The hearing officer will open the hearing and make a concise statement of the scope and purpose of the hearing and shall state what procedures will be used during the course of the hearing. The hearing officer shall explain the method of notification of the final decision to grant or deny the permit and the methods by which the decision may be reviewed in a public adjudicatory hearing. The hearing officer may put limits on individual oral statements to insure an opportunity for all persons present to make statements in a reasonable period of time and to prevent undue repetition. The hearing officer may also limit the number of representatives making oral statements on behalf of any person or group. Informational and clarifying questions and oral statements shall be directed through the hearing officer. Cross-examination shall not be allowed.

Persons wishing to comment on or object to the proposed permit action are invited to do so by attending the public hearing or by submitting any comments or objections in writing to the Department of Natural Resources, at the above named permit drafter's address. All comments or suggestions received from members of the public no later than 7 days following the date of this public hearing will be used, along with other information on file and testimony presented at the hearing, in making a final determination. Where designated as a reviewable surface water discharge permit, the U.S. Environmental Protection Agency is allowed up to 90 days to submit comments or objections regarding this permit determination.

Information on file for this permit action, including the draft permit, fact sheet and permit application, may be inspected and copied at the permit drafter's and basin engineer's office, Monday through Friday (except holidays), between 9:00 a.m. and 3:30 p.m. Please call the permit drafter or basin engineer for directions to their office location, if necessary. Information on this permit action may also be obtained by calling the permit drafter at (920) 662-5174 or by writing to the Department. Reasonable costs (usually 20 cents per page) will be charged for copies of information in the file other than the public notice, permit and fact sheet. Permit information is also available on the internet at: http://dnr.wi.gov/topic/wastewater/PublicNotices.html. Pursuant to the Americans with Disabilities Act, reasonable accommodation, including the provision of informational material in an alternative format, will be made to qualified individuals upon request.

Publishing Newspaper: Green Bay Press Gazette, PO Box 23430, Green Bay, WI 54305-3430
Date: February 5, 2016

Permit Fact Sheet

1 General Information

Permit Number:	WI-0050237-08-0
Permittee Name:	Agropur Inc Luxemburg
Address:	N2915 County Road AB
City/State/Zip:	Luxemburg WI 54217-7713
Discharge Location:	N2915 County Road AB, Luxemburg, Kewaunee County
Receiving Water:	Unnamed tributary of the East Twin River of the East Twin River Watershed (TK02), Twin-Door-Kewaunee River Basin and groundwater via land application in Brown, Kewaunee, and Manitowoc Counties. Note: The Department refers to the downstream body of water as the "East Twin River" based on official United States Department of Interior Geological Survey maps. Locals have sometimes referred to this body of water as "Krok Creek" or the "West Branch of Krok Creek". All Department of Natural Resources documents shall continue to designate the downstream water body as the East Twin River. The 6.3 mile segment of the East Twin River south of State Highway 29 is classified as a class II trout stream. The unnamed tributary flows into the East Twin River on the south side of State Highway 29.
Stream Flow ($Q_{7,10}$):	Zero background flow at surface water outfall location under low flow conditions.
Stream Classification:	Limited Aquatic Life (Very Tolerant Aquatic Life) from facility downstream to approximately Sleepy Hollow Road. March 30, 1987 – original classification of unnamed tributary – from discharge to Hrabik road (approximately 1.75 miles) classified Limited Aquatic Life (LAL) – from Hrabik Road to confluence with East Twin River (approximately 0.75 mile) classified Full Fish & Aquatic Life (FFAL). March 14, 2000 – original classification modified – reduced LAL segment and increased FFAL segment due to improvements in stream quality. LAL segment from point of discharge to Sleepy Hollow Road (approximately 1.25 mile). FFAL segment from Sleepy Hollow Road to confluence with East Twin River (approximately 1.25 mile). May, 2009 – classification modified again – further reduced LAL segment and increased FFAL segment. LAL segment from point of discharge to confluence with first unnamed tributary upstream from Sleepy Hollow Road (approximately 1.0 mile). FFAL segment moved up-stream approximately one-quarter mile to confluence with first unnamed tributary upstream from Sleepy Hollow Road. Total FFAL segment now approximately 1.5 miles. The most recent stream classification doubles the length of stream classified at the higher stream classification of FFAL from the original stream classification. August 2015 – significant increase in flow to the unnamed tributary and additional increase proposed over the next permit term may require a change in classification again.

2 Facility Description

Agropur Inc in Luxemburg operates a cheese manufacturing and whey processing facility in southern Kewaunee County. Process wastewater from cleaning and sanitizing production equipment is treated onsite with a wastewater treatment facility (WWTF), was regulated as Outfall 003. The facility underwent an expansion during the previous permit term

which resulted in an increase in the wastewater discharge volume of approximately 20%. To accommodate the increased wastewater discharge associated with the facility expansion and production increase, the onsite WWTF was upgraded also. The WWTF upgrade was scheduled to be completed and operational prior to the production increase. The upgraded WWTF was fully operational in early 2014. The WWTF prior to the upgrade included an equalization basin, two aeration basins, and two dissolved air flotation (DAF) units to separate solids. Ferric chloride was added to precipitate phosphorus, and a proprietary polymer was added to enhance solids removal prior to the DAF units. The upgraded WWTF currently consists of an equalization tank, anaerobic conditioning tank, two anaerobic digesters, anoxic selector tank, aeration basin, secondary clarification, post aeration tank, and two DAFs for sludge thickening. Chemical addition of ferric chloride and polymer are still added for phosphorus removal and additional sludge thickening and solids removal, respectively. Outfall 009 discharges to an unnamed tributary of the East Twin River and consists of the combination of treated process wastewater, excess polished condensate of whey (COW), retentate from the industrial reverse osmosis (RO) unit, and noncontact cooling water (NCCW). High strength wastewater that was previously segregated and land applied is now treated in the WWTF and discharged as treated process wastewater. The facility still has the option of segregating high strength waste for land application to approved sites and storage facilities via Outfall 002 as necessary. The high strength wastewater could be comprised of whey, whey-by-products, permeate, antibiotic contaminated milk, separator desludge &/or cooker water. Sludge from the WWTF was previously land applied on approved sites via Outfall 004 but is now disposed of at a landfill. The facility still has the option of land applying sludge to approved sites via Outfall 004 if that is deemed necessary. An additional emergency outfall (005) has been retained for land application of untreated process wastewater in the event of an emergency. It is possible that the facility may increase production over the next 5-year permit term. The facility would be able to treat an increased flow of wastewater as long as it remains within the design flow for the treatment system (0.5 average MGD and 0.65 peak MGD) and the facility is able to meet all permit limits.

Sample Point Designation		
Sample Point Number	**Discharge Flow, Units, and Averaging Period**	**Sample Point Location, Waste Type/sample Contents and Treatment Description (as applicable)**
703	Unknown	Influent sampled prior to the wastewater treatment plant
002	Direct land application: 2.0 MG / year / 365 days per year = 5,591 GPD Manure pit disposal: 2.2 MG / year / 365 days per year = 5,931 GPD Disposal to another WPDES permitted facility: 0.42 MG / year / 365 days = 1,141 GPD Averaging period: 2010-2014	Representative samples of the high strength wastewater shall be obtained from the storage vessel or truck prior to land application on approved sites. The wastewater could be comprised of whey, whey by-products, permeate, antibiotic contaminated milk, separator desludge &/or cooker water.
004	Direct land application: 1.6 MG / year / 365 days per year = 4,361 GPD Manure pit disposal: 0.91 MG / year / 365 days per year = 2,481 GPD	Representative samples of waste activated sludge shall be obtained prior to land application on approved sites.

Sample Point Designation		
Sample Point Number	**Discharge Flow, Units, and Averaging Period**	**Sample Point Location, Waste Type/sample Contents and Treatment Description (as applicable)**
	Disposal to another WPDES permitted facility: 0.49 MG / year / 365 days per year = 1,330 GPD Averaging period: 2010-2014	
005	Direct land application: 0.275 MG / year / 365 days per year = 753 GPD Disposal to another WPDES permitted facility: 0.09 MG / year / 365 days per year = 248 GPD Averaging period: 2010-2014	Representative samples of untreated process wastewater shall be obtained prior to land application on approved sites.
009	Annual average flow = 0.49 MGD Peak daily flow = 0.81 MGD (08/06/14) Peak weakly flow = 0.57 MGD Peak monthly flow = 0.62 MGD Average Cl concentration = 249 mg/L Max Cl concentration = 610 mg/L (06/09/14) Average Cl mass = 1046 lbs/day Max Cl mass = 2582 lbs/day (07/02/14) Averaging period: 10/1/10 – 09/30/15	This outfall consists of the combination of treated process wastewater, excess polished condensate of whey from the whey plant, retentate from the industrial water treatment reverse osmosis equipment and noncontact cooling water from the cheese plant. Representative samples of the combination of wastewaters shall be obtained prior to discharge to an unnamed tributary of the East Twin River
103	In-plant sample point. Reporting is not required for this sample point. Records are required to be kept onsite and made available to the Dept upon request.	Flow shall be measured on the volume of treated process wastewater prior to discharge to the wet well
104	In-plant sample point. Reporting is not required for this sample point. Records are required to be kept onsite and made available to the	Flow shall be measured on the volume of excess polished condensate of whey water from the whey plant prior to discharge to the wet well

Sample Point Designation		
Sample Point Number	**Discharge Flow, Units, and Averaging Period**	**Sample Point Location, Waste Type/sample Contents and Treatment Description (as applicable)**
	Dept upon request.	
105	In-plant sample point. Reporting is not required for this sample point. Records are required to be kept onsite and made available to the Dept upon request.	Flow shall be measured on the volume of retentate from the industrial water treatment reverse osmosis equipment prior to discharge to the wet well
108	In-plant sample point. Reporting is not required for this sample point. Records are required to be kept onsite and made available to the Dept upon request.	Flow shall be estimated on the noncontact cooling water without additives from the cheese plant prior to discharge to the wet well.

3 Influent - Proposed Monitoring

3.1 Sample Point Number: 703- TREATMENT PLANT INFLUENT

3.1.1 Changes from Previous Permit:

No changes from previous permit. Required monitoring shall remain Total BOD and Total Phosphorus in mg/L on a weekly frequency and by 24-hr comp sampling.

3.1.2 Explanation of Limits and Monitoring Requirements

Knowledge of BOD5 & total phosphorus levels is important to know in order to operate the treatment plant effectively.

4 Inplant - Proposed Monitoring and Limitations

4.1 Sample Point Number: 103- TREATED PROCESS WW; 104- EXCESS POLISHED COW WATER; 105- RETENTATE INDUS REV OSMOSIS, and 108- NCCW (formerly 008)

4.1.1 Changes from Previous Permit:

These sample points were added starting with the -07 issuance of the permit.

Weekly flow monitoring shall be added to the in-plant sample points for the -08 issuance of the permit.

4.1.2 Explanation of Limits and Monitoring Requirements

In the -07 issuance of the permit, there were no reporting requirements for these in-plant sample points other than the requirement to maintain in-house records of flow values for each sample point. Flow data shall be made available to the Department upon request. The addition of required flow reporting to the Dept is being added to the in-plant sample points

for increased knowledge and tracking of the relative volumes of each waste source that are represented in the treated wastewater effluent discharged via Outfall 009.

Monitoring for BOD_5 and TP may be added to reporting requirements in future permit issuances.

5 Surface Water - Proposed Monitoring and Limitations

5.1 Sample Point Number: 009- COMB WW to TRIB of EAST TWIN R

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	
BOD_5, Total	Daily Max	40 mg/L	2/Week	24-Hr Comp	
BOD_5, Total	Monthly Avg	20 mg/L	2/Week	24-Hr Comp	
BOD_5, Total	Daily Max	158 lbs/day	2/Week	Calculated	
BOD_5, Total	Monthly Avg	79 lbs/day	2/Week	Calculated	
Suspended Solids, Total	Daily Max	40 mg/L	2/Week	24-Hr Comp	
Suspended Solids, Total	Monthly Avg	20 mg/L	2/Week	24-Hr Comp	
Suspended Solids, Total	Daily Max	201 lbs/day	2/Week	Calculated	
Suspended Solids, Total	Monthly Avg	100 lbs/day	2/Week	Calculated	
Dissolved Oxygen	Daily Min	4.0 mg/L	2/Week	Grab	
pH Field	Daily Max	9.0 su	2/Week	Grab	
pH Field	Daily Min	6.0 su	2/Week	Grab	
Phosphorus, Total	Rolling 12 Month Avg	1.0 mg/L	2/Week	24-Hr Comp	This is an interim technology based limit.
Phosphorus, Total	Monthly Avg	0.225 mg/L	2/Week	24-Hr Comp	
Phosphorus, Total	6 Month Avg	0.075 mg/L	2/Week	24-Hr Comp	Water Quality Based Limit is effective May – October and November - April. See compliance schedule.
Phosphorus, Total	6 Month Avg	0.36 lbs/day	2/Week	Calculated	Water Quality Based Limit is effective May – October and November – April. See compliance schedule.
Chloride	Weekly Avg	400 mg/L	2/Week	24-Hr Comp	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Chloride	Weekly Avg	2,440 lbs/day	2/Week	Calculated	
Temperature	Daily Max	86 deg F	2/Week	Grab	See compliance schedule.
Nitrogen, Ammonia (NH_3-N) Total	Monthly Avg	4.5 mg/L	2/Week	24-Hr Comp	Limit is effective January – March
Nitrogen, Ammonia (NH_3-N) Total	Weekly Avg	11 mg/L	2/Week	24-Hr Comp	Limit is effective January – March
Nitrogen, Ammonia (NH_3-N) Total	Monthly Avg	1.6 mg/L	2/Week	24-Hr Comp	Limit is effective April – September
Nitrogen, Ammonia (NH_3-N) Total	Weekly Avg	4.0 mg/L	2/Week	24-Hr Comp	Limit is effective April – September
Nitrogen, Ammonia (NH_3-N) Total	Monthly Avg	3.0 mg/L	2/Week	24-Hr Comp	Limit is effective October – December
Nitrogen, Ammonia (NH_3-N) Total	Weekly Avg	7.5 mg/L	2/Week	24-Hr Comp	Limit is effective October – December
Acute WET		TU_a	Quarterly	24-Hr Flow Prop Comp	Monitoring shall be two times per permit term: Year 2=Jan-Mar Year 4=Jul-Sep
Chronic WET		rTU_c	Quarterly	24-Hr Flow Prop Comp	Monitoring shall be once per year, alternating quarters, throughout the permit term: Year 1=Jan-Mar Year 2=Apr-Jun Year 3=Jul-Sep Year 4=Oct-Dec Year 5=Jan-Mar

5.1.1 Changes from Previous Permit

The -07 issuance of the permit did not include a temperature limit, although weekly monitoring was required.

5.1.2 Explanation of Limits and Monitoring Requirements

The explanation of limits is primarily from the Water Quality Based Effluent Limitations (WQBEL) Memo dated 01/13/2016. It may be referenced for additional details on the limits calculations.

Water Quality Based Limits and WET Requirements and Disinfection (if applicable)

DO, pH, BOD_5, TSS:

No evaluation is done of the above-mentioned limits for BOD_5, total suspended solids, dissolved oxygen, and pH (see following paragraph regarding BOD_5 and TSS, though). The DO and pH limits represent water quality limits from s. NR

104.02(3)(b), Wis. Adm. Code. The concentration limits for BOD_5 and TSS also come from s. NR 104.02(3)(b), Wis. Adm. Code, except that the 40 mg/L daily maximum limits replace the codified weekly average limits of 30 mg/L because of categorical permit requirements for industrial discharges. These limits have not changed so no changes are recommended in this permit.

The mass limits for BOD_5 and TSS represent categorical limits which were calculated for the Dairy Products Processing industrial category in ch. NR 240, Wis. Adm. Code. Those limits are based on production and operational changes evaluated for this facility back in 2009 (still known as Trega Foods at the time) and were incorporated into the current permit when it was reissued and became effective on October 1, 2010. The 2009 categorical limit calculation also included an antidegradation review since it represented an increased discharge from the previous permit. The categorical limit calculation table can be seen later in this Fact Sheet and is also an attachment to the WQBEL Memo.

CADMIUM:

A permit limit is potentially needed because the mean effluent concentration of 1 ug/L is slightly above 1/5 of the weekly average limit of 3.82 ug/L based on the chronic toxicity criterion. However, it is also noted that there was a level of detection issue associated with one of the values that went into the calculation of the 1 ug/L effluent mean. This may have been a transcription error in the permit application since the reported result from 12/20/2010 was a no-detect at a 1.7 ug/L level of detection while the actual level of detection in the application was 0.17 ug/L (or one-tenth of that). Unless the permittee can confirm what the actual level of detection is (an example of that confirmation would be the actual lab sheet provided for the test), the preferred response when questionable data issues arise is to look at the remaining results after excluding that questionable result. Since three test results were provided during the permit term, a mean effluent concentration may be calculated from the other two results, namely the 1.3 ug/L result from 8/9/2011 and the no-detect (at 0.14 ug/L) from 4/14/2015. The mean of those two results is 0.65 ug/L after using zero for the no-detect. Since 0.65 ug/L is less than 1/5 of the 3.82 ug/L limit, neither limits nor additional monitoring for cadmium are recommended at this time. Granted, the updated mean is “close to” 1/5 of the limit, but it is also noted that cadmium is not normally associated with sources and uses related to the dairy industry. No additional monitoring is necessary until the time of the next permit reissuance application.

CHLORIDE:

The previous permit terms for this facility included variances to water quality standards for chlorides and gave alternative interim limits and target values. In the current permit, the interim limits are 660 mg/L and 2,140 lbs/day while the target value effective on the final day of the permit (9/30/2015) is actually equal to the water quality-based limit of 400 mg/L (395 mg/L before rounding) while the target value mass limit is 1,310 lbs/day calculated form flow data available prior to reissuance of the permit. One of the necessary considerations here is that although the concentration P99 does not exceed the 395 mg/L limit, there have been several exceedances of the mass limits on a weekly average basis. Chloride is tested on two consecutive days each week, so a weekly average mass loading can be calculated from the results from the two consecutive days. During the current permit term, there have been three exceedances of the interim limit of 2,140 lbs/day (during June and July of 2014) but over that time there have also been a total of 55 calculated exceedances of the 1,310 lbs/day target value. Even though that target value was technically not in effect at the time of any of these exceedances, it still represents a potential concern over the permittee’s ability to meet the target value when it becomes effective on 9/30/2015. This is a particular concern because 47 of those 55 exceedances have occurred since November of 2013.

Although the data over the entire permit term suggests limits are no longer needed in the permit for chloride, more recent data during the permit term suggests otherwise. Effluent results started trending higher around the end of November of 2013. From the beginning of October 1, 2010 through October 31, 2015, weekly average chloride results showed a general decline until points corresponding to late November of 2013 when the treatment system upgrade occurred. After that time the results were much more variable, due to treatment plant startup issues. Even though the results showed greater variability, the concentration limit of 400 mg/L was frequently met after a reasonable startup period.

The calculated limit is 400 mg/L weekly average (rounded to two significant digits from 395). The mass limit associated with the concentration limit is calculated using the peak weekly average flow (0.7395 MGD, from page 2 of the WQBEL Memo document) and the actual limit of 395 mg/L. That calculated mass limit is 2,436 lbs/day, or 2,440 lbs/day after rounding.

It is noted that this new mass limit exceeds both the interim mass limit of 2,140 lbs/day and the mass limit target value of 1,310 lbs/day. Since the water quality-based concentration limit of 395 mg/L has not changed, this increase indicates an increase in the discharge rate from Outfall 009. The increased limit is subject to the antidegradation evaluation in ch. NR 207.

The applicability of the social/economic demonstration in s. NR 207.04(1)(c), Wis. Adm. Code, is triggered based on whether any lowering of water quality occurs. Although the water quality-based concentration limit in the tributary is unchanged at 395 mg/L due to zero dilution, the non-zero low flow in the East Twin River would indicate actual dilution. Since chloride is considered to be a "conservative" pollutant in that downstream concentrations typically are not expected to change except as a result of dilution, the increased mass is assumed to result in a lowering of water quality in the East Twin River. As a result, it will be necessary for the permittee to perform the social/economic demonstration in s. NR 207.04(1)(c), Wis. Adm. Code, before a determination can be made of the applicable mass limit.

NOTE: The permittee is in the process of submitting antidegradation information regarding social/economic importance of the proposed increase. This information shall be used to determine the appropriate limits pursuant to s. NR 207.04(1)(c).

TEMPERATURE/THERMAL:

New surface water quality standards for temperature took effect on October 1, 2010. These new regulations are detailed in Chapter NR 102 (Subchapter II – Water Quality Standards for Temperature) and NR 106 (Subchapter V – Effluent Limitations for Temperature) of the Wisconsin Administrative Code. For discharges to Limited Aquatic Life waters, the criterion and effluent limit are 86^{o}F and applied as a daily maximum.

Throughout the term of the current permit, Agropur has been doing twice weekly grab sampling of temperature at Outfall 009. On 41 days, the reported grab sample temperature was in excess of 86^{o}F, with the maximum being 96^{o}F on 7/16/2011.

In addition, continuous monitoring has taken place three times per week during 2013 at Outfall 009 along with two other downstream locations, at Sleepy Hollow Road where the classification changes to Warmwater Sportfish (Sample Point 601), and at the mouth of the tributary where it empties into the East Twin River (Sample Point 602). The downstream locations are used to determine the need for limits based on downstream uses.

The temperatures at Outfall 009 are also in excess of the 86^{o}F criterion based on Limited Aquatic Life criteria. The temperatures at Sample Points 601 and 602 are compared to criteria for warmwater sportfish streams as listed in Table 2 of ch. NR 102, Wis. Adm. Code. Those criteria vary from month to month and are listed in a table following the sample point data summary. The sample point results are not only used to evaluate the need for limits based on downstream criteria, but also represent indicators of the amount of cooling going on within the tributary below Outfall 009. As can be seen from the next table, a considerable amount of cooling takes place between Outfall 009 and Sleepy Hollow Road, while there is only a small change between Sleepy Hollow Road and the tributary's mouth.

When comparing the data from Sample Point 601 to the Warmwater Sportfish criteria, it appears the only exceedances were noted in May and November when the peak weekly temperatures exceed the sub-lethal criteria. When comparing the data from Sample Point 602 to the Coldwater criteria, the exceedances of sub-lethal criteria occur in May through October and exceedances of acute criteria occur in May through September. Given that the temperatures at Outfall 009 were in excess of the criteria and limits there and there is also a relatively small amount of dilution available in the East Twin River, it is hoped that reducing the Outfall 009 temperatures to meet the limit there will result in compliance with downstream criteria, assuming similar cooling takes place. Although there is information available from the 2013 study to show the temperature change to the downstream sample points, it does not necessarily follow that the same temperature

changes will occur after the permittee achieves 86°F at Outfall 009. Further study will be needed to determine what, if any, impacts will occur if and when the effluent temperatures are reduced. At that time, it will be possible to determine if limits more stringent than 86°F will be needed in order to meet downstream criteria in either the Warmwater Sportfish segment or the Coldwater segment.

As a result of this evaluation, the only recommended thermal limit at Outfall 009 at this time is 86°F daily maximum based on the Limited Aquatic Life criteria in the tributary upstream of Sleepy Hollow Road, pursuant to s. NR 102.245(3)(c), Wis. Adm. Code.

PHOSPHORUS (TECHNOLOGY BASED):

There is an effluent standard in ch. NR 217, Wis. Adm. Code, which requires a 1.0 mg/L limit in permits for industrial discharges that exceed 60 pounds per month, and that limit is included in the current permit for Agropur Outfall 009 and expressed as a twelve-month rolling average.

Since the discharge has exceeded 720 pounds per year or 60 pounds per month, it is recommended that the 1.0 mg/L limit (expressed as a twelve-month rolling average) remains in the permit, unless tighter limits are needed to meet the new water quality standards.

PHOSPHORUS (WATER QUALITY BASED):

The revisions to the administrative codes which added water quality standards for phosphorus discharges took effect on December 1, 2010. Although no phosphorus criteria are available for the segment of the tributary having the Limited Aquatic Life classification, the applicable water quality criterion for the Warmwater Sport fish classification below Sleepy Hollow Road is 0.075 mg/L pursuant to s. NR 102.06(3)(b), Wis. Adm. Code. This concentration is important since downstream uses need to be addressed and protected pursuant to ss. NR 102.01(3) and NR 217.12(1)(a), Wis. Adm. Code. Because of the lack of background dilution, the recommended water quality-based limits are 0.075 mg/L as a six-month average (November – April and May – October) and 0.225 mg/L as a monthly average (three times the six-month average). A mass limit is also recommended; that limit is 0.36 lbs/day as an annual average based on the 0.075 mg/L concentration and the peak annual average design flow of 0.5783 MGD.

Since the concentration limits are much lower than the current discharge, an extended compliance schedule is likely to be necessary along with an interim limit. An interim limit can be applied when a compliance schedule is included in the permit to meet more stringent effluent limits. This interim limit should reflect a value which the facility is able to currently meet; however, it should also consider the receiving water quality, keeping the water from further impairment. Normally, the interim limit is set equal to the 30-day P99, which is 0.71 mg/L (see the effluent summary on page 3 of the WQBEL Memo). However, the existing permit already contained a 1.0 mg/L technology-based limit expressed as a twelve-month rolling average which came from s. NR 217.04(1)(a)2, Wis. Adm. Code, because the discharge exceeded 60 pounds per month. As a result, it is recommended that the interim limit be set equal to the current permit limit so as not to allow an increased discharge to a water body with a designated use that is already impaired due to phosphorus, which is the case for the East Twin River.

Compliance with an effluent phosphorus concentration limit as stringent as 0.075 mg/L may not be technically or economically feasible; but the new rules allow alternatives for achieving comparable reductions in phosphorus loading. Options for the permittee to consider may include requesting an alternate phosphorus limitation (APL) with compliance schedule, pollutant trading with other phosphorus discharges (point and/or nonpoint sources) that may be controlled more effectively, stream monitoring above and below the outfall to document actual instream changes related to the effluent discharge, and development of an adaptive management strategy that combine a broader range of efforts to reduce phosphorus loading.

