

Modification #3



NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM WASTE DISCHARGE PERMIT

Oregon Department of Environmental Quality
Eastern Region – Pendleton Office
800 SE Emigrant, #330
Pendleton, OR 97801
Telephone: 541-276-4063

Issued pursuant to ORS 468B.050 and the federal Clean Water Act

ISSUED TO:

City of Klamath Falls
Wastewater Treatment
Plant and Reclamation
Facility
1200 South Spring Street
Klamath Falls, OR 97601

Type of Waste
Treated Domestic
Wastewater

Biosolids

SOURCES COVERED BY THIS PERMIT:

Outfall Number

001

Outfall Location

Klamath River
River Mile - 253
42.215993, -121.776822

Specified in Biosolids
Management/Land Application
Plan

FACILITY LOCATION:

City of Klamath Falls Wastewater Treatment Plant
and Reclamation Facility
1200 South Spring Street
County: Klamath

EPA Permit Type: Major

RECEIVING STREAM INFORMATION:

WRD Basin: Klamath

USGS Sub-Basin: Lost

Receiving Stream name: Klamath River

NHD Reach Code: 18010204011523 – 63.73%

LLID: 1221913420005 – 253

This major modification issued in response to Application No. 974888 received March 7, 1995, and the permit modification requests submitted to DEQ on August 8, 2023 and July 11, 2024. This permit is issued based on the land use findings in the permit record.

A handwritten signature in black ink, appearing to read 'Mike Hiatt'.

Mike Hiatt, Eastern Region Water Quality
Manager

November 8, 2024

Issuance Date

December 1, 2024

Effective Date

PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to: 1) operate a wastewater collection, treatment, control and disposal system; and 2) discharge treated wastewater to waters of the state only from the authorized discharge point or points in Schedule A in conformance with the requirements, limits, and conditions set forth in this permit.

Unless specifically authorized by this permit, by another NPDES or Water Pollution Control Facility permit, or by Oregon statute or administrative rule, any other direct or indirect discharge of pollutants to waters of the state is prohibited.

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Changes in SCHEDULE A: WASTE DISCHARGE LIMITS

Deletions from modification #3 indicated in red strikeout and additions from modification #3 indicated with red underline.

Modification #1 deletions in blue strikeout and additions indicated in blue underline.

1. Outfall 001 – Permit Limits

During the term of this permit, the permittee must comply with the limits in the following table:

Table A1: Permit Limits

Parameter	Units	Average Monthly	Average Weekly	Daily Maximum	Semi-annual Average
BOD₅ (May 1–October 31)	mg/L	20	30	N/A	N/A
	lbs/day	580	870	1,160	N/A
	% removal	85	N/A	N/A	N/A
<u>CBOD₅</u> <u>(May 1 – October 31)</u>	<u>mg/L</u>	<u>16</u>	<u>27</u>	<u>N/A</u>	<u>N/A</u>
	<u>lbs/day</u>	<u>470</u>	<u>790</u>	<u>940</u>	<u>N/A</u>
	<u>% removal</u>	<u>85</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
TSS (May 1–October 31)	mg/L	20	30	N/A	N/A
	lbs/day	580	870	1,160	N/A
	% removal	85	N/A	N/A	N/A
BOD₅ (November 1–April 30)	mg/L	30	45	N/A	N/A
	lbs/day	1500	2,250	3,000	N/A
	%	85	N/A	N/A	N/A
<u>CBOD₅</u> <u>(November 1–April 30)</u>	<u>mg/L</u>	<u>25</u>	<u>40</u>	<u>N/A</u>	<u>N/A</u>
	<u>lbs/day</u>	<u>1,300</u>	<u>2,000</u>	<u>2,600</u>	<u>N/A</u>
	<u>%</u>	<u>85</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
TSS (November 1–April 30)	mg/L	30	45	N/A	N/A
	lbs/day	1500	2,250	3,000	N/A
	%	85	N/A	N/A	N/A
BOD ₅ (May 15–October 15)	lbs/day	N/A	N/A	N/A	439
BOD ₅ (October 16–May 14)	lbs/day	N/A	N/A	N/A	549
Nitrogen as N, Total (May 15–October 15)	lbs/day	N/A	N/A	N/A	556
Nitrogen as N, Total (October 16–May 14)	lbs/day	N/A	N/A	N/A	671
pH See note b	SU	Instantaneous limit between a daily minimum of 6.5 and a daily maximum of 9.0			

