



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

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C.L. "Butch" Otter, Governor
John H. Tippetts, Director

June 26, 2018

Mr. Michael J. Lidgard
NPDES Permits Unit Manager
EPA Region 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

Subject: Updated Final 401 Water Quality Certification for the City of Kendrick Wastewater Treatment Plant, Permit #ID0024554

Dear Mr. Lidgard:

The Lewiston Regional Office of the Department of Environmental Quality (DEQ) has made updates to the water quality certification for the above-referenced permit for the City of Kendrick Wastewater Treatment Plant. Section 401 of the Clean Water Act requires that states issue certifications for activities which are authorized by a federal permit and may result in the discharge to surface waters. In Idaho, the DEQ is responsible for reviewing these activities and evaluating whether the activity will comply with Idaho's Water Quality Standards, including any applicable water quality management plans (e.g., total maximum daily loads). A federal discharge permit cannot be issued until DEQ has provided certification or waived certification either expressly, or by taking no action.

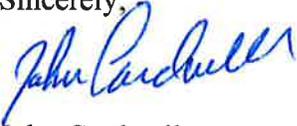
The water quality certification has been updated to reflect changes made by the EPA after review of assumptions used in the reasonable potential analysis and water quality based effluent limit calculations for ammonia. In developing the draft permit, the EPA used the maximum recorded ammonia concentration. After review of this assumption, the EPA updated the permit to reflect using the 90th percentile concentration which is a more appropriate value given the conservative assumption inherent to the calculations and is consistent with Region 10's permitting practices. The updated permit limits for ammonia reflect a maintenance or improvement in water quality from the current conditions and no adverse change in water quality will occur.

Mr. Lidgard
June 26, 2018
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This letter is to inform you that DEQ is issuing the attached 401 water quality certification subject to the terms and conditions contained therein.

Please contact me directly at 208-799-4370 to discuss any questions or concerns regarding the content of this certification.

Sincerely,

A handwritten signature in blue ink, appearing to read "John Cardwell".

John Cardwell
Regional Administrator
Lewiston Regional Office

c: Maxwell Petersen, EPA Region 10
Loren Moore, DEQ State Office



Idaho Department of Environmental Quality Final §401 Water Quality Certification

June 26, 2018

NPDES Permit Number(s): City of Kendrick Wastewater Treatment Plant,
Permit #ID0024554

Receiving Water Body: Potlatch River – 6th order, Big Bear Creek to mouth

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 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 I 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 I review is performed for all new or reissued permits or licenses (IDAPA 58.01.02.052.07).
- Tier II 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 III 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 I protection for that use, unless specific circumstances warranting Tier II 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 City of Kendrick Wastewater Treatment Plant (WWTP) discharges the following pollutants of concern: five-day biochemical oxygen demand (BOD₅), total suspended solids (TSS), *E. coli*, temperature, pH, ammonia, total residual chlorine (TRC), dissolved oxygen (DO), and total phosphorous (TP). Effluent limits have been developed for BOD₅, TSS, *E. coli*, temperature, pH, ammonia, and TRC. No effluent limits are proposed for DO and TP.

Receiving Water Body Level of Protection

The City of Kendrick WWTP discharges to the Potlatch River within the Clearwater Subbasin assessment unit (AU) ID17060306CL044_06 (Potlatch River – 6th order, Big Bear Creek to mouth). This AU has the following designated beneficial uses: cold water aquatic life, salmonid spawning, primary contact recreation, and domestic water supply. 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, the aquatic life uses in this AU are not fully supported. Causes of impairment include temperature, sediment, substrate habitat alterations, and flow regime alterations. The primary contact recreation beneficial use is fully supported. As such, DEQ will provide Tier I protection (IDAPA 58.01.02.051.01) for the aquatic life use and Tier II protection (IDAPA 58.01.02.051.02) in addition to Tier I for the primary contact recreation use (IDAPA 58.01.02.052.05.c).

Protection and Maintenance of Existing Uses (Tier I Protection)

A Tier I 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 and designated uses and the level of water quality necessary to protect existing and designated uses shall be maintained and protected. In order to protect and maintain existing and designated 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 existing and designated beneficial uses. The effluent limitations and associated requirements contained in the City of Kendrick WWTP 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.

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).

The EPA-approved *Potlatch River Subbasin Assessment and TMDLs* (2008) establishes wasteload allocations for sediment and temperature. These wasteload allocations are designed to ensure the Potlatch River will achieve the water quality necessary to support its existing and designated aquatic life beneficial uses and comply with the applicable numeric and narrative criteria. The effluent limitations and associated requirements contained in the City of Kendrick WWTP permit are set at levels that comply with the EPA-approved wasteload allocation.

