Briefing Memorandum

STATEMENT OF BASIS FOR THE REISSUANCE OF A NPDES PERMIT

Name and Address of Applicant:

Bad River Utilities
Bad River Band of the Lake Superior
Tribe of Chippewa Indians
P.O. Box 39
Odanah, Wisconsin 54861

Name and Address of Facility Where Discharge Occurs:

Bad River Wastewater Treatment Plant
Bad River Indian Reservation
New Odanah, Wisconsin
Ashland County
(E ½ of the SE 1/4 of Sec. 30, T48N, R2W)

Permit No.: WI-0036587-4

Receiving Water: Bad River

DESCRIPTION OF APPLICANT'S FACILITY AND DISCHARGE

The above named applicant has applied for an NPDES Permit to discharge into the designated receiving water. The discharge is located within the exterior boundaries of the Bad River Indian Reservation. The permit will be issued by the U.S. Environmental Protection Agency.

The existing treatment facility consists of mechanical fine screens followed by an influent equalization tank. Wastewater then flows to a two tank sequencing batch reactor (SBR) system. Though some biological removal of phosphorus occurs in the system, a chemical feed system is also used for phosphorus removal. Effluent from the SBR's goes through ultra-violet disinfection and then discharges to the Bad River (Outfall 002).

Waste activated sludge is pumped to an aerobic digester and then to one of two treatment/storage lagoons. The treatment/storage lagoons are the old aerated stabilization lagoons that were taken out of service in 1996. One lagoon is approximately 8 feet deep, 0.3 acres in area. The other lagoon is 6 feet deep and 3.38 acres in area. It is the latter lagoon that is being used at this time. The permittee is looking at options for the final disposal of the sludge, whether it is to continue using the lagoons for treatment/storage, to land apply the sludge, or to haul it to another facility for treatment.

The treatment facility has a design flow of 0.14 million gallons per day of wastewater.

Receiving Water

The Bad River is protected under the Bad River Band's Water Quality Standards (WQS) within the exterior boundaries of the Bad River Indian Reservation to protect public health and welfare, agricultural uses, navigation, industrial water supply, public water supply in areas with designated public water supply intakes, enhance the quality of water, serve the purposes of CWA. Also, the

Bad River supports wild rice habitat for sustainable growth and safe consumption.

All numeric chronic criteria apply at in-stream flow rate greater than or equal to the flow rate calculated as the minimum 7-consecutive day average flow with recurrence frequency of once in ten years (7Q10) of 180 cfs. Narrative criteria apply regardless of flow. Numeric acute criteria apply regardless of flow.

Proposed Effluent Limitations:

Monitoring Point 002A- the permittee is authorized to discharge treated municipal wastewater from Monitoring Point 002A through Outfall 002, which discharges to the Bad River.

Effluent Characteristics	Discharge Limitations						
	Concentration (Specified Units)				Quantity/Loading (lbs/day)		
Parameter	Minimum	Monthly	Weekly	Maximum	Monthly	Weekly	Maximum
Flow (MGD)	-	-	-	-	Report	-	Report
Dissolved Oxygen (mg/L)	5.0	-	-	-	-	-	-
pH (SU)	6.0	-	-	8.5	-	-	-
Total Suspended Solids (TSS) (mg/L)	-	30	45	-	35	53	-
Biochemical Oxygen Demand (BOD_5) (mg/L)	-	30	45	-	35	53	-
Phosphorus, Total (mg/L)	-	1.0	2.0	-	1.17	2.34	-
Nitrogen, ammonia (mg/L)	-	Report	-	Report	-	-	-
Sulfates (mg/L)	-	Report	-	Report	-	-	-
Mercury, Total (ng/L)	-	-	-	Report	-	-	-
E. coli (#/100ml)	-	126*	-	235	-	-	-
BOD percent removal (%)	85	-	-	-	-	-	-
TSS percent removal (%)	85	-	-	-	-	-	-
Outfall observation (yes/no)	-	-	-	-	Report	-	-

* Geometric Mean
Loading limits in the permit were calculated using the following formula:
0.140 mgd x limit (mg/L) x 8.34 = Loading (lbs/d).

