

STATEMENT OF BASIS

FOR THE REISSUANCE OF A NPDES PERMIT

U.S. Environmental Protection Agency
Region 5, NPDES Programs Branch - WN-15J
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Public Notice No.: 17-05-02-A

Public Notice Issued On: May 31, 2017

Comment Period Ends: June 30, 2017

Permit No.: WI-0071501-2 (REISSUANCE)

Application No.: WI-0071501-2

Name and Address of Applicant:

**Name and Address of Facility
Where Discharge Occurs:**

Sokaogon Chippewa Community
3051 Sand Lake Road
Crandon, Wisconsin 54520

Sokaogon Chippewa Community
Wastewater Treatment System
3000 Ackley Circle
Crandon, Wisconsin 54520
(SW ¼ of Section 28, T35N, R12E)

Receiving Water: Wetland 22 via hydrologically connected ground water

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 facility is located within the exterior boundaries of the Mole Lake Indian Reservation. The permit will be issued by the U.S. Environmental Protection Agency.

The application and plans indicate that the permittee owns and operates a 0.09 mgd wastewater treatment system. The system consists of fine screening followed by septic tanks (2 primary and 2 secondary), recirculating sand filter beds (4) and ultraviolet disinfection. The discharge is continuous to a subsurface discharging system. The subsurface discharge is 50 feet from the edge of a wetland on the Mole Lake Indian Reservation. Sludge generated at the facility is hauled offsite by a private hauler and land applied. The treatment system serves the Sokaogon Chippewa Community and Casino/Hotel.

Proposed Effluent Limitations:

Outfall 001- the permittee is authorized to discharge treated municipal wastewater from Outfall 001. Outfall 001 discharges to Wetland 22 via hydrologically connected ground water.

Parameter	Date	Monthly average	Weekly Average	Daily Maximum	Daily Minimum	Comments
Flow	All year	Report	Report	---	---	PWJ
Carbonaceous Biochemical Oxygen Demand (CBOD ₅)	All Year	20 mg/L	30 mg/L	---	---	WQC
Total Suspended Solids (TSS)	All Year	20 mg/L	30 mg/L	---	---	WQC
Ammonia Nitrogen, Total (as N) (mg/L)	All Year	9.87	---	9.87	---	WQS
Dissolved Oxygen (mg/L)	All Year	---	---	---	5.0	WQS
E.coli	May 1 – September 30	126 E. coli/100 ml (geometric mean)	---	410 E. coli/100 ml	---	WQS
Phosphorus, Total (mg/L)	All Year	Report	---	---	---	WQC
Temperature (°F)	All Year	Report	-	Report	-	WQC
pH	All Year	---	---	8.5 S.U.	6.5 S.U.	STS
Outfall Observation	All Year	Report	---	---	---	PWJ

Loading limits in the permit were calculated using the following formula:

$$0.09 \text{ mgd} \times \text{limit (mg/L)} \times 8.34 = \text{Loading (lb/d)}.$$

Comment Key

WQS – Water Quality Standards

WQC – Water Quality Concern

STS – Secondary Treatment Standards (40 CFR part 133)

PWJ – Permit Writer’s Judgment

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 Mole Lake Indian Reservation is SCC Tribal Authorities. EPA has provided a copy of the permittee’s NPDES permit application and a copy of the draft NPDES permit to Tribal Authorities. If Tribal Authorities needs any additional information in order for the Section 401 application to be considered complete, Tribal Authorities will request such information from the permittee. It is the permittee’s responsibility to ensure that Tribal Authorities has received a valid, complete application for tribal Section 401 certification and to obtain a final Section 401 action from Tribal Authorities.

ESA and NHPA Compliance

EPA has satisfied its requirements under the Endangered Species Act and the National Historical Preservation Act. This is an existing facility with no planned expansion or construction within the permit term. Therefore, it is believed that the reissuance of the permit and the continued operation of the facility and associated discharge will have no effect on endangered or threatened species or their critical habitat and will have no impact on historical, archeological, or cultural resources.

Basis for Permit Requirements

As stated above, the facility discharges its effluent through a subsurface drainage system. EPA would not normally require a NPDES permit for a subsurface discharge. The Clean Water Act does not directly answer the question of whether a discharge to surface waters via hydrologically connected ground water is unlawful. However, given the broad construction of the terms of the CWA by the federal courts and the goals and purposes of the Act, the Agency believes that while Congress has not spoken directly to the issue, the Act is best interpreted to cover such discharges. The statutory terms certainly do not prohibit the Agency's determination that a discharge to surface waters via hydrologically-connected ground waters can be governed by the Act, while the terms do clearly indicate Congress' broad concern for the integrity of the Nation's waters. Section 301(a) of the CWA provides that "the discharge of any pollutant [from a point source] by any person shall be unlawful" without an NPDES permit. The term "discharge of a pollutant" is defined as "any addition of a pollutant to navigable waters from any point source." 33 U.S.C. Sec. 1362(12). In turn, "navigable waters" are defined as "the waters of the United States, including the territorial seas." 33 U.S.C. Sec. 1362(7). None of these terms specifically includes or excludes regulation of a discharge to surface waters via hydrologically connected ground waters. (Please also see Federal Register, vol. 66, No. 9, Fri., January 12, 2001, pp. 3015-3020 for additional discussion.) In this case, EPA believes that with the close proximity of the wetland to the subsurface discharge location (roughly 50 feet) and the design of the subsurface drainage system, there will be a direct hydrological connection to the wetland and as such, would act like a direct discharge to the wetland.