In sum, the effluent limitations and associated requirements contained in the City of Kendrick WWTP permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS and the wasteload allocation established in the *Potlatch River Subbasin Assessment and TMDLs* (2008). Therefore, DEQ has determined the permit will protect and maintain existing and designated beneficial uses in the Potlatch River in compliance with the Tier I provisions of Idaho's WQS (IDAPA 58.01.02.051.01 and 58.01.02.052.07).

High-Quality Waters (Tier II Protection)

The Potlatch River is considered high quality for primary contact recreation. As such, the water quality relevant to primary contact recreation uses of the Potlatch River must be maintained and protected, unless a lowering of water quality is deemed necessary to accommodate important social or economic development.

To determine whether degradation will occur, DEQ must evaluate how the permit issuance will affect water quality for each pollutant that is relevant to the primary contact recreation use of the Potlatch River (IDAPA 58.01.02.052.05). These include *E. coli*, ammonia, and TP. The proposed permit and the current permit both provide effluent limits for *E. coli*, and for the proposed permit includes a new limit for ammonia. No limits have been set for TP.

For a reissued permit or license, the effect on water quality is determined by looking at the difference in water quality that would result from the activity or discharge as authorized in the current permit and the water quality that would result from the activity or discharge as proposed in the reissued permit or license. For a new permit or license, the effect on water quality is determined by reviewing the difference between the existing receiving water quality and the water quality that would result from the activity or discharge as proposed in the new permit or license (IDAPA 58.01.02.052.06.a).

Pollutants with Limits in the Current and Proposed Permit

For pollutants that are currently limited and will have limits under the reissued permit, the current discharge quality is based on the limits in the current permit or license (IDAPA 58.01.02.052.06.a.i), and the future discharge quality is based on the proposed permit limits (IDAPA 58.01.02.052.06.a.ii). For the City of Kendrick WWTP permit, this means determining the permit's effect on water quality based upon the limits for BOD₅, TSS, *E. coli*, pH, and TRC

in the current and proposed permits. Table 1 provides a summary of the current permit limits and the proposed or reissued permit limits.

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

Pollutant	Units	Current Permit			Proposed Permit			Change ^a
		Average Monthly Limit	Average Weekly Limit	Single Sample Limit	Average Monthly Limit	Average Weekly Limit	Single Sample Limit	
Pollutants with limits in both the current and proposed permit								
Biological Oxygen Demand (BOD ₅)	mg/L	30	45	—	30	45	—	NC
	lb/day	20	30	—	20	30	—	
	% removal	85%	—	—	85%	—	—	
TSS	mg/L	45	65	—	45	65	—	NC
	lb/day	30	43	—	27	43	48.1	
	% removal	65%	—	—	65%	—	—	
pH	standard units	6.5–9.0 all times			6.5–9.0 all times			NC
<i>E. coli</i>	no./100 mL	126	—	406	126	—	406	NC
Total Residual Chlorine	mg/L	0.007	—	0.018	0.007	—	0.018	NC
	lb/day	0.005	—	0.012	0.005	—	0.012	
Pollutants with new limits in the proposed permit								
Total Ammonia (as N) June 1 – October 31	mg/L	—	—	Report	0.23	—	0.61	New
	lbs/day	—	—		0.25	—	0.65	
Total Ammonia (as N) November 1 – May 31	mg/L	—	—	Report	13.27	—	26.64	New
	lbs/day	—	—		14.17	—	28.45	
Ammonia (as N) (Interim)	mg/L	—	—	—	26.3	—	57.7	New
	lbs/day	—	—		28.1	—	61.6	
Temperature	°C	—	—	Report	See Table 2			New, TMDL
	Btu (million)/day	—	—					
Pollutants with no limits in both the current and proposed permit								
Total Phosphorus	mg/L	—	—	Report	—	—	Report	NC
Dissolved Oxygen	mg/L	—	—	Report	—	—	Report	NC
Nitrate + Nitrite	mg/L	—	—	Report	—	—	Report	New

^a NC = no change

The proposed permit limits for pollutants of concern that have limits in the current permit—namely, BOD₅, TSS, *E. coli*, pH, and TRC—are the same as, or more stringent than, those in the current permit (“NC” in change column). Therefore, no adverse change in water quality and no degradation will result from the discharge of these pollutants.

New Permit Limits for Pollutants Currently Discharged

When new limits are proposed in a reissued permit for pollutants in the existing discharge, the effect on water quality is based upon the current discharge quality and the proposed discharge quality resulting from the new limits. Current discharge quality for pollutants that are not currently limited is based upon available discharge quality data (IDAPA 58.01.02.052.06.a.i). Future discharge quality is based upon proposed permit limits (IDAPA 58.01.02.052.06.a.ii).

