United States
Environmental Protection
Agency
1200 6th Avenue
Suite 900 M/S OWW-191
Seattle, WA 98101

Revised Fact Sheet

The U.S. Environmental Protection Agency (EPA)
Proposes to Reissue a National Pollutant Discharge Elimination System (NPDES) Permit to Discharge Pollutants Pursuant to the Provisions of the Clean Water Act (CWA) to:

Kootenai-Ponderay Sewer District
Wastewater Treatment Plant

Public Comment Start Date: January 25, 2018
Public Comment Expiration Date: February 25, 2018

Technical Contact: Brian Nickel
206-553-6251
800-424-4372, ext. 6251 (within Alaska, Idaho, Oregon and Washington)
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The EPA Proposes to Reissue NPDES Permit
The EPA proposes to reissue the NPDES permit for the facility referenced above. The draft permit places conditions on the discharge of pollutants from the wastewater treatment plant to waters of the United States. In order to ensure protection of water quality and human health, the permit places limits on the types and amounts of pollutants that can be discharged from the facility.

This Fact Sheet includes:
- information on public comment, public hearing, and appeal procedures
- a listing of proposed effluent limitations and other conditions for the facility
- a map and description of the discharge location
- technical material supporting the conditions in the permit

State Certification
The EPA is requesting that the Idaho Department of Environmental Quality (DEQ) certify the NPDES permit for this facility, under Section 401 of the Clean Water Act. Comments regarding the certification should be directed to:

Idaho Department of Environmental Quality
2110 Ironwood Parkway
Coeur d'Alene, ID 83814
(208) 769-1422

Public Comment
Pursuant to 40 CFR 124.14(c), at this time, the EPA is only accepting comments on aspects of the draft permit that are different from those in the draft permit that was issued for public comment on June 9, 2017. These are as follows:

- Effluent limits for total residual chlorine have been changed.
- Effluent limits for total ammonia as N have been changed.
- Effluent limits for nitrate + nitrite have been changed, and, from June – September, effluent limits for nitrate + nitrite have been replaced by newly proposed effluent limits for total nitrogen.
- Effluent monitoring requirements for phosphorus and nitrogen compounds have been changed.
- A compliance schedule is proposed for the new water quality-based effluent limits for total nitrogen.
- Minor changes have been made to the surface water monitoring and reporting requirements.

Persons wishing to comment on, or request a Public Hearing for the draft permit for this facility may do so in writing by the expiration date of the Public Comment period. A request for a Public Hearing must state the nature of the issues to be raised as well as the requester's name, address and telephone number. All comments and requests for Public Hearings must be in writing and should be submitted to the EPA as described in the Public Comments Section of the attached Public Notice.

After the Public Notice expires, and all comments have been considered, the EPA's regional Director for the Office of Water and Watersheds will make a final decision regarding permit issuance. If no substantive comments are received, the tentative conditions in the draft permit will become final, and the permit will become effective upon issuance. If substantive comments are received, the EPA will address the comments and issue the permit. The permit will become effective no less than 30 days after the issuance date, unless an appeal is submitted to the Environmental Appeals Board within 30 days pursuant to 40 CFR 124.19.

Documents are Available for Review
The draft NPDES permit and related documents can be reviewed or obtained by visiting or contacting the EPA's Regional Office in Seattle between 8:30 a.m. and 4:00 p.m., Monday through Friday at the address below. The draft permit, Fact Sheet, and other information can also be found by visiting the Region 10 NPDES website at "http://epa.gov/r10earth/waterpermits.htm."

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue, OWW-191
Seattle, Washington 98101
(206) 553-0523 or
Toll Free 1-800-424-4372 (within Alaska, Idaho, Oregon and Washington)

The Fact Sheet and draft permit are also available at:

Idaho Department of Environmental Quality
2110 Ironwood Parkway
Coeur d'Alene, ID 83814
(208) 769-1422

EPA Idaho Operations Office
950 W Bannock, Suite 900
Boise, ID 83702
(208) 378-5746

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Acronyms

1Q10	1 day, 10 year low flow
7Q10	7 day, 10 year low flow
30B3	Biologically-based design flow intended to ensure an excursion frequency of less than once every three years, for a 30-day average flow.
30Q5	30 day, 5 year low flow
AML	Average Monthly Limit
AWL	Average Weekly Limit
BA	Biological Assessment
BE	Biological Evaluation
BO or BiOp	Biological Opinion
BOD_5	Biochemical oxygen demand, five-day
BMP	Best Management Practices
°C	Degrees Celsius
CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
CV	Coefficient of Variation
CWA	Clean Water Act
DEQ	Department of Environmental Quality
DMR	Discharge Monitoring Report
DO	Dissolved oxygen
EFH	Essential Fish Habitat
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FR	Federal Register
HUC	Hydrologic Unit Code
ICIS	Integrated Compliance Information System
IDEQ	Idaho Department of Environmental Quality
I/I	Infiltration and Inflow
LA	Load Allocation
lbs/day	Pounds per day

LTA	Long Term Average
mg/L	Milligrams per liter
ml	milliliters
ML	Minimum Level
µg/L	Micrograms per liter
mgd	Million gallons per day
MDL	Maximum Daily Limit or Method Detection Limit
N	Nitrogen
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
OWW	Office of Water and Watersheds
O&M	Operations and maintenance
P	Phosphorus
POTW	Publicly owned treatment works
QAP	Quality assurance plan
RP	Reasonable Potential
RPM	Reasonable Potential Multiplier
RWC	Receiving Water Concentration
SS	Suspended Solids
SSO	Sanitary Sewer Overflow
s.u.	Standard Units
TKN	Total Kjeldahl Nitrogen
TMDL	Total Maximum Daily Load
TRC	Total Residual Chlorine
TSD	Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001)
TSS	Total suspended solids
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
WLA	Wasteload allocation
WQBEL	Water quality-based effluent limit
WQS	Water Quality Standards

WWTP Wastewater treatment plant

I. Applicant

A. General Information

This Fact Sheet provides information on the draft NPDES permit for the following entity:

Kootenai-Ponderay Sewer District (KPSD)
Wastewater Treatment Plant (WWTP)
NPDES Permit # ID0021229

Physical Address:
511 Whiskey Jack Road
Sandpoint, ID 83864

Mailing Address:
P.O. Box 562
Kootenai, ID 83840

Contact:
Tanner Weisgram, Operations Manager

II. Scope of Reopened Public Comment Period

Federal regulations state that comments filed during a reopened comment period shall be limited to the substantial new questions that caused its reopening, and that the public notice under 40 CFR 124.10 shall define the scope of the reopening (40 CFR 124.14). As stated in the public notice, the EPA is only accepting comments on permit conditions that are different from those proposed in the draft permit that was issued for public review and comment on June 9, 2017.

The EPA is making significant changes to the draft permit as it was proposed in June 2017. These changes result from comments made during the initial public comment period, Idaho's 2014 Integrated Report, and a revised draft Clean Water Act (CWA) Section 401 certification prepared by the Idaho Department of Environmental Quality (DEQ). To allow the public an opportunity to comment on all of these changes, the EPA has decided to reopen the public comment period to accept comments on these specific changes. The changed conditions are as follows:

- Effluent limits for total residual chlorine have been changed.
- Effluent limits for total ammonia as N have been changed.
- Effluent limits for nitrate + nitrite have been changed, and from June – September, effluent limits for nitrate + nitrite have been replaced by newly proposed effluent limits for total nitrogen (TN).
- Effluent monitoring requirements for phosphorus and nitrogen compounds have been changed.
- A compliance schedule is proposed for the new water quality-based effluent limits for TN.

- Minor changes have been made to the surface water monitoring and reporting requirements.

III. Facility Information

Facility information is provided in the Fact Sheet for the initial public comment period dated June 9, 2017.

IV. Receiving Water

In general, the receiving water is described in the Fact Sheet dated June 9, 2017. Revised information about low flow conditions and beneficial use support status is provided below.

A. Low Flow Conditions

The low flow conditions of a water body are used to assess the need for and develop water quality based effluent limits (see Appendix B of this Fact Sheet for additional information on flows).

In the June 2017 Fact Sheet, the EPA used ambient flow data measured by the permittee, as a condition of the prior permit (see the 2002 permit at Page 5), to estimate the critical low flow conditions for the unnamed tributary to Boyer Slough, upstream from the point of discharge.

The EPA received a comment on the June 2017 draft permit stating that the EPA should not have used these flow data to estimate the critical low flow rates of the unnamed tributary to Boyer Slough, because the 2002 permit stated that the receiving water monitoring stations shall be "on the Boyer Slough," as opposed to the unnamed tributary.

However, the receiving water monitoring stations were, in fact, in the unnamed tributary to Boyer Slough which receives the discharge, immediately upstream and downstream of the discharge pipe (personal communication with Brett Converse, J.U.B. Engineers, September 22, 2017 and September 25, 2017). Thus, it is appropriate to use the flow data collected by the permittee to estimate the critical low flows of the unnamed tributary to Boyer Slough that receives the discharge.

In addition, after the public comment period, the EPA discovered that, on September 19, 2001, Idaho DEQ measured a flow rate of 0.02 CFS in the unnamed tributary to Boyer Slough.[1] Idaho DEQ also measured a flow rate of 1.6 CFS in the unnamed tributary to Boyer Slough on February 14, 2017 (personal communication with June Bergquist, Idaho DEQ, January 3, 2017). The EPA included these additional measurements in the revised estimation of critical low flows for the unnamed tributary to Boyer Slough. Since the flow rate measured by Idaho DEQ in 2001 was substantially lower than the flow rates measured by the permittee, the inclusion of this additional flow measurement resulted in lower estimated flow rates for the unnamed tributary to Boyer Slough. The revised estimated 1Q10, 7Q10, 30Q5, and harmonic mean flows of the unnamed tributary to Boyer Slough, upstream from the point of discharge, are 0.020, 0.034, 0.037, and 0.15 CFS, respectively.

[1] https://www2.deq.idaho.gov/water/BurpViewer/BurpSite/Flow?BurpID=2001SCDAA047

B. Water Quality Limited Waters

This facility discharges to an unnamed tributary to Boyer Slough. The June 2017 Fact Sheet had referenced Idaho's 2012 Integrated Report to describe the beneficial use support status of Boyer Slough, which was the most recent EPA-approved integrated report when the June 2017 Fact Sheet was being developed. Idaho's 2012 Integrated Report listed the aquatic life uses of Boyer Slough as impaired due to unknown causes, based on a benthic macroinvertebrate bioassessment.