AMMONIA:

The current permit for Agropur contains no ammonia limits at Outfall 009. Monitoring occurred throughout the permit term for ammonia at a frequency of once per month. Acute and chronic toxicity criteria are available for ammonia in ch. NR 105, so limits can be calculated and compared to the effluent results to determine the need to include limits in the reissued permit.

Acute toxicity criteria for ammonia are related to effluent pH, so typically the 99th upper percentile pH is used to calculate a daily maximum limit although some permittees in Wisconsin have variable limits based on pH if the effluent variability for both pH and ammonia are significant. At Agropur, the pH limits in the current permit mean there is a large database for effluent pH. Since October 1, 2010, a total of 475 effluent pH values have been reported, ranging from 6.3 s.u. in early June of 2011 up to a maximum of 8.2 s.u. reported on three occasions in late June and early July of 2013. The 99th percentile in a sample size of 475 results is equivalent to the 5th highest result, which was 8.1 s.u. (4th – 9th highest results are all 8.1). At an effluent pH of 8.1 s.u., the Limited Aquatic Life (LAL) classification results in a daily maximum limit of 21.42 mg/L, equal to twice the acute criterion of 10.71 mg/L.

Chronic toxicity criteria are also available for ammonia in the LAL, WWSF, and CW classifications, but according to Table 4B of ch. NR 105, Wis. Adm. Code, the chronic criteria for WWSF and CW are the same. The criteria are related to both pH and temperature, so they may vary seasonally based on temperature. Default pH data are applied to relatively hard waters such as the East Twin River, so those results may also be used to calculate chronic toxicity criteria.

Ammonia is more toxic at higher pH or higher temperature waters, so these differences in seasonal pH may make a significant difference in applicable chronic criteria.

In the LAL segment, a thermal limit of 86^{o}F was recommended. Since that temperature is recommended year-round and since there is no dilution in the tributary, chronic criteria and limits for the Limited Aquatic Life segment are based on the temperature limit and effluent pH values at Outfall 009. The mean effluent pH over the current permit term was 7.45 s.u., so example limits may be calculated at pH values of 7.45 s.u. (mean) and 8.1 s.u. (99th percentile).

Seasonal limits are calculated for the WWSF and CW segments based on ambient pH and temperature data. The focus is on the tributary below Sleepy Hollow Road because there is zero dilution available there. In the East Twin River, the temperature and pH values are the same, but the criteria may be a little tighter in the winter time because early life stages of trout species are expected or considered year-round. Therefore, two evaluations of downstream ammonia are necessary. The following table summarizes the ammonia limit calculations based on downstream uses in the tributary with a background streamflow of zero. “ELS” refers to the potential presence of early life stages of fish in this basin. Since burbot (which spawn during the winter) are not historically present in the East and West Twin Rivers basin, “ELS present” criteria are only applied in April through September while “ELS absent” criteria are applied in the other months.

To be protective of the East Twin River, criteria are based on the CW classification. However, an estimate had not been made of decay and recovery all the way down to the mouth of the tributary. Since decay and recovery are not expected in cold months, though, the limits based on the WWSF table above for the warmer months of April – September will also be protective of the East Twin River because the ammonia criteria in the river are equal to or looser than that in the WWSF segment. The only difference may be in the criteria for January – March and October – December.

Given the tighter limits needed to protect the East Twin River in the cold-weather months, it appears the weekly and monthly average limits for January – March and October – December need to be reduced.

The 4-day P99 value of 11.55 mg/L at Outfall 009 still exceeds all the seasonal weekly average limits, and the 30-day P99 value of 4.81 mg/L still exceeds all the seasonal monthly average limits. Therefore, all of the above weekly and monthly limits in the “Limits based on CW Criteria” table may be recommended for the reissued permit at Agropur Outfall 009. However, given the much lower values reported beginning in 2014, it appears downstream concerns regarding ammonia no longer exist because the effluent concentrations that represent current data are far below any of the seasonal limits. As a result, it is recommended that the ammonia limits at Outfall 009 be replaced by requirements for continued monitoring only. If effluent concentrations and/or loadings increase in the future, it may be necessary to revisit the need for ammonia limits in the permit.

NOTE: It was pointed out by the permittee that ammonia concentrations have been significantly reduced at Outfall 009 since 2013 and that the effluent summary on page 3 of the WQBEL Memo is no longer representative of current conditions. This actually turns out to be the case. Two results from 2013 (4.7 mg/L on September 18 and 33 mg/L on December 26) were not included because all the remaining values are much lower and therefore these two days skew the chart and make it difficult to note any differences in the remaining values.

WET:

WET testing is used to measure, predict, and control the discharge of toxic materials that may be harmful to aquatic life. In WET tests, organisms are exposed to a series of effluent concentrations for a given time. Acute tests predict the concentration that causes lethality of aquatic organisms during a 48-96 hour exposure. Chronic tests predict the concentration that interferes with the growth or reproduction of test organisms during a seven day exposure.

Based on historical WET data and RPF calculations (as required in s. NR 106.08, Wis. Adm. Code), neither acute nor chronic WET limits are required at this time. Based upon the point totals generated by the WET Checklist, other information given above, and Chapter 1.3 of the WET Guidance Document, two acute WET tests recommended during the term of the reissued permit, and once per year chronic WET testing is recommended during the same permit term. Tests should be done in rotating quarters, in order to collect seasonal information about this discharge. As in the previous permit term, all samples collected for WET testing should be analyzed for Chloride to assess whether this substance is contributing to any observed toxicity. In addition, the permit may include language to allow Agropur to suspend WET testing if they can demonstrate that chloride is the sole source of toxicity.

Categorical Limits

Categorical Limit Calculation Summary

Production	Material Used	BOD Input	BOD_{avg} (Lb/day)	BOD_{max} (Lb/day)	TSS_{avg} (Lb/day)	TSS_{max} (Lb/day)
Cheese	1,008,000 lb/day milk	104,700 lb	8.4	16.8	10.5	21.0
Milk shipped	295,000 lb/day milk	30,650 lb	1.5	3.0	1.8	4.0
UF #1 (1)	2,718,000 lb/day whey equivalent	128,000 lb	14	28	18	36
MF (2)	Whey Protein concentrate	63,000 lb	6.9	13.8	8.8	17.6
UF #2 (3)	MF retentate	53,500 lb	5.9	11.8	7.5	15.0
WPI Dryer (4)	UF #2 retentate	19,000 lb	2.1	4.2	2.7	5.3
WPPC Filtration (5)	WPPC retentate	9,000 lb	1.0	2.0	1.3	2.5

WPPC Dryer (6)	WPPC Filtration	9,000 lb	1.0	2.0	1.3	2.5
Permeate Filtration (7)	UF #1 & # 2 permeate	116,000 lb	12.8	25.5	16.2	32.5
Permeate evaporator (8)	Permeate filtration	116,000 lb	12.8	25.5	16.2	32.5
Permeate Dryer (9)	Permeate evaporator	116,000 lb	12.8	25.5	16.2	32.5
TOTAL			79	158	100	201

Number in () is unit number assigned in Procorp submittal.

The avg and max limits shown in the table should be expressed as monthly average and daily maximum limits, respectively.

Since all the processing equipment is modern (installed after 1983), the more restrictive Standards of Performance from NR 240.12 were used to calculate the limits.

All the whey processing is done using membrane technology. The allowance factors used for all the units are, therefore, the same. The factors used per 1000 pounds of BOD input were: 0.11, 0.22, 0.14, and 0.28 for BOD average, BOD maximum, TSS average, and TSS maximum, respectively.

Trega has satisfied the provisions of Chapter NR 207, Water Quality Antidegradation. The provisions were satisfied as follows:

NR 207.04(1)(a), Wis. Adm. Code. The discharge from the wastewater treatment plant (WWTP) prior to upgrading and production expansion was approaching permit limits. Trega proactively expanded the WWTP prior to increasing production to avoid limit exceedance. Had the WWTP not been expanded exceedance of the criteria in this subsection would have occurred. Since expansion of the WWTP was necessary to provide for production increases, this provision is satisfied.

NR 207.04(1)(c), Wis. Adm. Code. The demonstration of important economic or social development was satisfied, among other reasons, by the fact that the employment at the facility increased from 50 to 107 full-time employees.

NR 207.04(1)(b) and (d), Wis. Adm. Code. Trega waived the demonstration of significant lowering of water quality. The production equipment installed by Trega is “state of the art”, which minimizes wastewater and the potential for spills. The WWTP expansion provided to ensure attainment of water quality standards was a significant expenditure. The costs greatly exceeded the criteria for an increase of 110% capital costs or 115% total present worth. No other economically viable discharge locations are available.

6 Land Application – Liquids/Sludge/By-Product Solids (industrial only)

6.1 Sample Point Number: 002- HIGH STRENGTH WASTEWATER and 005- UNTREATED PROCESS WASTEWATER

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Land Application Rate		Gallons/day	Daily	Daily Record	Keep daily hauling records onsite at facility.
Solids, Total		Percent	Annual	Grab	
Chloride		mg/L	Monthly	Grab	
Nitrogen, Total Kjeldahl		mg/L	Monthly	Grab	
Phosphorus, Total		mg/L	Quarterly	Grab	

6.1.1 Changes from Previous Permit:

Quarterly Total Phosphorus (mg/L) monitoring was added and the frequency of the Total Solids monitoring was changed from monthly to annual.

6.1.2 Explanation of Limits and Monitoring Requirements

The changes were made to sample points 002 and 005 so that the monitoring would be consistent with the current issuance of the WPDES general permit for Land Application of Liquid Industrial Wastes (0055867-06). Requirements for land application of liquid industrial wastes are determined in accordance with ch. NR 214, Wis. Adm. Code.

6.2 Sample Point Number: 004- WWTP BIOSOLIDS (SLUDGE)

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Solids, Total		Percent, dry wt.	Annual	Composite	
Chloride		Percent, dry wt.	Annual	Composite	
Nitrogen, Total Kjeldahl		Percent, dry wt.	Annual	Composite	
Phosphorus, Total		Percent, dry wt.	Annual	Composite	
Ammonia Nitrogen		Percent, dry wt.	Annual	Composite	
Organic Nitrogen		Percent, dry wt.	Annual	Composite	
Potassium, Total		Percent, dry wt.	Annual	Composite	
pH Field or Lab		su	Annual	Composite	
Lead		mg/kg	Annual	Composite	
Zinc		mg/kg	Annual	Composite	
Copper		mg/kg	Annual	Composite	
Nickel		mg/kg	Annual	Composite	
Cadmium		mg/kg	Annual	Composite	

6.2.1 Changes from Previous Permit:

Field or lab pH, Ammonia Nitrogen, and Organic Nitrogen were added to the required monitoring list. The monitoring frequency of Total Solids, TKN, Chloride, and Total Phosphorus were changed from monthly to annual. The units for Total Solids was changed from percent to percent, dry wt., and the units for Chloride, TKN, and Total Phosphorus were changed from mg/kg to percent, dry wt. Mercury was removed from the list of parameters for required monitoring.

6.2.2 Explanation of Limits and Monitoring Requirements

The changes were made to sample point 004 so that the monitoring would be consistent with the current issuance of the WPDES general permit for Land Application of Industrial Sludge (0057657-05). Requirements for land application of industrial sludge are determined in accordance with ch. NR 214, Wis. Adm. Code.

7 Compliance Schedules

7.1 Water Quality Based Effluent Limitations for Temperature

The permittee shall comply with the water quality based effluent limitations (WQBELs) for Temperature as specified in this Schedule of Compliance. 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
Installation of Effluent Monitoring Equipment Plan Submittal: The permittee shall submit plans and specifications to the Department for approval for the installation of effluent temperature monitoring equipment consistent with a continuous monitoring requirement as specified for Outfall 009. Plans and specifications for the monitoring equipment shall comply with chs. NR 108 and NR 218, Wis. Adm. Code.	09/30/2016
Complete Installation of Effluent Monitoring Equipment: The permittee shall complete the installation of monitoring equipment in accordance with approved plans and initiate continuous temperature monitoring in accordance with s. NR 218.04(13), Wis. Adm. Code.	03/31/2017
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 temperature data, possible operational improvements or other minor facility modifications that will optimize reductions in thermal discharges from the plant. If the operational evaluation report concludes that the facility can achieve final temperature WQBELs with only operational improvements or other minor facility modifications, the permittee shall comply with the final temperature WQBELs by March 31, 2019 and is not required to comply with the milestones identified below for years 3 through 5 of this compliance schedule ('Final Compliance Alternatives Plan', 'Final Plans and Specifications', 'Plant Upgrades or Modifications to Meet Final WQBELs', 'Complete Construction') If the Operational Evaluation report concludes that the permittee cannot achieve final temperature WQBELs with operational improvements or other minor facility modifications, the permittee shall initiate a study of compliance alternatives for meeting final temperature WQBELs.	03/31/2018
Final Compliance Alternatives Plan: The permittee shall submit a final compliance alternatives plan to the Department. If the plan concludes that upgrading or modifying the plant is necessary to meet final temperature WQBELs, the submittal shall include a final engineering design report addressing the upgrades or modifications to the plant.	03/31/2019
Final Plans and Specifications: The permittee shall submit final construction plans to the Department for approval pursuant to s. 281.41, Wis. Stats., specifying plant upgrades or modifications that must be constructed to achieve compliance with final temperature WQBELs, and a schedule for completing construction of the upgrades or modifications by the complete construction date specified below.	09/30/2019
Plant Upgrades or Modifications to Meet WQBELs: Upon approval of the final construction plans and schedule by the Department pursuant to s. 281.41, Wis. Stats., the permittee shall initiate construction of the upgrades in accordance with the approved plans and specifications.	03/31/2020
Complete Construction: The permittee shall complete construction of the plant upgrades in accordance with approved plans and specifications.	03/01/2021
Achieve Compliance: The permittee shall achieve compliance with final temperature WQBELs.	03/31/2021

7.2 Water Quality Based Effluent Limitations 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 plant during the period prior to complying with final phosphorus WQBELs and, where possible, enable compliance with final phosphorus WQBELs by March 31, 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 March 31, 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 March 31, 2019 and is not required to comply with the milestones identified below for years 3 through 7 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 1, 2023.	03/31/2017
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, (2) status evaluating feasible alternatives for meeting phosphorus WQBELs.	03/31/2018
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.	03/31/2018

If water quality trading will be undertaken, the plan must state that trading will be pursued.	
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.	03/31/2019
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.	03/31/2020
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.	09/30/2020
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.	03/31/2021
Construction Upgrade Progress Report #1: 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.	12/31/2021
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.	06/30/2022
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.	02/28/2023
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	04/01/2023

permit.	

7.3 Explanation of Compliance Schedules

Compliance schedules should be added to the permit for the following parameters:

1. **Total Phosphorus.**
    a. **Demonstrate compliance with the lower water quality based limits explained in the WQBEL Memo dated 01/13/2016.**
    b. **The standard 7-year compliance schedule for the more stringent phosphorus limits shall be used.**
2. **Temperature.**
    a. **Demonstrate compliance with the lower water quality based limit explained in the WQBEL Memo dated 01/13/2016. To date, the permittee has done nothing to provide treatment for or otherwise address the thermal portion of its effluent.**
    b. **After all compliance schedule items for water quality based effluent limits for temperature have been completed, the permittee shall meet the 86 deg F thermal limit on the expiration date of the permit, March 31, 2021.**
3. **Land application management plan update.**
    a. **Permittee shall provide an updated LAMP by the end of the second full year of the permit – 04/01/2018.**
    b. **There have been significant changes in the land application program since the completion of the upgraded WWTF. The LAMP shall address the permittee's plans for the next permit term of land application activity, including existing sites and storage facilities/manure pits currently approved for land application of waste via the active land application outfalls 002, 004, and 005.**

8 Special Reporting Requirements

None.

9 Other Comments:

Modifications to the existing WWTF may be required to meet the thermal limit, and the facility is required to be prepared to implement those modifications in accordance with the compliance schedule in the final permit.

10 Attachments:

Substantial Compliance Determination dated December 1, 2015, written by Heidi Schmitt Marquez.

Water Quality Based Effluent Limits Memo dated January 13, 2016, written by Jim Schmidt.

11 Proposed Expiration Date:

March 31, 2021

Prepared By:

Heidi Schmitt Marquez **Wastewater Specialist**

Date: December 1, 2015; revised December 14, 2015; revised January 13, 2016

cc: **Nan Jameson, Kelley O'Connor, Bart Chapman**

Substantial Compliance Determination

Permittee Name: Agropur Inc Luxemburg		Permit Number: 0050237-08-0
	Compliance?	Comments
Discharge Limits	Yes	There were a few chloride exceedances in 2014 during the time period when the facility had completed the new WWTF and was in the process of switching all wastewater treatment to the new system. This period of optimization is somewhat expected when WWTFs are upgraded and the exceedances lasted only during that period of time. The remaining permit limits have been met throughout the permit term.
Sampling/testing requirements	Yes	Permittee submits required reports and conducts required sampling and monitoring in accordance with permit requirements.
Groundwater standards	NA	
Reporting requirements	Yes	Permittee submits required reports that are complete and on time.
Compliance schedules	Yes	Permittee met each of the items specified in the compliance schedule in the -07 issuance of the permit.
Management plan	Yes	At the time of inspection, the management plan had not been revised to reflect the current land application program, which had been reduced significantly after the upgraded WWTF went online. Permittee stated they would work on updating the management plan in the future.
Other:	NA	
Enforcement Considerations	None at this time.	

In substantial compliance?	Yes Comments: The facility underwent significant changes over the -07 permit term that included an upgraded WWTF and an increase in production. The upgraded WWTF provides more flexibility with treatment and waste disposal, so the permittee does not need to utilize land treatment as a disposal method as much as it used to. The facility is not currently operating at maximum capacity, and there has been some discussion about the potential of a production increase over the next permit term. As long as the permittee is able to maintain compliance with all permit requirements and the WWTF is operated within its design capacity, there should not be any potential problems associated with a production increase at this facility. Signature: Heidi Schmitt Marquez Date: December 1, 2015 Concurrence: Date:

CORRESPONDENCE / MEMORANDUM **State of Wisconsin**

DATE: January 13, 2016

TO: Nan Jameson – East Water District / Green Bay

FROM: Jim Schmidt – WY/3

SUBJECT: Water Quality-Based Effluent Limitations for Agropur Inc. – Luxemburg (WPDES Permit # WI-0050237)

This is in response to your request for an evaluation of water quality-based effluent limitations using chs. NR 102, 105, 106, 207, and 217 of the Wisconsin Administrative Code (where applicable), for the discharge from Agropur to an un-named tributary of the East Twin River in Kewaunee County. This facility is located in the East Twin River Watershed (TK02) of the Lakeshore Basin. The evaluation of the permit recommendations is discussed in more detail in the attached report. Based on our review, the following recommendations are made for Outfall 009 on a chemical-specific basis:

Substance	Effluent Limitations
BOD5	20 mg/L and 79 lbs/day monthly average, 40 mg/L and 158 lbs/day daily maximum
Total Suspended Solids	20 mg/L and 100 lbs/day monthly average, 40 mg/L and 201 lbs/day daily maximum
Dissolved Oxygen	4.0 mg/L daily minimum
pH	6.0 s.u. daily minimum, 9.0 s.u. daily maximum
Total Phosphorus:	
Water Quality-Based	0.075 mg/L and 0.36 lbs/day as six-month averages (May – October, November – April), 0.225 mg/L monthly average
Interim	1.0 mg/L as a twelve-month rolling average
Chlorides	400 mg/L weekly average plus mass limit ***(pending result of the application of antidegradation-related social/economic importance evaluation)***
Temperature	86°F daily maximum
Ammonia	Monitoring only

Along with the chemical-specific recommendations mentioned above, acute and chronic whole effluent toxicity testing is recommended for this permittee. Accordingly, following the guidance provided in the most recent version of the Department's Whole Effluent Toxicity Program Guidance Document, two acute whole effluent toxicity test batteries are recommended during the upcoming permit term, and once per year chronic whole effluent toxicity test batteries are recommended during the same permit term. Please consult the attached report regarding relevant monitoring conditions that relate to this discharge.

If there are any questions or comments, please contact me at (608) 267-7658 or via e-mail at jamesw.schmidt@wisconsin.gov.

Attachments

Attachment 1 – Water Quality-based Effluent Limitations
Attachment 2 – Evaluation of Downstream Impacts
Attachment 3 – Copy of 2009 Categorical Limitations and Antidegradation Evaluation for BOD and TSS (Rick Reichardt, DNR)

cc: Heidi Schmitt-Marquez – East Water District / Green Bay (e-copy only)

ATTACHMENT 1
Water Quality-Based Effluent Limitations for
Agropur Inc. - Luxemburg
WPDES Permit # WI-0050237
Prepared by:
Jim Schmidt - WY/3

Existing Permit Limitations (WPDES Permit #WI-0050237-07, effective October 1, 2010 and expiring September 30, 2015):

Outfall 009 – Blended process wastewater, condensate of whey (COW water), retentate from RO unit, and non-contact cooling water

Substance	Effluent Limitations
BOD5	20 mg/L and 79 lbs/day monthly average,
	40 mg/L and 158 lbs/day daily maximum
Total Suspended Solids	20 mg/L and 100 lbs/day monthly average,
	40 mg/L and 201 lbs/day daily maximum
Dissolved Oxygen	4.0 mg/L daily minimum
pH	6.0 s.u. daily minimum, 9.0 s.u. daily maximum
Chlorides (limits based on current variance):	
Interim Limits	660 mg/L and 2,140 lbs/day weekly average
Target Values (effective September 30, 2015):	400 mg/L and 1,310 lbs/day weekly average
Total Phosphorus	1.0 mg/L as a twelve-month rolling average

No evaluation is done of the above-mentioned limits for BOD5, total suspended solids, dissolved oxygen, and pH (see following paragraph regarding BOD5 and TSS, though). The DO and pH limits represent water quality limits from s. NR 104.02(3)(b). The concentration limits for BOD5 and TSS also come from s. NR 104.02(3)(b), except that the 40 mg/L daily maximum limits replace the codified weekly average limits of 30 mg/L because of categorical permit requirements of daily and monthly limits for industrial discharges. These limits have not changed so no changes are recommended in this permit.

The mass limits for BOD5 and TSS represent categorical limits which were calculated for the Dairy Products Processing industrial category in ch. NR 240. Those limits are based on production and operational changes evaluated for this facility back in 2009 (still known as Trega Foods at the time) and were incorporated into the current permit when it was reissued and became effective on October 1, 2010. The 2009 categorical limit calculation also included an antidegradation review since it represented an increased discharge from the previous permit. Attachment 3 provides a discussion of the categorical limit calculation and antidegradation review.

Periodic monitoring is also required throughout the permit term for ammonia. Finally, single tests were required during 2010 and 2011 for arsenic, cadmium, chromium, copper, lead, nickel and zinc.

Information for Permit Reissuance Evaluation:

Receiving Water Information
Name: Un-named tributary to the East Twin River (WBIC = 3000211)
Classification: Limited aquatic life (LAL) at Agropur Outfall 009, changes to warmwater sport fish

(WWSF) community at Sleepy Hollow Road which is approximately 1.5 miles downstream of Outfall 009 and 1 mile above the mouth of the tributary where it empties into the East Twin River.
Flows: Zero background flow

Name: East Twin River (WBIC = 84000)
Classification: Coldwater community (CW), tentatively set at Category 1 for acute ammonia criteria in Table 2C of ch. NR 105.
NOTES: 1. For bioaccumulative chemicals of concern (BCCs), criteria are based on a classification as a coldwater community and public water supply since this permittee is located in the Great Lakes basin. However, no BCCs were detected in the discharge.
2. The East Twin River is listed as an Impaired Water for mercury and PCBs in the lower/downstream segment of the river and for phosphorus in the area near the Agropur tributary.
% of Flow used to calculate limits = 25 (default)

Source of background concentration data:

Tributary = Not needed since background flow is zero, water hardness is assumed to be equal to effluent in dry-weather conditions such as those used to calculate water quality-based limits

East Twin River = East Twin River above tributary mouth for chlorides and hardness, Sheboygan River at Sheboygan (nearby stream basin with relative small point source loading) for other toxic substances. NOTE: The background metals values are not expected to affect limit calculations because the only substances with NR 105 acute toxicity criteria that change between the WWSF and CW classifications is cadmium, and the only substances with changes in NR 105 chronic toxicity criteria between those two classifications is chromium. Since the East Twin River hardness is greater than that in the tributary (based on Outfall 009) and since the tributary flow rate is lower than the East Twin River, limits for metals will be tighter in the tributary and will therefore be protective of both resources.

Background results used in limit calculations:

Substance	Result
Chloride	41.6 mg/L
Hardness	375 PPM in East Twin River, 352 PPM in tributary (and at Outfall 009)
Cadmium	0.061 ug/L
Chromium	0.519 ug/L
Copper	0.246 ug/L
Lead	0.555 ug/L
Nickel	2.94 ug/L
Zinc	3.0 ug/L

Effluent Information

Actual Flow (10/1/2010 – 11/30/2015), rounded to four decimal places:

Peak daily =	0.8111 MGD (8/6/2014)
Peak 7-day average =	0.7395 MGD (8/4 – 8/10/2014)
Peak 30-day average =	0.6884 MGD (7/17 – 8/15/2014)
Peak 365-day average =	0.6186 MGD (7/14/2014 – 7/13/2015)
Acute dilution factor used =	Not applicable

Effluent concentration data - Substances tested: Arsenic, cadmium, chlorides, chromium, copper, lead, nickel, ammonia, phosphorus, zinc and hardness. The sampling in the permit application occurred on 4/14/2015 with additional subsequent samples for copper and hardness.