Parameter	Units	Average Monthly	Average Weekly	Daily Maximum	Semi-annual Average
<i>E. coli</i> See note c	#/100 mL	Must not exceed a monthly geometric mean of 126, no single sample may exceed 406			
Mercury, Total (final, see note d)	µg/L	0.004 0.01	N/A	0.02	N/A
Total Ammonia as N (May 15 – Oct 15, final, see note d)	mg/L	2.2	N/A	5.5	N/A
Total Ammonia as N (Oct 16 – May 14, final, see note d)	mg/L	2.4	N/A	5.7	N/A
Chlorine, Total Residual (final, see notes a and d)	mg/L	0.0068	N/A	0.019	N/A
Temperature (Oct 1 – May 31)	degrees Celsius	N/A	N/A	32	N/A
Temperature (June 1 – Sept 30; see note e)	degrees Celsius	N/A	N/A	28	N/A
Excess Thermal Load (final, see note d.)	million kcal/day	Calculated as a Daily Maximum (see note f.)			
Phosphorus as P, Total (final, see note d; May 15–October 15)	lbs/day	N/A	N/A	N/A	8.6
Phosphorus as P, Total (final, see note d; October 16 – May 14)	lbs/day	N/A	N/A	N/A	54
Notes: a. DEQ has established a minimum Quantitation Limit of 0.05 mg/L for Total Residual Chlorine. In cases where the average monthly or maximum daily limit for Total Residual Chlorine is lower than the Quantitation Limit, DEQ will use the reported Quantitation Limit as the compliance evaluation level. b. May not be outside the range of 6.0 to 9.0 for more than a total of 7 hours and 26 minutes in any calendar month, and no individual excursion from this range may exceed 60 minutes. pH values may not fall outside the range of 6.5-9.0. c. If a single sample exceeds 406 organisms/100 mL, the permittee may take at least 5 consecutive re-samples at 4-hour intervals beginning within 28 hours after the original sample was taken. A geometric mean of the 5 re-samples that is less than or equal to 126 <i>E. coli</i> organisms/100 mL demonstrates compliance with the limit. The permittee may take at least 5 consecutive re-samples at 4 hour intervals beginning as soon as practicable (preferably within 28 hours) after the original sample was taken and the geometric mean of the 5 re-samples is less than or equal to 126 <i>E. coli</i> organisms/100 mL to demonstrate compliance with the limit. d. The final limits for total residual chlorine, total mercury, ammonia, phosphorus, and ETL are effective upon completion of the compliance schedules in Schedule C.					

Parameter	Units	Average Monthly	Average Weekly	Daily Maximum	Semi-annual Average
e. Maximum effluent temperature applies when daily river temperatures are greater than 28°C. f. Use this equation to determine the daily ETL limit: $ETL = \Delta T \times [(Q_E \times 1.5472) + Q_R] \times 2.4467$ Where, ETL = Excess thermal load limit (million kilocalories/day). Q_E = The daily mean effluent flow (MGD). Q_R = The daily mean river flow rate, upstream (cfs). When river flow is ≤ 104 cfs, $Q_R = 104$ cfs. When river flow > 104 cfs, Q_R is equal to the mean daily river flow, upstream. ΔT = The maximum allowable temperature increase (°C) after mixing with 100% of river flow: 0.03 °C for the October 1 – May 31 period and 0.05 °C for the June 1 – September 30 period.					

Changes in SCHEDULE B: MINIMUM MONITORING AND REPORTING REQUIREMENTS

Modification #3 deletions indicated in red strikeout and additions indicated with red underline.

3. Monitoring and Reporting Requirements

- a. The permittee must monitor influent at the plant headworks upstream of the introduction of any plant recycle streams and report results in accordance with the following table.