On June 5, 2017, four days prior to the opening of the public comment period on the prior draft permit, the EPA approved Idaho's 2014 Integrated Report. In the 2014 Integrated Report, the cold water aquatic life, primary contact recreation, and salmonid spawning uses of Boyer Slough are listed as impaired due to TN and total phosphorus (TP). The major difference between the 2012 and 2014 Integrated Reports is that the 2014 Integrated Report identified TN and TP to be the causes of the beneficial use impairments, whereas the 2012 Integrated Report did not identify the cause of the impairment. Specifically, the 2014 Integrated Report states that, "nonpoint sources of the total phosphorus and total nitrogen are runoff from a subdivision adjacent to Boyer Slough and from agriculture and ranchettes on tributaries to Boyer Slough. Point source nitrogen and phosphorus pollution is from the Kootenai-Ponderay Wastewater Treatment Plant."

The 2014 Integrated Report also lists the aquatic life and recreation uses of Lake Pend Oreille, downstream from the discharge, as impaired due to concentrations of methylmercury in fish tissue that exceed Idaho's fish tissue criterion of 0.3 mg/kg.

No TMDLs have been completed by the State of Idaho to address these impairments, and none of the effluent limitations proposed in the draft permit are based on TMDL wasteload allocations.

In 2002, Idaho DEQ prepared and EPA approved a nutrient TMDL for the nearshore waters of Lake Pend Oreille, downstream from the discharge (Nearshore TMDL). In its comments on the June 2017 draft permit, KPSD stated that "some portion of the District's phosphorus load was accounted for and accepted in the Nearshore TMDL as background." This statement is contradicted by the *Nutrient TMDL for the Nearshore Waters of Lake Pend Oreille, Idaho: TMDL Five-Year Review* (IDEQ 2015), which states, on Page x, that:

> *The TMDL was written to represent average loading limits for the entire nearshore area of the lake, with loading based solely on runoff from nearshore land and septic seepage through ground water immediately adjacent to the lake. Stormwater likely was incorporated as a general nonpoint source. However, the loading calculations did not take into account other loading sources to the lake, including the following:*
>
> - *The Clark Fork River*
> - *The Pack River*
> - *Other tributaries to the lake*
> - *Specific stormwater from the towns of Kootenai, Ponderay, Hope, and Bayview*
>
> *The loads from the above sources are significant, particularly in the spring during runoff, when the highest loading of nutrients has been observed.*

Thus, the Nearshore TMDL did not account for loading of phosphorus to Lake Pend Oreille from KPSD's discharge or from Boyer Slough as a whole.

C. Antidegradation

The Idaho DEQ has completed an antidegradation review which is included in the draft 401 certification for this permit. See Appendix E for the State's draft 401 water quality certification. The EPA has reviewed this antidegradation review and finds that it is consistent with the State's 401 certification requirements and the State's antidegradation implementation procedures. Comments on the 401 certification, including the antidegradation review, can be submitted to the Idaho DEQ as set forth above (see State Certification).

V. Effluent Limitations

A. Basis for Effluent Limitations

In general, the CWA requires that the effluent limits for a particular pollutant be the more stringent of either technology-based limits or water quality-based limits. Technology-based limits are set according to the level of treatment that is achievable using available technology. A water quality-based effluent limit is designed to ensure that the water quality standards applicable to a waterbody are being met and may be more stringent than technology-based effluent limits.

B. Proposed Effluent Limitations

The following summarizes the proposed effluent limits that are in the draft permit. Effluent limits printed in bold, italic type are different from the limits in the June 2017 draft permit. The EPA is specifically requesting comments on these revised proposed limits. The basis for the revised effluent limits proposed in the draft permit is provided in Appendices D and E.

1. The permittee must not discharge floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions or that may impair designated beneficial uses.
2. Removal Requirements for BOD_5 and TSS: The monthly average effluent concentration must not exceed 15 percent of the monthly average influent concentration. Percent removal of BOD_5 and TSS must be reported on the Discharge Monitoring Reports (DMRs). For each parameter, the monthly average percent removal must be calculated from the arithmetic mean of the influent values and the arithmetic mean of the effluent values for that month. Influent and effluent samples must be taken over approximately the same time period.

Table 2, below, presents the proposed effluent limits for the KPSD.

Table 2: Proposed Final Effluent Limits				
Parameter	**Units**	**Effluent Limits**		
		Average Monthly Limit	**Average Weekly Limit**	**Maximum Daily Limit**
Five-Day Biochemical Oxygen Demand (BOD_5)	mg/L	30	45	—
	lb/day	86	129	—
	% removal	85% (min.)	—	—
Total Suspended Solids (TSS)	mg/L	30	45	—
	lb/day	100	150	—
	% removal	85% (min.)	—	—
E. coli	#/100 ml	126 (geometric mean)	—	406 (instantaneous maximum)
Total Residual Chlorine	***µg/L***	***7.3***	—	***18.3***
	lb/day	***0.024***	—	***0.061***
Nitrate + Nitrite (as N)	***mg/L***	***10.0***	***20.1***	—
(October – May)	***lb/day***	***33.4***	***67.1***	—
Total Ammonia (as N)	***mg/L***	***1.77***	—	***4.63***
(October – May)	***lb/day***	***5.90***	—	***15.4***
Total Ammonia (as N)	***mg/L***	***1.56***	—	***4.07***
(June – September)	***lb/day***	***5.20***	—	***13.6***
Total Nitrogen (as N)	***µg/L***	***200***	***401***	—
(June – September)	***lb/day***	***0.667***	***1.34***	—
Total Phosphorus (as P)	µg/L	9.0	18.0	—
(June – September)	lb/day	0.030	0.060	—

C. Schedules of Compliance and Interim Limits

Schedules of compliance are authorized by federal NPDES regulations at 40 CFR 122.47 and by Section 400.03 of the Idaho Water Quality Standards. The Idaho water quality standards allow for compliance schedules "when new limitations are in the permit for the first time." The proposed effluent limits for ammonia, nitrate + nitrite, TN, and TP are new limits that are in the permit for the first time.

The federal regulation allows schedules of compliance "when appropriate," and requires that such schedules require compliance as soon as possible. When the compliance schedule is longer than 1 year, federal regulations require that the schedule shall set forth interim requirements and the dates for their achievement. The time between the interim dates shall generally not exceed 1 year, and when the time necessary to complete any interim requirement is more than one year, the schedule shall require reports on progress toward completion of these interim requirements. Federal regulations also require that interim effluent limits be at least as stringent as the final limits in the previous permit (40 CFR 122.44(l)(1)).

EPA policy states that, in order to grant a compliance schedule, a permitting authority must make a reasonable finding that the permittee cannot comply with the effluent limit immediately upon the effective date of the final permit (see the *US EPA NPDES Permit Writers' Manual* at Section 9.1.3).

The EPA received a comment on the June 2017 draft permit requesting that EPA explain the basis for its determination that the KPSD cannot comply with certain effluent limits proposed

in the June 2017 draft permit and to explain whether EPA considered KPSD's capacity to reuse water through land application when making that determination.

The EPA has determined that the KPSD cannot comply with the new water quality-based effluent limits for ammonia, nitrate + nitrite, TN and TP immediately upon the effective date of the final permit based on the following factors:

- Historical effluent concentrations and loads of ammonia, nitrate + nitrite, TN, and TP exceed the proposed effluent limits for those parameters.
- The KPSD WWTP is not designed to remove nitrogen or phosphorus.
- Although KPSD can use their storage and re-use capacity to reduce their surface water discharges of phosphorus and nitrogen during the growing season, KPSD's current storage and land application capacity is not adequate to allow them to eliminate their discharge to surface water (and thereby comply with new water quality-based effluent limits) under critical conditions.

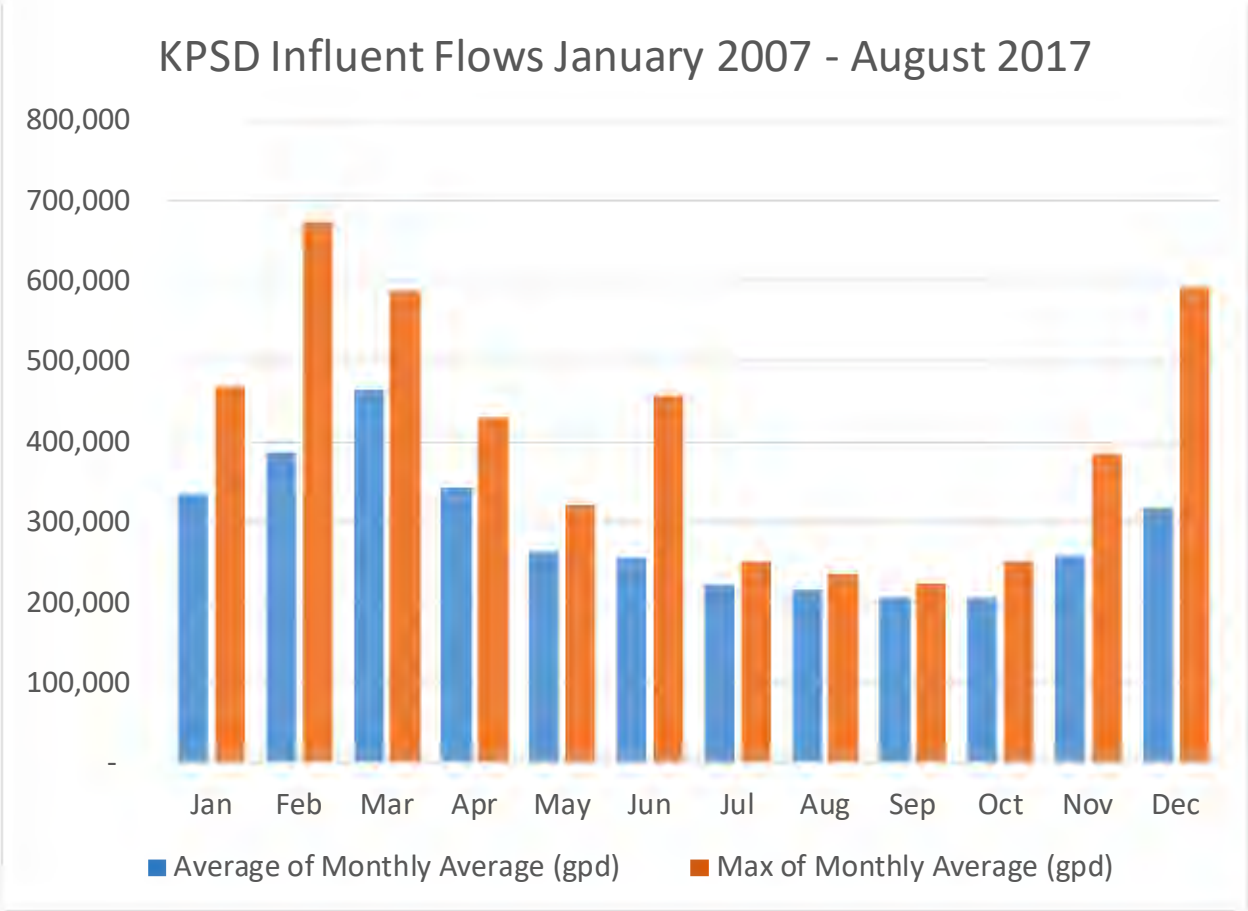
Therefore, the draft permit proposes a schedule of compliance for the new ammonia, nitrate + nitrite, TN and TP effluent limits.