Results:

	12/20/2010	8/9/2011	4/14/2015	Other results	Mean
Arsenic	3.2 ug/L	3.9 ug/L	ND (LOD = 1 ug/L)		2.37 ug/L
Cadmium	1.7 ug/L (LOD = 0.17)	1.3 ug/L	ND (0.14 ug/L)		1.0 ug/L
Chromium	ND (LOD = 1.1 ug/L)	2 ug/L (LOD = 0.67)	ND (LOD = 0.67 ug/L)		0.67 ug/L
Copper	4.5 ug/L	6.0 ug/L	3.2 ug/L	4/17/2015 = 5.4 ug/L 4/20/2015 = 1.6 ug/L 4/23/2015 = 5.6 ug/L	4.38 ug/L
Lead	1.6 ug/L	5 ug/L (LOD = 1.4)	ND (1.4 ug/L)		2.2 ug/L
Nickel	10 ug/L	2.3 ug/L	34 ug/L		15.43 ug/L
Zinc	19 ug/L	19 ug/L	6.1 ug/L		14.7 ug/L

LOD = Level of detection

ND = Not detected at indicated level of detection. When calculating means, ND's are considered to be zero unless noted below.

NOTES: 1) 12/20/2010 cadmium result was reported as ND at an LOD of 1.7 ug/L, but the application form also listed the LOD as being 0.17 ug/L. Since the two referenced LODs were inconsistent, the result was handled here as a detect at 1.7 ug/L.

2) 8/9/2011 chromium result was reported as ND at an LOD of 2 ug/L, but the application form also listed the LOD as being 2 ug/L. Since the two referenced LODs were inconsistent, the result was handled here as a detect at 2 ug/L.

3) 8/9/2011 lead result was reported as ND at an LOD of 5 ug/L. However, the application also showed the LOD for that sample was 1.4 ug/L while the level of quantitation (LOQ) was 5 ug/L. The result was handled as a detect at 5 ug/L since the concentration exceeded the LOD.

Date	Hardness (PPM)	Date	Hardness (PPM)
1/4/2011 WET	368	4/14/2015	340
2/25/2014 WET	412	4/17/2015	340
4/28/2014 WET	348	4/20/2015	336
9/16/2014 WET	363	4/23/2015	340
12/9/2014 WET	332	Geometric mean	352

Hardness data was also reported as part of the whole effluent toxicity (WET) tests during the permit term. The results represented above are the mean of three results at the time of each WET test.

Because of the large number of reported results for ammonia, chlorides and phosphorus, only the relevant statistics are summarized here rather than all of the individual results based on data reported from 10/1/2010 – 11/30/2015.

	Ammonia	Chlorides	Phosphorus
# of Results	55	537	512
# of Detects	54	537	512
Mean	1.67 mg/L	245.86 mg/L	0.52 mg/L
Maximum (and Date)	33 mg/L (12/26/2013)	610 mg/L (6/9/2014)	5.6 mg/L (2/10/2011)
1-day P99	17.93 mg/L	540.16 mg/L	2.01 mg/L
4-day P99	11.55 mg/L	374.36 mg/L	1.15 mg/L
30-day P99	4.81 mg/L	288.19 mg/L	0.71 mg/L

Effluent Limit Summary

Limits are calculated for all of the substances tested and detected at Outfall 009 which also have water quality criteria in NR 105. Where the limits needed to protect downstream uses (WWSF classification in the tributary and CW in the East Twin River) have criteria more stringent than in the tributary at the outfall, limits are calculated at all relevant locations.

Results are listed in units of ug/L unless indicated otherwise.

DAILY MAXIMUM LIMITS based on ACUTE TOXICITY CRITERIA

Substance	Crit-erion	Effl. Limit	1/5 of Limit	Effluent Concentrations Mean	1-day P99	Max.
Tributary @ Outfall 009 = LAL)						
Arsenic	339.80	679.60	135.92	2.37		3.9
Cadmium	119.35 *	238.70	47.74	1.0		1.7
Chromium (total or +3)	4445.84 *	8891.68	1778.34	0.67		2
Copper	50.87 *	101.74	20.35	4.38		6
Lead	360.70 *	721.40	144.28	2.2		5
Nickel	1048.88 *	2097.76	419.55	15.43		34
Zinc	344.68 *	689.36	137.87	14.7		19
Chlorides (mg/L)	757	1514			540.16	610
Tributary @ Sleepy Hollow Road = WWSF)						
Cadmium	43.65 *	87.30	17.46	1.0		1.7
East Twin River = CW)						
Cadmium	18.45 *	36.90	7.38	1.0		1.7

* - Criteria are based on a mean effluent hardness of 352 PPM except for chromium (301 PPM), nickel (268 PPM) and zinc (333 PPM), which are based on the maximum endpoint of the application range of hardness values as listed in Table 2A of ch. NR 105.

WEEKLY AVERAGE LIMITS based on CHRONIC TOXICITY CRITERIA

Substance	Crit-erion	Effl. Limit	1/5 of Limit	Effluent Concentrations Mean	4-day P99
Tributary @ Outfall 009 = LAL)					
Arsenic	152.20	152.20	30.44	2.37	
Cadmium	**3.82** *	**3.82**	**0.76**	**1**	
Chromium (total or +3)	325.75 *	325.75	65.15	0.67	
Copper	30.38 *	30.38	6.08	4.38	
Lead	94.48 *	94.48	18.90	2.2	
Nickel	169.08 *	169.08	33.82	15.43	
Zinc	344.68 *	344.68	68.94	14.7	
Chlorides (mg/L)	395	395			374.36
Tributary @ Sleepy Hollow Road = WWSF and East Twin River = CW)					
Nickel	120.18 *	120.18	24.04	15.43	
Chlorides (mg/L)	395	434.50			374.36

* - Criteria are based on an estimated receiving water hardness of 352 PPM (equal to effluent) except for cadmium (175 PPM), chromium (301 PPM), nickel (268 PPM) and zinc (333 PPM), which are based on the maximum endpoint of the application range of hardness values as listed in Table 2A and Table 4A of ch. NR 105.

MONTHLY AVERAGE LIMITS based on HUMAN THRESHOLD CRITERIA

Substance	Crit-erion	Effl. Limit	1/5 of Limit	Effluent Concentrations Mean
Tributary @ Outfall 009 = LAL)				
Cadmium	880	880	176	1
Chromium (total or +3)	8400000	8400000	1680000	0.67
Lead	2240	2240	448	2.2
Nickel	110000	110000	22000	15.43
Tributary @ Sleepy Hollow Road = WWSF and East Twin River = CW)				
Cadmium	370	370	74	1
Chromium (total or +3)	3820000	3820000	764000	0.67
Lead	140	140	28	2.2
Nickel	43000	43000	8600	15.43

MONTHLY AVERAGE LIMITS based on HUMAN CANCER CRITERIA

Substance	Crit-erion	Effl. Limit	1/5 of Limit	Effluent Concentrations Mean
Tributary @ Outfall 009 = LAL)				
Arsenic	40	40	8	2.37
Tributary @ Sleepy Hollow Road = WWSF and East Twin River = CW)				
Arsenic	13.3	13.3	2.66	2.37

NOTE: No evaluation of limits based on NR 105 wildlife criteria was necessary since Agropur did not detect any of the compounds with those criteria.

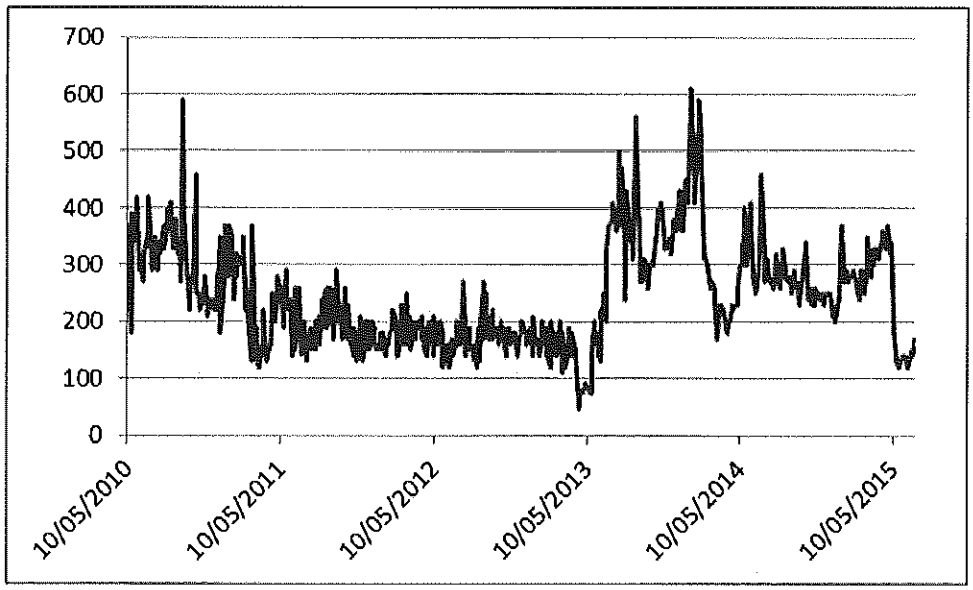
Permit Recommendations: Based on the above evaluation, the only substance potentially needing permit limits is cadmium, but chlorides are discussed as well because of other issues beyond just the limit calculation and data summary.

Cadmium) A permit limit is potentially needed because the mean effluent concentration of 1 ug/L is slightly above 1/5 of the weekly average limit of 3.82 ug/L based on the chronic toxicity criterion. However, it is also noted that there was a level of detection issue associated with one of the values that went into the calculation of the 1 ug/L effluent mean. This may have been a transcription error in the permit application since the reported result from 12/20/2010 was a no-detect at a 1.7 ug/L level of detection while the actual level of detection in the application was 0.17 ug/L (or one-tenth of that). Unless the permittee can confirm what the actual level of detection is (an example of that confirmation would be the actual lab sheet provided for the test), the preferred response when questionable data issues arise is to look at the remaining results after excluding that questionable result. Since three test results were provided during the permit term, a mean effluent concentration may be calculated from the other two results, namely the 1.3 ug/L result from 8/9/2011 and the no-detect (at 0.14 ug/L) from 4/14/2015. The mean of those two results is 0.65 ug/L after using zero for the no-detect. Since 0.65 ug/L is less than 1/5 of the 3.82 ug/L limit, neither limits nor additional monitoring for cadmium are recommended at this time. Granted, the updated mean is "close to" 1/5 of the limit, but it is also noted that cadmium is not normally associated with sources and uses related to the dairy industry. No additional monitoring is necessary until the time of the next permit reissuance application.

Chlorides) Normally the data reported during the current permit term would not prompt a recommendation of permit limits or additional monitoring because the 4-day P99 is less than the effluent limit, which suggests there is less than a 1% chance that a weekly average effluent concentration would exceed the 395 mg/L limit. However, several additional considerations come into play here.

The previous permit terms for this facility included variances to water quality standards for chlorides and gave alternative interim limits and target values. In the current permit, the interim limits are 660 mg/L and 2,140 lbs/day while the target value effective on the final day of the permit (9/30/2015) is actually equal to the water quality-based limit of 400 mg/L (395 mg/L before rounding) while the target value mass limit is 1,310 lbs/day calculated from flow data available prior to reissuance of the permit. One of the necessary considerations here is that although the concentration P99 does not exceed the 395 mg/L limit, there have been several exceedances of the mass limits on a weekly average basis. Chloride is tested on two consecutive days each week, so a weekly average mass loading can be calculated from the results from the two consecutive days. During the current permit term, there have been three exceedances of the interim limit of 2,140 lbs/day (during June and July of 2014) but over that time there have also been a total of 65 calculated exceedances of the 1,310 lbs/day target value. Even though that target value was technically not in effect at the time of any of these exceedances, it still represents a potential concern over the permittee's ability to meet the target value when it becomes effective on 9/30/2015. This is a particular concern because 57 of those 65 exceedances have occurred since November of 2013, which leads to the other notable consideration.

Although the data over the entire permit term suggests limits are no longer needed in the permit for chloride, more recent data during the permit term suggests otherwise. Effluent results started trending higher around the end of November of 2013. Below is a plot of the weekly average chloride values reported over the period of October 1, 2010 through November 30, 2015. From the beginning of this period, results showed a general decline until points corresponding to late November of 2013 when the treatment system upgrade occurred. After that time the results were much more variable, due to treatment plant startup issues. Even though the results showed greater variability, the concentration limit of 400 mg/L was frequently met after a reasonable startup period.



Statistical evaluations of the data covering several periods are provided on the following page.

Chloride Summary	10/1/2010 – 11/30/2015	11/20/2013 – 11/30/2015	8/1/2014 – 11/30/2015
# of Results	537	211	138
# of Detects	537	211	138
Mean	245.86 mg/L	302.32 mg/L	272.68 mg/L
Maximum (and Date)	610 mg/L (6/9/2014)	610 mg/L (6/9/2014)	460 mg/L (11/24/2014)
1-day P99	540.16 mg/L	570.22 mg/L	449.51 mg/L
4-day P99	**374.36 mg/L**	**421.74 mg/L**	**347.22 mg/L**
30-day P99	288.19 mg/L	342.46 mg/L	291.47 mg/L

The "4-day P99" row is bold-faced because this concentration is compared to the weekly average limit to determine if that limit is needed in the permit. When looking only at the 11/20/2013 – 11/30/2015 data, the 4-day P99 exceeds the 395 mg/L limit. A further subdivision using data reported only after 8/1/2014 shows the 4-day P99 is below the 395 mg/L limit; this final consideration was made to attempt to address data after the high values potentially associated with treatment plant startup. Because of the upward trending of results when the treatment plant started up and the fact the remaining results are "close to" the limit, it is recommended that chloride limits be included in the reissued permit.

The calculated limit is 400 mg/L weekly average (rounded to two significant digits from 395). The mass limit associated with the concentration limit is calculated using the peak weekly average flow (0.7395 MGD on page 2 of this document) and the actual limit of 395 mg/L. That calculated mass limit is 2,436 lbs/day, or 2,440 lbs/day after rounding.

It is noted that this new mass limit exceeds both the interim mass limit of 2,140 lbs/day and the mass limit target value of 1,310 lbs/day. Since the water quality-based concentration limit of 395 mg/L has not changed, this increase indicates an increase in the discharge rate from Outfall 009. The increased limit is subject to the antidegradation evaluation in ch. NR 207. ***NOTE: The permittee is in the process of submitting antidegradation information regarding social/economic importance of the proposed increase. This information shall be used to determine the appropriate limits pursuant to s. NR 207.04(1)(c).***

Other Evaluations:

Temperature) New surface water quality standards for temperature took effect on October 1, 2010. These new regulations are detailed in Chapter NR 102 (Subchapter II – Water Quality Standards for Temperature) and NR 106 (Subchapter V – Effluent Limitations for Temperature) of the Wisconsin Administrative Code. For discharges to Limited Aquatic Life waters, the criterion and effluent limit are 86°F and applied as a daily maximum.

Throughout the term of the current permit, Agropur has been doing twice weekly grab sampling of temperature at Outfall 009. On 41 days, the reported grab sample temperature was in excess of 86°F, with the maximum being 96°F on 7/16/2011.

In addition, continuous monitoring has taken place three times per week during 2013 at Outfall 009 along with two other downstream locations, at Sleepy Hollow Road where the classification changes to Warmwater Sportfish (Sample Point 601), and at the mouth of the tributary where it empties into the East Twin River (Sample Point 602). The downstream locations are used to determine the need for limits based on downstream uses. The table on the following page summarizes the 2013 monitoring results.

The temperatures at Outfall 009 are also in excess of the 86°F criterion based on Limited Aquatic Life criteria. The temperatures at Sample Points 601 and 602 are compared to criteria for warmwater sportfish streams as listed in Table 2 of ch. NR 102. Those criteria vary from month to month and are listed in a table following the sample point data summary. The sample point results are not only used to evaluate the need for limits based on downstream criteria, but also represent indicators of the amount of cooling going on within the tributary below Outfall 009. As can be seen from the next table, a considerable amount of cooling takes place between Outfall 009 and Sleepy Hollow Road, while there is only a small change between Sleepy Hollow Road and the tributary's mouth.

	Outfall 009		S. P. 601 @ Sleepy Hollow		S. P. 602 @ mouth of trib.	
Month	Peak Weekly Ave. Temp. (°F)	Peak Daily Max. Temp. (°F)	Peak Weekly Ave. Temp. (°F)	Peak Daily Max. Temp. (°F)	Peak Weekly Ave. Temp. (°F)	Peak Daily Max. Temp. (°F)
JAN	101	103	38	40	32	32
FEB	101	102	38	39	33	34
MAR	102	107	42	45	40	42
APR	91	91	52	54	49	52
MAY	101	103	67	72	67	73
JUNE	101	103	72	73	71	73
JULY	103	105	77	80	77	78
AUG	96	97	74	76	73	74
SEPT	96	99	72	77	71	75
OCT	94	95	65	65	62	63
NOV	89	100	58	63	54	62
DEC	81	89	40	41	37	39

Criteria applicable at Sample Point 601 based on small streams in the warmwater sportfish classification, from Table 2 of ch. NR 102:

Month	Sub-Lethal Criteria (°F)	Acute Criteria (°F)	Month	Sub-Lethal Criteria (°F)	Acute Criteria (°F)
JAN	49	76	JULY	81	85
FEB	50	76	AUG	81	84
MAR	52	77	SEPT	73	82
APR	55	79	OCT	61	80
MAY	**65**	82	NOV	**49**	77
JUNE	76	84	DEC	49	76

Criteria applicable below Sample Point 602 based on the coldwater classification, from Table 2 of ch. NR 102:

Month	Sub-Lethal Criteria (°F)	Acute Criteria (°F)	Month	Sub-Lethal Criteria (°F)	Acute Criteria (°F)
JAN	47	68	JULY	**67**	**73**
FEB	47	68	AUG	**65**	**73**
MAR	51	69	SEPT	**60**	**72**
APR	57	70	OCT	**53**	70
MAY	**63**	**72**	NOV	48	**69**
JUNE	**67**	**72**	DEC	47	69

When comparing the data from Sample Point 601 to the Warmwater Sportfish criteria, it appears the only exceedances were noted in May and November when the peak weekly temperatures exceed the sub-lethal criteria. When comparing the data from Sample Point 602 to the Coldwater criteria, the exceedances of sub-lethal criteria occur in May through October and exceedances of acute criteria occur in May through September. Given that the temperatures at Outfall 009 were in excess of the criteria and limits there and there is also a relatively small amount of dilution available in the East Twin River, it is hoped that reducing the Outfall 009 temperatures to meet the limit there will result in compliance with downstream criteria, assuming similar cooling takes place. Although there is information available from the 2013 study to show the temperature change to the downstream sample points, it does not necessarily follow that the same temperature changes will occur after the permittee achieves 86°F at Outfall 009. Further study will be needed to determine what, if any, impacts will occur if and when the effluent temperatures are reduced. At that time, it will be possible to determine if limits more stringent than 86°F will be needed in order to meet downstream criteria in either the Warmwater Sportfish segment or the Coldwater segment.

As a result of this evaluation, the only recommended thermal limit at Outfall 009 at this time is 86°F daily maximum based on the Limited Aquatic Life criteria in the tributary upstream of Sleepy Hollow Road, pursuant to s. NR 102.245(3)(c).

Phosphorus – Technology Based) There is an effluent standard in ch. NR 217 which requires a 1.0 mg/L limit in permits for industrial discharges that exceed 60 pounds per month, and that limit is included in the current permit for Agropur Outfall 009 and expressed as a twelve-month rolling average. The effluent flow and concentration data reported during the current permit term are summarized in the following table.

Calendar Year	Mean Annual Effluent Flow (MGD)	Annual Average P Concentration (mg/L)	Estimated Annual Total P Loading (lbs/year)
2011	0.46	0.55	770
2012	0.492	0.56	841
2013	0.453	0.51	703
2014	0.528	0.56	900

Since the discharge has exceeded 720 pounds per year or 60 pounds per month, it is recommended that the 1.0 mg/L limit (expressed as a twelve-month rolling average) remains in the permit, unless tighter limits are needed to meet the new water quality standards.

Phosphorus – Water Quality Based) The revisions to the administrative codes which added water quality standards for phosphorus discharges took effect on December 1, 2010. Although no phosphorus criteria are available for the segment of the tributary having the Limited Aquatic Life classification, the applicable water quality criterion for the Warmwater Sport fish classification below Sleepy Hollow Road is 0.075 mg/L pursuant to s. NR 102.06(3)(b). This concentration is important since downstream uses need to be addressed and protected pursuant to ss. NR 102.01(3) and NR 217.12(1)(a). Because of the lack of background dilution, the recommended water quality-based limits are 0.075 mg/L as a six-month average (November – April and May – October) and 0.225 mg/L as a monthly average (three times the six-month average). A mass limit is also recommended; that limit is 0.36 lbs/day as an annual average based on the 0.075 mg/L concentration and the peak annual average design flow of 0.5783 MGD.

Since the concentration limits are much lower than the current discharge, an extended compliance schedule is likely to be necessary along with an interim limit. An interim limit can be applied when a compliance schedule is included in the permit to meet more stringent effluent limits. This interim limit should reflect a value which the facility is able to currently meet; however, it should also consider the receiving water quality, keeping the water from further impairment. Normally, the interim limit is set equal to the 30-day P99, which is 0.71 mg/L based on the effluent summary on page 3 of this document. However, the existing permit already contained a 1.0 mg/L technology-based limit expressed as a twelve-month rolling average which came from s. NR 217.04(1)(a)2 because the discharge exceeded 60 pounds per month. As a result, it is recommended that the interim limit be set equal to the current permit limit so as not to allow an increased discharge to a water body with a designated use that is already impaired due to phosphorus, which is the case for the East Twin River.

Compliance with an effluent phosphorus concentration limit as stringent as 0.075 mg/L may not be technically or economically feasible; but the new rules allow alternatives for achieving comparable reductions in phosphorus loading. Options for the permittee to consider may include requesting an alternate phosphorus limitation (APL) with compliance schedule, pollutant trading with other phosphorus discharges (point and/or nonpoint sources) that may be controlled more effectively, stream monitoring above and below the outfall to document actual instream changes related to the effluent discharge, and development of an adaptive management strategy that combine a broader range of efforts to reduce phosphorus loading.

Ammonia) The current permit for Agropur contains no ammonia limits at Outfall 009. Monitoring occurred throughout the permit term for ammonia at a frequency of once per month; those results are summarized on page 3 of this document. Acute and chronic toxicity criteria are available for ammonia in ch. NR 105, so limits can be calculated and compared to the effluent results to determine the need to include limits in the reissued permit.

Acute toxicity criteria for ammonia are related to effluent pH, so typically the 99th upper percentile pH is used to calculate a daily maximum limit although some permittees in Wisconsin have variable limits based on pH if the effluent variability for both pH and ammonia are significant. At Agropur, the pH limits in the current permit mean there is a large database for effluent pH. Since October 1, 2010, a total of 475 effluent pH values have been reported, ranging from 6.3 s.u. in early June of 2011 up to a maximum of 8.2 s.u. reported on three occasions in late June and early July of 2013. The 99th percentile in a sample size of 475 results is equivalent to the 5th highest result, which was 8.1 s.u. (4th – 9th highest results are all 8.1). At an effluent pH of 8.1 s.u., the Limited Aquatic Life (LAL) classification results in a daily maximum limit of 21.42 mg/L, equal to twice the acute criterion of 10.71 mg/L.

The ammonia data summary on page 3 indicates a 1-day P99 of 18.18 mg/L which is below the 21.42 mg/L limit, but the peak effluent ammonia concentration was 33 mg/L on December 26, 2013. That was the only reported ammonia result that exceeded 21.42 mg/L; the next highest result was 15 mg/L on October 28, 2010. It is noted that on 12/26/2013, the reported effluent pH was only 7.3 s.u., and at that pH the acute criterion is 40.4 mg/L so the limit on that day would have been 80.8 mg/L. Based on the ammonia and pH data, it does not appear that exceedances of the acute criteria have taken place, so no daily maximum limits are recommended.

NOTE: Acute criteria for the Warmwater Sport Fish (WWSF) and Coldwater (CW) classifications are more stringent than that which led to the 21.42 mg/L limit. The limits for WWSF which are equivalent to pH values of 8.1 and 7.3 s.u. are 14 and 52 mg/L, respectively. For the CW classification, the limits

for WWSF which are equivalent to pH values of 8.1 and 7.3 s.u. are 9.3 and 35 mg/L, respectively. Since the next highest effluent result of 15 mg/L on 10/28/2010 was also associated with an effluent pH of 7.3 s.u., ammonia does not appear to be an acute toxicity issue even at downstream locations.

Chronic toxicity criteria are also available for ammonia in the LAL, WWSF, and CW classifications, but according to Table 4B of ch. NR 105 the chronic criteria for WWSF and CW are the same. The criteria are related to both pH and temperature, so they may vary seasonally based on temperature. Default pH data are applied to relatively hard waters such as the East Twin River, so those results may also be used to calculate chronic toxicity criteria. The instream seasonal mean pH values for the East Twin River are as follows:

January – March = 7.90 s.u.
April – May = 8.09 s.u.
June – September = 8.08 s.u.
October – December = 8.06 s.u.

Ammonia is more toxic at higher pH or higher temperature waters, so these differences in seasonal pH may make a significant difference in applicable chronic criteria.

In the LAL segment, a thermal limit of 86°F was recommended earlier in this document. Since that temperature is recommended year-round and since there is no dilution in the tributary, chronic criteria and limits for the Limited Aquatic Life segment are based on the temperature limit and effluent pH values at Outfall 009. The mean effluent pH over the current permit term was 7.45 s.u., so example limits may be calculated at pH values of 7.45 s.u. (mean) and 8.1 s.u. (99th percentile mentioned earlier).

	@ 86°F and pH 7.45	@ 86°F and pH 8.1
4-day Chronic Criterion	27.40 mg/L	12.62 mg/L
30-day Chronic Criterion	10.96 mg/L	5.05 mg/L

Since there is zero dilution in the tributary, the weekly average limit equals the 4-day criterion and the monthly average limit equals the 30-day criterion. From the data summary on page 3, the 4-day P99 is 11.55 mg/L which is below both the weekly average limits, and the 30-day P99 is 4.81 mg/L which is below both the monthly average limits. No ammonia limits are recommended based on the Limited Aquatic Life segment.