Table B2: Influent Monitoring Requirements

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type / Required Action See note b.	Report Statistic See note a.
Flow (50050)	MGD	Year-round	1/Day	Metered	Monthly Average Daily Maximum
BOD₅ <u>CBOD₅</u> (00310) <u>(80082)</u>	mg/L	Year-round	2/Week	24-hour composite	Monthly Average
TSS (00530)	mg/L	Year-round	2/Week	24-hour composite	Monthly Average
pH (00400)	SU	Year-round	3/Week	Grab	Daily Minimum Daily Maximum

Notes:

- a. The permittee must submit all data used to determine summary statistics in a DEQ-approved format as an attachment in NetDMR unless otherwise directed by DEQ
- b. In the event of equipment failure or loss, the permittee must notify DEQ and deploy new equipment to minimize interruption of data collection. If new equipment cannot be immediately deployed, the permittee must monitor grab measurements daily between 10 am and 5 pm until monitoring equipment is redeployed.

- b. The permittee must monitor effluent at Outfall 001 downstream of the confluence of the chlorine contact basin effluent and blowdown at the manhole prior to discharging to the Klamath River and report results in accordance with Table B1 and the table below.

Table B3: Outfall 001 Effluent Monitoring Requirements

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type/ Required Action See note b.	Report Statistic See note a.
Flow (50050) See note d.	MGD	Year-round	Daily	Calculation	Monthly Average Daily Maximum
BOD ₅ (00310)	mg/L	Year-round	2/week	24-hour composite	Monthly Average Weekly Average
BOD ₅ (00310)	lbs/day	Year-round	2/week	Calculation	Daily Maximum Weekly Average Monthly Average Semiannual Average
<u>CBOD₅ (80082)</u>	<u>mg/L</u>	<u>Year-round</u>	<u>2/week</u>	<u>24-hour composite</u>	<u>Monthly Average</u> <u>Weekly Average</u>

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type/ Required Action See note b.	Report Statistic See note a.
<u>CBOD₅ (80082)</u>	<u>lbs/day</u>	<u>Year-round</u>	<u>2/week</u>	<u>Calculation</u>	<u>Daily Maximum</u> <u>Weekly Average</u> <u>Monthly Average</u>
BOD₅ <u>CBOD₅</u> Percent Removal (81010) (<u>81383</u>) See note c.	%	Year-round	1/Month	Calculation based on monthly average BOD₅ <u>CBOD₅</u> concentration values	Monthly Average
TSS (00530)	mg/L	Year-round	2/Week	24-hour composite	Monthly Average Weekly Average
TSS (00530)	lbs/day	Year-round	2/Week	Calculation	Daily Maximum Monthly Average Weekly Average
TSS Percent Removal (81011) See note c.	%	Year-round	1/Month	Calculation based on monthly average TSS concentration values	Monthly Average
Chlorine, Total Residual (50060)	mg/L	Year-round	1/Day	Grab	Daily Maximum Monthly Average
pH (00400)	SU	Year-round	1/Hour	Continuous	Daily Maximum Daily Minimum
<i>E. coli</i> (51040)	#/100 mL	Year-round	2/Week	Grab	Daily Maximum Monthly Geometric Mean
Temperature (00010)	°C	Year-round	1/Hour	Continuous	Daily Maximum
Nitrogen, Total (00600)	lbs/day	Year-round	1/Week	Calculation	Semiannual Average
Nitrogen, Total (00600)	mg/L	Year-round	1/Week	Grab	Semiannual Average