The effluent limits in the permit were developed to protect Wetland 22 and to ensure compliance with 40 CFR Part 133, the Sokaogon Chippewa Community's (SCC's) federally approved water quality standards (WQS) within the Mole Lake Indian Reservation and Wisconsin water quality standards where they are applicable. In this regard, the draft permit has been shared with the Wisconsin Department of Natural Resources (WDNR) and SCC's environmental staff. SCC's water quality standards are applicable at the point of discharge. Under those standards, Wetland 22 is classified as an Exceptional High Quality Water (EHQW) and is able to support the following designated uses: Cultural; Primary and Secondary Contact Recreational; Commercial; Agricultural/Forestry; Navigation; Aquatic life, and; Wildlife. Wetland 22 has not been listed as an impaired water. Under Wisconsin's WQS, Wetland 22 would be classified as a Limited Aquatic Life water.

pH

Though the actual average effluent pH level discharged by the facility should be lower, the maximum pH limit in the permit is 8.5 S. U., which is more stringent than EPA's secondary treatment standards (40 CFR Part 133). This maximum pH limit was set to limit the amount of

ammonia-N (acute toxicity) that could be discharged. Monitoring indicates the permittee is in substantial compliance with the limits.

5-day Carbonaceous Biochemical Oxygen Demand (CBOD₅) and Total Suspended Solids (TSS)

The limits for CBOD₅ and TSS are based on protecting SCC's water quality standards and Wisconsin's limited aquatic life standard. Since the effluent infiltrates through the soil and then mixes with ground water prior to discharging to the wetland, we believe the limits will protect SCC's Ambient Water Quality Values. A weekly average limit of 30 mg/L and a monthly average limit of 20 mg/L are carried from the previous permit. The permittee has been in substantial compliance with these limits. The weekly average and the monthly average are the arithmetic mean of pollutant parameter values for samples collected in a period of 7 and 30 consecutive days, respectively. We also believe the limits are protective of Wisconsin's dissolved oxygen standard at the boundary of the reservation. 40 CFR Part 133 requires POTWs to meet a minimum percent removal of 85%. This limit is not included in the permit for CBOD₅ and TSS because the concentration limits are more stringent than secondary treatment requirements and therefore the facility must remove more than 85% to be able to meet the concentration limits.

Dissolve Oxygen (DO)

A new dissolved oxygen limit of 5.0 mg/L as a daily minimum is included in the permit. This limit will ensure protection of SCC's WQS for EHQWs. This limit is also appropriate for this facility as the limit would be protective of Wisconsin's dissolved oxygen standard at the boundary of the reservation. Monitoring conducted by the permittee during the previous permit term indicates that the permittee would be in substantial compliance with the limit and no compliance schedule is needed.

E. coli

The limits for E. coli are based on the EPA's 2012 Recreational Water Quality Criteria. The geometric mean of samples collected over a 30-day period shall not exceed 126 E. coli per 100 milliliters (ml). The statistical threshold value of 410 E. coli per 100 ml is set as the daily maximum. The limits are applicable May through October. Monitoring indicates the permittee is in substantial compliance with the limits.

Phosphorus

Phosphorus is a common constituent in many wastewater discharges and a pollutant that has the potential to negatively impact the quality of lakes, wetlands, rivers, and streams. Phosphorus promotes algae and aquatic plant growth often resulting in decreased water clarity and oxygen levels. In addition to creating general aesthetic problems, these conditions can also impact a water body's ability to support healthy fish and other aquatic species. Therefore, phosphorus discharges are being carefully evaluated throughout the state.

The previous permit required monitoring for phosphorus during discharge. We believe this is still appropriate. Based on existing effluent data, low discharge flow, the fact that the effluent infiltrates through the soil and then mixes with ground water prior to discharging to the wetland and the type of receiving water, EPA does not believe there is a reasonable potential that the

discharge will cause or contribute to a violation of SCC's water quality standards in Wetland 22 or Wisconsin's water quality standards at the reservation boundary. Based on the results of the monitoring, the discharge averages less than 150 lbs per month of phosphorus. Though not applicable at the point of discharge, in accordance with Wisconsin NR 217, no phosphorus limit would be required. Also, Wisconsin phosphorus water quality standards do not apply to discharges to wetlands. Also, monitoring required by the permit of Wetland 22 has not demonstrated any adverse effects to the integrity of the wetland in accordance with SCC's narrative criteria and therefore no limits are included. Monitoring is still required as the information will be used with the Phosphorus Management Plan required below.