Seasonal limits are calculated for the WWSF and CW segments based on ambient pH and temperature data. The focus is on the tributary below Sleepy Hollow Road because there is zero dilution available there. In the East Twin River, the temperature and pH values are the same, but the criteria may be a little tighter in the winter time because early life stages of trout species are expected or considered year-round. Therefore, two evaluations of downstream ammonia are necessary. The following table summarizes the ammonia limit calculations based on downstream uses in the tributary with a background streamflow of zero. "ELS" refers to the potential presence of early life stages of fish in this basin. Since burbot (which spawn during the winter) are not historically present in the East and West Twin Rivers basin, "ELS present" criteria are only applied in April through September while "ELS absent" criteria are applied in the other months.

Limits based on WWSF Criteria:		Jan. – March	April - May	June – Sept.	Oct. – Dec.
Ambient Conditions	Temperature (°F)	38	66	69	50
	Temperature (°C)	3.3	18.9	20.6	10
	pH (s.u.)	7.90	8.09	8.08	8.06
Criteria in mg/L:	4-Day Chronic				
	ELS Present		4.02	3.66	
	ELS Absent	11.36			7.45
	30-Day Chronic				
	ELS Present		1.61	1.46	
	ELS Absent	4.54			2.98
Effluent Limits in mg/L:	Weekly Average	11	4.0	4.0 *	7.5
	Monthly Average	4.5	1.6	1.6 *	3.0

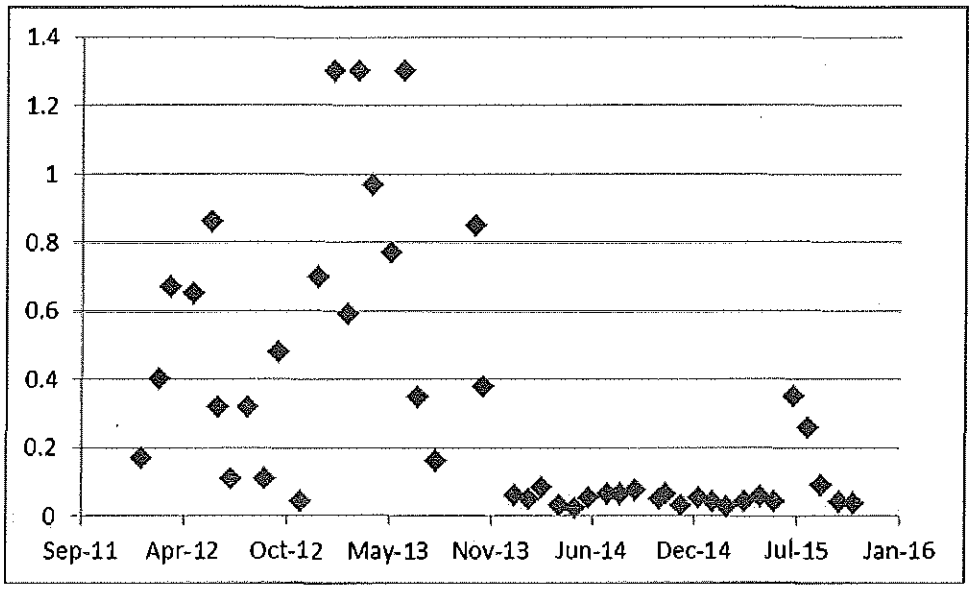
* - In the previous effluent limit evaluation from 2008, a 9% decay factor was applied during the summer months to determine the need for limits. This factor is based on the decay and recovery which occurs to instream concentrations of dissolved oxygen, BOD5, and particularly ammonia during warm weather conditions. This factor is considered because of the distance and travel time between Outfall 009 and Sleepy Hollow Road where the Warmwater Sport Fish classification begins. Applying that factor to the June through September limits essentially makes the limits for those months equal to those for April and May, 4.0 mg/L weekly average and 1.6 mg/L monthly average.

To be protective of the East Twin River, criteria are based on the CW classification. However, an estimate had not been made of decay and recovery all the way down to the mouth of the tributary. Since decay and recovery are not expected in cold months, though, the limits based on the WWSF table above for the warmer months of April – September will also be protective of the East Twin river because the ammonia criteria in the river are equal to or looser than that in the WWSF segment. The only difference may be in the criteria for January – March and October – December. The criteria and limits needed to protect the East Twin River in those months are summarized on the following page.

Limits based on CW Criteria:		Jan. – March	April - May	June – Sept.	Oct. – Dec.
Ambient Conditions	Temperature (°F)	38	66	69	50
	Temperature (°C)	3.3	18.9	20.6	10
	pH (s.u.)	7.90	8.09	8.08	8.06
Criteria in mg/L:	4-Day Chronic				
	ELS Present	6.99	4.02	3.66	5.57
	30-Day Chronic				
	ELS Present	2.80	1.61	1.46	2.87
Effluent Limits in mg/L:	Weekly Average	7.0	4.0	4.0 *	5.6
	Monthly Average	2.8	1.6	1.6 *	2.9

* - See note on decay/recovery following the WWSF table above.

NOTE: It was pointed out by the permittee that ammonia concentrations have been significantly reduced at Outfall 009 since 2013 and that the effluent summary on page 3 of this document is no longer representative of current conditions. This actually turns out to be the case. The following charts summarize reported ammonia concentrations at Outfall 009 from 2012 through 2015, in order to highlight the changes in 2014. Two results from 2013 (4.7 mg/L on September 18 and 33 mg/L on December 26) were not included in this summary because all the remaining values are much lower and therefore these two days skew the chart and make it difficult to note any differences in the remaining values.



Given the tighter limits needed to protect the East Twin River in the cold-weather months, it appears the weekly and monthly average limits for January – March and October – December need to be reduced. The 4-day P99 value of 11.55 mg/L at Outfall 009 still exceeds all the seasonal weekly average limits, and the 30-day P99 value of 4.81 mg/L still exceeds all the seasonal monthly average limits. Therefore, all of the above weekly and monthly limits in the "Limits based on CW Criteria" table may be recommended for the reissued permit at Agropur Outfall 009. However, given the much lower values reported beginning in 2014, it appears downstream concerns regarding ammonia no longer exist because the effluent concentrations that represent current data are far below any of the seasonal limits. As a result, it is recommended that the ammonia limits at Outfall 009 be replaced by requirements for continued monitoring only. If effluent concentrations and/or loadings increase in the future, it may be necessary to revisit the need for ammonia limits in the permit.

NOTE: There is an additional discussion of downstream impacts of ammonia (and BOD5) at the end of this document.

Whole Effluent Toxicity Evaluation: WET testing is used to measure, predict, and control the discharge of toxic materials that may be harmful to aquatic life. In WET tests, organisms are exposed to a series of effluent concentrations for a given time. Acute tests predict the concentration that causes lethality of aquatic organisms during a 48-96 hour exposure. Chronic tests predict the concentration that interferes with the growth or reproduction of test organisms during a seven day exposure.

Acute WET: In order to assure that the discharge from outfall 009 is not acutely toxic to organisms in the receiving water, WET tests must produce a statistically valid LC_{50} greater than 100% effluent.

Chronic WET: In order to assure that the discharge from outfall 009 is not chronically toxic to organisms in the receiving water, WET tests must produce a statistically valid IC_{25} greater than the instream waste concentration (IWC). The IWC is an estimate of the proportion of effluent to total volume of water (receiving water + effluent). The IWC is considered to be 100% since the background flow is zero where the Warmwater Sport Fish classification applies, and since that point is less than four miles from the outfall.

Dilution Series: According to the *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual* (s. NR 219.04, Wis. Adm. Code), the default acute dilution series is: 6.25, 12.5, 25, 50, 100%, and the default chronic dilution series is 100, 75, 50, 25, 12.5%. Other dilution series may be chosen by the permittee or Department staff, but alternate dilution series must be specified in the WPDES permit. For guidance on selecting an alternate dilution series, see Chapter 2.11 of the WET Guidance Document.

Receiving water: According to the *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual* (s. NR 219.04, Wis. Adm. Code) receiving water must be used as the dilution water and primary control in WET tests, unless the use of another dilution water is approved by the Department prior to use. The dilution water used in WET tests conducted on outfall 009 shall be a grab sample collected from the East Twin River, upstream/out of the influence of the mixing zone and any other known discharge. The receiving water location must be specified in the WPDES permit.

Historical WET Data: Below is a tabulation of all available WET data for outfall 009 during the current permit term.

Date Initiated	Acute Results LC_{50}				Chronic Results IC_{25}					Footnotes
	C. dubia	Fathead minnow	Pass or Fail ?	Use in RPF ?	*C. dubia*	Fathead Minnow	Algae	Pass or Fail ?	Use in RPF ?	
2/25/2014					100	100		Pass	Yes	
4/29/2014	100	100	Pass	Yes	100	100		Pass	Yes	
9/16/2014	100	100	Pass	Yes	100	100		Pass	Yes	
12/9/2014	100	100	Pass	Yes	100	100		Pass	Yes	

RPF = Reasonable Potential Factor

WET Checklist. Department staff use the WET Checklist when deciding whether WET limits and monitoring are needed. As toxicity potential increases, more points accumulate and more monitoring is needed to insure that toxicity is not occurring. The Checklist recommends acute and chronic WET limits (as needed) based on the Reasonable Potential Factor (RPF), as required by s. NR 106.08, Wis. Adm. Code, and monitoring frequencies based on points accumulated during the Checklist analysis. The completed WET Checklist and monitoring recommendations are summarized in the table below. (For more on the RPF and WET Checklist, see Chapter 1.3 of the WET Guidance Document, at: http://dnr.wi.gov/topic/wastewater/documents/Chap1x3MonitoringLimits.pdf

WHOLE EFFLUENT TOXICITY (WET) CHECKLIST SUMMARY

	ACUTE	CHRONIC
1. INSTREAM WASTE CONC.	1A. Not Applicable **TOTAL POINTS** = 0	1B. IWC = 100% **TOTAL POINTS** = 15
2. HISTORICAL DATA	2A. 3 tests used in RPF, all passed; RPF = 0 **TOTAL POINTS** = 0	2B. 4 tests used in RPF, all passed; RPF = 0 **TOTAL POINTS** = 0
3. EFFLUENT VARIABILITY	3A. Little variability, no violations or upsets (considering the chloride limits are interim variance limits), consistent WWTF operations **TOTAL POINTS** = 0	3B. Same as Acute **TOTAL POINTS** = 0
4. STREAM CLASSIFICATION	4A. Warmwater Sport Fish community within four miles of Outfall 009 **TOTAL POINTS** = 5	4B. Same as Acute **TOTAL POINTS** = 5
5. CHEMICAL SPECIFIC DATA	5A. No limits were required based on acute toxicity criteria. Substances detected but not needing acute toxicity-based limits include chlorides, ammonia, arsenic, cadmium, chromium, copper, lead, nickel and zinc. **TOTAL POINTS** = 3	5B. Chronic toxicity criteria-based limits are recommended for chlorides (5 pts). Other substances detected but not needing chronic toxicity-based limits include ammonia, arsenic, cadmium, chromium, copper, lead, nickel and zinc (3 pts). **TOTAL POINTS** = 8
6. ADDITIVES	6A. The only reported additives were prior to the treatment system, rather than additives to the actual discharge. **TOTAL POINTS** = 0	6B. Same as Acute **TOTAL POINTS** = 0
7. DISCHARGE CATEGORY	7A. Dairy **TOTAL POINTS** = 5	7B. Same as Acute **TOTAL POINTS** = 5
8. WASTEWATER TREATMENT	8A. Equivalent to secondary treatment. **TOTAL POINTS** = 0	8B. Same as Acute **TOTAL POINTS** = 0
9. DOWNSTREAM IMPACTS	9A. Downstream impacts are not related to acute toxicity (see item 9B). **TOTAL POINTS** = 0	9B. At least partly attributable to the permittee's discharge, given the variance limit for chloride and the recommended limits for ammonia. **TOTAL POINTS** = 5
TOTAL POINTS	13	38

WET Monitoring and Limit Recommendations: Based on historical WET data and RPF calculations (as required in s. NR 106.08, Wis. Adm. Code), neither acute nor chronic WET limits are required at this

time. Based upon the point totals generated by the WET Checklist, other information given above, and Chapter 1.3 of the WET Guidance Document, two acute WET tests recommended during the term of the reissued permit, and once per year chronic WET testing is recommended during the same permit term. Tests should be done in rotating quarters, in order to collect seasonal information about this discharge. When including recommended monitoring frequencies in the WPDES permit, staff should specify required quarters (e.g., Jan-Mar, Apr-Jun, Jul-Sep, or Oct-Dec). As in the previous permit term, all samples collected for WET testing should be analyzed for Chloride to assess whether this substance is contributing to any observed toxicity. In addition, the permit may include language to allow Agropur to suspend WET testing if they can demonstrate that chloride is the sole source of toxicity.

ATTACHMENT 2
EVALUATION OF DOWNSTREAM IMPACTS
(primarily for BOD5 and ammonia)

Although some of this discussion may be repeated from Attachment 1, it is worth addressing this in a separate Attachment in order to provide specific documentation on how the consideration of downstream uses is used to determine the need for additional effluent limitations based on available effluent data.

Where a parameter has different water quality criteria for the Limited Aquatic Life (LAL) and/or the Warmwater Sportfish (WWSF) classification segments, and/or the Coldwater classification in the East Twin River, it is possible to determine limits based on those criteria. However, the process of determining which of those alternative classification-based limits are needed in the permit depends on the concept of "reasonable potential." Much of the process of calculating and implementing effluent limits is based on the concept that water quality-based limits need to be included in WPDES permits when it can be shown that there is a reasonable potential for the discharge to result in exceedance of instream criteria, even in a case like this where three different classifications are involved.

In the thermal discussion in Attachment 1, data are available at Outfall 009 and two downstream locations to demonstrate that there is a reasonable potential to exceed downstream thermal standards based on current conditions. This justifies the need to recommend some limits now (the 86°F daily maximum), but it leaves some room for a re-evaluation of the downstream reasonable potential at such time when the 86°F limit at the outfall is met, since the need for that limit is based on current conditions.

For BOD5 and ammonia, however, the current effluent results being reported at Outfall 009 are well below any limits needed to protect downstream changes in criteria. As a result, the reasonable potential to exceed those criteria based on current discharge conditions cannot be shown; as a result there is no need to recommend more stringent limits than those already in place at Outfall 009 to protect those uses.

Ammonia was specifically discussed in Attachment 1 and this conclusion was reached based on data reported following the upgrading of the permittee's treatment process, so there's no need to re-open that issue here. For BOD5, which was not discussed in similar detail in Attachment 1, the effluent concentrations being reported at Outfall 009 are either below the "level of detection" of 2 mg/L or close to it. Since the BOD5 test is tied in with dissolved oxygen, a phrase more appropriate than "level of detection" may be "reporting level." In fact, the majority of BOD results reported at Outfall 009 are "less than 2 mg/L" which is about the most precise reporting level expected based on dissolved oxygen levels in the effluent. The current permit limits for BOD5 are based on the limited aquatic life segment. More stringent limits are likely to be needed to protect downstream uses, but effluent concentrations at or near 2 mg/L are well below any of those downstream limits, even when considering instream decay and recovery of dissolved oxygen levels over the travel time needed for the stream to reach those locations of downstream criteria changes.

BOD5 limits need to remain in the permit because there are categorical limitations available using ch. NR 240 for this industry, and when that happens the Department's approach is to include the most stringent limits in the permit (or both water quality-based and categorical). This downstream evaluation process is used to determine if more stringent limitations are needed to protect those downstream uses compared to the limits already in the permit (which don't change). For ammonia, no categorical limits are available, so based on current effluent data and all the available instream criteria, it is determined there is no reasonable potential for the applicable criteria to be exceeded, and as a result monitoring only

with no limits are recommended at this time.

For other parameters such as phosphorus and chloride, the criteria for the downstream changes in classification are the same, so no extra analysis is needed based on downstream use in those situations.

ATTACHMENT 3
Copy of Categorical Limit Calculations
Agropur – Luxemburg
(formerly Trega Foods-Luxemburg)
Rick Reichardt - DNR
February 2009

Following is a summary of the Production-Based Categorical Limits calculations for Trega Foods in Luxemburg. The calculations are based on a January 2006 submittal from Trega's consultant, Procorp Inc., which summarizes the manufacturing processes and volume processed. Additional information was provided by Mike Sipple, Trega V.P, during a January 2009 phone discussion.

Information provided by Sipple included:

- The condensed whey permeate discussed on page 3 of the Procorp submittal is not processed through Ultrafiltration Unit (UF) #1. Input of this material will not be included in the calculations of discharge allowance from UF #1. It will be included in the calculations for Unit (7) Permeate Filtration and other subsequent units.
- Also on page 3 of the submittal, the WPC only goes through UF #1 if the concentration is less than 30% solids. This is about 1/3 to ½ of the 2 loads per week received at the plant. (Only 2 loads per week are received, rather than 7 per week shown in the submittal.) An adjustment was made in the calculation for UF #1 to include only 1/3 of the 2 loads of WPC. The remaining 2/3 was included in the calculations for unit (2) Microfiltration (MF).
- Trega received and shipped out an average of 276,000 pounds/day of milk in 2008. During the last 6 months 295,000 pounds/day were received and shipped. Since NR 240 provides for using a maximum month, the higher volume will be used.
- In the future Trega anticipates receiving and processing the equivalent of an additional 970,000 pounds/per day of whey solids in 325,000 pounds/day of 18% reverse osmosis (RO) solids. Since this is not "committed" growth at this time, it was not included in the calculations.

Since all the processing equipment is modern (installed after 1983), the more restrictive Standards of Performance from NR 240.12 were used to calculate the limits.

All the whey processing is done using membrane technology. The allowance factors used for all the units are, therefore, the same. The factors used per 1000 pounds of BOD input were: 0.11, 0.22, 0.14, and 0.28 for BOD average, BOD maximum, TSS average, and TSS maximum, respectively.

Trega has satisfied the provisions of Chapter NR 207, Water Quality Antidegradation. The provisions were satisfied as follows:

NR 207.04(1)(a). The discharge from the wastewater treatment plant (WWTP) prior to upgrading and production expansion was approaching permit limits. Trega proactively expanded the WWTP prior to increasing production to avoid limit exceedance. Had the WWTP not been expanded exceedance of the criteria in this subsection would have occurred. Since expansion of the WWTP was necessary to provide for production increases, this provision is satisfied.

NR 207.04(1)(c). The demonstration of important economic or social development was satisfied, among other reasons, by the fact that the employment at the facility increased from 50 to 107 full-time

employees.

NR 207.04(1)(b) and (d). Trega waived the demonstration of significant lowering of water quality. The production equipment installed by Trega is "state of the art", which minimizes wastewater and the potential for spills. The WWTP expansion provided to ensure attainment of water quality standards was a significant expenditure. The costs greatly exceeded the criteria for an increase of 110% capital costs or 115% total present worth. No other economically viable discharge locations are available.

Categorical Limit Calculation Summary

Production	Material Used	BOD Input	BOD_{avg} (lbs/day)	BOD_{max} (lbs/day)	TSS_{avg} (lbs/day)	TSS_{max} (lbs/day)
Cheese	1,008,000 lb/day milk	104,700 lb	8.4	16.8	10.5	21.0
Milk shipped	295,000 lb/day milk	30,650 lb	1.5	3.0	1.8	4.0
UF #1 (1)	2,718,000 lb/day whey equivalent	128,000 lb	14	28	18	36
MF (2)	Whey Protein concentrate	63,000 lb	6.9	13.8	8.8	17.6
UF #2 (3)	MF retentate	53,500 lb	5.9	11.8	7.5	15.0
WPI Dryer (4)	UF #2 retentate	19,000 lb	2.1	4.2	2.7	5.3
WPPC Filtration (5)	WPPC retentate	9,000 lb	1.0	2.0	1.3	2.5
WPPC Dryer (6)	WPPC Filtration	9,000 lb	1.0	2.0	1.3	2.5
Permeate Filtration (7)	UF #1 & # 2 permeate	116,000 lb	12.8	25.5	16.2	32.5
Permeate evaporator (8)	Permeate filtration	116,000 lb	12.8	25.5	16.2	32.5
Permeate Dryer (9)	Permeate evaporator	116,000 lb	12.8	25.5	16.2	32.5
TOTAL			79	158	100	201

Number in () is unit number assigned in Procorp submittal.

The avg and max limits shown in the table should be expressed as monthly average and daily maximum limits, respectively.

January 13, 2016

RECEIVED JAN 14 2016

Ms. Nanette E. Jameson, Wastewater Specialist
Green Bay Service Center
Wisconsin Department of Natural Resources
2984 Shawano Avenue
Green Bay, WI 54313-6727

agropur

Re: Water Quality-Based Effluent Limitations for Agropur, inc. – Luxemburg, WI
WPDES Permit #WI-0050237
Antidegradation Demonstration

Dear Ms. Jameson,

As a result of the recent expansion of Agropur inc.'s (Agropur's) production facility in Luxemburg, WI, we have previously submitted to the Wisconsin Department of Natural Resources (WDNR or Department) a request for an increase in permitted effluent limitations, specifically related to chloride mass limits for Outfall 009. This letter is offered to provide additional information about the expansion and demonstrate that an increase in mass loading for chlorides accommodates important social and economic development pursuant to s. NR 207.04(1)(c).

In 2013 we began a major expansion project (the "Project") at our Luxemburg site according to the plans and specifications approved by the Department on April 8, 2013. The Project generally accomplished three goals:

1. Following the completion of the Project, the facility will be able to process approximately three times more milk into cheese and whey products that will be sold locally, nationally, and internationally. Although this full capacity has not yet been achieved since the plant commenced operation post-Project completion in 2014, all of the production capacity and wastewater treatment plant (WWTP) facilities are currently in place to allow milk processing consistent with the design capacity approved by the Department in 2013.

2. A significant portion of the Project costs were devoted to increasing the efficiency of the facility's onsite wastewater treatment. Of the project costs, just over 10% ($12 million) was dedicated to the improvement of the wastewater treatment system, including the installation of a new anaerobic treatment process that will allow us to treat high-strength waste onsite. This waste was previously trucked to off-site facilities, or land-applied for disposal.

3. As part of the Project, we installed new equipment and technology to not only improve energy efficiency, but also generate our own renewable energy on site. The anaerobic treatment process generates biogas which is converted into

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electricity by onsite turbines. This renewable energy resource allows us to reduce the electricity we buy from our local public utility, and helps to further reduce our carbon footprint.

This Project provided a significant boost to the local community by employing approximately 700 local contractors/subcontractors at the site during construction. In addition, we have added 46 new full-time positions , including three full-time, licensed wastewater treatment plant operators. According to the Kewaunee County Economic Development Corporation (http://kcedc.org/wp-content/uploads/2015/10/2015-Top-Employers-Kewaunee-County.pdf), the expansion helped propel us from #9 on the list of top county employers in 2014 to a tie for #6. As we continue to grow, we will have more demand for milk, raw materials and services which should fuel further employment opportunities within our local community.

Despite the treatment facility improvements included in the Project, the increased production capacity will create weekly average mass loads for chloride that are likely to exceed the weekly average permit limitation that went into effect on September 30, 2015. Agropur has already taken a number of steps to reduce the chloride discharges from the Luxembourg facility. From effluent concentrations up to 1500 mg/L in 2000, the plant now discharges in concentrations significantly below the applicable WDNR standard of 395 mg/L . Many of these reduction measures required significant capital investment, along with careful modifications to operations and process controls. These conservation measures include:

- Modulating valves were installed on the brine room bypass to help to eliminate and control spills.
- A catch basin was installed to segregate brine room and packaging room drains in order to decrease the amount of chlorides discharged to the WWTP.
- Controls have been put in place on the fine saver and brine chillers to control levels in the brine tanks and prevent overflows.
- Splash guards and discharge conveyor shields have been installed to keep brine in the tanks and prevent unnecessary discharge of chlorides to the WWTP.
- Level controls and a larger balance tank were installed on the whey fine saver, resulting in less whey being discharged to the WWTP and leading to lower chlorides in the effluent.
- At the WWTP, the chloride-based phosphorus removal chemical (aluminum chlorohydrate) has been replaced with ferric sulfate to reduce the amount of chlorides that are contributed by the phosphorus removal chemical.
- A reverse osmosis (RO) unit is now used to soften water in place of the traditional water softeners that use salt for softening.
- A new, modern brine pit system was added as part of the expansion project. This will reduce the amount of brine loss in the cheese plant.
- Splash guards were added to the new brine system and also to the new brine flume to reduce the amount of brine loss to the sewer.

- Excess brine (approximately 5,000 gallons/week) from the new brine ultrafiltration system is hauled off-site for landfill disposal.

Despite these efforts, the fact remains that we produce cheeses that require sodium chloride as a critical ingredient, and we will always have a certain amount chloride in our wastewater stream. And, even though we have improved our treatment process and controls to the point where we discharge lower than the applicable concentration limit, the increased production capacity that resulted from the Project puts us at risk of exceeding the mass-based limit. Since September 30, 2015, excess brine water from the cheese making process (including salty cooker water) has been hauled off-site for disposal at a significant expense instead of being treated in the on-site WWTP because of concerns that the WWTP's discharge will exceed the mass-based limit in the permit. At this time, there is no cost-effective means to remove chlorides from wastewater. Agropur therefore requests the Department approve an increased mass-based effluent limitation of 3,440 lbs/day weekly average for the Luxemburg, WI facility. This request corresponds to a 400 mg/L concentration limit at the approved flow rate design capacity of 1,030,000 gallons/day. The WWTP currently has all of the equipment installed and operational to handle flow and loadings to the designed capacity.