The proposed permit for City of Kendrick WWTP includes new limits for ammonia (Table 1). These limits were included in the permit based on reasonable potential to exceed Idaho water quality standards (IDAPA 58.01.02.250.02). The ammonia limits in the proposed permit reflect a maintenance or improvement in water quality from current conditions. Therefore, no adverse change in water quality and no degradation will occur with respect to these pollutants.

Pollutants with No Limits

There is one pollutant of concern relevant to the Tier II protection of recreation—phosphorous—that currently is not limited and for which the proposed permit also contains no limit (Table 1). For such pollutants, a change in water quality is determined by reviewing whether changes in production, treatment, or operation that will increase the discharge of these pollutants are likely (IDAPA 58.01.02.052.06.a.ii).

The Potlatch River is not impaired for nutrients. The current permit is based on the average day design flow of 0.08 million gallons per day (mgd). Reported actual average monthly flows from the facility are 0.054 mgd. EPA's proposed permit bases effluent limits on the WWTP's maximum month design flow of 0.128 mgd. Although effluent limitations have been developed to represent the worst case scenario, there have been no changes in effluent volume, influent quality or treatment process that would result in an increased discharge of pollutants of concern. DEQ has concluded that the proposed permit will not contribute phosphorus loads to the receiving water body.

In sum, DEQ concludes that this discharge permit complies with the Tier II provisions of Idaho's WQS (IDAPA 58.01.02.051.02 and IDAPA 58.01.02.052.06).

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

Mixing Zones

Temperature

The proposed permit for the City of Kendrick WWTP includes new limits for temperature. These limits were included in the permit to be consistent with the wasteload allocations in the approved *Potlatch River Subbasin Assessment and TMDLs* (2008). DEQ may authorize a mixing zone for a TMDL listed pollutant when the permitted discharge is consistent with an approved TMDL allocation that demonstrates there is assimilative capacity and authorizing a mixing zone is consistent with achieving compliance with water quality standards in the receiving water (IDAPA 58.01.02.060.01.a). In accordance with the *Potlatch River Subbasin Assessment and TMDLs* (2008), a mixing zone for temperature is granted for the City of Kendrick's effluent when the Potlatch River has assimilative capacity. When the river is naturally exceeding the applicable temperature criterion upstream from the discharge, the City of Kendrick's effluent temperature must not raise the Potlatch River's receiving water temperature by more than 0.3°C in accordance with IDAPA 58.01.02.401.01.c. Table 2 presents the allowable effluent discharge temperatures that would not exceed the salmonid spawning (9°C) and cold water aquatic life (19°C) average daily temperature criterion by more than 0.3°C during the applicable times of year. The table reflects a 25% mixing zone.

Table 2. Maximum Daily Effluent Temperature Limits (°C)

April 1 – July 15 (spawning and incubation)					
Stream Flow¹ (CFS)	WWTP Flow¹ (mgd)				
	≤ 0.0064	> 0.0064 - 0.045	> 0.045 - 0.097	> 0.097 - 0.15	> 0.15
< 2	16.8	10.4	9.8	9.6	9.6
2 - < 5	24.3	11.4	10.3	10.0	9.8
5 - < 10	46.8	14.7	11.8	10.9	10.6
10 - < 25	84.3	20.0	14.3	12.6	11.8
25 - < 50	—	36.1	21.8	17.5	15.6
50 - < 100	—	62.9	34.3	25.6	21.8
≥ 100	—	—	59.3	41.9	34.3
July 16 – September 30 (cold water aquatic life)					
Stream Flow¹ (CFS)	WWTP Flow¹ (mgd)				
	≤ 0.0064	> 0.0064 - 0.045	> 0.045 - 0.097	> 0.097 - 0.15	> 0.15
< 2	26.8	20.4	19.8	19.6	19.6
2 - < 5	34.3	21.4	20.3	20.0	19.8
5 - < 10	56.8	24.7	21.8	20.9	20.6
10 - < 25	94.3	30.0	24.3	22.6	21.8
25 - < 50	—	46.1	31.8	27.5	25.6
50 - < 100	—	72.9	44.3	35.6	31.8
≥ 100	—	—	69.3	51.9	44.3
Notes:					
1. River flow must be determined using data from USGS station number 13341570. The applicable temperature limit is determined daily, based on the mean river flow and the mean effluent flow for that day.					