Section 401 Water Quality Certification

Where states or tribes have federally approved water quality standards that are applicable at the point of discharge, federal NPDES permits cannot be issued unless water quality certification for the discharge is granted or waived pursuant to Section 401 of the Clean Water Act. The tribal Section 401 authority within the Bad River Band is the Tribal Council. The permittee has provided a copy of its NPDES permit application and requested Section 401 certification from the Bad River Band. EPA has provided a copy of the draft NPDES permit to the Council. If the Council needs any additional information in order for the Section 401 application to be considered complete, the Council will request such information from the permittee. It is the permittee's responsibility to ensure that the Council has received a valid, complete application for tribal Section 401 certification and to obtain a final Section 401 action from the Council.

The Bad River Environmental Department (BRED) has public noticed the application for Section 401 water quality certification under Tribal Rules. The BRED indicated that the Council intends to provide Section 401 certification or conditions for certification to EPA prior to or during the public notice period for this NPDES permit action. It should be noted that this permit may be republic noticed based on the conditions for Section 401 certification provided by Council.

Basis for Permit Requirements

The limits were developed to ensure compliance with 40 CFR Parts 131 and 133, Bad River's water quality standards, and protection ofWisconsin's water quality standards where they are applicable.

pH

The limits for pH are based on secondary treatment requirements pursuant to 40 CFR Part 133 and Permit Writer's Judgment.

Biochemical Oxygen Demand(BOD)

The limits for BOD are based on secondary treatment requirements pursuant to 40 CFR Part 133. A 7-day average limit of 45 mg/L and a 30-day average limit of 30 mg/L are carried from the previous permit; these are the arithmetic mean of pollutant parameter values for samples collected in a period of 7 and 30 consecutive days, respectively.

Total Suspended Solids (TSS)

The limits for TSS are based on secondary treatment requirements pursuant to 40 CFR Part 133. A 7-day average limit of 45 mg/L and a 30-day average limit of 30 mg/L are carried from the previous permit; these are the arithmetic mean of pollutant parameter values for samples collected in a period of 7 and 30 consecutive days, respectively.

E.coli

The limits for E.coli are based on Bad River's water quality criteria. The geometric mean of not less than 5 samples equally spaced over a 30-day period shall not exceed an E.coli count of 126 Colony Forming Units (CFU) per 100 milliliters (mL). Any single sample shall not exceed an E.coli count of 235 CFU per 100 mL.

Mercury

To help determine whether the permittee can meet the Bad River's Human Health criteria of 0.194 ng/L, the permit will require monitoring for mercury during this permit term. A Pollutant Minimization Program for mercury is also included in the permit to help identify possible sources of mercury in the system.

Phosphorus

The Bad River is not impaired for nutrients at the point of discharge or at the reservation boundary. To protect the receiving stream against nuisance plant growth problems and ensure that Bad River's Water Quality Standards are met at the reservation boundary, the permit contains a monthly average limit for total phosphorus of 1.0 mg/l, which is a technology standard, and a weekly average limit of 2.0 mg/l pursuant to 40 CFR section 122.44(d). Though existing data indicates that the discharge is not complying with that level, we believe with proper operation of the Alum feed pump that was recently fixed, the level can be achieved on a regular basis.

Dissolve Oxygen

A minimum dissolved oxygen discharge limit of 5.0 mg/L, is included in the permit based on Bad River WQS.

Sulfates

The Bad River, at the point of discharge supports wild rice habitat for sustainable growth and safe consumption. The WQS for the Bad River Band do not have numeric standards for sulfates. Monitoring is required to provide information related to sulfate levels being discharged and the possible impacts to wild rice waters. The data will be used to help the Bad River Band develop numeric standards if determined necessary to protect wild rice waters. A reopener clause is included in the permit to possibly modify the permit if numeric standards are developed.

Ammonia Nitrogen

The WQS for the Bad River Band do not have numeric standards for ammonia nitrogen that are effective at this time. Monitoring is required to provide information related to ammonia nitrogen levels being discharged from the wastewater treatment plant. The data will be used to determine if there is a reasonable potential to cause or contribute to a violation of the Band's WQS when they become effective. A reopener clause is included in the permit to possibly modify the permit if the numeric standards become effective.