The following section details the numerous ways in which this increase in the mass-based chloride limit will support important social and economic development goals described in s. NR 207.04(1)(c), Wis. Admin. Code:

a. *Increased Employment.*
The Project has added 43 new full-time employee jobs in the production facility. As the facility continues to expand to fully utilize the in-place capacity achieved during the Project, there may also be the need for more employees. In addition to the new jobs in the production facility, three full-time wastewater operators have been added to operate the expanded WWTP. (Prior to the expansion, we had one full-time WWTP operator.) In total we now have one advanced operator and three operators-in-training (OIT's) working in the WWTP. All of the operators are certified in biological treatment (suspended growth processes) and solids treatment (biological/sludge handling, processing and re-use). Two of the operators are certified in nutrient removal as well.

b. *Increased Production Level.*
In 2012, the daily average cheese production at the Luxemburg facility was 123,000 lbs/day. Year-to-date daily average cheese production for 2015 is 240,134 lbs/day, which is a 95% increase in production. Prior to the Project, the Luxemburg production facility utilized 1,080,000 pounds of milk per day. Current milk utilization rate is 2,540,000 pounds of milk per day and no additional improvements are required to increase to the utilization rate to the facility's capacity of 3,200,000 pounds of milk per day. At full capacity, this will be a nearly three-fold increase in raw milk processing capacity.

c. *Increased Efficiencies*.

The Project has allowed for increased efficiencies both in the processing of milk and in the treatment of waste. In the processing plant, outdated equipment was replaced with modern equipment that will position Agropur to effectively compete with national and international competitors. In addition, the treatment process was streamlined to allow for effective conservation (re-use) of the brine used to introduce salt to the cheesemaking process. In the WWTP, the Project has allowed for Agropur to treat high strength waste (HSW) on site, greatly reducing/eliminating the need for daily land application of HSW. In 2012 we averaged 12,265 gallons/day of high strength waste which were disposed of through land application on Department-approved sites or trucked to distant treatment facilities. In 2015, following the Project, we disposed of an average of only 860 gallons/day of high strength waste offsite. This equates to a 93% reduction in the HSW hauled for land application or further other off-site treatment.

d. *Industrial, Commercial and Residental Growth*.

During the construction of the Project, approximately 700 local contractors/subcontractors were employed at the site to complete the production facility and WWTP expansions, with countless other staff supporting the effort remotely. These members of the community were located in in offices and shops, providing a wide range of services from engineering and design, to the fabrication of equipment and materials to be used on-site. In addition, many in the workforce drawn to the site patronized local restaurants, hotels, and related facilities during the multi-year project.

Now that the Project has been fully implemented, and Agropur is ramping up to utilize the three-fold increase in its raw milk utilization rate, local dairy farms will be growing in order to keep up with our demand for raw milk. This growth should provide added employment opportunities to the community.

e. *Community Benefits*.

The total cost of the expansion project was $113,540,816, with the WWTP expansion accounting for $12,128,874 of the total project cost. This infused a large amount of money into the local economy, but allowed for lasting impact – as a result of the Project, Agropur increased the payroll at the Luxembourg facility by $2,345,740 per year. This payroll number should continue to increase as Agropur continues to ramp up to the full capacity allowed by the Project, and adds additional staff.

In addition, the treatment of the HSW through the new anaerobic treatment process allows the facility to create approximately 2,300 kW/day of on-site, renewable, green energy. This helps to reduce the facility's carbon footprint by off-setting purchases from the Wisconsin Public Service Corporation, which is generated using approximately 78% fossil fuels.

Wisconsin is arguably the cheese capital of the world and we produce more cheese in Wisconsin than in any other State in the United States. The agriculture industry in general contributes $88.3 billion and 413,500 jobs to the Wisconsin economy. The dairy industry specifically contributes $43.4 billion and 78,900 jobs to the Wisconsin economy. That means that the dairy industry is helping to fuel our State economy at a rate of more than $80,000 per minute.

We know that the recent investment at our plant in Luxemburg will only help to grow the positive economic impact that the dairy industry has on our state and local economies. We also understand that as we grow, we need to understand the impact that this growth has on our environment and natural resources. That is why we invested more than $12 million in a WWTP to allow us to not only better treat our wastewater but generate renewable energy in the process. However, we are concerned about the consequences if our opportunities to expand and fully utilize the production of this facility are constrained by a mass-based chloride limit. We meet the concentration-based limit established to protect the environment, and continue to use state-of-the art equipment and treatment processes to limit our chloride discharges. Without relief from the mass-based limit, we may be forced to move operations to other parts of the country, and are less likely to invest in the Luxemburg facilty and maintain its competiveness with other cheesemakers in the global economy.

In accordance with Chapter NR 207 of the Wisconsin Administrative Code, we request that WDNR approve this antidegradation demonstration and issue an increased mass-based limit for chlorides discharged from Outfall 009 to accommodate this important social and economic development. As we have described throughout this correspondence, the Project was a significant undertaking, intended to place the Luxemburg facility at the forefront of Wisconsin-based cheese production. At this time, we do not foresee any increased flows or discharges beyond what has already been described in the approved plans for the Project, and the increased chloride limits already discussed. In other words, we would not anticipate additional increased discharges under the current designed operations.

We appreciate your review of this information and look forward to an opportunity to discuss in more detail.

Sincerely,

Chris Simon
Vice President Quality Assurance & Product Development

cc: James Schmidt, Water Resources Engineer – WDNR – PO Box 7921, Madison, WI 53707-7921
Barton Chapman, Wastewater Section Chief – WDNR – PO Box 7921, Madison, WI 53707-7921
Heidi Schmitt Marquez, Wastewater Specialist – WDNR – 2984 Shawano Ave, Green Bay, WI 54313

January 28, 2016

Ms. Nanette E. Jameson, Pretreatment Coordinator/Permit Drafter
Green Bay Service Center
Wisconsin Department of Natural Resources
2984 Shawano Avenue
Green Bay, WI 54313-6727

agropur

Re: Water Quality-Based Effluent Limitations for Agropur, inc. – Luxemburg, WI
WPDES Permit #WI-0050237
Antidegradation Demonstration for WQBEL related to BOD and TSS

Dear Ms. Jameson,

In a letter dated April 8th, 2013, the WDNR conditionally approved plans for installation of the new wastewater treatment plant at the Agropur Luxemburg site. In this letter, WDNR indicated that limits will be reevaluated at the time of renewal of the WPDES permit, and that this reevaluation will consider the projected increased flow and antidegradation issues. The wastewater treatment plant has been constructed with the designed capacity to treat a daily average 0.5 MGD of high strength waste water and 0.53 MGD of low strength condensate and RO water. In this letter, we are seeking a re-evaluation of BOD and TSS limits, and asking for increased limits consistent with our expanded capacity.

The current permit contains a monthly average effluent concentration limit of 20 mg/l for BOD and TSS and a daily concentration limit of 40 mg/l for both BOD and TSS. In a draft limits memo prepared by Jim Schmidt, the Department relies on data from 8/1/14 through 12/31/15 to calculate mass limits for the facility. This historic data indicates that Agropur is achieving a peak 1-Day result of less than 8 mg/L in BOD, and a peak 1-Day result of less than 7 mg/L for TSS. However, at this time the Agropur facility has not yet reached the full design capacity at the plant, and we plan to continue to increase production over the course of the upcoming permit term. While we are confident that the plant will continue to operate well within the concentration limits imposed by the permit, we expect that plant efficiency may decrease as we increase utilization of the facility. We are therefore requesting that the Department calculate BOD and TSS mass limits that reflect both the increase in flow associated with the expansion, as well as concentration limits consistent with the design approved by the Department in 2013.

The newly constructed waste water treatment plant was designed to meet the 20 mg/l monthly average and 40 mg/l daily peak concentration limit for both BOD and TSS. Agropur will continue to strive to maintain current removal efficiencies for both TSS and BOD as it realizes the full production growth demonstrated in categorical limits calculations proposed to WDNR on July 8, 2015. Given the large increase in production and the designed peak flow rate of 1.2 MGD, it is possible that the current proposed mass limits will be exceeded when the future production growth at the site is realized. In

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addition to relying on removal efficiencies that are far greater than the plant design, the mass limits proposed in draft permit were calculated using 2009 production data. As noted in the chloride anti-degradation demonstration submitted to the Department on January 14th, 2016, there has been a significant expansion at the facility which demonstrates the need for expanded mass limits. Agropur has attached a copy of that chloride antidegredation demonstration letter as a basis for demonstrating the important social and economic benefits of this expansion to justify the increased mass limits for BOD and TSS.

In summary, Agropur is requesting increased mass limits for TSS and BOD at this time to allow for the utilization of the full plant capacity approved by the WDNR in 2013. We do not anticipate any additional investment to stay in compliance with these limits, but ask that the limits be based on the design capacity approved in 2013, since the limited data we have for removal efficiencies does not reflect the plant's performance at full capacity. We believe this expansion supports important social and economic benefits, as demonstrated in the attached letter submitted to the Department to increase chloride limits.

Sincerely,

Chris Simon

cc: James Schmidt, Water Resources Engineer – WDNR – PO Box 7921, Madison, WI 53707-7921
Barton Chapman, Wastewater Section Chief – WDNR – PO Box 7921, Madison, WI 53707-7921
Heidi Schmitt Marquez, Wastewater Specialist – WDNR – 2984 Shawano Ave, Green Bay, Wi 54313
Kelly O'Connor, Wastewater Supervisor – WDNR – 2984 Shawano Ave, Green Bay, WI 54313

CORRESPONDENCE / MEMORANDUM _____ **State of Wisconsin**

DATE: January 29, 2016

TO: Nan Jameson – Water District East / Green Bay

FROM: Jim Schmidt – WY/3

SUBJECT: Updated Effluent Limit Evaluations for BOD5, TSS, Chloride, and Phosphorus at Agropur – Luxemburg (WPDES Permit # WI-0050237)

This document is intended to provide several updates to my limit evaluation memo dated January 13, 2016. The updates are related to the following three items:

1) Proposal for new technology-based (NR 240) limits for BOD5 and Total Suspended Solids (TSS) as a result of proposed production increases.

2) Evaluation of increased mass limits for chloride resulting from current and proposed future effluent flow increases.

3) Water quality-based mass limits for phosphorus based on projected peak flows.

Based on these three evaluations, the following changes in effluent limits are recommended:

- For phosphorus, alternative mass limits are available. Based on the estimated peak daily average flow of 1.03 MGD and the concentration limit of 0.075 mg/L, the mass limit would be 0.64 lbs/day. Both limits are expressed as six-month averages. Since no mass limits are currently in effect for phosphorus, the new mass limit is not subject to antidegradation procedures in NR 207. Given that a TMDL is expected at some point in the future for the East and West Twin River basins, it is reasonable to base mass limits on peak flows that may be expected at the time the TMDL is actually implemented via WPDES permits.

- For BOD5 and TSS, no changes from the current technology-based mass limits are recommended because it appears the permittee is unable to show the need for increased mass limits at this time. The effluent concentrations currently being achieved would be meeting the current mass limits even when based on proposed peak discharge rates. Assuming the current level of treatment will be maintained in the future, the proposed effluent loadings will be in compliance with current permit limits, so based on s. NR 207.04(2)(a), the effluent limitations must remain at 79 lbs/day monthly average and 158 lbs/day daily maximum for BOD5, and 100 lbs/day monthly average and 201 lbs/day daily maximum for TSS.

- For chloride, in order to prevent significant lowering of water quality as defined and implemented in ch. NR 207, a chloride limit of 3,281 lbs/day weekly average is recommended (this limit may be rounded). If the proposed discharge is in excess of 3,281 lbs/day and the permittee justifies the use of full assimilative capacity based on the alternatives analysis in s. NR 207.04(1)(d), a chloride limit of 3,393 lbs/day weekly average is recommended (this limit may also be rounded, depending on the number of significant digits).

The remaining limits recommended in my memo to Nan Jameson (DNR – East Water District / Green Bay) dated January 13, 2016 are unaffected by this evaluation. The following text

discusses the general procedure for antidegradation evaluations along with the specific evaluations for BOD, TSS, and chloride.

Antidegradation Evaluation Process:

When proposed limits exceed those in the current permit (concentration or mass), the increases are subject to antidegradation evaluations using ch. NR 207. If concentration limits are not being changed, the increased mass limits which result from an increased flow are still subject to antidegradation because s. NR 207.06(a) defines the term "increased discharge" as any change in concentration, level, or loading of a substance which would exceed an effluent limitation specified in a current WPDES permit.

The antidegradation evaluation process may be summarized by the following general evaluation steps. First, a determination must be made as to whether the increased limit is needed based on an assessment of existing treatment capability using s. NR 207.04(1)(a). Second, if the increase is needed, and if the increase would result in any lowering of water quality (using s. NR 207.04(1)(b)), the permittee must demonstrate whether the proposed increase will accommodate important social or economic development using s. NR 207.04(1)(c). Finally, if the important development can be shown and if the increase would result in significant lowering of water quality downstream of the discharge point, the permittee must demonstrate whether the significant lowering of water quality can be prevented in a cost-effective manner based on a number of available pollution control alternatives using s. NR 207.04(1)(d).

BOD5:

The current permit contains water quality-based concentration limits of 20 mg/L monthly average and 40 mg/L daily maximum. Those concentrations are based on protecting water quality of the unnamed tributary to the East Twin River, and those concentration limits will not change based on production or flow changes at Agropur. Because of the low concentrations currently being reported and expected changes in dissolved oxygen levels occurring downstream of the discharge over time and distance, the current effluent concentrations being reported are also considered to be protective of downstream waters (East Twin River).

The current permit also contains technology-based limits of 79 lbs/day monthly average and 158 lbs/day daily maximum for BOD using ch. NR 240. These limits come from a February 2009 evaluation of relevant production data by Rick Reichardt, who was part of the DNR's Wastewater Section in Madison at the time.

In an October 3, 2012 letter from the permittee to Rick Reichardt, a proposal was made for a production expansion to around 3 million pounds of milk per day. As part of this expansion, a new wastewater treatment system was proposed, and this plant is now constructed and operating. At full production, the proposed discharge rates are 1.2 MGD for a peak day and 1.03 MGD for an average day. The changes in operations resulted in a new set of technology-based limits to be proposed for the Agropur discharge using ch. NR 240. On July 8, 2015, an e-mail from the permittee summarized updated estimates of the proposed technology-based limits. For BOD, those limits are 242 lbs/day monthly average and 484 lbs/day daily maximum; the calculated numbers were rounded to three significant digits to be consistent with the approach used in the current permit.

Since the proposed mass limits exceed those in the current permit, the increases are subject to antidegradation evaluations using ch. NR 207. For BOD, the evaluation of the need for increased

limits considers effluent concentrations currently being achieved and reported based on the upgraded treatment system since that system is currently in-place and operating. Since the peak discharge rates are not being approached, though, the proposed peak discharge rates are used with the current effluent data to estimate future peak loadings in this need demonstration.

The treatment system upgrade took place in early 2014, but in recognition of variability associated with plant start-up as well as other potential issues, the start-up date for the representation of effluent quality based on achievability in the current treatment system has been commonly recognized as being around August 1, 2014. The following table summarizes effluent BOD data reported from August 1, 2014 through December 31, 2015:

	Reported Effluent BOD Concentrations	Calculated BOD Mass Loadings
Total # of Results	148	148
Peak 1-Day Result	7.7 mg/L (July 28, 2015)	42.81 lbs/day (August 11, 2015)
Effluent Flow on that day	0.605 MGD	0.684 MGD
Peak Calendar Monthly Average	4.09 mg/L (July, 2015)	22.36 lbs/day (July, 2015)
Calculated Average Effluent Flow in that month	0.590 MGD	0.590 MGD

NOTE: In Agropur's current permit, effluent flow is reported every day while BOD is reported twice per week. As a result, the average flow is calculated over the entire calendar month in which the BOD results were reported.

The peak daily maximum and monthly average mass loadings are below the current technology-based limits. However, since the effluent flows on those days are well below the projected peak flows (1.03 MGD average, 1.2 MGD maximum), it is appropriate to estimate loadings based on the peak concentrations at the proposed peak flows in order to determine the need for increased limits.

Monthly Average Peak Loading Estimate = 1.03 MGD X 4.09 mg/L X 8.34 conversion
= 35.1 lbs/day (less than 79 lbs/day limit)

Daily Maximum Peak Loading Estimate = 1.2 MGD X 7.7 mg/L X 8.34 conversion
= 77.1 lbs/day (less than 158 lbs/day limit)

It appears that the estimated peak BOD loadings at the proposed peak flows do not exceed the current WPDES permit limits. Despite the projected increased production, there is a failure to establish the need to increase the effluent limits for BOD. According to s. NR 207.04(2), if the Department determines that the existing wastewater treatment facilities have treatment capability to treat any proposed new or increased discharge and maintain treatment levels sufficient to meet existing effluent limitations, those effluent limitations must remain unchanged.

Recommended Mass Limitations for BOD = 79 lbs/day monthly average, 158 lbs/day daily maximum (no change from current permit)

For informational purposes, a discharge at the proposed peak flow rates and the current water quality-based concentration limits of 20 mg/L monthly average and 40 mg/L daily maximum are equivalent to mass loadings of 172 lbs/day monthly average (1.03 MGD @ 20 mg/L) and 400

lbs/day daily maximum (1.2 MGD @ 40 mg/L). Both of those mass loadings are less than the proposed technology-based limits from NR 240. As a result, assuming the flow estimates are accurate, the water quality-based limits would be exceeded if the new technology-based limits are approached. Therefore, the proposed technology-based limits from 2012 will basically be irrelevant in terms of Agropur's discharge from Outfall 009.

Based on efficient operation of the existing treatment facility, the permittee has the option to evaluate whether that facility has the treatment capability to treat the proposed discharge based on the new flow. The discussion above noted the loadings associated with the proposed flow at the current effluent concentrations. If a consideration of treatment plant variability can be assessed by the permittee (which does not involve reductions in treatment plant operation and efficiency), it is still possible that loadings above the current permit's mass limits can occur.

If this results in an estimated increase in permit limits and if the result is downstream lowering of water quality, the permittee would need to go through an evaluation of whether or not the discharge will accommodate important social/economic development. The information discussed later in this memo for chloride may be considered here as well.

Another significant point in this additional evaluation involves the estimate of lowering of water quality in the East Twin River. At this time, the concentration limits applicable at Outfall 009 (20 and 40 mg/L) are based on protection of water quality in the tributary. Given that the East Twin River is classified as a trout stream, tighter dissolved oxygen criteria are applied there which may result in more stringent BOD limits which are needed to protect downstream uses. The proposed average discharge rate of 1.02 MGD is far in excess of the 7-day, 10-year low flow (7Q10) of 0.4 cfs which was estimated in the East Twin River. As a result, a direct discharge to the East Twin River would typically need BOD limits much more stringent than 20 mg/L. However, with the outfall being located over two miles from the mouth of the tributary, it is expected that there will significant decay and recovery of instream dissolved oxygen and BOD levels over that distance. In August of 2008, a stream study was performed which indicated that the decay and recovery over this distance was complete or close to it, meaning the BOD was essentially gone by the time the effluent plume reached the East Twin River and that dissolved oxygen concentrations had recovered to a point that standard sin the East Twin River were being met.

Therefore, it was concluded at the time that more stringent BOD limits were not needed to protect downstream uses. Since 2008, though, the total discharge rate has essentially doubled with additional increases planned in the future. **For that reason, the Department expects that if increased BOD concentrations are anticipated as part of the permittee's ongoing expansion of production, the 2008 study should be re-done at some point to determine if downstream uses will be affected by the increased discharge (concentration or mass) of BOD.** This assessment may involve contact between the permittee and USGS to provide updated estimates of low flow (7Q10) in the East Twin River on either a monthly, seasonal, or annual basis. In addition, at a minimum this study work should consider dissolved oxygen monitoring at the downstream locations used to assess thermal impacts in the past, namely the Sleepy Hollow Road crossing where the tributary classification changes to warmwater sport fish community (NR 102 dissolved oxygen standard = 5 mg/L) and a location near the mouth of the tributary where it empties into the East Twin River and the classification changes to a coldwater community (NR 102 dissolved oxygen standard = 6 mg/L).

Total Suspended Solids (TSS):

The current permit contains water quality-based concentration limits of 20 mg/L monthly average and 40 mg/L daily maximum. Those concentrations are based on protecting water quality of the unnamed tributary to the East Twin River, and those concentration limits will not change based on production or flow changes at Agropur. Those concentrations are the only water quality-based limitations which are relevant at this location, since the 20 mg/L limit is based on ch. NR 104 regulations for Limited Aquatic Life waters (as the tributary is currently classified). Table 2 of NR 104 also contains a 30 mg/L weekly average limit, but that number is commonly associated with municipal discharges that have technology-based monthly and weekly average limits. In the past, U.S. EPA has accepted a 40 mg/L daily maximum in place of the 30 mg/L weekly average for industries; this change is not considered to be significant since the 20 mg/L monthly average still remains in order to control longer-term loadings to Limited Aquatic Life waters. In fact, there currently are no water quality standards for TSS in trout waters such as the East Twin River, so this may have an impact on the evaluation process for TSS as compared to that for BOD or even chloride.

The current permit also contains technology-based limits of 100 lbs/day monthly average and 201 lbs/day daily maximum for TSS using ch. NR 240. These limits come from a February 2009 evaluation of relevant production data by Rick Reichardt, who was part of the DNR's Wastewater Section in Madison at the time.

Pursuant to the October 3, 2012 letter from the permittee to Rick Reichardt which was mentioned earlier in this memo as part of the BOD discussion, the changes in operations resulted in a new set of technology-based limits on TSS to be proposed for the Agropur discharge using ch. NR 240. On July 8, 2015, an e-mail from the permittee summarized updated estimates of the proposed technology-based limits. For TSS, those limits are 308 lbs/day monthly average and 616 lbs/day daily maximum; the calculated numbers were rounded to three significant digits to be consistent with the approach used in the current permit.

Since the proposed mass limits exceed those in the current permit, the increases are subject to antidegradation evaluations using ch. NR 207. The unique part of the antidegradation process when applied to TSS is that since no water quality standards exist for TSS in the East Twin River, there is no level which represents significant lowering of water quality as defined in the rule. If the application of NR 207.04 (1) indicates that the TSS increase is needed and the social/economic demonstration process is satisfied, the increase is automatically granted without a numerical-based consideration of significant lowering of water quality.

As with BOD, the evaluation of the need for increased TSS limits considers effluent concentrations currently being achieved and reported based on the upgraded treatment system since that system is currently in-place and operating. Since the peak discharge rates are not being approached, though, the proposed peak discharge rates are used with the current effluent data to estimate future peak loadings in this need demonstration. The table on the following page summarizes effluent TSS data reported from August 1, 2014 through December 31, 2015.

NOTE: In Agropur's current permit, effluent flow is reported every day while TSS is reported twice per week. As a result, the average flow is calculated over the entire calendar month in which the TSS results were reported.

	Reported Effluent TSS Concentrations	Calculated TSS Mass Loadings
Total # of Results	148	148
Peak 1-Day Result	6.8 mg/L (July 27, 2015)	35.84 lbs/day (September 9, 2014)
Effluent Flow on that day	0.539 MGD	0.661 MGD
Peak Calendar Monthly Average	3.52 mg/L (August, 2015)	20.55 lbs/day (July, 2015)
Calculated Average Effluent Flow in that month	0.592 MGD	0.590 MGD

The peak daily maximum and monthly average mass loadings are below the current technology-based limits. However, since the effluent flows on those days are well below the projected peak flows (1.03 MGD average, 1.2 MGD maximum), it is appropriate to estimate loadings based on the peak concentrations at the proposed peak flows in order to determine the need for increased limits.

Monthly Average Peak Loading Estimate = 1.03 MGD X 3.52 mg/L X 8.34 conversion
= 30.2 lbs/day (less than 100 lbs/day limit)

Daily Maximum Peak Loading Estimate = 1.2 MGD X 6.8 mg/L X 8.34 conversion
= 68.1 lbs/day (less than 201 lbs/day limit)

It appears that the estimated peak TSS loadings at the proposed peak flows do not exceed the current WPDES permit limits. Despite the projected increased production, there is a failure to establish the need to increase the effluent limits for TSS. According to s. NR 207.04(2), if the Department determines that the existing wastewater treatment facilities have treatment capability to treat any proposed new or increased discharge and maintain treatment levels sufficient to meet existing effluent limitations, those effluent limitations will remain unchanged.

Recommended Mass Limitations for TSS = 100 lbs/day monthly average, 201 lbs/day daily maximum (no change from current permit)

For informational purposes, a discharge at the proposed peak flow rates and the current water quality-based concentration limits of 20 mg/L monthly average and 40 mg/L daily maximum are equivalent to mass loadings of 172 lbs/day monthly average (1.03 MGD @ 20 mg/L) and 400 lbs/day daily maximum (1.2 MGD @ 40 mg/L). Both of those mass loadings are less than the proposed technology-based limits from NR 240. As a result, assuming the flow estimates are accurate, the water quality-based limits would be exceeded if the new technology-based limits are approached. Therefore, the proposed technology-based limits from 2012 will basically be irrelevant in terms of Agropur's discharge from Outfall 009.

Chloride:

The current permit contains weekly average limits of 400 mg/L (rounded from 395) and 1,300 lbs/day. Both limits became effective on September 30, 2015. The mass limit was based on an effluent flow of 0.39 MGD, which represented the peak weekly average flow at Agropur's Outfall 009 prior to reissuance of the current WPDES permit. Those limits are based on protecting water quality of the unnamed tributary to the East Twin River, and those concentration limits will not

change based on production or flow changes at Agropur. Since the water quality criteria are the same (chronic criterion of 395 mg/L) for all Wisconsin waters, the limit applied to the tributary with zero dilution will automatically be protective of the East Twin River which has a small amount of available dilution.

No technology-based limits are available in NR 240 for chloride, but since the effluent flow is proposed to increase to 1.03 MGD average and 1.20 MGD maximum, an increased mass limit is considered. The concentration limit is still 395 or 400 mg/L, but the mass based on a discharge of 1.03 MGD and 395 mg/L is 3,393 lbs/day. Since that mass exceeds the current permit limit, antidegradation must be applied for chloride as well.