The commenter also stated that many KPSD customers are not year-round residents and that, consequently, KPSD's wastewater flows are low except during the summer months and during November and December. The commenter stated that this variation in wastewater flow could allow KPSD to comply with the new effluent limits in the draft permit through storage and growing season re-use.

The EPA requested and obtained influent flow data from KPSD. The EPA analyzed these data and found that influent flows are relatively low during the summer months and relatively high during the winter and early spring (see Figure 1, below). Thus, even though some KPSD customers may not be year-round residents, this has not resulted in low wastewater flows except during the summer and November and December.

Although the EPA found that KPSD's storage and re-use capacity were not adequate to allow them to comply with new water quality based effluent limits for phosphorus and nitrogen, KPSD's storage and re-use capacity were important factors in the derivation of interim effluent limits for TN (which includes nitrate + nitrite and ammonia) and TP, as described below.

Figure 1: KPSD Influent Flows January 2007 – August 2017



The interim limits are expressed as monthly total loads (in pounds per month) and are equal to the loadings of TP and TN that the facility would discharge each month from June – September under the following circumstances:

- The influent flow rate is equal to the maximum monthly average influent flow rate observed for a given month between January 2007 and August 2017 (see Figure 1).
- The permittee diverts 3.38 million gallons, which is 25% of their total active storage volume of 13.5 million gallons (personal communication with Brett Converse, JUB Engineers, October 4, 2013), to storage each month from June – September. This will result in the entire 13.5 million gallon storage capacity being used over this four-month period. This reduces the average effluent flow rate by 0.113 mgd each month from June – September.
- The permittee irrigates 17.5 acres with effluent from June – September. Although KPSD is authorized to irrigate 36.5 acres under their current permit, they currently only have the equipment necessary to irrigate 17.5 acres. Irrigation demand was based on a 1-in-5-year (20%) exceedance probability (i.e., one year out of every 5, on average, there would be less irrigation demand than assumed).
- The effluent concentrations of phosphorus and nitrogen are equal to the 95th percentile concentrations observed between January 2012 and August 2017.

- Other than storage and re-use, the KPSD facility does not have any treatment processes that remove significant amounts of nitrogen or phosphorus.

Based upon the above information, Idaho DEQ included the proposed interim limits for TN and TP for June – September in the draft Clean Water Act Section 401 certification. The interim limits are shown in Table 3, below.

Table 3: Interim Effluent Limits

Month	Interim Total Nitrogen Limit (lb/month)	Interim Total Phosphorus Limit (lb/month)
June	2,091	468
July	249	56
August	380	85
September	482	108

The EPA has also clarified how the monthly total loadings of TN and TP are to be calculated. The permit now states, in note #1 to Table 4, "The monthly total must be calculated as the arithmetic mean of all daily discharges measured during a calendar month multiplied by the number of discharging days during that calendar month." For example:

- On June 1, the permittee measures a flow rate of 0.3 mgd and a TP concentration of 5 mg/L, resulting in a daily discharge of 12.51 lb/day.
- On June 8, the permittee measures a flow rate of 0.25 mgd and a TP concentration of 4 mg/L, resulting in a daily discharge of 8.34 lb/day.
- On June 17, the permittee measures a flow rate of 0.2 mgd and a TP concentration of 6 mg/L, resulting in a daily discharge of 10.0 lb/day.
- The permittee does not discharge from June 23 – 30, resulting in 22 discharging days for the month.

In this case, the arithmetic mean of the daily discharges of TP would be:

$(12.51 \text{ lb/day} + 8.34 \text{ lb/day} + 10 \text{ lb/day}) \div 3 = 10.3 \text{ lb/day}$

The monthly total discharge for June would therefore be:

$10.3 \text{ lb/day} \times 22 \text{ days} = 227 \text{ lb}$

VI. Monitoring Requirements

A. Basis for Effluent and Surface Water Monitoring

Section 308 of the CWA and federal regulation 40 CFR 122.44(i) require monitoring in permits to determine compliance with effluent limitations. Monitoring may also be required to gather effluent and surface water data to determine if additional effluent limitations are required and/or to monitor effluent impacts on receiving water quality.

The permittee is responsible for conducting the monitoring and for reporting results on DMRs or on the application for renewal, as appropriate, to the EPA.

Monitoring requirements printed in bold, italic type in Table 3, below, are different from the limits in the June 2017 draft permit. The EPA is specifically requesting comments on these

monitoring requirements. Most of the proposed changes in monitoring requirements result from the proposed changes to the effluent limits for ammonia, nitrate + nitrite, and total nitrogen.

The EPA also proposes to require grab samples for mercury, instead of 24-hour composite samples as proposed in the June 2017 draft permit. Grab samples will reduce the risk of sample contamination.

B. Effluent Monitoring

Monitoring frequencies are based on the nature and effect of the pollutant, as well as a determination of the minimum sampling necessary to adequately monitor the facility's performance. Permittees have the option of taking more frequent samples than are required under the permit. These samples must be used for averaging if they are conducted using the EPA-approved test methods (generally found in 40 CFR 136) or as specified in the permit.

The permit also requires the permittee to perform effluent monitoring required by part B.6 of the NPDES Form 2A application[2], so that these data will be available when the permittee applies for a renewal of its NPDES permit. The required monitoring frequency for those pollutants listed in part B.6 of the application form, which are not subject to effluent limits (total dissolved solids, and oil and grease), is twice per year. This monitoring frequency will ensure that there are at least 10 results for these pollutants at the end of the permit cycle. If there are less than 10 data points available, the uncertainty is too large to calculate an average or a standard deviation with sufficient confidence (see the TSD at Page 53).

Table 4, below, presents the proposed effluent monitoring requirements for the KPSD WWTP. The sampling location must be after the last treatment unit and prior to discharge to the receiving water. The samples must be representative of the volume and nature of the monitored discharge. If no discharge occurs during the reporting period, "no discharge" shall be reported on the DMR.

Table 4: Effluent Monitoring Requirements

Parameter	Units	Sample Location	Sample Frequency	Sample Type
Flow	mgd	Effluent	Continuous	recording
Temperature	°C	Effluent	Continuous	recording
BOD_5	mg/L	Influent & Effluent	2/month	24-hour composite
	lb/day			calculation[1]
	% Removal	% Removal	1/month	calculation[2]
TSS	mg/L	Influent & Effluent	2/month	24-hour composite
	lb/day			calculation[1]
	% Removal	% Removal	1/month	calculation[2]
pH	standard units	Effluent	5/week	grab
E. Coli	#/100 ml	Effluent	5/month	grab
Total Residual Chlorine	µg/L	Effluent	5/week	grab
	lb/day	Effluent		calculation[1]

[2] See also Appendix J to 40 CFR 122.

Table 4: Effluent Monitoring Requirements				
Parameter	**Units**	**Sample Location**	**Sample Frequency**	**Sample Type**
Total Ammonia as N (October – May until 10 years after the effective date of the final permit)	mg/L	Effluent	1/month	24-hour composite
Total Ammonia as N (Beginning 10 years after the effective date of the final permit)	***mg/L***	***Effluent***	***1/week***	***24-hour composite***
	lb/day	***Effluent***		***calculation[1]***
Nitrate + Nitrite as N (October – May until 10 years after the effective date of the final permit)	***mg/L***	***Effluent***	***1/month***	***24-hour composite***
				calculation[1]
Nitrate + Nitrite as N (October - May beginning 10 years after the effective date of the final permit)	***mg/L***	***Effluent***	***1/week***	***24-hour composite***
	lb/day	***Effluent***		***calculation[1]***
Total Phosphorus as P (October – May)	mg/L	Effluent	1/month	24-hour composite
Total Phosphorus as P (June – September until 10 years after the effective date of the final permit)	mg/L	Effluent	1/week	24-hour composite
	lb/month	Effluent		calculation[1]
Total Phosphorus as P (June – September beginning 10 years after the effective date of the final permit)	***µg/L***	Effluent	1/week	24-hour composite
	lb/day	Effluent		calculation[1]
Total Nitrogen as N (June – September until 10 years after the effective date of the final permit)	***mg/L***	***Effluent***	***1/week***	***24-hour composite***
	lb/month	***Effluent***		***calculation[1]***
Total Nitrogen as N (June – September beginning 10 years after the effective date of the final permit)	***µg/L***	***Effluent***	***1/week***	***24-hour composite***
	lb/day	***Effluent***		***calculation[1]***
Dissolved Oxygen	mg/L	Effluent	1/month	grab
Total Kjeldahl Nitrogen (October – May)	***mg/L***	***Effluent***	***1/month***	***24-hour composite***
Oil and Grease	mg/L	Effluent	2/year	24-hour composite
Total Dissolved Solids	mg/L	Effluent	2/year	24-hour composite
Total Mercury	µg/L	Effluent	1/quarter[3]	***grab***

Notes:
1. Loading is calculated by multiplying the concentration in mg/L by the flow in mgd and a conversion factor of 8.34. If the concentration is measured in µg/L, the conversion factor is 0.00834.
2. Percent removal is calculated using the following equation: (average monthly influent – average monthly effluent) ÷ average monthly influent.
3. Effluent monitoring for mercury is required for the final three full calendar years of the permit cycle.

C. Surface Water Monitoring

The proposed surface water monitoring requirements are generally unchanged from the June 2017 draft permit and are explained in the Fact Sheet dated June 9, 2017.