Priority Pollutant Monitoring

A onetime monitoring of priority pollutant scan during the permit term is included to ensure the facility is discharging within Bad River's established WQS.

Asset Management

On December 20, 2011 Region invited the Chairman of the Bad River Band of Lake Superior Chippewa to consult on proposed new permit requirements regarding asset management. The agreed upon language is found in the draft permit and the basis for the language is below.

Regulations regarding proper operation and maintenance are found at 40 CFR § 122.41(e).

These regulations require, "that the permittee shall at all times operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of the permit." The treatment plant and the collection system are included in the definition of "facilities and systems of treatment and control" and are therefore subject to the proper operation and maintenance requirements of 40 CFR § 122.41(e).

Similarly, a permittee has a "duty to mitigate" pursuant to 40 CFR §122.41(d), which requires the permittee to "take all reasonable steps to minimize or prevent any discharge in violation of the permit which has a reasonable likelihood of adversely affecting human health or the environment."

The draft permit requirements are the first steps of an asset management program which contains goals of effective performance, adequate funding, adequate operator staffing and training. Asset management is a planning process that ensures that you get the most value from each of your assets and have the financial resources to rehabilitate and replace them when necessary, and typically includes five core elements which identify: 1) the current state of the asset; 2) the desired level of service (e.g., per the permit, or for the customer); 3) the most critical asset(s) to sustain performance; 4) the best life cycle cost; and 5) the long term funding strategy to sustain service and performance.

EPA believes that requiring a certified wastewater operator and adequate staffing will help to ensure that the facilities and systems of treatment and control will be properly operated and maintained. Mapping the system service area will help the operator get a better handle on the assets that he/she is responsible for and the resources needed to properly operate and maintain them. This will help in the development of a budget and a user rate structure that is necessary to sustain the operation, maintenance and repair of the system. Requiring the development and implementation of a preventive maintenance program is one reasonable step that the permittee can take to minimize or prevent a discharge in violation of the permit.

Special Conditions

- The draft permit contains requirements related to sludge disposal in accordance with 40 CFR parts 122 and 503. It is not expected that sewage sludge will be disposed of during the permit term. EPA is to be contacted if sewage sludge is to be removed from the pond system.
- The permit requires the development and implementation of an Operation & Maintenance Plan. The plan covers the use of a certified operator to oversee the facility, having adequate staff to help ensure compliance with the permit, mapping the treatment system, developing a preventive maintenance program and other items.
- The permit contains Industrial Waste Pretreatment Program requirements in accordance with 40 CFR Parts 122 and 403.
- The permit requires the development and implementation of a Pollutant Minimization Program for Mercury.
- Additional monitoring as required for discharges with a design flow greater than 0.1 MGD. This monitoring is an application requirement of 40 CFR 122.21(j).

- A one-time priority pollutant scan is required.
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Significant Changes from the Last Permit

Following are the significant changes in the draft permit:

- A daily maximum limit for E. coli and a weekly average limit for phosphorus have been added to be consistent with 40 CFR 122.45(d).
- A daily minimum limit for dissolved oxygen has been included in the permit.
- During discharge, the permit requires two times per week observations of the outfall to look for unusual characteristics of the discharge.
- The permit requires monitoring of the effluent for mercury, ammonia nitrogen and sulfates.
- Development and implementation of a Pollutant Minimization Plan for mercury.
- Requirements related to Asset Management have been added.
- The Industrial Waste Pretreatment Program language has been updated.
- The Sludge Disposal Requirements language has been updated.
- The "Standard Conditions" have been revised.
- Reopener clauses for ammonia nitrogen and sulfates are included in the permit.

ESA and NHPA Compliance

EPA believes it has satisfied its requirements under the Endangered Species Act and in the process of satisfying the National Historical Preservation Act. As this is an existing discharge, with no planned construction during the permit term, we do not believe the discharge will have any effect on historic properties or threatened or endangered species.

The permit is based on a application dated February 23, 2011, and additional supporting documents found in the administrative record.

The permit can be effective for five years from the date of reissuance as allowed by 40 CFR 122.46.

Written By: Sreedevi Yedavalli/John Colletti
USEPA Region 5, WN-16J
77 West Jackson Blvd.
Chicago, IL 60604
Phone No. (312) 353-7314

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