As is the case for BOD and TSS, the first demonstration that is necessary involves the determination of the need for increased limits. Calculated mass loadings for chloride have been in excess of the new limit of 1,300 lbs/day. This is to be expected since current flows are greater than 0.39 MGD. Since the upgraded treatment facility came online in mid-2014, chloride concentrations have been below the 400 mg/L limit, but mass loadings have still exceeded 1,300 lbs/day on a weekly average basis. The following table summarizes concentrations and calculated mass loadings for chloride at Outfall 009 from August 1, 2014 through December 31, 2015:

	Reported Effluent Chloride Concentrations	Calculated Chloride Mass Loadings
Total # of Results	148	148
Peak 1-Day Result	460 mg/L (November 24, 2014)	2,229 lbs/day (November 24, 2014)
Effluent Flow on that day	0.581 MGD	0.581 MGD
Peak Calendar Weekly Average	435 mg/L* (November 24 – 26, 2014)	2,101.5 lbs/day (November 24 – 26, 2014)
Calculated Average Effluent Flow in that week	0.580 MGD (November 22 – 28, 2014)	0.580 MGD (November 22 – 28, 2014)

NOTE: In Agropur's current permit, effluent flow is reported every day while chloride is reported twice per week. As a result, the average flow is calculated over the entire calendar week in which the chloride results were reported.

* - Technically, the 435 mg/L weekly average concentration represents an exceedance of the 400 mg/L permit limit. Since August 1, 2014, this was the only week in which the calculated average exceeded 400 mg/L.

Out of the 148 calculated mass loadings reported since August 1, 2014, the results exceeded 1,300 lbs/day a total of 90 times. Given that the limit is a weekly average, though, over the 74 weeks of calculated mass loadings, the weekly average exceeded 1,300 lbs/day a total of 46 times. Since the weekly average mass limit has been exceeded, pursuant to s. NR 207.04(1)(a)1.e., the permittee is able to demonstrate the need for increased limits.

The next step is to determine whether the increased limit represents any lowering of water quality. The 46 instances of a calculated mass loading in excess of the permit limit does, in fact, represent a potential lowering of water quality in both the tributary and the East Twin when compared to the permit limit of 1,300 lbs/day. As a result, the permittee must demonstrate whether the increased discharge (which results in lowering of water quality) will accommodate

important social or economic development in any of the following ways, pursuant to s. NR 207.04(1)(c)1:

a. - The discharger will be increasing its employment.
b. - The discharge will be increasing its prodnction level.
c. - The discharger will be avoiding a reduction in its employment level.
d. - The discharger will be increasing its efficiency.
e. - There will be industrial, commercial, or residential growth in the community.
f. - The discharger will be providing economic or social benefit to the community.
g. - The discharger will be correcting an environmental or public health problem.

Items e. and f. are more commonly associated with municipal discharges due to the use of the word "community." As for the others, Agropur submitted an evaluation letter dated January 13, 2016 to Nan Jameson of the Department which supported the showing of items a., b., c., and d. specifically, while relating items e. and f. to benefits associated with nearby communities. Based on this submittal, the social/economic demonstration is considered to be adequately satisfied.

The next demonstration is associated with s. NR 207.04(1)(d). This relates to a determination of whether the lowering of water quality associated with the increased limit is considered to be significant as defined and implemented in s. NR 207.05. The term "significant lowering of water quality" (or SLOWQ) is defined in s. NR 207.05(1)(d) as one-third of the available assimilative capacity.

Since there is no dilution in the tributary at low-flow conditions (seven-day, ten-year low flow or 7Q10 = 0), a discharge at the 400 mg/L limit does not lower the water quality of the tributary at any flow. In the East Twin River, there is a small amount of dilution available, with the estimated 7Q10 above the mouth of the tributary at 0.4 cfs. When the effluent flow from Outfall 009 enters the East Twin River via the tributary, a discharge at the 400 mg/L limit will lower the water quality of the East Twin River as the flow from the outfall increases. The question is, therefore, whether that lowering is significant when going from the 0.39 MGD flow at the beginning of the current permit term, to 1.03 MGD based on the proposed peak average flow. The SLOWQ determination is made by calculating instream concentrations in the East Twin River after mixing of effluent and an appropriate percentage of streamflow. That streamflow percentage is considered to be 25% since that is the percentage of streamflow normally used to calculate limits for direct discharges under ch. NR 106.

Since the 7Q10 of the tributary is zero, ¼ of the 7Q10 is also zero, and in both cases the chloride limit equals the criterion (395 mg/L, rounded up to 400 mg/L since the permittee reports chloride levels to two significant digits). Even though the 7Q10 of the East Twin River is smaller than the flow from Outfall 009, there is still some lowering of water quality when going from 0.39 to 1.03 MGD at 395 mg/L. NOTE: In this case, considering 395 vs. 400 mg/L has no impact on the calculation or the conclusion.

Estimated background chloride concentrations in the East Twin River are 43 mg/L based on past data available to the Department, so the instream concentration after mixing is determined using a relatively simple mass balance approach.

The currently allowable loading of 1,300 lbs/day equals 395 mg/L at 0.39 MGD (or 0.60 cfs). Mixing this concentration with ¼ of the 7Q10 (0.1 cfs) at 43 mg/L produces a mix concentration of 345 mg/L. As a result, the available assimilative capacity is 395 mg/L (the water quality criterion) minus 345 mg/L, or 50 mg/L. One-third of that available capacity is 17 mg/L, so

raising the instream concentration of the East Twin River from 345 to 362 (345 + 17) would represent SLOWQ. From there, a similar mass-balance is used to estimate the effluent concentration needed to prevent SLOWQ. A concentration of 382 mg/L at Outfall 009, when mixed with 43 mg/L in the East Twin River, would raise the instream concentration to 362 mg/L.

These effluent concentrations are used to establish the effluent limit based on full assimilative capacity. To meet 395 mg/L in the East Twin River after mixing, the effluent concentration at Outfall 009 theoretically could be greater than 395 mg/L, but since the limit needed to protect the tributary already is 395 mg/L (or 400), 395 mg/L is considered to be representative of full assimilative capacity in both water bodies.

Recommended weekly average mass limits for chloride:
Mass loading based on full assimilative capacity = 1.03 MGD at 395 mg/L = 3,393 lbs/day
Mass loading needed to prevent SLOWQ = 1.03 MGD at 382 mg/L = 3,281 lbs/day

These two values are actually fairly close, due mainly to the relatively small amount of dilution available in the East Twin River. Based on this information, if the proposed discharge is equal to or less than 3,281 lbs/day, SLOWQ is prevented. Because the permittee successfully showed the need for the increased discharge and the social/economic importance of the increased discharge, the recommended mass limit for chloride is 3,281 lbs/day weekly average (which may be rounded). If the permittee anticipates the inability to meet the 3,281 lbs/day value, the alternatives demonstration would be required under s. NR 207.04(1)(d) to potentially allow up to 3,393 lbs day as a limit.

It is noted that at current conditions, the discharge is well under 3,281 lbs/day (peak weekly average was 2,101.5 lbs/day). However, since the effluent flow that week was only 0.580 MGD, it is possible a higher loading would be applicable based on 1.03 MGD. This demonstration is left to the permittee and should consider not only the peak effluent chloride concentrations, but also values more typical of current or future conditions.

The demonstration in s. NR 207.04(1)(d) is intended to show whether there are cost-effective alternatives available that could prevent SLOWQ. Pollution control alternatives which need to be examined as part of this demonstration include conservation measures, recycling measures, other applicable wastewater treatment process or operational changes, source reduction measures, and other pollution minimization activities. In s. NR 207.04(1)(d)2., there are capital cost guidelines for proposals which may involve treatment plant expansion. Finally, the availability of alternative discharge locations should also be examined. In this case, the nearest alternative discharge locations are assumed to be a pipeline to Lake Michigan or connection to the Green Bay Metropolitan sewer system, but the permittee is free to examine other alternatives. If an alternative location is chosen which involves a different receiving water, the SLOWQ-based limits for that water body would need to be determined.

If there are any questions or comments, please contact me at (608) 267-7658 or via e-mail at jamesw.schmidt@wisconsin.gov.

cc: Heidi Schmitt-Marquez – East Water District / Green Bay (e-copy only)
Bart Chapman – WY/3

WPDES PERMIT

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

PERMIT TO DISCHARGE UNDER THE WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM

Agropur Inc Luxemburg

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility located at
N2915 County Road AB, Luxemburg
to
an unnamed tributary of the East Twin River of the East Twin River Watershed (TK02) of the Twin-Door-Kewaunee River Basin and groundwater via landspreading in Kewaunee, Manitowoc & Brown Counties

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 _____
Kelley O'Connor
Wastewater Supervisor, Northeast Region

_____
Date Permit Signed/Issued

PERMIT TERM: EFFECTIVE DATE - April 01, 2016 **EXPIRATION DATE - March 31, 2021**

TABLE OF CONTENTS

1 Influent Requirements

1.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
703	Influent sampled prior to the wastewater treatment plant

1.2 Monitoring Requirements

The permittee shall comply with the following monitoring requirements.

1.2.1 Sampling Point 703 - TREATMENT PLANT INFLUENT

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
BOD_5, Total		mg/L	Weekly	24-Hr Comp	
Phosphorus, Total		mg/L	Weekly	24-Hr Comp	

2 In-Plant Requirements

2.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
103	Flow shall be measured on the volume of treated process wastewater prior to discharge to the wet well
104	Flow shall be measured on the volume of excess polished condensate of whey water from the whey plant prior to discharge to the wet well
105	Flow shall be measured on the volume of retentate from the industrial water treatment reverse osmosis equipment prior to discharge to the wet well
108	Flow shall be estimated on the noncontact cooling water without additives from the cheese plant prior to discharge to the wet well.

2.2 Monitoring Requirements and Limitations

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

2.2.1 Sampling Point 103 - TREATED PROCESS WW; 104- EXCESS POLISHED COW WATER; 105- RETENTATE INDUS REV OSMOSIS, and 108- NCCW (formerly 008)

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		gpd	Weekly	Total Daily	

3 Surface Water Requirements

3.1 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)**
009	This outfall consists of the combination of treated process wastewater, excess polished condensate of whey from the whey plant, retentate from the industrial water treatment reverse osmosis equipment and noncontact cooling water from the cheese plant. Representative samples of the combination of wastewaters shall be obtained prior to discharge to an unnamed tributary of the East Twin River

3.2 Monitoring Requirements and Effluent Limitations

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

3.2.1 Sampling Point (Outfall) 009 - COMB WW to TRIB of EAST TWIN R

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	
BOD_5, Total	Daily Max	40 mg/L	2/Week	24-Hr Comp	
BOD_5, Total	Monthly Avg	20 mg/L	2/Week	24-Hr Comp	
BOD_5, Total	Daily Max	158 lbs/day	2/Week	Calculated	
BOD_5, Total	Monthly Avg	79 lbs/day	2/Week	Calculated	
Suspended Solids, Total	Daily Max	40 mg/L	2/Week	24-Hr Comp	
Suspended Solids, Total	Monthly Avg	20 mg/L	2/Week	24-Hr Comp	
Suspended Solids, Total	Daily Max	201 lbs/day	2/Week	Calculated	
Suspended Solids, Total	Monthly Avg	100 lbs/day	2/Week	Calculated	
Dissolved Oxygen	Daily Min	4.0 mg/L	2/Week	Grab	
pH Field	Daily Max	9.0 su	2/Week	Grab	
pH Field	Daily Min	6.0 su	2/Week	Grab	
Temperature Maximum	Daily Max	120 deg F	Daily	Grab	See 3.2.1.1 and 3.2.1.2
Temperature Maximum	Daily Max	120 deg F	Daily	Continuous	See 3.2.1.1 and 3.2.1.2

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Phosphorus, Total	Rolling 12 Month Avg	1.0 mg/L	2/Week	24-Hr Comp	1.0 mg/L is an Interim TBEL. The final limits are 0.225 mg/L expressed as a monthly average and 0.075 mg/L & 0.64 pounds/day both expressed as a 6-month average (May-October & November-April). The final limits are effective on April 1, 2023. See Schedule.
Chloride	Weekly Avg	400 mg/L	2/Week	24-Hr Comp	
Chloride	Weekly Avg	3,281 lbs/day	2/Week	Calculated	
Nitrogen, Ammonia (NH_3-N) Total		mg/L	2/Week	24-Hr Comp	
Acute WET		TU_a	See Listed Qtr(s)	24-Hr Flow Prop Comp	
Chronic WET		rTU_c	See Listed Qtr(s)	24-Hr Flow Prop Comp	

3.2.1.1 Effluent Temperature Monitoring

For manually measuring effluent temperature, grab samples should be collected at 6 evenly spaced intervals during the 24-hour period. Alternative sampling intervals may be approved if the permittee can show that the maximum effluent temperature is captured during the sampling interval. For monitoring temperature continuously, collect measurements in accordance with s. NR 218.04(13). This means that discrete measurements shall be recorded at intervals of not more than 15 minutes during the 24-hour period. In either case, report the maximum temperature measured during the day on the DMR. Continuous monitoring shall commence on April 1, 2017 as specified in Schedule 5.1.

3.2.1.2 Effluent Temperature Limitations

The final water quality based effluent limitation for Temperature becomes effective on March 31, 2021 as specified in Schedule 5.1. Monitoring is required daily upon permit reissuance, and maximum temperatures shall be reported.

3.2.1.3 Phosphorus Water Quality Based Effluent Limitation(s)

The final water quality based effluent limits for phosphorus are 0.225 mg/L expressed as a monthly average and 0.075 mg/L & 0.64 pounds/day both expressed as a 6-month average (May-October & November-April) and will take effect per the Compliance Schedule unless:

(A) 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

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

Note: The permittee may also submit an application for a variance within 60 days of this permit reissuance, as noted in the permit cover letter, in accordance with s. 283.15, Stats.

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.

3.2.1.4 Alternative Approaches to Phosphorus WQBEL Compliance

Rather than upgrading its wastewater treatment facility to comply with 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.

3.2.1.5 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.

3.2.1.6 Additives

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

3.2.1.7 Whole Effluent Toxicity (WET) Testing

Primary Control Water: Grab sample collected from the East Twin River, upstream/out of the influence of the mixing zone and any other known discharge.

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, 30, 10, 3, 1% (if the IWC ≤30%) or 100, 75, 50, 25, 12.5% (if the IWC >30%) and any additional selected by the permittee.

WET Testing Frequency:

Acute tests shall be conducted twice during the permit term. Tests are required during the following quarters.

- **Acute:** Oct-Nov-Dec 2016 and July-Aug-Sept 2019

Acute WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the fourth calendar year of this permit. For example, the next test would be required in July-August-September 2021.

Chronic tests shall be conducted five times during the permit term. Tests are required during the following quarters.

- **Chronic:** Oct-Nov-Dec 2016, April-May-June 2017, Jan-Feb-March 2018, Oct-Nov-Dec 2018 and July-Aug-Sept 2019.

Chronic WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the fourth calendar year of this permit. For example, the next test would be required in July-August-September 2021.

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).

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)**
002	Representative samples of the high strength wastewater shall be obtained from the storage vessel or truck prior to land application on approved sites. The wastewater could be comprised of whey, whey by-products, permeate, antibiotic contaminated milk, separator desludge &/or cooker water.
004	Representative samples of waste activated sludge shall be obtained prior to land application on approved sites.
005	Representative samples of untreated process wastewater shall be obtained prior to land application on approved sites.

4.2 Monitoring Requirements and Limitations

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

4.2.1 Sampling Point (Outfall) 002 - HIGH STRENGTH WASTEWATER and 005- UNTREATED PROCESS WASTEWATER

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Nitrogen, Total Kjeldahl		mg/L	Monthly	Grab	
Chloride		mg/L	Monthly	Grab	
Phosphorus, Total		mg/L	Quarterly	Grab	
Solids, 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
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.

4.2.2 Sampling Point (Outfall) 004 - WWTP BIOSOLIDS (SLUDGE)

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Solids, Total		Percent	Annual	Composite	Dry weight
Chloride		Percent	Annual	Composite	Dry weight
Nitrogen, Total Kjeldahl		Percent	Annual	Composite	Dry weight
Phosphorus, Total		Percent	Annual	Composite	Dry weight
Nitrogen, Ammonia (NH_3-N) Total		Percent	Annual	Composite	Dry weight

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Nitrogen, Organic Total		Percent	Annual	Composite	Dry weight
Potassium, Total Recoverable		Percent	Annual	Composite	Dry weight
pH Field		su	Annual	Composite	
Lead Dry Wt		mg/kg	Annual	Composite	
Zinc Dry Wt		mg/kg	Annual	Composite	
Copper Dry Wt		mg/kg	Annual	Composite	
Cadmium Dry Wt		mg/kg	Annual	Composite	
Nickel Dry Wt		mg/kg	Annual	Composite	

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
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

4.2.2.1 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.

5 Schedules

5.1 Water Quality Based Effluent Limits (WQBELs) for Temperature

The permittee shall comply with the WQBELs for Temperature 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 requireme

Required Action	Due Date
Installation of Effluent Monitoring Equipment Plan Submittal: The permittee shall submit plans and specifications to the Department for approval of the installation of effluent temperature monitoring equipment consistent with a continuous monitoring requirement as specified for Outfall 009. Plans and specifications for the monitoring equipment shall comply with chs. NR 108 and NR 218, Wis. Adm. Code.	09/30/2016
Complete Installation of Effluent Monitoring Equipment: The permittee shall complete the installation of monitoring equipment in accordance with the approved plans and initiate continuous temperature monitoring in accordance with s. NR 218.04(13), Wis. Adm. Code.	03/31/2017
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 temperature data, possible operational improvements or other minor facility modifications that will optimize reductions in thermal discharges from the plant. If the operational evaluation report concludes that the facility can achieve final temperature WQBELs with only operational improvements or other minor facility modifications, the permittee shall comply with the final temperature WQBELs by March 31, 2019 and is not required to comply with the milestones identified below for years 3 through 5 of this compliance schedule ('Final Compliance Alternatives Plan', 'Final Plans and Specifications', Plant Upgrades or Modifications to Meet Final WQBELs', and 'Complete Construction'. If the Operational Evaluation Report concludes that the permittee cannot achieve final temperatur WQBELs with operational improvements or other minor facility modifications, the permittee shall initiate a study of compliance alternatives for meeting final temperature WQBELs.	03/31/2018
Final Compliance Alternatives Plan: The permittee shall submit a final compliance alternatives plan to the Department. If the plan concludes that upgrading or modifying the plant is necessary to meet final temperature WQBELs, the submittal shall include a final engineering design report addressing the upgrades or modiications to the plant.	03/31/2019
Final Plans and Specifications: The permittee shall submit final construction plans to the Department for approval pursuant to s. 281.41, Wis. Stats., specifying plant upgrades or modifications that must be constructed to achieve compliance with final temperature WQBELs, and a schedule for completing construction of the upgrades or modifications by the complete construction date specified below.	09/30/2019
Plant Upgrades or Modifications to Meet WQBELs: Upon approval of the final construction plans and schedule by the Department pursuant to s. 281.41, Wis. Stats., the permittee shall initiate construction of the upgrades in accordance with the approved plans and specifications.	03/31/2020
Complete Construction: The permittee shall complete construction of the plant upgrades in accordance with approved plans and specifications.	03/01/2021
Achieve Compliance: The permittee shall achieve compliance with final temperature WQBELs.	03/31/2021

5.2 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 plant during the period prior to complying with final phosphorus WQBELs and, where possible, enable compliance with final phosphorus WQBELs by March 31, 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 March 31, 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 March 31, 2019 and is not required to comply with the milestones identified below for years 3 through 7 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 March 31, 2023.	03/31/2017
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, (2) status evaluating feasible alternatives for meeting phosphorus WQBELs.	03/31/2018
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.	03/31/2018

If water quality trading will be undertaken, the plan must state that trading will be pursued.	
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.	03/31/2019
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.	03/31/2020
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.	09/30/2020
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.	03/31/2021
Construction Upgrade Progress Report #1: 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.	12/31/2021
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.	06/30/2022
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.	02/28/2023
Achieve Compliance: The permittee shall achieve compliance with final phosphorus WQBELs. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section	04/01/2023

of this permit.	

5.3 Land Application Management Plan

Required Action	Due Date
Management Plan: Submit an updated land application management plan to optimize the land application system performance and demonstrate compliance with Wisconsin Administrative Code NR 214	03/31/2018

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 Additives

In the event that the permittee wishes to commence use of a water treatment additive, or increase the usage of the additives greater than indicated in the permit application, the permittee must get a written approval from the Department prior to initiating such changes. This written approval shall provide authority to utilize the additives at the specific rates until the permit can be either reissued or modified in accordance with s. 283.53, Stats. Restrictions on the use of the additives may be included in the authorization letter.

6.3.8 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.

6.3.9 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 Application Requirements

6.4.1 General Sludge Management Information

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

6.4.2 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.

6.4.3 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

6.4.4 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.

6.4.5 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.

6.4.6 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.

6.4.7 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.

6.4.8 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:

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

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

6.4.9 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"):

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

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

6.4.10 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.

6.4.11 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.

6.4.12 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.

6.4.13 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.

6.4.14 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
Water Quality Based Effluent Limits (WQBELs) for Temperature - Installation of Effluent Monitoring Equipment Plan Submittal	September 30, 2016	11
Water Quality Based Effluent Limits (WQBELs) for Temperature - Complete Installation of Effluent Monitoring Equipment	March 31, 2017	11
Water Quality Based Effluent Limits (WQBELs) for Temperature - Operational Evaluation Report	March 31, 2018	11
Water Quality Based Effluent Limits (WQBELs) for Temperature -Final Compliance Alternatives Plan	March 31, 2019	11
Water Quality Based Effluent Limits (WQBELs) for Temperature -Final Plans and Specifications	September 30, 2019	11
Water Quality Based Effluent Limits (WQBELs) for Temperature -Plant Upgrades or Modifications to Meet WQBELs	March 31, 2020	11
Water Quality Based Effluent Limits (WQBELs) for Temperature - Complete Construction	March 1, 2021	11
Water Quality Based Effluent Limits (WQBELs) for Temperature -Achieve Compliance	March 31, 2021	11
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Operational Evaluation Report	March 31, 2017	12
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Compliance Alternatives, Source Reduction, Improvements and Modifications Status	March 31, 2018	12
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Preliminary Compliance Alternatives Plan	March 31, 2018	12
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Final Compliance Alternatives Plan	March 31, 2019	13
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Progress Report on Plans & Specifications	March 31, 2020	13
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Final Plans and Specifications	September 30, 2020	13
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Treatment Plant Upgrade to Meet WQBELs	March 31, 2021	13
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Construction Upgrade Progress Report #1	December 31, 2021	13
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Construction Upgrade Progress Report #2	June 30, 2022	13
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus -	February 28, 2023	13

Complete Construction		
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Achieve Compliance	April 1, 2023	14
Land Application Management Plan -Management Plan	March 31, 2018	14
General Sludge Management Form 3400-48	prior to any significant sludge management changes	21
Characteristic Report Form 3400-49	no later than the date indicated on the form	21
Land Application Report Form 3400-55	January 31, each year whether or not waste is land applied	22
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	22
Wastewater Discharge Monitoring Report	no later than the date indicated on the form	15

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:
Northeast Region, 2984 Shawano Avenue, Green Bay, WI 54313-6727

STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES

NOTICE OF FINAL DETERMINATION TO REISSUE A

WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM (WPDES) PERMIT No. WI-0050237-08-0

Permittee: Agropur Inc Luxemburg, N2915 County Road AB, Luxemburg, WI, 54217-7713

Facility Where Discharge Occurs: Agropur Inc Luxemburg, N2915 County Road AB, Luxemburg

Receiving Water And Location: an unnamed tributary of the East Twin River of the East Twin River Watershed (TK02) of the Twin-Door-Kewaunee River Basin and groundwater via landspreading in Kewaunee, Manitowoc & Brown Counties

Brief Facility Description: This facility makes cheese and processes whey at their plant in southern Kewaunee County. Process wastewater from cleaning and sanitizing production equipment is treated onsite in a wastewater treatment facility (WWTF). The facility underwent an expansion during the previous permit term which resulted in an increase in the wastewater discharge volume of approximately 20%. To accommodate the increased wastewater discharge associated with the facility expansion and production increase, the onsite WWTF was upgraded also. The WWTF upgrade was scheduled to be completed and operational prior to the production increase. The upgraded WWTF was fully operational in early 2014. The upgraded WWTF consists of an equalization tank, anaerobic conditioning tank, two anaerobic digesters, anoxic selector tank, aeration basin, secondary clarification, post aeration tank, and two dissolved air flotation (DAF) units for sludge thickening. Chemical addition of ferric chloride and polymer are added for phosphorus removal and additional sludge thickening and solids removal, respectively. Outfall 009 discharges to an unnamed tributary of the East Twin River and consists of the combination of treated process wastewater, excess polished condensate of whey (COW), retentate from the industrial water treatment reverse osmosis (RO) unit, and noncontact cooling water (NCCW) from the cheese plant. High strength wastewater that was previously segregated and land applied is now treated in the WWTF and discharged as treated process wastewater. The facility still has the option of segregating high strength waste for land application to approved sites and storage facilities via Outfall 002 as necessary. The high strength wastewater could be comprised of whey, whey-by-products, permeate, antibiotic contaminated milk, separator de-sludge and/or cooker water. Sludge from the WWTF was previously land applied on approved sites via Outfall 004 but is now disposed of at a landfill. The facility still has the option of land applying sludge to approved sites via Outfall 004 if that is deemed necessary. An additional emergency outfall (005) has been retained for land application of untreated process wastewater in the event of an emergency. It is possible that the facility may increase production over the next 5-year permit term. The upgraded WWTF would be able to treat an increased flow as long as it remains within the design flow for the treatment system and the facility is able to meet all permit limits. The average annual flow from Outfall 009 is 0.49 million gallons per day. The average annual total discharge volumes from Outfalls 002 (high strength wastewater), 004 (WWTP sludge) and 005 (untreated process wastewater) could reach 2.0, 1.6 and 0.275 million gallons per year to land application.