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type/ Required Action See note b.	Report Statistic See note a.
Phosphorus, Total (00665)	lbs/day	Year-round	1/Week	Calculation	Semiannual Average
Phosphorus, Total (00665)	mg/L	Year-round	1/Week	Grab	Semiannual Average
Excess Thermal Load Limit	Million kcal/day	Year-round	1/Day	Calculation (see Table A1, note f.)	Daily Maximum
Excess Thermal Load (51405)	Million kcal/day	Year-round	1/Day	Calculation (see note e.)	Daily Maximum
Copper, Total (01042)	µg/L	Year-round	1/Month	Grab	Monthly Maximum
Copper, Dissolved (01040)	µg/L	Year-round	1/Month	Grab	Monthly Maximum
Total Recoverable Mercury (71900)	µg/L	Year-round	1/Month	Grab	Daily Maximum Monthly Average
Total Ammonia (as N) (00610)	mg/L	Year-round	1/Week	24-hour composite	Monthly Average Daily Maximum
Hardness (00900)	mg/L	Year-round	1/Month	24-hour composite	Monthly Maximum
Chlorine Used (81400)	lbs/day	Year-round	1/Day	Scale reading	Daily Maximum
Dissolved Oxygen (00300)	mg/L	Third year of permit cycle 2023	Quarterly	Grab	Quarterly Minimum
Total Kjeldahl Nitrogen (TKN) (00625)	mg/L	Third year of permit cycle 2023	Quarterly	Grab	Quarterly Maximum
Nitrogen, Nitrate Total (as N) (NO ₃) (00620)	mg/L	Third year of permit cycle 2023	Quarterly	Grab	Quarterly Maximum
Total Dissolved Solids (70295)	mg/L	Third year of permit cycle 2023	Quarterly	Grab	Quarterly Maximum

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type/ Required Action See note b.	Report Statistic See note a.
Notes: a. The permittee must submit all data used to determine summary statistics in a DEQ-approved format as an attachment in NetDMR unless otherwise directed by DEQ. b. In the event of equipment failure or loss, the permittee must notify DEQ and deploy new equipment to minimize interruption of data collection. If new equipment cannot be immediately deployed, the permittee must monitor grab measurements daily between 11 am and 5 pm until monitoring equipment is redeployed. c. Percent Removal must be calculated on a monthly basis using the following formula: $\text{Percent Removal} = \frac{[\text{Influent Concentration}] - [\text{Effluent Concentration}]}{[\text{Influent Concentration}]} \times 100$ Where: Influent Concentration = Corresponding monthly average influent concentration based on the analytical results of the reporting period. Effluent Concentration = Corresponding monthly average effluent concentration based on the analytical results of the reporting period. d. Outfall flow will be calculated as follows: Outfall 001 Flow = Secondary effluent flow – (reclaimed water flow – makeup water flow) + Blowdown flow from cogeneration facility. e. The daily excess thermal load (ETL) discharged must be calculated using the daily average effluent temperature and the corresponding daily average effluent flow using the formula below. If the calculation results in an ETL value less than zero, the results must be recorded as zero. The daily ETL discharged is calculated as follows: $ETL = (T_E - T_R) * Q_E * 3.785$ Where: ETL = Excess Thermal Load (million kcal/day) discharged Q_E = Daily average effluent flow (MGD) T_E = The daily average effluent temperature (degrees Celcius) T_R = The applicable river temperature criterion (degrees Celcius), which is the daily average river temperature from the USGS Link River monitoring station (USGS 11507500).					

Changes in SCHEDULE C: COMPLIANCE SCHEDULE

Modification #3 deletions indicated in red strikeout and additions indicated with red underline.

Modification #2 deletions indicated in green strikeout and addition indicated with green underline, unless changed by modification #3.

Compliance Schedule to Meet Final Effluent Limitations

The permittee must comply with the following schedules:

Table C1: Total Mercury, Total Ammonia as N, and Total Phosphorus as P Compliance Schedule

Complete By	Requirement
February 15, 2021 and annually thereafter until all of the requirements are met in this compliance schedule or by December 31, 2030	Submit to DEQ a written Progress Report outlining the progress made towards achieving the final effluent limitations.
October 31, 2024	Complete a Facility Plan that selects options for improvements to the treatment facility to comply with the mercury, ammonia, and phosphorus final effluent limits and submit the Facility Plan to DEQ for review and approval.
October 31, 2023 <u>2024</u> 2025	Evaluate and obtain financing for wastewater facility improvements that are recommended in the Facility Plan as acceptable.
October 31, 2024 <u>2025</u>	Complete Preliminary Design Report and submit to DEQ for review and approval.
April 30, 2026	Complete Final Design and submit to DEQ for review and approval.
October 31, 2029	Complete construction of wastewater facility improvements to comply with the mercury, ammonia, and phosphorus final effluent limits.
December 1, 2030	The permittee must achieve compliance with the final effluent limits and provide DEQ with written notice of compliance with the mercury, ammonia, and phosphorus final effluent limits in Schedule A.