Since none of the effluent limits proposed in the revised draft permit are based on the flow rate of the main stem of Boyer Slough, the EPA has removed the requirement to measure the flow rate of the main stem of Boyer Slough as proposed in the June 2017 draft permit.

The June 2017 draft permit had proposed to require submission of a surface water monitoring report with the application for renewal of the permit. The EPA has changed the submittal date for the surface water monitoring report to February 20th of the year following the completion of the monitoring. Because the surface water monitoring is required during the final full calendar year of the permit term, it may not be complete by the time the application for renewal is due, which is 180 days before the expiration date of the permit.

D. Pollutant Trading

Under Idaho's *Water Quality Trading Guidance*, trading provisions must be incorporated into a NPDES permit prior to engaging in any trading activity to meet the NPDES permit limits.

At this time, the permittee has not provided a trading plan, nor is there a watershed trading framework detailing how trades would be conducted for this facility. Therefore, the permit does not allow for pollutant trading.

If the permittee is interested in pursuing pollutant trading, the permit includes conditions which the permittee must take in order for the EPA to modify the permit to allow for trading activity to occur. First, as required by *Idaho's Water Quality Trading Guidance*, the permittee must develop and submit a trading plan to IDEQ for approval. The trading plan may incorporate details from an approved watershed trading framework, if applicable. Second, the approved trading plan's monitoring and reporting requirements must be incorporated into the permit through a permit modification or reissuance process.

VII. Other Legal Requirements

A. State Certification

Section 401 of the CWA requires the EPA to seek State certification before issuing a final permit. As a result of the certification, the State may require more stringent permit conditions or additional monitoring requirements to ensure that the permit complies with water quality standards, or treatment standards established pursuant to any State law or regulation.

B. Permit Expiration

The permit will expire five years from the effective date.

VIII. References

EPA. 1991. *Technical Support Document for Water Quality-based Toxics Control*. US Environmental Protection Agency, Office of Water, EPA/505/2-90-001. https://www3.epa.gov/npdes/pubs/owm0264.pdf

EPA. 2010. *NPDES Permit Writers' Manual*. Environmental Protection Agency, Office of Wastewater Management, EPA-833-K-10-001. https://www3.epa.gov/npdes/pubs/pwm_2010.pdf

IDEQ. 2015. *Nutrient TMDL for the Nearshore Waters of Lake Pend Oreille, Idaho: TMDL Five-Year Review.* June 2015. Coeur d'Alene, Idaho. http://www.deq.idaho.gov/media/60176823/nutrient-tmdl-nearshore-waters-lake-pend-oreille-tmdl-five-year-review.pdf

Appendix A: Map

Appendix B: Low Flow Conditions and Dilution

A. Low Flow Conditions

The low flow conditions of a water body are used to determine water quality-based effluent limits. In general, Idaho's water quality standards require criteria be evaluated at the following low flow receiving water conditions (See IDAPA 58.01.02.210.03) as defined below:

Table B-1: Critical Low Flow Rates	
Acute aquatic life	1Q10 or 1B3
Chronic aquatic life	7Q10 or 4B3
Non-carcinogenic human health criteria	30Q5
Carcinogenic human health criteria	harmonic mean flow
Ammonia	30B3, 30Q10 or 30Q5

1. The 1Q10 represents the lowest one day flow with an average recurrence frequency of once in 10 years.
2. The 1B3 is biologically based and indicates an allowable exceedance of once every 3 years.
3. The 7Q10 represents lowest average 7 consecutive day flow with an average recurrence frequency of once in 10 years.
4. The 4B3 is biologically based and indicates an allowable exceedance for 4 consecutive days once every 3 years.
5. The 30Q5 represents the lowest average 30 consecutive day flow with an average recurrence frequency of once in 5 years.
7. The harmonic mean is a long-term mean flow value calculated by dividing the number of daily flow measurements by the sum of the reciprocals of the flows.

Idaho's water quality standards do not specify a low flow to use for acute and chronic ammonia criteria, however, the EPA's *Water Quality Criteria; Notice of Availability; 1999 Update of Ambient Water Quality Criteria for Ammonia; Notice* (64 FR 71976, December 22, 1999) identifies the appropriate flows to be used. For the 30-day average chronic aquatic life criterion for ammonia in fresh water, the 30B3 biologically-based low flow rate is recommended, but the 30Q5 or 30Q10 hydrologically-based flow rates are at least as protective as the 30B3 and may be used instead of the 30B3 (see 64 FR 71976). The EPA has estimated the 30Q5 flow rate in this case, however, since Idaho DEQ did not authorize a mixing zone for ammonia or for human health non-carcinogens (e.g., nitrate + nitrite) in its draft Clean Water Act Section 401 certification, this flow rate was not used to calculate a dilution factor. Similarly, the harmonic mean flow rate was not used to calculate a dilution factor because Idaho DEQ did not authorize a mixing zone for any carcinogenic parameters with human health water quality criteria.

The EPA estimated the critical low flows upstream from the point of discharge from flow data measured by the KPSD, as a condition of the 2002 permit (see the 2002 permit at Page 5). As explained in the body of this Fact Sheet, the EPA determined that these flow measurements were taken in the unnamed tributary of Boyer Slough which receives the discharge, and therefore can be used to estimate the critical low flow rates of the unnamed tributary, even though the 2002 permit states that the receiving water monitoring stations are to be located "on the Boyer Slough."

After the public comment period, the EPA discovered that, on September 19, 2001, Idaho DEQ measured a flow rate of 0.02 CFS in the unnamed tributary to Boyer Slough.[1] Idaho DEQ also

[1] https://www2.deq.idaho.gov/water/BurpViewer/BurpSite/Flow?BurpID=2001SCDAA047

measured a flow rate of 1.6 CFS in the unnamed tributary to Boyer Slough on February 14, 2017 (personal communication with June Bergquist, Idaho DEQ, January 3, 2017). The EPA included this additional measurement in the estimation of critical low flows for the unnamed tributary to Boyer Slough. Since the flow rate measured by Idaho DEQ in 2001 was substantially lower than the flow rates measured by the permittee, the inclusion of this additional flow measurement resulted in lower estimated flow rates for the unnamed tributary to Boyer Slough, relative to those estimated in the Fact Sheet dated June 9, 2017. The estimated low flows are presented in Table B-2 below.

Table B-2: Estimated Critical Flows of Unnamed Tributary to Boyer Slough Upstream from the KPSD Discharge

Flows	CFS
1Q10	0.020
7Q10	0.034
30Q5	0.037
Harmonic Mean	0.15

B. Mixing Zones and Dilution

In some cases a dilution allowance or mixing zone is permitted. A mixing zone is a limited area or volume of water where initial dilution of a discharge takes place and where certain numeric water quality criteria may be exceeded (EPA 2014). The federal regulations at 40 CFR 131.13 states that "States may, at their discretion, include in their State standards, policies generally affecting their application and implementation, such as mixing zones, low flows and variances."

The Idaho Water Quality Standards at IDAPA 58.01.02.060 provides Idaho's mixing zone policy for point source discharges. The policy allows the Idaho DEQ to authorize a mixing zone for a point source discharge after a biological, chemical, and physical appraisal of the receiving water and the proposed discharge. Because the mixing zone policy adopted by the State of Idaho in 2015 has not yet been approved by EPA, the prior mixing zone policy remains in effect for Clean Water Act purposes.[2]

The following formula is used to calculate a dilution factor based on the allowed mixing.

$$D = \frac{Q_e + Q_u \times \%MZ}{Q_e}$$

Where:

D = Dilution Factor
Q_e = Effluent flow rate (set equal to the design flow of the WWTP)
Q_u = Receiving water low flow rate upstream of the discharge (1Q10, 7Q10, 30B3, etc.)
%MZ = Percent Mixing Zone

[22] http://www.deq.idaho.gov/epa-actions-on-proposed-standards

In its most recent draft Clean Water Act section 401 certification of this permit, the Idaho DEQ proposes to authorize a mixing zone for chlorine encompassing 25% of the volume of the stream flow. Mixing zones were not authorized for any other parameters.

The EPA calculated dilution factors for year round critical low flow conditions. All dilution factors are calculated with the effluent flow rate set equal to the design flow of 0.4 mgd. The dilution factors are listed in Table B-3.

Table B-3: Dilution Factors

Flows	Associated Criteria	Dilution Factor
1Q10	Acute aquatic life	1.008
7Q10	Chronic aquatic life	1.014

C. References

EPA. 2014. *Water Quality Standards Handbook Chapter 5: General Policies*. Environmental Protection Agency. Office of Water. EPA 820-B-14-004. September 2014. https://www.epa.gov/sites/production/files/2014-09/documents/handbook-chapter5.pdf

Appendix C: Basis for Effluent Limits

The following discussion explains the derivation of technology and water quality based effluent limits proposed in the draft permit. Part A discusses technology-based effluent limits, Part B discusses water quality-based effluent limits in general, Part C discusses anti-backsliding provisions, Part D discusses the effluent limits imposed due to the State's anti-degradation policy, and Part E presents a summary of the facility specific limits.

A. Technology-Based Effluent Limits

Technology-based effluent limits applicable to the KPSD WWTP are described in Appendix D of the Fact Sheet dated June 9, 2017.

B. Water Quality-based Effluent Limits

Statutory and Regulatory Basis

Section 301(b)(1)(C) of the CWA requires the development of limitations in permits necessary to meet water quality standards. Discharges to State or Tribal waters must also comply with limitations imposed by the State or Tribe as part of its certification of NPDES permits under section 401 of the CWA. Federal regulations at 40 CFR 122.4(d) prohibit the issuance of an NPDES permit that does not ensure compliance with the water quality standards of all affected States.

The NPDES regulation (40 CFR 122.44(d)(1)) implementing Section 301(b)(1)(C) of the CWA requires that permits include limits for all pollutants or parameters which are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State or Tribal water quality standard, including narrative criteria for water quality, and that the level of water quality to be achieved by limits on point sources is derived from and complies with all applicable water quality standards.

The regulations require the permitting authority to make this evaluation using procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant in the effluent, species sensitivity (for toxicity), and where appropriate, dilution in the receiving water. The limits must be stringent enough to ensure that water quality standards are met, and must be consistent with any available wasteload allocation.