Permit Drafter's Name, Address and Phone: Nanette E. Jameson, 2984 Shawano Avenue, Green Bay, WI, 54313-6727, (920) 662-5174

Basin Engineer's Name, Address, and Phone: Heidi Schmitt Marquez, 2984 Shawano Avenue, Green Bay, WI 54313-6727, (920) 662-5145

Date Permit Signed/Issued: March 30, 2016
Date of Effectiveness: April 1, 2016
Date of Expiration: March 31, 2021

Following the public informational hearing the Department has made a final determination to reissue the WPDES permit for the above-named permittee for this existing discharge. The permit application information from the WPDES permit file, comments received on the proposed permit and applicable Wis. Adm. Codes were used as a basis for this final determination.

The Department has the authority to issue, modify, suspend, or revoke WPDES permits and to establish effluent limitations and permit conditions under ch. 283, Stats.

Following is a summary of significant comments and any significant changes which have been made in the terms and conditions set forth in the draft permit:

Comments Received from the Applicant, Individuals or Groups and Any Permit Changes as Applicable
Comments were received from several different parties. They include an anonymous commenter who submitted comments via email on March 4, 2016 (Anonymous), the Agropur facility in a letter dated March 21, 2016 (Agropur), and Midwest Environmental Advocates in a letter dated March 22, 2016 (MEA). In addition, five

individuals provided verbal testimony during the public informational hearing which was held on March 15, 2016. Two individuals provided written materials to the department at the hearing (Musial & Iwen). One individual, not in attendance at the hearing, mailed comments after the hearing (Garfinkel). The following significant comments and significant permit changes are grouped below according to pollutant parameter, stream classification, sample points and additional comments. **Bold = permit change**

Temperature

-Final temperature limit of 86 degrees Fahrenheit is missing from the permit. (Anonymous)

The final limit of 86 deg F (expressed as a daily maximum) was omitted from the permit, **but has been added to permit subsection 3.2.1.2.**

-The proposed final temperature limit was not evaluated to allow for increased effluent flow. (Anonymous)

Flow value increase does not affect the proposed temperature limit of 86 deg F because the 86 deg F limit is already equal to the criterion for the receiving stream.

-DNR did not conduct an antidegradation evaluation for thermal impacts. (Anonymous)

Antidegradation does not apply to thermal because the thermal limits are not increasing. (Anonymous)

-A temperature limit must be included that protects the downstream East Twin River. (Anonymous)

Monitoring at former sample points 601 & 602 has been resumed in the permit to obtain actual thermal data in the stream to compare with temperature criteria and verify cooling activity in the stream. 601 is the point at which the unnamed tributary crosses Sleepy Hollow Road; 602 is where the unnamed tributary reaches the East Twin River. Those sample points appear in permit section 3, Surface Water Requirements.

-The temperature compliance schedule is too long at five years. (Anonymous)

The longer compliance schedule is reasonable in order to develop a solution to comply with the thermal limit. That said, the **compliance schedule shall be reduced from 5 years to 4 years, and the final temperature limit shall be effective on March 31, 2020 (versus March 31, 2021). In addition, the temperature compliance schedule has been adjusted to align with the March 31, 2020 final compliance date.**

Phosphorus

-The interim phosphorus limit in the draft permit had been set at the technology based effluent limit (TBEL) level of 1.0 mg/L expressed as a rolling 12-month average. Department guidance advises that a calculated P99 value should be used if adequate effluent data is available and the facility can meet the calculated P99 value. In this case, the P99 value for phosphorus was calculated to be 0.71 mg/L. The interim limit should be 0.71 mg/L, not a TBEL of 1.0 mg/L. (Anonymous & MEA)

The P99 value of 0.71 mg/L was calculated using data through 2014. Since then additional data has become available and the re-calculated P99 value is 0.59 mg/L. However, the highest actual monthly average effluent phosphorus level was 0.72 mg/L in June of 2015. Therefore, the **permit has been altered in subsection 3.2.1 to include an interim phosphorus limit of 0.72 mg/L, expressed as a monthly average limit. The 1.0 mg/L TBEL limit expressed as a rolling 12-month average has been removed, as has the subsection 6.3.6 related to calculating a rolling 12-month average.**

Ammonia

-The monitoring frequency for ammonia was increased from monthly in the current permit to two times per week in the draft permit. The frequency should remain at monthly due to the consistently low ammonia levels and attempt to reduce unnecessary testing costs. (Agropur)

The ammonia monitoring frequency shall remain at two times per week. In light of the cold-water nature of the downstream East Twin River, ammonia data is valuable to continue to ascertain the low ammonia levels, and be in the position to eliminate ammonia as a source of potential toxicity in the case of whole effluent toxicity (WET) test failures.

Biological Oxygen Demand (BOD) / Total Suspended Solids (TSS)

-BOD & TSS mass limits should be higher based on increased production levels. (Agropur)

The BOD & TSS mass limits shall remain the same as in the draft as the permittee has not demonstrated the need for increased mass limits at this time. At current effluent concentrations, and assuming the current level of treatment is maintained, the permittee can meet the mass limits even at higher proposed peak discharge rates. The limits have not been exceeded, so Wis. Adm. Code NR 207, *Water Quality Antidegradation,* prevents an increase in categorical limits despite an increase in production.

Chloride

-Higher chloride mass limits are in the draft. This is considered a variance. The discharge is to Krok Creek. (MEA)

The chloride mass limits are not administratively considered a variance. The discharge to the unnamed tributary does not enter Krok Creek. The chloride mass limit in the permit has been increased to reflect an average increased production flow of 1.03 million gallons per day. Rules require that the permittee demonstrate that the increased discharge which could result in a lowering of water quality will accommodate important social or economic

development. The permittee has satisfied that demonstration addressed in the antidegradation rule. The antidegradation rule is not a prohibition, but is a process to justify an increased discharge.

Stream Classification

-The limits are based on an outdated stream classification. Since the last permit reissuance, the limited aquatic life segment of the unnamed tributary has been reduced but this is not reflected accurately in the evaluations. (Anonymous)

While the length has changed, the overall classification has not, and does not affect the resulting limits.

Sample Points

-Inplant sample points 104 (excess polished condensate of whey), 105 (retentate from the industrial RO system) & 108 (noncontact cooling water) have been combined into a single wet well prior to treatment. Sample point 103 (treated process wastewater prior to discharge to wet well) remains. (Agropur)

Sample points 103, 104, 105 & 108 have been combined into new outfall sample point number 109, and short & long descriptions are altered to 'WWTP INFLUENT' and 'Flow shall be estimated on the total influent to the wetwell which is at the head end of the wastewater treatment plant. The wastewaters consist of excess polished condensate of whey, retentate from the industrial water treatment reverse osmosis system and noncontact cooling water.' Only flow is monitored at the inplant sample point. Sample frequency and type shall remain at weekly and total daily.

Additional Comments

-The discharge should be sent to either Luxemburg or Green Bay sewage. The discharge has devastated aquatic life below the factory and harmed the river. The discharge should not be increased. (Garfinkel)

-The permit should be denied until Agropur can achieve a waste disposal system that does not degrade surrounding waters and East Twin River. This impaired river system is known as a cold water trout stream that lost the environment to propagate and support aquatic vertebrate and invertebrate life. DNR must provide evidence it is working with Agropur to find suitable disposal of the waste. Agropur & DNR must work in an atmosphere of trust & cooperation. Clean potable water is essential to health, welfare and safety. Agropur's waste should be piped to GB New Water immediately. (Iwen)

-Wants no discharge from Agropur as the technology is available for proper disposal. More pollution is being discharged to an impaired waterway. Pollution growth continues to tax the East Twin River with waste. Chloride is off the charts. There are photos of dead fish, foam, bleached rocks – this is a dead waterway – there are no insects. Open records do not tell the same story as the waterway. An NOV [Notice of Violation] addressed a spill from a power outage which is very concerning. The chloride toxicity went on too long. As an immediate solution, the Luxemburg plant and NEW Water is only 7 miles away. We need to talk about sending this waste to Luxemburg and stop sending waste to an already impaired waterway. Stop externalizing the cost savings on us, and stop using our waterways for your waste disposal. Agropur should do enhancement & restoration on what was a former class I trout stream. A multi-billion dollar company has the funds to do this. Kewaunee County could flourish with a trout fishing industry. (NUtesch)

-The East Twin River is a public waterway. Previous permits had gross errors. My legal counsel, which I haven't retained yet & is currently in Thailand, says the statute of limitations doesn't expire on a permit with incorrect information. There is lots of anxiety. Department of Justice imposed a fine on Trega & said it would be years to get the trout back. There is a trout population above discharge. It is an impaired waterway. If you do the math, 3281 is approximately 500 ton of salt per year. People have given up their rights to hunt, fish & trap. I want the permit changed to reduce chloride to 160 mg/L in 6 months. They could install end of pipe chloride removal or evaporation or it could be used by the county highway department. NJ says macroinvertebrate study didn't make sense. First road downstream of discharge at Church Road had a lack of tolerant macroinvertebrates. Near my land near St. Peters Road & CTH J, there is a lack of macroinvertebrates, waterstriders, crayfish, caddisfly larvae & mayfly larvae. Farmers are stressed due to 50% reduction in milk prices. Fair Warning-notification of permit renewal must be in a timely manner. Permit section 6.3.5 say no one can interfere with the public rights of state water. EPA said the discharge hits the East Twin 2 miles south of Agropur. It actually hits 1 mile north. Only natural reproduction is spawning site is between Church Road and the confluence with Krok Creek. 500 tons of salt in a small waterway-it will not recover. I see our firm and our department fly flags. With what has happened to the East Twin River, a more appropriate flag to fly is the skull & crossbones. You buy it, I'll fly it. (Musial)

-In the 70s & 80s, I would fish for DNR stocked brown trout which has stopped because the river died. I want my grandchildren to be able fish in the river but it is dead. I know that civil service protection has been removed from all state employees, DNR included, and they are not allowed to speak out & could be penalized for what they do, or don't do. Our governor has created a stress and pressure-they can't make independent decisions. They have lost their rights as employees. It is sad when our rivers are taken away, polluted & left to die. The river across the street

is totally done in. It's been real sad. This extremely wealthy Canadian firm – this pollution would never be allowed in Canada. It was brought up to pipe it into Lake Michigan? I hope not! My God, it has come to a sad state. People are down & tired; fighting doesn't do much, but we have spoken up for our grandchildren. I never would have thought that DNR would go along with this. I came to Wisconsin to go to school. The image of Wisconsin was one of honesty, purity & love with nature. It is sad that is gone. (Dobbins)

-This permit is incomplete. The social & economic component of the permit has not been met. My father used to come to Kewaunee County in the 50s in 60s to trout fish. I and others have done testing in the East Twin River for 3 years, & for DNR, and have not seen a fish. Southwestern Wisconsin has a $1.1 billion trout fishing industry. The WEDC loan was given to them on the basis of retaining jobs. Where is the economics of the degradation of the East Twin? Where is the social degradation of the East Twin? Where are those components in the permit as required by statute? Economics is not one sided. Social is not one sided. It must be done on both sides of the issue. Both the benefit for the corporation and & benefit for the people. You have forgotten the benefit for the people & more importantly, for the natural resources. I would request to see in writing that second portion of the social & economic component in the permit. If it is not there, the permit is not complete. (LUtesch)

-This is not a way of life or way of profit, it a way of death. During the illegal discharge, lots of anxiety, I stayed up four nights. Look at Joe Dorner, 77 years old, can't sleep. Really need to lower the numbers so the fish can come back. It's the chloride. No law says you have to make mozzarella. Other cheeses are more chloride friendly than mozzarella. Only recourse is citizen enforcement with the help of quite a renowned law firm in Milwaukee, Wisconsin. Justice needs to be served. I'm glad the industry makes multimillions of dollars. I'm glad you have jobs. As Mr.Utesch said, you have to consider everybody, not just the wealthy. (Musial)

The department prescribes limits and conditions in WPDES permits, but does not prescribe how the permittee shall meet those limits. Discharge to the Luxemburg WWTP, which is connected to NEW Water aka Green Bay Metropolitan Sewerage District, could be a viable choice for the permittee to pursue. The Department has authority to set limits, but does not have the authority to dictate how a permittee must meet the limits.

Comments Received from EPA or Other Government Agencies and Any Permit Changes as Applicable
No comments received

As provided by s. 283.63, Stats., and ch. 203, Wis. Adm. Code, persons desiring further adjudicative review of this final determination may request a public adjudicatory hearing. A request shall be made by filing a verified petition for review with the Secretary of the Department of Natural Resources within 60 days of the date the permit was signed (see permit signature date above). Further information regarding the conduct and nature of public adjudicatory hearings may be found by reviewing ch. NR 203, Wis. Adm. Code, s. 283.63 Stats., and other applicable law, including s. 227.42, Stats.

Information on file for this permit action may be inspected and copied at either the above named permit drafter's address or the above named basin engineer's address, Monday through Friday (except holidays), between 9:00 a.m. and 3:30 p.m. Information on this permit action may also be obtained by calling the permit drafter at (920) 662-5174 or by writing to the Department. Reasonable costs (usually 20 cents per page) will be charged for copies of information in the file other than the public notice and fact sheet. Pursuant to the Americans with Disabilities Act, reasonable accommodation, including the provision of informational material in an alternative format, will be made to qualified individuals upon request.

Attachments:

1-Anonymous email March 4, 2016

2-Agropur letter dated March 21, 2016

3-MEA letter dated March 22, 2016

4-Joe Musial's papers received at hearing, March 15, 2016

5-William Iwen's prepared comments received at hearing, March 15, 2016

6-William Iwen's revised comments received by e-mail, March 15, 2016

7-Bob Garfinkel's letter dated March 20, 2016

Jameson, Nan E - DNR

From: Concerned Citizen <livintheaquaticlife@gmail.com>
Sent: Friday, March 04, 2016 8:19 AM
To: Jameson, Nan E - DNR
Cc: Schmitt Marquez, Heidi S - DNR
Subject: Objections to Agropur Luxemburg WPDES Permit

Nanette E. Jameson, Permit Drafter:

This communication is in response to the posting on the DNR web site of the reissuance/informational hearing on the WPDES permit for Agropur Inc., Luxemburg, Permit No. WI0050237-8. Please accept my objections to the proposed permit action, presented below.

1. Stream Classification
The Permit Fact Sheet states that in May, 2009 the LAL (Limited Aquatic Life) segment of the receiving waters was reduced from the point of discharge to confluence with first unnamed tributary upstream from Sleepy Hollow Road (approximately 1.0 mile). The "Water Quality-Based Effluent Limitations for Agropur Inc. – Luxemburg (WPDES Permit # WI-0050237)" Correspondence/Memorandum identifies the LAL segment from the point of discharge to Sleepy Hollow Road, approximately 1.5 miles, which corresponds to the stream classification of March, 2000, discussed in the Permit Fact Sheet. The water quality-based effluent limitations are consequently based on an outdated stream classification. The water quality-based effluent limitations must be based upon the current stream classification.

2. Temperature Limitations

A. The permit states in part 3.2.1.2, Effluent Temperature Limitations, "The final water quality based effluent limitation for Temperature becomes effective on March 31, 2021 as specified in Schedule 5.1." But the final water quality-based effluent limitation for Temperature is not listed in Schedule 5.1, or anywhere in the permit. The Permit Fact Sheet and the "Water Quality-Based Effluent Limitations for Agropur Inc. – Luxemburg (WPDES Permit # WI-0050237)" Correspondence/Memorandum both specify, "the only recommended thermal limit at Outfall 009 at this time is 86°F daily maximum." It seems the final water quality-based effluent limitation for Temperature is 86°F daily maximum. Whether it is or not, the final water quality-based effluent limitation for Temperature must be in the permit.

B. The DNR updated the effluent limit evaluations for BOD5, TSS, Chloride and Phosphorus based on increased peak flow that would result with Agropur's planned increase in production. But the DNR did not update its effluent limit evaluations for Temperature based upon the planned increased flow rate. The effluent limit evaluations for Temperature must factor in the increased peak flow that will occur with Agropur's planned increase in production.

C. Per 40 CFR §122.44 (d)(1)(i), the permit must contain effluent limitations necessary to control all pollutants and achieve water quality standards of the receiving water and downstream waters. The DNR's Temperature evaluation in the "Water Quality-Based Effluent Limitations for Agropur Inc. – Luxemburg (WPDES Permit # WI-0050237)" Correspondence/Memorandum demonstrated that Agropur's discharge has a reasonable potential to cause or contribute to an excursion of the water quality standard for Temperature, documented by the excursions of acute and sub-lethal criteria at Sample Point 602 (East Twin River, a trout stream). As a result, the permit must contain effluent limitations for Temperature necessary to achieve compliance with the water quality standards for Temperature in the East Twin River. The grounds of DNR's recommended Temperature limitation is stated as, "It is hoped that reducing the Outfall 009 temperatures to meet the limit there will be compliance with the downstream criteria." Hope does not provide certainty to, A) The US EPA that the permit's effluent limitations for Temperature comply with 40 CFR §122.44 (d)(1)(i); B) The citizens of Wisconsin that the DNR has met its responsibility of protecting the quality of the State's waters; and C) Agropur that the temperature controls it installs to meet the 86°F daily maximum limitation will also achieve the water quality standards for Temperature in the downstream waters. The DNR cannot use hope as a substitute for science in crafting effluent limitations. The permit must contain scientifically based

effluent limitations for Temperature necessary to achieve compliance with the water quality standards for Temperature in the downstream waters.

D. The permit does not contain a way of verifying achievement of the water quality standards for Temperature in the downstream waters. The "Water Quality-Based Effluent Limitations for Agropur Inc. – Luxemburg (WPDES Permit # WI-0050237)" Correspondence/Memorandum refers to past monitoring at Sample Points 601 and 602, but the permit does not require Temperature monitoring at those sample points. The permit must require Temperature monitoring at Sample Points 601 and 602 to demonstrate achievement of the water quality standards for Temperature in the downstream waters.

3. Phosphorus Limitations

The "Water Quality-Based Effluent Limitations for Agropur Inc. – Luxemburg (WPDES Permit # WI-0050237)" Correspondence/Memorandum states, "Normally, the interim [phosphorus] limit is set equal to the 30-day P99, which is 0.71 mg/L." That document also mentions that an interim limit should keep the water from further impairment. The DNR has included the East Twin River on the Impaired Water List for phosphorus impairment. To prevent further impairment of the East Twin River, the DNR must follow its normal practices and set the interim phosphorus limit equal to the 30-day P-99, 0.71 mg/L.

4. Antidegradation Policy

Agropur is planning to increase production, and also increase its effluent flow rate and the discharge of pollutants. Wisconsin's antidegradation policy, in s. NR 102.05 (1) (a), requires any increased discharge to maintain assigned uses of the receiving waters and prohibits lowering of water quality in those waters unless the DNR demonstrates it is justified to support necessary social and economic development. But the DNR did not conduct a Water Quality Antidegradation evaluation, according to the requirements of ch. NR 207, of the planned increased discharge of heat associated with Agropur's planned increase in effluent flow, even though Wisconsin recognizes heat as a pollutant and has adopted water quality standards for Temperature. The DNR must conduct a Water Quality Antidegradation evaluation of Agropur's planned increased discharge of heat to demonstrate compliance of the increased discharge with Wisconsin's antidegradation policy.

5. Compliance Schedule

Ch. NR 106.62, relating to Compliance Schedules, reads, "Compliance with the effluent limitations [for Temperature] shall be attained as soon as reasonably possible," in other words, compliance schedules shall be as short as necessary. Schedule 5.1 in the permit, "Water Quality Based Effluent Limits (WQBELs) for Temperature," requires attainment of the effluent limitation for Temperature on March 31, 2021, thereby allowing the full permit term (5 years) to attain compliance. The Schedule also gives Agropur a year to complete installation of effluent temperature monitoring equipment. The time periods provided for these requirements seem unreasonably long, but more importantly the DNR has not justified this schedule as leading to attainment of the effluent limitations for Temperature as soon as reasonably possible. The DNR must demonstrate that Schedule 5.1 will lead to compliance with the effluent limitations for Temperature as soon as reasonably possible.

Thank you for the opportunity to present these objections to the proposed permit action. While they are being submitted anonymously, please enter them into the reissuance/informational hearing record. Please acknowledge receipt of this email.

Regards,
A Concerned Wisconsin Citizen

rec. via e-mail on Tu 3-22-16
rec hard copy via uspostal on Fr 3-25-16
WDNR-NERHQ mj

March 21, 2016

Ms. Nanette E. Jameson, Pretreatment Coordinator/Permit Drafter
Green Bay Service Center
Wisconsin Department of Natural Resources
2984 Shawano Avenue
Green Bay, WI 54313-6727

agropur

Re: Comments on Reissuance of Permit for Agropur, inc. – Luxemburg, WI
WPDES Permit #WI-0050237-08-0

Dear Ms. Jameson,

Agropur is submitting the following comments related to the reissuance of WPDES Permit #0050237-08-0 for our facility located in Luxemburg, WI. Upon review of the aforementioned permit which was public noticed on February 5, 2016, we are providing the following comments:

- Section 2.1, Sampling Point(s), describes in-plant sampling points numbered 103, 104, 105 and 108. With the upgrade that was made to the wastewater treatment plant (WWTP) in 2014, the flows previously measured by these sample points have been changed. We therefore request that the in-plant sampling locations be modified as follows:
  - The flow measured by 104, 105 and 108 were previously combined and mixed with sample point 103 prior to discharge. With the upgraded plant, the flows from sampling points 104, 105 and 108 are combined into a single wet well before being treated through the WWTP. We request that sample points 104, 105 and 108 be combined into a single sampling point measuring flow from the wet well and that this flow be monitored only if this flow is combined directly with the flow measured via sample point 103.

- In Section 3.2.1, Monitoring Requirements and Effluent Limitations (Sampling Point (Outfall) 009 – COMB WW to TRIB of EAST TWIN R), the sampling frequency for Nitrogen, Ammonia (NH_3-N) Total is listed at 2/Week. In our previous permit we were required to test ammonia monthly. Nitrogen, Ammonia (NH_3-N) Total results reported since the new WWTP was commissioned show consistently low levels in these materials, reported in the Permit Fact Sheet discussion of Ammonia. In an attempt to reduce costs associated with unnecessary testing, we request that the sampling frequency for Nitrogen, Ammonia (NH_3-N) Total be reduced to a monthly sampling frequency, consistent with the expired permit.

- The production facility and WWTP were expanded during the term of the expired permit. The production facility was expanded to ultimately process approximately three times more milk, and the WWTP was expanded to treat the additional wastewater from the expanded operation. This WWTP expansion was conditionally approved by the Department in a letter dated April 8th, 2013. The letter also indicates that limits will be reevaluated at the time of

Agropur inc. Cheese and Ingredients Division USA
3500 E. Destination Drive • Appleton, WI 54915 • **Phone: (920) 944.0990** • Fax: (920) 944.0991

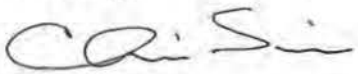
renewal of the WPDES permit, and that this reevaluation will consider the projected increased flows and antidegradation issues. We ae asking that the Department consider the full impacts of these increased flows during this permit renewal, consistent with the antidegradation demonstration that was made during this renewal process. Specifically:

- The newly constructed WWTP was designed to meet the 20 mg/l monthly average and 40 mg/l daily peak concentration for both BOD and TSS at an average design flow rate of 1.03 MGD. The proposed BOD and TSS mass limits found in section 3.2.1 of the draft permit do not reflect current flows, or the flows expected during the term of the proposed permit. Instead, the categorical limits calculation used to arrive at the mass limits in section 3.2.1 appear to be based upon 2009 data. The facility has not yet reached the approved design capacity, and we anticipate that we will reach the design capacity during the term of the new permit which is set to expire March 31. 2021. Agropur provided an antidegradation demonstration for expanded mass limits for the WQBEL related to BOD and TSS dated January 28, 2016. As we approach the design capacity of the treatment plant, we anticipate that it may be challenging to meet these mass limits. We are asking that the Department recalculate the categorical limits established for BOD and TSS using updated flows, and relying on the antidegradation demonstration provided to the Department earlier this year. In the alternative, we are requesting clarity on the process to expand these mass limits based on an updated categorical limits calculations as we increase production during the term of this permit.

- Finally, as discussed in the Public Informational Hearing on March 15, 2016, and set forth in section 3.2.1 of the proposed permit, Agropur will monitor the temperature of its discharge during the term of the proposed permit. As we've discussed, a large part of this thermal load results from Agropur's investment in a digester to treat wastes that were previously land applied and aid in reducing the facility's reliance on energy produced by fossil fuels. We are committed to working with the Department to better understand the impact of the thermal load and the best options for retaining use of this digester.

We appreciate your review of this information and look forward to your responses to our comments. If you have any questions or need additional information, please feel free to contact me at 920-944-0990 ext. 35204 or by email at .

Sincerely,



Chris Simon
Vice President Quality Assurance & Product Development

Cc: Kelley O'Connor
Heidi Schmitt Marquez
James Schmidt

Jameson, Nan E - DNR

From: Intern Intern <intern@midwestadvocates.org>
Sent: Tuesday, March 22, 2016 3:17 PM
To: Jameson, Nan E - DNR
Subject: Agropur Comments
Attachments: 2016-03-22 Agropur Comments.pdf

Hello,

My name is Adam Voskuil and I am a law clerk with Midwest Environmental Advocates, Inc. Please see the attached comments for the Agropur Wisconsin Pollution Discharge Elimination System permit, No. WI-0050237-08-0.

Thank you and if you have any questions or comments, please do not hesitate to contact me.

Sincerely,

Adam Voskuil
Law Clerk
Midwest Environmental Advocates, Inc.

Midwest Environmental Advocates

3/22/2016

Nanette E. Jameson
2984 Shawano Ave.
Green Bay, WI 54313
(920) 662-5174
Nan.jameson@wisconsin.gov

RE: Comment on Agropur Inc. WPDES Permit No. WI-0050237-08-0

Dear. Ms. Jameson:

Thank you for the opportunity to comment on the Wisconsin Pollution Discharge Elimination System (WPDES) permit for the Agropur Facility in Luxemburg (WI-0050237-08-0). Midwest Environmental Advocates, Inc. (MEA) is a non-profit environmental law center that provides legal and technical assistance to communities and families working for clean air, clean water, and clean government.