The permittee is also required to develop and implement a Phosphorus Management Plan (PMP). While the PMP does not require specific reductions at this time, the EPA strongly encourages the permittee to continually identify and eliminate/reduce sources of phosphorus to, and improve phosphorus management within, your wastewater treatment facility. Though it may be difficult to find "sources of high phosphorus loading" as the wastewater is mainly from domestic sources, optimizing treatment plant performance for phosphorus removal should be a more successful means for achieving phosphorus reductions at the facility. Therefore, the permit includes new language regarding optimization.

Ammonia

Ammonia is a pollutant that can negatively impact the quality of the Tribe's and Wisconsin's water resources, including water used for drinking. Studies have shown that ammonia in lakes and streams has a toxic effect on aquatic life such as fish. A daily maximum ammonia-N limit is included in the permit based on protecting the acute criteria at the maximum pH level allowed by the permit. Since a monthly average limit is also needed in the permit (40 CFR § 122.45(d)) and the level needed to protect chronic toxicity is less stringent than the acute number, the daily maximum will also be the monthly average limit.

Temperature

This permit requires temperature monitoring for calculating future ammonia limits and to obtain data to determine if the discharge has a reasonable potential to cause or contribute to a violation of the Tribe's and/or Wisconsin's water quality standards. As the state's water quality standards are not applicable at the point of discharge, however, we do not believe the temperature standards would be violated at the reservation boundary. We do recognize that aquatic life do not discern boundaries and will include effluent temperature monitoring in the permit with a reopener to possibly modify the permit to include temperature limits at a later time.

Wetland Protection/Monitoring Plan

To assure that the water quality of Wetland 22 is maintained, monitoring is required to demonstrate that the ground water discharge does not adversely affect the integrity of the wetland. Monitoring results are intended to document that the discharge does not have a significant impact on the downstream wetlands. The permittee shall continue to implement its wetland protection/monitoring plan that was developed during the previous permit term.

Asset Management – Operation & Maintenance Plan

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 is also essential to ensure that the treatment facilities will be properly operated and maintained. Mapping the collection system with the service area will help the operator better identify the assets that he/she is responsible for and consider 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. The development and implementation of a proactive preventive maintenance program is one reasonable step that the permittee can take to demonstrate that it is at all times, operating and maintaining all the equipment necessary to meet the effluent limitations of the permit.

Special Conditions

- 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.
- Submittal of a Phosphorus Management Plan at least 180 days prior to permit expiration.
- Continue implementing a Wetland Protection/Monitoring Plan.
- The permit contains Industrial Waste Pretreatment Program requirements in accordance with 40 CFR Parts 122 and 403.
- The residual material to be removed from the septic tanks meets the federal definition of domestic septage, and therefore will be treated as such. The applicant is required to

dispose of the domestic septage in a manner that is consistent with 40 CFR part 503; “Standards for the Use or Disposal of Sewage Sludge” as it applies to domestic septage. If the septage is disposed of outside the reservation boundaries, Wisconsin regulations (Administrative Rule ch. NR 113) will also have to be complied with.

- i. The following sites have been identified by the permittee as sites that could be used for the land application of domestic septage by the permittee’s hauler.

Legal Description								
WDNR #	Site Owner	QQQ	QQ	Q	Sec	Township	Range	Town
74743	Jeremy Jansen (JJ 1)	NE	NW	SE	35	34N	12E	Ainsworth
88285	Dan Witman (DU 1)		NW	NW	10	33N	12E	Ainsworth
56555	Daniel Witman (DU 2)		NE	NW	10	33N	12E	Ainsworth
28667	Dave Jansen (DJ 1)	E	SE	NE	34	34N	12E	Ainsworth
26897	Dave Jansen (OL 1)	NW	SW	NW	35	34N	12E	Ainsworth

Significant Changes from the Previous Permit

The draft permit contains the following changes from the last issued permit:

1. Added ‘Summary of Regular Reporting’.
2. A daily maximum limit for E. coli and a monthly average limit for ammonia-N have been added to be consistent with 40 CFR § 122.45(d).
3. A daily minimum dissolved oxygen limit with associated monitoring has been added.
4. Monitoring for temperature has been added. A reopener clause related to temperature has also been added (Part I.C.8)
5. The permit requires weekly observations of the outfall to look for unusual characteristics of the discharge and install and maintain protection measures to prevent erosion.
6. The Reporting requirement has been changed to require electronic submittal of DMRs. (Part I.C.2).
7. Requirements related to Asset Management have been added (Part I.C.3).
8. Requirement to submit a Phosphorus Management Plan (Part I.C.4).
9. The Industrial Waste Pretreatment Program language has been updated (Part I.C.5).
10. The ‘Sludge Disposal Requirements’ have been updated including the septage land application sites (Part I.C.6).
11. The “Standard Conditions” have been revised (Part II).

The permit is based on an NPDES application dated September 30, 2015 and additional documents found in the administrative record.

This permit will be effective for approximately five years from the date of issuance as allowed by regulation.

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