Reasonable Potential Analysis

When evaluating the effluent to determine if the pollutant parameters in the effluent are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State/Tribal water quality criterion, the EPA projects the receiving water concentration (downstream of where the effluent enters the receiving water) for each pollutant of concern. The EPA uses the concentration of the pollutant in the effluent and receiving water and, if appropriate, the dilution available from the receiving water, to project the receiving water concentration. If the projected concentration of the pollutant in the receiving water exceeds the numeric criterion for that specific pollutant, then the discharge has the reasonable potential to cause or contribute to an excursion above the applicable water quality standard, and a water quality-based effluent limit is required.

Sometimes it may be appropriate to allow a small area of the receiving water to provide dilution of the effluent. These areas are called mixing zones. Mixing zone allowances will increase the mass loadings of the pollutant to the water body and will decrease treatment requirements. Mixing zones can be used only when there is adequate receiving water flow volume and the concentration of the pollutant in the receiving water is less than the criterion necessary to protect the designated uses of the water body.

Mixing zones must be authorized by the State. The Idaho DEQ's draft certification proposes to authorize a mixing zone of 25 percent of the receiving water flow volume for total residual chlorine.

If Idaho DEQ does not grant the mixing zone for chlorine in its final certification of this permit, the water quality-based effluent limits will be re-calculated such that the chlorine criteria are met before the effluent is discharged to the receiving water.

Procedure for Deriving Water Quality-based Effluent Limits

The first step in developing a water quality-based effluent limit is to develop a wasteload allocation (WLA) for the pollutant. A wasteload allocation is the concentration or loading of a pollutant that the permittee may discharge without causing or contributing to an exceedance of water quality standards in the receiving water. Wasteload allocations are determined in one of the following ways:

1. TMDL-Based Wasteload Allocation

   Where the receiving water quality does not meet water quality standards, the wasteload allocation is generally based on a TMDL developed by the State. A TMDL is a determination of the amount of a pollutant from point, non-point, and natural background sources that may be discharged to a water body without causing the water body to exceed the criterion for that pollutant. Any loading above this capacity risks violating water quality standards.

   There are no TMDLs that include wasteload allocations for the KPSD WWTP. Thus, no effluent limits in the draft permit are calculated from TMDL-based wasteload allocations. However, there is an approved TMDL for nutrients in the nearshore waters of Lake Pend Oreille, downstream from the discharge.

2. Mixing zone based WLA

   When the State authorizes a mixing zone for the discharge, the WLA is calculated by using a simple mass balance equation. The equation takes into account the available dilution provided by the mixing zone, and the background concentrations of the pollutant. The WLAs for chlorine were derived using a mixing zone.

3. Criterion as the Wasteload Allocation

   In some cases, a mixing zone cannot be authorized, either because the receiving water is already at, or exceeds, the criterion, the receiving water flow is too low to provide dilution, or the facility can achieve the effluent limit without a mixing zone. In such cases, the criterion becomes the wasteload allocation. Establishing the criterion as the wasteload allocation ensures that the effluent discharge will not contribute to an

exceedance of the criteria. The WLAs for E. coli, pH, ammonia, nitrate + nitrite, total nitrogen (TN), and total phosphorus (TP) were derived using this method.

Once the wasteload allocation has been developed, the EPA applies the statistical permit limit derivation approach described in Chapter 5 of the *Technical Support Document for Water Quality-Based Toxics Control* (EPA/505/2-90-001, March 1991, hereafter referred to as the TSD) to obtain monthly average, and weekly average or daily maximum permit limits. This approach takes into account effluent variability, sampling frequency, and water quality standards.

Summary – Revised Water Quality-based Effluent Limits

The bases for the revised water quality based effluent limits in the revised draft permit are summarized below.

Total Nitrogen

As explained below, the EPA has determined that the TN in the discharge has the reasonable potential to cause or contribute to excursions above Idaho's narrative water quality criterion for nutrients from June – September.

Limiting Nutrient

Both nitrogen and phosphorus can contribute to violations of WQS that result from excess nutrients (i.e., nuisance algae or aesthetics, DO, and pH). In the Fact Sheet dated June 9, 2017, the EPA had stated that TP was the most likely limiting nutrient in Boyer Slough because TP had been identified as the most likely limiting nutrient in Lake Pend Oreille, downstream from Boyer Slough, and because available data indicated that nitrogen-to-phosphorus (N:P) ratios in Boyer Slough were greater than 7.2:1.

However, Idaho's 2014 Integrated Report states that both TP and TN are causing impairment of the cold water aquatic life, salmonid spawning, and primary contact recreation uses in Boyer Slough. Therefore, it is necessary to control both TN and TP to protect beneficial uses in Boyer Slough.

Interpretation of the Narrative Criterion for Nutrients

The State of Idaho has a narrative water quality criterion for nutrients which reads, "surface waters of the state shall be free from excess nutrients that can cause visible slime growths or other nuisance aquatic growths impairing designated beneficial uses." Where a State or Tribe has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State or Tribal water quality standard, the permitting authority must establish effluent limits using one or more of the options provided in 40 CFR 122.44(d)(1)(vi).

Similar to the water quality-based effluent limits for TP which were set forth in the 2017 draft permit, the EPA is establishing water quality-based effluent limits for TN. The TN limits are based on 40 CFR 122.44(d)(1)(vi)(B), which allows the permitting authority to establish effluent limits using EPA's water quality criteria, published under section 304(a) of the CWA. The EPA's recommended criterion for TN, for rivers and streams in aggregate nutrient ecoregion II, level III ecoregion 15, is 0.2 mg/L or 200 µg/L. See the *Ambient Water Quality Criteria*

Recommendations: Information Supporting the Development of State and Tribal Nutrient Criteria: Rivers and Streams in Nutrient Ecoregion II at Table 3h (EPA 2000).

The EPA is applying this interpretation of the narrative nutrient criterion for TN from June through September. This is the season during which the receiving waters are most vulnerable to effects from nutrient loading. This is also the season during which the Nearshore TMDL establishes concentration targets and load allocations (Tetra Tech 2002).

A water quality criterion should have an averaging period or duration, in addition to a magnitude. The criteria recommendations document states that "EPA does not recommend identifying nutrient concentrations that must be met at all times, rather a seasonal or annual averaging period…is considered appropriate" (EPA 2000).

Therefore, for TN, the EPA is interpreting the State of Idaho's narrative water quality criterion for nutrients as a concentration of 200 µg/L, averaged over the season of June 1st through September 30th.

Ambient Concentration

The KPSD sampled the receiving water for nitrate, nitrite, and total Kjeldahl nitrogen upstream and downstream from the discharge from March 2002 through February 2003.

Upstream from the discharge, all results for nitrite were less than the practical quantification limit (PQL) of 0.1 mg/L. Since nitrite is rapidly oxidized to nitrate in oxygenated natural water systems (EPA 1986), the EPA assumed the upstream nitrite concentration was zero. Of the 12 upstream results for total Kjeldahl nitrogen (TKN) four (33%) were non-detect. All of the upstream results for nitrate were quantifiable. If the four non-detect TKN results are assumed to be zero, the average upstream TN concentration observed in data collected by the permittee was 2.015 mg/L or 2,015 µg/L. If the four non-detect TKN results are assumed to be equal to the practical quantification limit of 2 mg/L, the average upstream TN concentration observed in data collected by the permittee was 2.682 mg/L, or 2,682 µg/L. The true average TN concentration would be between these extremes.

Downstream from the discharge, all but one of the 12 samples for nitrite were less than the PQL of 0.1 mg/L, and, consistent with the analysis of the upstream data, such results were assumed to be zero. All downstream results for nitrate and total Kjeldahl nitrogen were quantifiable. The average downstream TN concentration from the data collected by the permittee was 12.142 mg/L or 12,142 µg/L.

Idaho DEQ sampled the receiving water for TN in 2017. Results are summarized in Tables C-1 and C-2, below.

Table C-1: Idaho DEQ TN Results for Unnamed Tributary to Boyer Sough Upstream of WWTP

Date	Total Nitrogen as N (mg/L)
5/18/2017	0.597
6/15/2017	1.33
7/28/2017	1.31
Average	1.08

Table C-2: Idaho DEQ TN Results for Unnamed Tributary to Boyer Sough Downstream of WWTP	
Date	Total Nitrogen as N (mg/L)
2/14/17	11.7
2/16/17	7.41
2/21/17	9.53
3/13/17	3.04
3/17/13	2.46
4/25/17	6.83
5/18/17	1.78
7/12/17	0.67
Average	5.42

Lake Pend Oreille Waterkeeper has collected water quality data in the unnamed tributary to Boyer Slough which receives the discharge in the summer months since 2013 and provided the results with their comments on the draft permit. The monitoring location is downstream from the discharge (personal communication with Shannon Williamson, Lake Pend Oreille Waterkeeper, September 21, 2017). The average TN concentration measured at this location by Lake Pend Oreille Waterkeeper was 2.076 mg/L or 2,076 µg/L. The average TN concentration for months during which KPSD was not discharging to surface water was 0.615 mg/L or 615 µg/L.

These data indicate that the ambient concentration of TN is greater than the interpretation of Idaho's narrative criterion for nutrients (200 µg/L), thus, there is no assimilative capacity in the receiving water. Therefore, the interpreted narrative criterion must be applied at the end-of-pipe, without allowing for dilution (i.e., a mixing zone).

Reasonable Potential

Federal regulations require that effluent limitations in NPDES permits "must control all pollutants or pollutant parameters…which…are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality (40 CFR 122.44(d)(1)(i))."

Reasonable potential analyses may account for the dilution of the effluent in the receiving water, where appropriate (40 CFR 122.44(d)(1)(ii)). However, as explained above, the average concentration of nitrogen upstream from the discharge is higher than the interpreted narrative criterion of 200 µg/L. Therefore, the receiving water cannot provide dilution of the nitrogen in the effluent and dilution may not be considered in the reasonable potential analysis.

The prior permit required effluent monitoring for nitrate, nitrite, and total Kjeldahl nitrogen once per month. These results were summed to calculate the TN concentrations. The average effluent concentration of TN measured between January 2012 and August 2017 is 20.78 mg/L (20,780 µg/L), and the maximum concentration is 35.53 mg/L (35,530 µg/L). Because dilution may not be considered in this reasonable potential analysis and the discharge concentration is greater than the interpreted narrative criterion, the discharge of TN has the reasonable potential to cause or contribute to excursions above water quality standards for nutrients. Therefore, EPA must establish effluent limits for TN in the permit (40 CFR 122.44(d)(1)(i – iii)).