The Department of Natural Resources (DNR) is currently accepting written comments on the Agropur's draft WPDES permit, which will become effective April 1, 2016. In this draft permit, there are several modifications from the previous WPDES permit that have drawn attention from concerned citizens and environmental groups throughout the state. Some of the more egregious additions include the compliance schedule for phosphorus and the chloride variance.

Phosphorus

The DNR is required to create and enforce interim limits for phosphorus that will adequately protect the receiving water. Though the DNR has some flexibility to modify these numbers, they have created department guidance which provides the bounds of those limits. This guidance is intended to assist permit drafter and allow a reasonable limit that is backed with sound science. While MEA recognizes that there is department guidance in place for phosphorus limits, the DNR seems to have disregarded this guidance when creating interim limits in Agropur's permit.

Agropur discharges to Krok Creek, an impaired water in Wisconsin with the primary pollutant being Total Phosphorus. DNR has the duty to create standards that will limit all point sources that "cause, ha[ve] the reasonable potential to cause or contribute" to downstream or receiving water phosphorus pollution. *See* Wis Admin Code §§NR 102.01(3) and NR 217.12(1)(a). In the draft WPDES permit, the DNR set the phosphorus concentrations levels well below the current output from Agropur. The department has a responsibility to protect the both Krok Creek and the East Twin River from excessive phosphorus loading and create stringent standards that will prevent pollutants from entering the water bodies.

Because Agropur is not immediately able to meet the WQBELs, DNR is obligated to create a compliance schedule, which remains in effect until the facility can meet its target limitation. *See* Wis. Admin Code § NR 217.17(2). The compliance schedule includes an interim limitation that "represent[s] good management and operation" by the facility. *See* Wis. Admin Code § NR217.17(3)(c). DNR has created guidance for determining and implementing interim limits that should be feasible for the facility as well as protect the waters. For example, a P99 is the upper 99th percentile average of discharge levels and represents a limit that a facility should regularly be able to meet. *See* Wis. Admin Code § NR 106.05(5)(a). The guidance states that when sufficient data is available to create a P99, that level should be included in the interim limit. *See* DNR's Guidance for Implementing Wisconsin's Phosphorus Water Quality Standards for Point Source Dischargers, Ch. 2.03 pg. 37, (Jan. 3, 2012) [hereinafter Phosphorus Guidance].

Agropur's interim limit <u>should</u> be set to the P99 value which DNR calculated and expressed in the Fact Sheet. The limit represents "good management and operation" of the facility and as such should be attainable under current conditions. Wis. Admin Code § NR 217.17(3)(c). DNR even admits that using the P99 interim limit would be the traditional approach, however the DNR opted to use the Technology Based Effluent Limit (TBEL) of 1.0 mg/L instead. *See* Dept. of Natural Resources, Agropur Fact Sheet, pg. 9. [hereinafter Fact Sheet]. The TBEL is an inappropriate standard to use for Agropur's interim limit. First, at no point in the accepted Phosphorus Guidance is the TBEL mentioned as a usable standard for setting quality based limits. In fact, of the seven methods listed for determining an interim limit, P99 is the recommended method and less traditional methods are only suggested when little or no data exists. *See* Phosphorus Guidance pg. 37. In draft phosphorus guidance from 2014, P99 values are recommended if the facility's effluent quality is <u>significantly below</u> the TBEL. *See* DNR's Proposed Guidance for Implementing Wisconsin's Phosphorus Water Quality Standards for Point Source Dischargers, Ch. 2.03, pg. 44 (Jan. 6, 2014). In this instance, the P99 value of 0.71 mg/L is significantly below the suggested 1.0 mg/L; the .29 mg/L difference represents a 40% increase in the limitation.

Comment: As noted, there is an accepted procedure for determining an interim limit for a facility. DNR Phosphorus Guidance directs the department to use P99 values when possible to ensure the quality of the water is improved or, at the very least, maintained. Even the proposed, but not passed DNR guidance directs the department to use the P99 limits when there is a significant disparity between the Technology Based Effluent Limitation and the

facility effluent levels. In this instance, .29 mg/L represents a large enough difference that the DNR should use the P99 limit in the new permit. Finally, if the P99 limit is not used, MEA requests an explanation as to why the 1.0 mg/L limit was used in favor of the P99 value.

Chlorides

Agropur recently upgraded their facility which increased the overall capacity and potential flow of their discharge. As a result of this build out, Agropur is applying for a variance from the mass limit of 2,440 lbs/day. This new, chloride limitation is 300 lbs/day more than the previous WPDES limit and over 1000 lbs/day more than the target mass limit of the previous permit (1,310 lbs/day).

Under the previous permit, Agropur was allowed to discharge 2,140 lbs/day of chlorides into Krok Creek, which discharges into the East Twin River. The DNR has the authority to regulate chloride discharges from point sources to waters of Wisconsin under Wis. Admin Code § NR 106.81. However, when target limitations are not currently attainable, the DNR can again create a compliance schedule for the facility. Wis. Admin Code § NR 106.83(3). The chloride limitations can based on either mass or concentration limits. If the department and applicant are unable to agree on a target limitation or value, the DNR has the authority to to include a calculated limitation in the permit. Wis. Admin Code § NR 106.83(3)(c).

The DNR also cannot reissue a permit if the applicant is not within substantial compliance of their current permit. Wis. Admin Code § NR 283.53(3)(b)1. By the DNR's own admission, there is a "concern because 47 of those 55 [chloride] exceedances have occurred since November of 2013." *See* Dept. of Natural Resources, Agropur Fact Sheet. Since the facility upgrade, Agropur has consistently exceeded the chloride limitation specified in their current WPDES permit. The recency and continuous nature of the chloride exceedances, even after the investment in water treatment is exactly the reason that DNR should create a target limitation that includes a mass based limit.

These regular exceedances have had detrimental impacts on the fish and wildlife population of the East Twin River. According to a 2009 survey of the East Twin River by DNR, trout numbers south of Highway 29, downstream of Agropur's discharge, have declined. *See* DNR's Upper East Twin River Trout Survey – 2009, Steve Hogler & Steve Surendonk, 2009. In fact, though Krok Creek supports coldwater fish, none were captured during multiple surveys. *See id.* Residents of the area have likewise seen a substantial decline in trout populations since Agropur began operation. In 2015, residents noted that the area is now a "sterile, lifeless waterbody" and blamed the fish kills on excessive nutrient loading on Agropur. *Where Have All the Trout Gone*, Karen Ebert Yancey, GreenBayPressGazette.com (Aug. 20, 2015).

Comment: MEA asks that the DNR remain steadfast in requiring a mass based limitation on the Agropur facility. Additionally, if the DNR elects to increase the interim limit to 2,440 lbs/day (over 1,000 lbs/day more than the target limit), MEA requests they support this mass-limit increase with sound science to ensure the decision will not have any adverse effects on

water quality of Krok Creek or the East Twin River. This request is made because there is a trend moving toward regular non-compliance, even as DNR has relaxed the chloride limitation for Agropur. Finally, MEA requests that DNR strictly enforce whichever mass limitation they place on Agropur. Pursuant to Wis. Admin Code § NR 283.89, DNR has the authority to hold permitees that are not in compliance with their WPDES limits accountable for the water pollution they have caused. We ask that DNR use this authority to ensure the East Twin River does not see a stark decline if a variance or increased interim limit is granted.

The increased flow and pollution of both phosphorus and chloride could have major effects on the waters of Wisconsin as well as the citizens who rely on those waters for recreation and livelihoods. The DNR can protect those the waters by creating strong, enforceable standards for Agropur in the upcoming permit.

If you have any questions or comments, please do not hesitate to contact me,

Sincerely,

/s/

Adam Voskuil
Law Clerk
Midwest Environmental Advocates, Inc.

(1)

rec@ 3-15-16 hearing

AGROPUR PERMIT RENEWAL
PERMIT NO. WI-0050237-08-0
SUBMITTED 3-15-16

DNR COPY

E. TWIN RIVER IS A PUBLIC WATERWAY

1. PIONEER PERMIT + SOME SUBSEQUENT PERMITS CLEARLY STATES IN BIOMONITORING DISCUSSION THAT (1) "THE EAST TWIN RIVER IS CLASSIFIED AS A WARM WATER SPORT FISH COMMUNITY" PERMIT BASED ON INCORRECT OR INACCURATE INFO LIKE A HOUSE DIVIDED CANNOT STAND STATUTES OF LIMITATION CANNOT EXPIRE ON THIS INFO

2. CHANGE PERMIT SINCE 400MG/L STANDARD OF CHORIDE DISCHARGE WAS EXCEEDED MANY TIMES, CHANGE DISCHARGE TO 160 MG/L AS UPSTREAM OF DISCHARGE LEVELS ARE 40MG/L AS CONFIRMED BY INDEPENDENT CERTIFIED LAB CONFIRMS; WHAT NUMBERS ON CHLORIDE DOES DNR HAVE ON UPSTREAM + DOWNSTREAM OF DISCHARGE ON E. TWIN RIVER, IF ANY?

CHLORIDE 500 TON PER YEAR IN EAST T. RIVER

3. CHANGE PERMIT WITHIN 6 MONTH OF PERMIT RENEWAL INSTALL (THE FIRM) END OF PIPE CHLORIDE REMOVAL OR INSTALL + EVAPORATE TO 23% CHLORIDE FOR WINTER ICE + SNOW ABATEMENT USED ON ROADS, POLK CO. WISCONSIN USES CHEESE MOZZARELLA PLANT FOR ROAD USE. THERE IS NO LAW THAT PLANT HAS TO CONTINUE ITALIAN CHEESE PRODUCTION, AS THIS PRODUCT IS VERY ENVIRONMENTALLY INTENSIVE ON CHLORIDE USE.

UNDER STATUTE

4. DNR DISMISSED BASE LINE MACRO-INVERTIBRATE STUDY AS INITIALS "N.J." AS PID NOT MAKE ANY SENSE" DNR HAS TO CONSIDER STUDY DONE BY BLUE IRIS ENVIROMENTAL INC.

(2)

STATE

ON. JULY 1, 2009, EVEN THOUGH LOCATION B. CHURCH ROAD (FIRST MAIN ROAD DOWN-STREAM FROM DISCHARGE) BLUE IRIS NOTED THAT LOCATION B HAD A VERY SPARCE POPULATION OF MACRO, NUERTEBRATES - EVEN SPECIES TOLERANT OF POOR WATER QUALITY WERE IN LOW NUMBERS. TRADITIONAL SPAWNING SITE OF NATIVE BROOK IS MID-CHANNEL ONE HALF WAY BETWEEN CH. ROAD & CONFLUENCE OF BROK CREEK NOW NEARLY DEVOID OF ALL VISIBAL LIFE, MOST RECENT FISH SURVEY NOTED THAT WHILE NATIVE-TROUT (GOOD) POPULATIONS EXIST UPSTREAM OF DISCHARGE E. TWIN RIVER HAS NOT RECOVERED DOWNSTREAM FROM DISCHARGE.

FAIR WARNING; PAST PERMIT RENEWAL DEPARTMENT OF NATURAL RESOURCES DID OFTEN NOT ENTER PUBLIC COMMENT OF SENSITIVE ISSUES THAT MAY BE PERCEIVED BY DEPT. TO BE UNFAVORABLE TO OUR INTERESTS. I WANT MY INPUT TO BE PRINTED VERBATIM WITH NO DELITIONS.

IF SOME THING IS NOT DONE VERY SOON THE ONLY OPTION WILL BE CITIZEN ENFORCEMENT ACTION, WITH ASSISTANCE WELL KNOWN MILWAUKEE WI, LAW FIRM. INDUSTRY CAN IMPAIR A PUBLIC WATERWAY, YESTERDAY, TODAY, TOMORROW, BUT NOT FOREVER

3.

FAIR WARNING IF PERMIT IS ~~RENEWED~~

PUBLIC COMMENTORS WANT TIMELY NOTIFICATION NOT DONE IN DNR'S ~~PAST~~ PRACTICE

MUCH ANXIETY EXISTS WITH DOWNSTREAM (OF DISCHARGE) WITH LAND OWNERS, AND SPORTSMEN AS RECREATION OPPORTUNITIES ARE NOW SEVERELY ~~LIMITED~~

ALSO FARMERS ARE EXPERIENCING ANXIETY AS MILK PRICES ARE NOW DOWN 50% FROM ONE YEAR AGO, + CHEESE PRICES ARE REALITIVE UNCHANGED

SEE PERMIT INFO 6.3.5 AGROPURS PROFIT MARGIN HAS PROBALLY NEVER BEEN GREATER.

NR. 102.04

A. SUBSTANCES FOUND THAT WILL CAUSE OBJECTIONAL DEPOSITS ON THE SHORE OR IN A 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 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 STATE

D. SUBSTANCES IN CONCENTRATIONS OR IN COMBINATIONS WHICH ARE TOXIC OR HARMFUL TO HUMANS SHALL NOT BE PRESENT IN

G.3.5. (4) - METHODOLOGY OF GRAB SAMPLES MAY INDICATE LESS CHLORIDE THAN REPORTED AS CHLORIDE IS HEAVIER THAN WATER

D. CONT. 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

BIOMONITORING DISCUSSION/RECOMMENDATION

S. NR 102.04(3)(A) WIS. ADM. CODE

NO. 3 " THERE IS UNCERTAINTY REGARDING THE POTENTIAL FOR TOXICITY BASED ON THE INTERACTIONS BETWEEN CHLORIDES AND/OR OTHER UNMEASURED TOXIC COMPOUNDS THAT MAY BE PRESENT

ALSO. SUBSECTION 147.01(1)

ALSO. (S. 144.025(2)(b) WIS STATS.)

ENCLOSED. CHAPTER 147, STATS.
CHAPTER 144, STATS.

CARLTON TOWNSHIP

ONE OF MY LAND HOLDINGS HAS WATER FRONTAGE ON ST. PETERS ROAD ALSO CO. HY. J. IN PAST 18 MONTHS ALL VISIBLE CRAY FISH, WATER STRIDERS, CADDIS FLY LARVEA, MAY FLY HAVE ALMOST 100% DISSAPEARED ?

DISCHARGE FROM CHEESE PLANT CONTAINS FECAL COLIFORM, HUMAN WASTE MAY CONTAIN ANTIBIOTICS,

(5.)

TOM TEWS TOLD MYSELF & INVESTIGATOR WITNESS THAT LICENSED & BONDED "DISCHARGE WOULD ENHANCE WATER WAY & DOESNT ENTER A TROUT STREAM AGROPUR SHOULD BE COMPLIED TO BUILD HOLDING TANK & DISPOSE OF HUMAN WASTE VIA TRUCK & VIA SEWAGE PLANT (MUNICIPA)

UNTREATED DISCHARGE OCCURED MARCH 1, 2015 AGROPUR NEEDS TO INSTAL SAFEGAURDS TO INSURE THAT SYSTEM IS NOT DISRUPED IN THE FUTURE, NO PHOTO EXISTS OF DOWNSTREAM OF RECOVERY AREA EPA INPUT LAST PERMIT INDICATED THAT DISCHARGE "HITS" E. TWIN RIVER 2 MILES SOUTH OF PLANT NOT TRUE DISC. ENTERS E-TWIN R. 1 MILE NORTH OF PLANT.

IF THIS WERE TRUE DISC. WOULD HAVE SPACED MID-CHANNEL TROUT SPAWN SITE IN. SEC. 5 WEST KEWAUNEE TWN

PHONE # 19204875665

3-15-16

SUBMITTED

19204875665 SUBMITTED BY.

JOSEPH E. MUSIAL
E. 4640 PHEASANT Rd
ALGOMA, WI 54201

Joseph E. Musial

[illegible] other than trace amounts.

SUBMITTED 3-15-6 J.EM

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.

BIOMONITORING DISCUSSION/RECOMMENDATION

Acute and chronic toxicity testing is recommended. Factors considered in developing the recommendation include the following: (1) The East Twin River is classified as a warmwater sport fish community according to s.NR 102.04(3)(a), Wis. Adm. Code, which warrants protection of the fish and aquatic life; and (2) chlorides were detected at a level which warrants the imposition of a limit for protection of fish and aquatic life; and (3) there is uncertainty regarding the potential for toxicity based on the interactions between chlorides and/or other unmeasured toxic compounds that may be present; and (4) there are limited acute and chronic whole effluent toxicity testing data available on the current discharge.

Subsection 147.01 (1), Wis. Stats. establishes state policy to "restore and maintain the chemical, physical, and biological integrity of its waters to protect public health, safeguard fish and aquatic life and scenic and ecological values, and to enhance the domestic, municipal, recreational, industrial, agricultural, and other uses of water." Furthermore, the statutes require that the Department of Natural Resources "shall promulgate rules setting standards of water quality to be applicable to the waters of the state recognizing that different standards may be required for different waters, or portions thereof. Water quality standards shall consist of the designated uses of those waters and the water quality criteria for those waters based upon the designated use (s. 144.025 (2)(b), Wis. Stats.)." Chapter 147, Stats., further authorizes the Department to establish effluent limitations for point source dischargers to regulate the level of pollutants so as to meet the water quality standards established under the authority of chapter 144, Stats.

II. Authority:

SUBMITTED
3-15-2016

Blue Iris Environmental, Inc.

June 20, 2009

Joe Musial
E4640 Pheasant Road
Algoma, WI 54201

Dear Mr. Musial

RE: Report of Findings
Biological Survey of East Twin River, Kewaunee County, WI

At your request, Blue Iris Environmental, Inc. (Blue Iris) has conducted a biological assessment of macroinvertebrates (and fish if observed) inhabiting portions of East Twin River in Kewaunee County, WI. Blue Iris conducted the survey on July 1, 2009 at three locations along East Twin River. The survey was not meant to be either qualitative or quantitative merely a cursory evaluation of stream inhabitants. This evaluation might be used to provide a preliminary assessment of water quality and/or establish a basis for more in depth evaluations. Blue Iris did not retain any specimens but did record observations which are presented herein.

Observations of instream macroinvertebrates were taken at the following locations:

- Location A - East Twin River – north of Hwy 29 on Town Line Road
- Location B - East Twin River – along Church Road
- Location C - East Twin River – along Kroc Road

At each station, Blue Iris made observation upstream of the culvert and traversed an area approximately 50 to 100 yards upstream. Observations of inhabitants were recorded in a one hour effort per site. Observations included searches of bottom sediments, undercut banks, overhanging vegetation, submerged logs, as well as near shore vegetation (search for exuviae of dragonfly and damselfly).

Stream temperatures ranged from 54°F at Location A to 56°F at the other two locations. Substrate at Location A included a bottom with finely washed gravel in the center with soft sediment along the sides. Substrate at Location B had slightly more soft sediment throughout the stretch with numerous sticks and woody deposits on the bottom. Substrate at Location C was nearly all sand bank to bank with some rock and scant aquatic vegetation. All sites were canopied with scrub (alder) and hardwood over story.

N5811 Twelve Corners Road, Black Creek, Wisconsin 54106 : ph-920-730-0684 : fax-920-738-7774 :email-blueirisenv@gmail.com

Summary of Findings

The following chart is a summary of findings.

Taxa	Location A	Location B	Location C
Annelida			
Hirudinea (leech)	C2sp		
Crustacea			
Amphipoda (scuds)	A	C	A
Decapoda (crayfish)	C	C	C
Isopoda	C		
Mollusca			
Gastropoda (snails)	A	P	P
Pelecypoda (clams)		P	
Insecta			
Ephemeroptera (mayflies)			P2sp
Odonata			
Anisoptera (dragonfly)	C	P	C3sp
Zygoptera (damselfly)	P		
Plecoptera (stonefly)			P
Hemiptera (true bugs)	P	P	P
Coleoptera (beetles)			P
Trichoptera (caddisfly)	A3sp*	C2sp	C
Diptera (fly)			
Tabanus	P		
Chironomids	C		P
Fish			
Mud minnow		2	
Stickleback	1	1	

A = Abundant
C = Common
P = Present
*A3sp = abundant, 3 species noted

Discussion

Of the three sites, Location A and C had the most biological organisms per unit effort. Location A had probably the most individuals of the two most likely because it had better substrate (finely washed gravel) which is conducive to macroinvertebrate populations. While Location C had fewer organisms per unit effort, this site was the only one which contained individuals from the stonefly and mayfly groups (highly desirable). All three sites possessed a preponderance of Amphipoda (number one organism identified) and Trichoptera. While Location B had good habitat, several of the taxa noted were a single individual (noted as present). Blue Iris noted that Location B had a very sparce population of macroinvertebrates – even species tolerant of poor water quality were low in numbers. While this was a very cursory evaluation, the differences between the sites should be noted as substantial even to the casual observer.

If you have questions regarding this report, please do not hesitate to contact me at 920-730-0684 or my cell at 920-450-4641.

SINCERELY,

BLUE IRIS ENVIRONMENTAL, INC.

William M. West

William M. West, *President*

N5811 Twelve Corners Road, Black Creek, Wisconsin 54106 : ph-920-730-0684 : fax-920-738-7774 :email-blueirisenv@gmail.com

SUBMITTED 3-15-16 JEM

East Twin August 04, 2015 Sampling Event

Lab ID #	Stream name	Sample Location	collection date	Sample Time	Collected By	EPA Method 300 Analyte detection limit	EPA Method 300 Chloride Results
15AL0978	East Twin	Section Spawning Site	8/4/2015	11:00 AM	Joseph Musial	1.0 mg/L	128 mg/L
15AL0979	East Twin	Upstream of 29	8/4/2015	11:10 AM	Joseph Musial	0.25 mg/L	40 mg/L
15AL0980	East Twin	Agropur Discharge	8/4/2015	11:15 AM	Joseph Musial	2.5 mg/L	325 mg/L

All samples were received and transferred on ice

8./25

Chloride samples tested by:

Analytichem LLC
Laboratory Services
N 9190 Bay Meadows Ln
Luxemburg, WI 54217
920-866-3944 fax 920-866-3755
WI Lab Cert. # 105-430

8/5/2015

rec @ 3-15-16 hearing

Agropur Inc. Public Hearing on the reissuance of Agropur's WPDES Permit WI-0050237-08-0 held in Luxemburg, WI. 3/15/15 at 3 PM.

I , William Iwen, a taxpayer and citizen of Kewaunee County , formally request that this permit be denied until the following criteria are met:

I. No contaminants from this Corporation will be allowed to enter the Waters of the East Twin River within a reasonable time frame allowing for Agropur Inc. to achieve a needed waste disposal system that is not going to degrade the surrounding waters of the State of Wisconsin and most immediately to the waters of the East Twin River System.

II. The legal and civil basis for this request is that this river system is already known by the U.S.EPA , and other authorities to be an impaired river system. The East Twin River is known historically for having been a cold water trout stream that lost the needed environment to propagate and support aquatic vertebrate and invertebrate life.

III. That evidence of due diligence on the part of the WDNR is publicly disclosed that shows that the WDNR is exercising its full regulatory powers to work with Agropur Corporation and find a suitable environmentally safe alternative to dispose of the waste generated by Agropur Corporation.

IV. That this mutual effort on part of Agropur and the WDNR will be done in an atmosphere of trust & progressive cooperation to restore Public Trust and harmony in a County where there are increasing levels of distrust and disharmony and extreme pollution to surface waters and to entire aquifers and ultimately to L. Michigan, waters that are waters belonging to the Federal government and all citizens of our great Country.

It should be well accepted by all governmental agencies and Corporate entities the the "Solution to Pollution is Dilution" is no longer acceptable in a changing environment that threatens the very foundations of life itself...and that Foundation is CLEAN POTABLE WATER upon which <u>good health, welfare and safety to the population are the building blocks of life and communities.</u>

Thank you,

William E. Iwen
E. 5401-12th Road
Algoma, WI. 54201

William E Iwen

P.S. Piping Agropur Waste To GB NEW WATER #5 ON "IMMEDIATE CHOICE.

Schmitt Marquez, Heidi S - DNR

From: William Iwen <iwenwilliam22@gmail.com>
Sent: Tuesday, March 15, 2016 8:24 PM
To: Schmitt Marquez, Heidi S - DNR
Cc: Star News Karen Ebert Yancey
Subject: My reviewed version of my letter to the DNR submitted 3/15/16. My apologies for my unproved version that I inadvertently handed in at todays Agropur hearing. Thank you!
Attachments: Untitled.pdf

March 15, 2016

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It should be well accepted by all governmental agencies and Corporate entities that the "Solution to Pollution is Dilution" is no longer acceptable in a changing environment that threatens the very foundations of life itself. The Foundation of life is CLEAN POTABLE WATER upon which <u>good health, welfare and safety to the population are the building blocks of life and communities.</u>

Thank you,

William E. Iwen
E. 5401-12th Road
Algoma, WI. 54201

3/20/16

Nanette Jameson,

I tried to contact you last week but you were out of the office until after the deadline for submission. So, if anything I write is incorrect, I apologize in advance.

I am writing in regard to permit NO. WI-0050237-08 concerning discharge of Agrpur. I favor sending the discharge either to Suspenbury or directly to Green Bay Sewage rather than discharging into the East Twin River or any of its tributaries. The salt and other things in the discharge has devastated aquatic life below the factory. Fish, minnows, insect life, crayfish are few and far between. I feel, that under no

circumstances, should the discharge be increased. In my opinion, the amount of discharge at the present time has harmed the river. If allowed to cleanse itself, this water will recharge and heal itself for all of us to enjoy.

Thank you for your time,

Bob Garfinkel
Kewaunee County Supervisor
garfinkel.bob@gmail.com
920-676-2061

B. Garfinkel/GREEN BAY WI 543
P.O. Box 20 31 MAR 2016 PM 1
Luxemburg, WI
54217

Rec'd 3-23-16

Nanette E. Jameson, D.N.R.
2984 Shawano Ave.
Green Bay, WI.
54313-6727

543135727>84