Chlorine

EPA conducted a reasonable potential analysis (Appendix D of the Fact Sheet) that showed the applicable technology-based effluent limits have reasonable potential to exceed aquatic life criteria with a mixing zone that utilizes 25% of the critical flow volumes of the river. Based on that analysis, EPA proposes to retain the water-quality based effluent limit for chlorine in the current permit, which incorporates a mixing zone that utilizes 25% of the critical flow volumes of the river. EPA determined this limit would not have reasonable potential to exceed applicable criteria. Pursuant to IDAPA 58.01.02.060, DEQ authorizes a chlorine mixing zone utilizing 25% of the critical flow volumes of the Potlatch River.

Ammonia

EPA conducted a reasonable potential analysis (Appendix D of the Fact Sheet) that showed the applicable technology-based effluent limits have reasonable potential to exceed aquatic life criteria with a mixing zone that utilizes 25% of the critical flow volumes of the river. Based on

that analysis, EPA proposes seasonal water-quality based effluent limits that utilize 25% of the critical flow volumes of the river. Pursuant to IDAPA 58.01.02.060, DEQ authorizes an ammonia mixing zone utilizing 25% of the critical flow volumes of the Potlatch River.

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. City of Kendrick WWTP cannot immediately achieve compliance with the effluent limits for ammonia and temperature; therefore, DEQ authorizes a compliance schedule and interim requirements as set forth below for both these pollutants. 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.

The permittee must achieve compliance with the ammonia limitations in Part I.B, Table 1. *Effluent Limitations and Monitoring Requirements*, within 6 years of the effective date of the permit. A detailed schedule of compliance can be found in Part II.C on pages 11 through 13 of the permit.

The permittee must achieve compliance with the temperature limitations in Part I.B, Table 1. *Effluent Limitations and Monitoring Requirements*, within 13 years of the effective date of the permit. A detailed schedule of compliance can be found in Part II.D on pages 13 and 14 of the permit.

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.

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 Sujata Connell, Lewiston Regional Office, 208-799-4370 or Sujata.Connell@deq.idaho.gov.



John Cardwell
Regional Administrator
Lewiston Regional Office

Loren Moore

From: Petersen, Maxwell <petersen.maxwell@epa.gov>
Sent: Tuesday, June 26, 2018 1:36 PM
To: Sujata Connell
Subject: RE: ID0024554 - City of Kendrick

	Average Monthly (lbs/d)	Maximum Daily (lbs/d)
Jun-Oct	0.25	0.65
Nov-May	14.17	28.45

From: Petersen, Maxwell
Sent: Tuesday, June 26, 2018 12:33 PM
To: 'Sujata.Connell@deq.idaho.gov' <Sujata.Connell@deq.idaho.gov>
Subject: RE: ID0024554 - City of Kendrick

Sujata, let me also get you the Ammonia lbs/day limits since I realize those will change slightly as a result of my last message.

From: Petersen, Maxwell
Sent: Tuesday, June 26, 2018 12:23 PM
To: 'Sujata.Connell@deq.idaho.gov' <Sujata.Connell@deq.idaho.gov>
Subject: RE: ID0024554 - City of Kendrick

Hope this helps, feel free to tweak since DEQ isn't responding to the comment.

In responding to this comment, the EPA also reviewed other assumptions used in the reasonable potential analysis and water quality based effluent limit calculations. Upon review of those assumptions, the EPA updated the background ammonia concentration used in the calculations. In developing the draft permit, the EPA used the maximum recorded ammonia concentration. In the final the EPA relied on the 90th percentile (220 ug/L). The 90th percentile is a more appropriate value given the conservative assumption inherent to the calculations and is consistent with Region 10's permitting practices.

The changes are summarized in the table below.

	Average Monthly (mg/L)	Maximum Daily (mg/L)
Jun-Oct	0.23	0.61
Nov-May	13.27	26.64

From: Petersen, Maxwell
Sent: Tuesday, June 26, 2018 9:43 AM
To: 'Sujata.Connell@deq.idaho.gov' <Sujata.Connell@deq.idaho.gov>
Subject: ID0024554 - City of Kendrick

Sujata,
We are changing the final ammonia limits (and leave interim limits unchanged) in the city of Kendrick permit as follows:

Average Monthly (mg/L)	Maximum Daily (mg/L)
-------------------------------	-----------------------------

Jun-Oct
Nov-May

0.23
13.27

0.61
26.64

These are less stringent than the permit that went out for public notice, however, we are now using a more accurate representation of ambient ammonia concentration in the Potlatch River (the 90th percentile instead of the maximum recorded value). We will not be going out for a second round of public notice. Reach out with any questions or concerns and please let me know how this will impact the final cert. Thanks!

Maxwell Petersen
Environmental Engineer
US EPA Region 10: Seattle, WA
Office of Water & Watersheds
(206) 553-6118