Furthermore, the measured concentrations of TN in the unnamed tributary to Boyer Slough, downstream from the discharge, are generally higher than the upstream concentrations. For example, Idaho DEQ measured an average concentration of 1.08 mg/L upstream from the discharge (Table D-1) and an average concentration of 5.42 mg/L downstream from the discharge (Table D-2). Thus, the ambient water quality data demonstrates that the WWTP contributes to high TN concentrations in the receiving water.

Wasteload Allocation

According to Section 6.2.1.2 of the 2010 *U.S. EPA Permit Writers' Manual* and Section 5.4 of the TSD, wasteload allocations need not be established by a total maximum daily load (TMDL), but may instead be calculated for an individual point source as part of the permitting process. The wasteload allocation is the amount of TN that the permittee may discharge, while ensuring a level of water quality that is derived from and complies with all applicable water quality standards (40 CFR 122.44(d)(1)(vii)(A)).

Because dilution may not be considered in this case due to concentrations of TN upstream from the discharge that exceed the interpreted narrative criterion, the WLA is equal to the interpreted narrative criterion.

$$C_e = WLA = C_d = 200\ \mu g/L$$

Translating the Wasteload Allocation to Effluent Limits

NPDES regulations at 40 CFR 122.45(f) require effluent limits in NPDES permits to be expressed in terms of mass, and states that "pollutants limited in terms of mass additionally may be limited in terms of other units of measurement, and the permit shall require the permittee to comply with both limitations." Section 5.7.1 of the TSD states that the EPA "recommends that permit limits on both mass and concentration be specified for effluents discharging into waters with less than 100 fold dilution." Because there is less than 100-fold dilution in this case, the permit proposes both mass and concentration limits for TN.

NPDES regulations at 40 CFR 122.45(d)(2) require that effluent limitations for continuous discharges from POTWs be expressed as average monthly and average weekly limits unless impracticable.

In this case, the interpretation of the narrative criterion, and, in turn, the wasteload allocation, is a seasonal average concentration. However, the season lasts only four months. The EPA has set the average monthly limit equal to the 200 µg/L TN WLA. This is somewhat conservative, because it is possible that the average discharge over a four-month period could be 200 µg/L or less, even if the average discharge within a particular month is greater than 200 µg/L.

Consistent with 40 CFR 122.45(d)(2), EPA has also established an average weekly discharge limitation for TP, in addition to the average monthly discharge limitation. To calculate the average weekly limit, the EPA used Table 5-3 of the *Technical Support Document for Water Quality-based Toxics Control*. This table provides ratios between the average monthly and the maximum daily limit, however, when the required sampling frequency is once per week or less frequent, there is no practical difference between an average weekly limit and a maximum daily limit unless the permittee samples more frequently than required by the permit. The draft permit proposes a sampling frequency of once per week for TN. Attainment of the proposed average monthly effluent limits for TN will require upgrades to the POTW. Therefore, the historic effluent variability for TN may not be representative of future effluent variability. Therefore, the

EPA has assumed that the CV is equal to 0.6, consistent with the recommendation of the TSD when effluent data are not available (see TSD at Page E-3). The EPA has used the 95th percentile probability basis for the average monthly limit and the 99th percentile probability basis for the average weekly limit. This results in a ratio between the average monthly and average weekly limit of 2.01:1. Therefore, the average weekly limit is 401 µg/L (200 µg/L × 2.01 = 401 µg/L).

Nitrate + Nitrite (October – May)

The Idaho WQS do not include numeric criteria for nitrate + nitrite. However, the State of Idaho does have a narrative water quality criterion for toxic substances, which reads "surface waters of the state shall be free from toxic substances in concentrations that impair designated beneficial uses" (IDAPA 58.01.02.200.2). Where a State or Tribe has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State or Tribal water quality standard, the permitting authority must establish effluent limits using one or more of the options provided in 40 CFR 122.44(d)(1)(vi). The EPA is establishing water quality-based effluent limits for nitrate + nitrite based on 40 CFR 122.44(d)(1)(vi)(B), which allows the permitting authority to establish effluent limits using EPA's water quality criteria, published under Section 304(a) of the CWA.

The EPA-recommended water quality criterion for nitrate for the consumption of water and organisms is 10 mg/L (EPA 1986). EPA has used this recommended criterion to interpret the State of Idaho's narrative water quality criterion for toxic substances.

From June – September, water quality-based effluent limits for nitrate + nitrite are not necessary because the effluent limits for TN will ensure that the discharge of all forms of nitrogen, including nitrate + nitrite, will be less than 0.2 mg/L on a monthly average basis.

The EPA has determined that the discharge has the reasonable potential to cause or contribute to excursions above the 10 mg/L criterion, from October – May, when TN is not proposed to be limited by the permit. The reasonable potential analysis specifically considered the effluent concentration of nitrate. However, in oxygenated natural water systems, nitrite is rapidly oxidized to nitrate (EPA 1986). Therefore, the permit contains a water quality-based effluent limit for nitrate + nitrite.

In its draft Clean Water Act Section 401 certification dated July 1, 2016, Idaho DEQ authorized a mixing zone for nitrate + nitrite. In its revised draft Clean Water Act Section 401 certification, Idaho DEQ did not authorize a mixing zone for nitrate + nitrite. Therefore, the wasteload allocation is equal to the interpreted narrative criterion of 10 mg/L. Consistent with the recommendations of section 5.4.4 of the TSD for establishing effluent limits based on human health criteria, the average monthly limit has been set equal to the wasteload allocation of 10 mg/L.

NPDES regulations require that effluent limitations for POTWs that discharge continuously be expressed as average monthly and average weekly discharge limitations, unless impracticable (40 CFR 122.45(d)(2)). Therefore, in addition to the average monthly limit, the permit proposes an average weekly limit for nitrate + nitrite. To calculate the average weekly limit, EPA used the equation printed Table 5-3 of the TSD. This table provides ratios between the average monthly and the maximum daily limit, however, when the required sampling frequency is once per week

or less frequent, there is no practical difference between an average weekly limit and a maximum daily limit unless the permittee samples more frequently than required by the permit. The draft permit proposes a sampling frequency of once per week for nitrate + nitrite. Attainment of the proposed average monthly effluent limits for nitrate + nitrite will require upgrades to the POTW. Therefore, the historic effluent variability for nitrate + nitrite may not be representative of future effluent variability. Therefore, the EPA has assumed that the CV is equal to 0.6, consistent with the recommendation of the TSD when effluent data are not available (see TSD at Page E-3). The EPA has used the 95th percentile probability basis for the average monthly limit and the 99th percentile probability basis for the average weekly limit. This results in a ratio between the average monthly and average weekly limit of 2.01:1. Therefore, the average weekly limit is 20.1 mg/L (10 mg/L × 2.01 = 20.1 mg/L).

Ammonia

As shown in Appendix D, a reasonable potential calculation showed that the KPSD WWTP discharge would have the reasonable potential to cause or contribute to a violation of the water quality criteria for ammonia. In addition, ammonia concentrations as high as 19 mg/L have been measured in the unnamed tributary to Boyer Slough, downstream from the discharge. This concentration exceeds Idaho's water quality criteria for ammonia. Therefore, the draft permit contains a water quality-based effluent limit for ammonia.

In its draft Clean Water Act Section 401 certification dated July 1, 2016, Idaho DEQ authorized a mixing zone for ammonia. In its revised draft Clean Water Act Section 401 certification, Idaho DEQ did not authorize a mixing zone for ammonia. Therefore, the effluent limits for ammonia have been re-calculated so that they ensure compliance with water quality criteria at the end-of-pipe.

The EPA is proposing effluent limits for ammonia year-round, even though the permit proposes an effluent limit for TN (of which ammonia is a component) from June – September. Both ammonia and TN limits are included because:

- The limits address different water quality criteria. Ammonia limits are required to address ammonia toxicity impacts on aquatic life; TN limits are needed to address narrative nutrient criteria.
- The averaging period for ammonia criteria and nitrogen criteria are different. The averaging period for nutrient criteria are longer. The proposed average monthly and average weekly limits for TN may not ensure compliance with the State of Idaho's acute ammonia criterion, which is averaged over a period of only 1 hour. The KPSD WWTP is currently a continuous discharge, thus, average monthly limits for ammonia are necessary in addition to maximum daily limits, to ensure compliance with 40 CFR 122.45(d).
- Including both limits provides flexibility to the facility to meet the nutrient limits. The State's 401 certification allows the facility to meet the nutrient limits through trading. Trading is not an option to meet ammonia limits developed to protect aquatic life from toxicity.

See Appendix D for reasonable potential and effluent limit calculations for ammonia.

Chlorine

The prior permit included water quality-based effluent limits for chlorine, and the draft permit issued for public comment on June 9, 2017 proposed water quality-based effluent limits for chlorine.

As explained in Appendix B, the EPA has revised its estimates of the critical low flow rates of the unnamed tributary to Boyer Slough which receives the discharge. When the EPA recalculated water quality-based effluent limits for chlorine based on the water quality criteria and the dilution available in the unnamed tributary, the EPA determined that the chlorine effluent limits proposed in the June 2017 draft permit are not stringent enough to ensure compliance with water quality criteria for chlorine. Therefore, the EPA has calculated more-stringent water quality-based effluent limits for chlorine.

Other Water Quality-based Effluent Limits

The proposed water quality-based effluent limits for TP, E. coli, pH, and residues are unchanged from those in the draft permit issued for public comment on June 9, 2017. The bases for those limits are explained in Appendix D to the Fact Sheet dated June 9, 2017.

C. References

EPA. 1986. *Quality Criteria for Water 1986*. Environmental Protection Agency. Office of Water. Regulations and Standards. Washington, DC. May 1, 1986. EPA-440-5-86-001. https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=00001MGA.txt

EPA. 1991. *Technical Support Document for Water Quality-based Toxics Control*. US Environmental Protection Agency, Office of Water, EPA/505/2-90-001. https://www3.epa.gov/npdes/pubs/owm0264.pdf

EPA. 2000. *Ambient Water Quality Criteria Recommendations: Information Supporting the Development of State and Tribal Nutrient Criteria: Rivers and Streams in Nutrient Ecoregion II*. Environmental Protection Agency. Office of Water. EPA 822-B-00-015. https://www.epa.gov/sites/production/files/documents/rivers2.pdf

EPA. 2010. *U.S. Environmental Protection Agency NPDES Permit Writers' Manual*. US Environmental Protection Agency. Office of Water. Office of Wastewater Management. EPA-833-K-10-001. https://www3.epa.gov/npdes/pubs/pwm_2010.pdf

Tetra Tech, Inc. 2002. *Total Maximum Daily Load (TMDL) for Nutrients for the Nearshore Waters of Pend Oreille Lake, Idaho*. April 2002. http://www.deq.idaho.gov/media/464368-_water_data_reports_surface_water_tmdls_pend_oreille_lake_ns_pend_oreille_ns_nutrient_entire.pdf

Appendix D: Reasonable Potential and Water Quality-Based Effluent Limit Calculations

A detailed explanation of the reasonable potential analysis and the calculation of water quality-based effluent limits is provided in Appendix E to the Fact Sheet dated June 9, 2017 as well as the EPA's *Technical Support Document for Water Quality-based Toxics Control* (EPA 1991).

The following tables summarize the revised reasonable potential analyses and effluent limit calculations.

Table E-1: Reasonable Potential Calculations

Effluent Percentile value	99%			State Water Quality Standard		Max concentration at edge of...											
Parameter	Metal Criteria Translator as decimal Acute	Metal Criteria Translator as decimal Chronic	Ambient Concentration (metals as dissolved)	Acute	Chronic	Acute Mixing Zone	Chronic Mixing Zone	LIMIT REQ'D?	Pn	Max effluent conc. measured (metals as total recoverable)	Coeff Variation CV	s	# of samples n	Multiplier	Acute Dil'n Factor	Chronic Dil'n Factor	COMMENTS
Ammonia June - September (mg/L)	1.00	1.00	0.0400	4.63	1.68	47.63	47.63	YES	0.920	27.10	0.67	0.61	55	1.76	1.00	1.00	
Ammonia October - May (mg/L)	1.00	1.00	0.0400	4.63	2.10	47.63	47.63	YES	0.920	27.10	0.67	0.61	55	1.76	1.00	1.00	
Nitrate (mg/L)	1.00	1.00	0.6000		10		58.16	YES	0.920	19.90	1.69	1.16	55	2.92		1.00	
Chlorine (µg/L)	1.01	1.01				19.00	19.00	YES	N/A	19.00	N/A	N/A	N/A	1.00	1.008	1.014	Previous MDL
TP (µg/L)	1.00	1.00	31		9.0		7620	YES	N/A	7620	N/A	N/A	N/A	1.00		1.00	
TN (µg/L)	1.00	1.00	680		200		35530	YES	N/A	35530	N/A	N/A	N/A	1.00		1.00	

Table E-2: Effluent Limit Calculations – Aquatic Life Criteria

Statistical variables for permit limit calculation	
LTA Probability Basis	99%
MDL Probability Basis	99%
AML Probability Basis	95%

Dilution (Dil'n) factor is the inverse of the percent effluent concentration at the edge of the acute or chronic mixing zone.

						Permit Limit Calculation Summary					Waste Load Allocation (WLA) and Long Term Average (LTA) Calculations						
PARAMETER	Acute Dil'n Factor	Chronic Dil'n Factor	Metal Criteria Translator Acute	Metal Criteria Translator Chronic	Ambient Concentration ug/L	Water Quality Standard Acute ug/L	Water Quality Standard Chronic ug/L	Average Monthly Limit (AML) ug/L	Maximum Daily Limit (MDL) ug/L	Comments	WLA Acute ug/L	WLA Chronic ug/L	LTA Acute ug/L	LTA Chronic ug/L	Limiting LTA ug/L	Coeff. Var. (CV) decimal	# of Samples per Month n
Ammonia October - May (mg/L)	1.000	1.000	1.00	1.00	0.0400	4.63	2.10	**1.77**	**4.63**		4.628	2.097	1.486	1.636	1.486	0.60	30.00
Ammonia June - September (mg/L)	1.000	1.000	1.00	1.00	0.0400	4.63	1.68	**1.56**	**4.07**		4.628	1.675	1.486	1.307	1.307	0.60	30.00
Chlorine	1.008	1.014	1.00	1.00		19.00	11.00	**7.3**	**18.3**		19.2	11.2	6.1	5.9	5.9	0.60	20.00

Table E-3: Effluent Limit Calculations: TP, TN, and Nitrate + Nitrite

Revised 3/00										
Parameter	Ambient Concentration	Water Quality Criteria	Max concentration at edge of chronic mixing zone.	LIMIT REQ'D?	Expected Number of Compliance Samples per Month	AVERAGE MONTHLY EFFLUENT LIMIT	MAXIMUM DAILY EFFLUENT LIMIT	Coeff Variation CV	Dilution Factor
Nitrate + Nitrite, October - May (mg/L)	0.60	10.00	58.16	YES	4	10.0	20.1	0.60	1.00
TP, June - September (µg/L)	31	9.0	7620	YES	4	9.0	18	0.60	1.00
TN June - September (µg/L)	680	200	35530	YES	4	200	401	0.60	1.00

A. References

EPA. 1991. *Technical Support Document for Water Quality-based Toxics Control*. US Environmental Protection Agency, Office of Water, EPA/505/2-90-001. https://www3.epa.gov/npdes/pubs/owm0264.pdf

Appendix E: Clean Water Act Section 401 Certification

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

2110 Ironwood Parkway • Coeur d'Alene, Idaho 83814 • (208) 769-1422
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C.L. "Butch" Otter, Governor
John H. Tippets, Director

January 5, 2018

Ms. Susan Poulsom
US Environmental Protection Agency, Region 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101- 3140

RE: Revised Draft §401 Water Quality Certification for the Draft NPDES Permit No. ID-0021229 for the Kootenai Ponderay Wastewater Treatment Plant

Dear Ms. Poulsom:

The State of Idaho Department of Environmental Quality (DEQ) received a revised preliminary draft NPDES permit dated December 12, 2017. After review of the revised draft permit and fact sheet, DEQ submits the enclosed draft §401 water quality certification which includes a narrative description of our antidegradation review for this permit and conditions necessary to meet these rules. After the public comment period ends, DEQ will address any comments, review the proposed final permit and issue a final certification decision.

Please direct any questions to June Bergquist at 208.666.4605 or june.bergquist@deq.idaho.gov .

Sincerely,

Daniel Redline
Regional Administrator
Coeur d'Alene Regional Office

Enclosure

C: Loren Moore, DEQ State Office
Brian Nickel, EPA Region 10, Seattle
Tanner Weisgram, Kootenai Ponderay Sewer District

Printed on Recycled Paper

Idaho Department of Environmental Quality

Draft §401 Water Quality Certification

January 5, 2018

NPDES Permit Number(s): ID-0021229; Kootenai-Ponderay Wastewater Treatment Plant

Receiving Water Body: Unnamed tributary to Boyer Slough

Pursuant to the provisions of Section 401(a)(1) of the Federal Water Pollution Control Act (Clean Water Act), as amended; 33 U.S.C. Section 1341(a)(1); and Idaho Code §§ 39-101 et seq. and 39-3601 et seq., the Idaho Department of Environmental Quality (DEQ) has authority to review National Pollutant Discharge Elimination System (NPDES) permits and issue water quality certification decisions.

Based upon its review of the above-referenced revised permit and associated fact sheet, DEQ certifies that if the permittee complies with the terms and conditions imposed by the permit along with the conditions set forth in this water quality certification, then there is reasonable assurance the discharge will comply with the applicable requirements of Sections 301, 302, 303, 306, and 307 of the Clean Water Act, the Idaho Water Quality Standards (WQS) (IDAPA 58.01.02), and other appropriate water quality requirements of state law.

This certification does not constitute authorization of the permitted activities by any other state or federal agency or private person or entity. This certification does not excuse the permit holder from the obligation to obtain any other necessary approvals, authorizations, or permits.

Antidegradation Review

The WQS contain an antidegradation policy providing three levels of protection to water bodies in Idaho (IDAPA 58.01.02.051).

- Tier 1 Protection. The first level of protection applies to all water bodies subject to Clean Water Act jurisdiction and ensures that existing uses of a water body and the level of water quality necessary to protect those existing uses will be maintained and protected (IDAPA 58.01.02.051.01; 58.01.02.052.01). Additionally, a Tier 1 review is performed for all new or reissued permits or licenses (IDAPA 58.01.02.052.07).
- Tier 2 Protection. The second level of protection applies to those water bodies considered high quality and ensures that no lowering of water quality will be allowed unless deemed necessary to accommodate important economic or social development (IDAPA 58.01.02.051.02; 58.01.02.052.08).
- Tier 3 Protection. The third level of protection applies to water bodies that have been designated outstanding resource waters and requires that activities not cause a lowering of water quality (IDAPA 58.01.02.051.03; 58.01.02.052.09).

DEQ is employing a water body by water body approach to implementing Idaho's antidegradation policy. This approach means that any water body fully supporting its beneficial uses will be considered high quality (IDAPA 58.01.02.052.05.a). Any water body not fully supporting its beneficial uses will be provided Tier 1 protection for that use, unless specific circumstances warranting Tier 2 protection are met (IDAPA 58.01.02.052.05.c). The most recent federally approved Integrated Report and supporting data are used to determine support status and the tier of protection (IDAPA 58.01.02.052.05).

Pollutants of Concern

The Kootenai-Ponderay Sewer District Wastewater Treatment Plant (KPSD) discharges the following pollutants of concern: *BOD, TSS, E. coli*, chlorine, nitrate + nitrite, ammonia, total nitrogen and phosphorus. Effluent limits have been developed for all pollutants of concern. There is no proposed increase in design flow for this facility.

Receiving Water Body Level of Protection

The KPSD discharges to an unnamed tributary of Boyer Slough within the Pend Oreille Lake Subbasin assessment unit (AU) 17010214PN018_02b (Boyer Slough). The unnamed tributary of Boyer Slough, as well as Boyer Slough itself, is designated for cold water aquatic life, salmonid spawning, primary contact recreation and domestic water supply. Boyer Slough and its tributaries have these designated uses because they are part of the Pend Oreille Lake waterbody unit P-18 (IDAPA 58.01.02.010.110 and 58.01.02.110.05). In addition to these uses, all waters of the state are protected for agricultural and industrial water supply, wildlife habitat, and aesthetics (IDAPA 58.01.02.100).

According to DEQ's 2014 Integrated Report, this AU is not fully supporting its cold water aquatic life, salmonid spawning, and primary contact recreation uses. Causes of impairment are nitrogen and phosphorus. As such, DEQ will provide Tier 1 protection (IDAPA 58.01.02.051.01) for the aquatic life and contact recreation beneficial uses.

Protection and Maintenance of Existing Uses (Tier 1 Protection)

As noted above, a Tier 1 review is performed for all new or reissued permits or licenses, applies to all waters subject to the jurisdiction of the Clean Water Act, and requires demonstration that existing uses and the level of water quality necessary to protect existing uses shall be maintained and protected. In order to protect and maintain designated and existing beneficial uses, a permitted discharge must comply with narrative and numeric criteria of the Idaho WQS, as well as other provisions of the WQS such as Section 055, which addresses water quality limited waters. The numeric and narrative criteria in the WQS are set at levels that ensure protection of designated beneficial uses. The effluent limitations and associated requirements contained in the KPSD permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS.

Water bodies not supporting existing or designated beneficial uses must be identified as water quality limited, and a total maximum daily load (TMDL) must be prepared for those pollutants causing impairment. A central purpose of TMDLs is to establish wasteload allocations for point source discharges, which are set at levels designed to help restore the water body to a condition

that supports existing and designated beneficial uses. Discharge permits must contain limitations that are consistent with wasteload allocations in the approved TMDL.

A TMDL has not yet been developed for Boyer Slough and its tributaries; however this effort is currently underway. Prior to the development of the TMDL, the WQS require the application of the antidegradation policy and implementation provisions to maintain and protect uses (IDAPA 58.01.02.055.04) (see Table 1).

In summary, the effluent limitations and associated requirements contained in the KPSD permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS. Therefore, DEQ has determined the permit will protect and maintain existing beneficial uses in the unnamed tributary of Boyer Slough in compliance with the Tier 1 provisions of Idaho's WQS (IDAPA 58.01.02.051.01 and 58.01.02.052.07).

Table 1. Comparison of current and proposed permit limits for pollutants of concern.

Pollutant	Units	Current Permit			Proposed Permit			Change[ab]
		Average Monthly Limit	Average Weekly Limit	Max. Daily Limit	Average Monthly Limit	Average Weekly Limit	Max. Daily Limit	
Pollutants with limits in both the current and proposed permit								
Five-Day BOD_5	mg/L	30	45	—	30	45	—	NC
	lb/day	86	129	—	86	129	—	
	% removal	85%	—	—	85%	—	—	
TSS	mg/L	30	45	—	30	45	—	NC
	lb/day	101	152	—	100	150	—	
	% removal	85%	—	—	85%	—	—	
pH	standard units	6.5–9.0 all times			6.5–9.0 all times			NC
E. coli	no./100 mL	126		406	126	—	406	NC
Total Residual Chlorine (final)	µg/L	11	—	19	7.3	—	18.3	D
	lb/day	—	—	—	0.024	—	0.061	
Pollutants with new limits in the proposed permit								
Nitrate + Nitrite (October –May)	mg/L	—	—	—	10	20.1	—	D
	lb/day	—	—	—	33.4	67.1	—	D
Total Ammonia (October – May)	mg/L	—	—	—	1.77	—	4.63	D
	lb/day	—	—	—	5.90	—	15.4	D
Total Ammonia (June – Sept)	mg/L	—	—	—	1.56	—	4.07	D
	lb/day	—	—	—	5.20	—	13.6	D
Total Nitrogen (June-Sept)	µg/L	—	—	—	200	401		D
	lb/day	—	—	—	0.667	1.34		D
Total Phosphorus (June – Sept)	µg/L	—	—	—	9.0	18.0	—	D
	lb/day	—	—	—	0.030	0.060	—	D

[a] NC = no change, I = increase, D = decrease.
[b] Table 1 is for comparative purposes only.

Conditions Necessary to Ensure Compliance with Water Quality Standards or Other Appropriate Water Quality Requirements of State Law

Compliance Schedule

Pursuant to IDAPA 58.01.02.400.03, DEQ may authorize compliance schedules for water quality-based effluent limits issued in a permit for the first time. The KPSD cannot immediately

achieve compliance with the effluent limits for ammonia, nitrate + nitrite, total nitrogen and phosphorus due to the following factors:

- Historical effluent concentrations and loads of ammonia, nitrate + nitrite, TN and TP exceed the proposed effluent limits for those parameters.
- The KPSD WWTP is not designed to remove nitrogen or phosphorus.
- Although KPSD can use their storage and re-use (land application) capacity to reduce their surface water discharges of phosphorus and nitrogen during the growing season, KPSD's current storage and re-use capacity is not adequate to allow them to eliminate their discharge to surface water (and thereby comply with new water quality-based effluent limits) under critical conditions.

Therefore, DEQ authorizes a compliance schedule and interim requirements as set forth below. This compliance schedule provides the permittee a reasonable amount of time to achieve the final effluent limits as specified in the permit. At the same time, the schedule ensures that compliance with the final effluent limits is accomplished as soon as possible. At the request of KPSD, this schedule allows time for a master planning effort and to implement the preferred option to achieving their new effluent limits. Options include but are not limited to an expansion of their reuse site; construction of a mechanical treatment plant; significant upgrades to the existing lagoon system or regionalization with City of Sandpoint.

Each of these options requires considerable amounts of time to plan, fund and construct (May 20, 2016 email and May 26, 2015 letter from KPSD). Regionalization also requires close coordination with the City of Sandpoint and their new NPDES draft permit compliance schedule. To facilitate a coordinated effort between Sandpoint and KPSD to allow for regionalization to occur, their compliance schedules are closely aligned.

DEQ authorizes interim limits in Table 2 for a period of ten (10) years from the date of the final permit. The permittee must comply with all other effluent limitations beginning on the effective date of the permit. After ten years, final limits for ammonia, nitrate + nitrite, total nitrogen and phosphorus shall be met.

Interim Requirements for Compliance Schedule

1. By one (1) year after the effective date of the final permit, a progress report shall be submitted to EPA and DEQ indicating that funding has been secured for a master planning effort.
2. By two (2) years after the effective date of the final permit, a progress report shall be submitted to EPA and DEQ indicating that master planning is underway and is on schedule to comply with these interim requirements.
3. By three (3) years after the effective date of the final permit, a master plan shall be submitted to EPA and DEQ for review and approval. The master plan shall identify a preferred alternative that will meet final effluent limits along with project phasing, financing strategy and implementation timeline.

4. By four (4) years after the effective date of the final permit, the permittee must provide EPA and DEQ with a progress report on funding for the preferred alternative in the form of a notice of bond approval or notice of judicial confirmation.
5. By five (5) years after the effective date of the final permit, the permittee must provide EPA and DEQ with written notice that design has been completed and approved by DEQ.
6. By six (6) years after the effective date of the final permit, the permittee must provide EPA and DEQ with a notice that bids for construction have been awarded to achieve final effluent limitations.
7. By seven (7) and eight (8) years after the effective date of the final permit, the permittee must provide EPA and DEQ with brief progress reports of construction as they relate to meeting the compliance schedule timeline and final effluent limits.
8. By nine (9) years after the effective date of the final permit, the permittee must provide EPA and DEQ with written notice that construction has been substantively completed on the facilities to achieve final effluent limitations.
9. By ten (10) years after the effective date of the final permit, the permittee must provide EPA and DEQ with a written report providing details of a completed start up and optimization phase of the new treatment system (if applicable) and must achieve compliance with the final effluent limitations of Part I.B.

Table 2. Interim Effluent Limits

Month	Interim Total Nitrogen Limit (lb/month)	Interim Total Phosphorus Limit (lb/month)
June	2,091	468
July	249	56
August	380	85
September	482	108

Mixing Zones

The KPSD outfall discharges to a small tributary of Boyer Slough. The Boyer Slough watershed encompasses approximately 5,400 acres, the majority of which is sparsely populated farm land. Boyer Slough joins Pend Oreille Lake approximately 0.68 miles from the wastewater treatment plant outfall pipe. During the summer months, Pend Oreille Lake is held at an elevation of 2062' to 2062.5' for recreational use which creates a backwater effect in Boyer Slough that extends upstream almost to the outfall. During the rest of the year, Boyer Slough is a small shallow

stream. Pursuant to IDAPA 58.01.02.060, DEQ authorizes the mixing zones summarized in Table 3. The mixing zone provisions in IDAPA 58.01.02.060 adopted in 2015 have not yet been approved by EPA. However, there are several reasons why it is appropriate to reference these provisions. First, DEQ is not limited to relying upon WQS when it considers certification under section 401 of the Clean Water Act (CWA). It is also allowed to include conditions necessary to ensure compliance with "any other appropriate requirement of state law" (CWA section 401(d)). The mixing zone provisions are an appropriate requirement of state law.

Second, like the new provisions, the prior mixing zone provisions that were approved by EPA prohibit mixing zones that cause an unreasonable interference with, or danger to beneficial uses. While not yet effective for CWA purposes, the new provisions assist in DEQ's interpretation and application of the mixing zone provisions that have been approved by EPA. As long as this mixing zone does not cause unreasonable interference with, or danger to, beneficial uses it can be used.

Table 3. Mixing Zone for Final Permit Limit

Pollutant	Mixing Zone (% of critical flow volumes of Tributary to Boyer Slough)
chlorine	25

Other Conditions

This certification is conditioned upon the requirement that any material modification of the permit or the permitted activities—including without limitation, any modifications of the permit to reflect new or modified TMDLs, wasteload allocations, site-specific criteria, variances, or other new information—shall first be provided to DEQ for review to determine compliance with Idaho WQS and to provide additional certification pursuant to Section 401.

Pollutant Trading

Pursuant to IDAPA 58.01.02.055.06, DEQ authorizes pollutant trading for phosphorus and nitrogen. Trading must be conducted in a manner that is consistent with the most recent version of DEQ's *Water Quality Pollutant Trading Guidance*, available at: http://www.deq.idaho.gov/media/488798-water_quality_pollutant_trading_guidance_0710.pdf.

Right to Appeal Final Certification

The final Section 401 Water Quality Certification may be appealed by submitting a petition to initiate a contested case, pursuant to Idaho Code § 39-107(5) and the "Rules of Administrative Procedure before the Board of Environmental Quality" (IDAPA 58.01.23), within 35 days of the date of the final certification.

Questions or comments regarding the actions taken in this certification should be directed to June Bergquist, Coeur d'Alene Regional Office at 208.666.4605 or via email at june.bergquist@deq.idaho.gov.

DRAFT

Daniel Redline
Regional Administrator
Coeur d'Alene Regional Office