



STATE OF IDAHO  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY

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

March 30, 2018

Mr. Michael Lidgard  
US EPA Region 10  
Attn: OWW-191  
1200 Sixth Avenue, Suite 900  
Seattle, Washington 98101-3140

**RE: FINAL Water Quality Certification City of Mackay NPDES # ID-002302-7**

Dear Mr. Lidgard:

On March 26, the Idaho Department of Environmental Quality received the proposed final National Pollutant Discharge Elimination System (NPDES) permit # ID-002302-7 for the city of Mackay, Idaho. Accompanying the permit was the request from the Environmental Protection Agency to prepare and issue a final §401 water quality certification (WQC) for the city. Enclosed, please find DEQ's final WQC for the facility.

Please do not hesitate to contact Troy Saffle at 208.528.2650 or [troy.saffle@deq.idaho.gov](mailto:troy.saffle@deq.idaho.gov) with questions or concerns about this WQC.

Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Erick Neher", written over a horizontal line.

Erick Neher  
Regional Administrator  
Idaho Fall Regional Office

enclosure

c: Loren Moore, DEQ, TRIM reference  
Maxwell Peterson, EPA Region 10 w/enclosure  
Josh Johnson, Idaho Conservation League w/enclosure





## Idaho Department of Environmental Quality Final §401 Water Quality Certification

March 30, 2018

**NPDES Permit Number(s):** ID-0023027 City of Mackay

**Receiving Water Body:** Big Lost River

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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 Mackay Waste Water Treatment Plant (WWTP) discharges the following pollutants of concern: five-day biochemical oxygen demand (BOD<sub>5</sub>), total suspended solids (TSS), *E. coli*, total residual chlorine (TRC), pH, ammonia, and temperature. Effluent limits have been developed for BOD<sub>5</sub>, TSS, TRC, *E. coli*, pH, and ammonia. No effluent limits are proposed for temperature.

### ***Receiving Water Body Level of Protection***

The Mackay WWTP discharges to the Big Lost River within the Big Lost Subbasin, assessment unit (AU) ID17040218SK011\_05 (Big Lost River – Mackay Dam to Beck and Even Ditch). This AU has the following designated beneficial uses: cold water aquatic life, salmonid spawning, primary contact recreation, 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, this AU is not fully supporting one or more of its assessed uses. The cold water aquatic life and salmonid spawning uses are not fully supported. The cause of impairment is temperature. DEQ will provide Tier I protection (IDAPA 58.01.02.051.01) for the aquatic life uses. The primary contact recreation beneficial use is unassessed. DEQ must provide an appropriate level of protection for the primary contact recreation use using information available at this time (IDAPA 58.01.02.052.05.b). As such, DEQ will provide Tier II protection (IDAPA 58.01.02.051.02) for the primary contact recreation use.

### ***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 Mackay 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 Big Lost River TMDL (December, 2011) establishes load allocations for temperature, but did not establish a wasteload allocation for the Mackay WWTP. These load allocations are designed to ensure the Big Lost 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.

In sum, the effluent limitations and associated requirements contained in the Mackay WWTP permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS and the wasteload allocations established in the Big Lost TMDL. In previous TMDL documents, approved in 2004, DEQ set wasteload allocations equal to the then-current NPDES permit, while also requiring temperature monitoring. The current permit incorporated those requirements, while the proposed permit proposes additional limits which will ensure beneficial uses will not be further degraded. Therefore, DEQ has determined the permit will protect and maintain existing and designated beneficial uses in the Big Lost 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 Big Lost River is considered high quality for primary contact recreation and domestic water supply. As such, the water quality relevant to contact recreation and domestic water supply uses of the Big Lost 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 primary contact recreation and domestic water supply uses of the Big Lost River (IDAPA 58.01.02.052.05). These include the following: *E. coli*. Effluent limits are set in the proposed and existing permit for this pollutant.

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 (IDAPA 58.01.02.052.06.a). 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 Mackay WWTP permit, this means determining the permit's effect on water quality based upon the limits for *E. coli* 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 pollutant of concern relevant to recreational uses receiving Tier II protection.**

Pollutant	Units	Current Permit			Proposed Permit			Change <sup>a</sup>
		Average Monthly Limit	Average Weekly Limit	Single Sample Limit	Average Monthly Limit	Average Weekly Limit	Single Sample Limit	
<b>Pollutants with limits in both the current and proposed permit</b>								
<i>E. coli</i>	no./100 mL	126		406	126		406	NC

<sup>a</sup> NC = no change

The proposed permit limits for *E. Coli* are the same as 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 this pollutant.

## 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 Mackay WWTP cannot immediately achieve compliance with the effluent limits for ammonia. Allowing a compliance schedule for the de-chlorination facility will allow the city to look to a long term chlorine compliance solution that can be incorporated into the main treatment improvement project that will meet the new ammonia limits. Combining these two projects into one and having them constructed at the same time will allow the City of Mackay to maximize their funding opportunities and be able to accomplish their goals by keeping their construction cost as low as practicable. This will help to keep their sewer rates at a reasonable level for the ratepayers. The city will be able to save money by simplifying the bid process and reducing engineering costs, bidding costs and other soft costs associated with these types of public works projects. 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 limit is accomplished as soon as possible. Interim and final limits for total

residual chlorine and the new ammonia limits are displayed in Table 2. Milestones and target dates for completion are found in Table 3.

**Table 2. Ammonia and Total Residual Chlorine Limits.**

Pollutant	Units	Current Permit			Proposed Permit		
		Average Monthly Limit	Average Weekly Limit	Single Sample Limit	Average Monthly Limit	Average Weekly Limit	Single Sample Limit
<b>Pollutants with limits in both the current and proposed permit</b>							
Ammonia	mg/L	Monitor and Report			10		25
	lb/day	Monitor and Report			15		38
TRC (final)	µg/L	500	750	—	420		470
	lb/day	0.8	1.1	—	0.63		0.71
TRC (interim)	µg/L	500	750				
	lb/day	0.8	1.1				

**Table 3. Milestones and Deadline for Ammonia Compliance Schedule.**

Milestone	Deadline Date
Submit Letter Of Interest (LOI) for State Revolving Fund (SRF) grant for Facility Planning Study (FPS)	November 1, 2018
Accept grant offer	July 31, 2019
Finish FPS and Environmental Impact Document	August 31, 2020
Hold bond Election	November 30, 2020
Submit LOI for SRF Construction Loan	Nov 30, 2020
Submit final SRF Loan Application	July 31, 2021
Complete Design	April 1, 2022
Solicit bids	May 1, 2022
Complete construction	October 31, 2023

## Mixing Zones

Pursuant to IDAPA 58.01.02.060, DEQ authorizes the following mixing zones for the Mackay WWTP, found in Table 4.

**Table 4. Authorized Mixing Zones.**

Pollutant	Authorized Mixing Zone
Ammonia	25%
Five-Day BOD	25%
TRC (final)	25%
TRC (interim)	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.

## 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 Troy Saffle at 208.528.2650 or [troy.saffle@deq.idaho.gov](mailto:troy.saffle@deq.idaho.gov).



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Erick Neher  
Regional Administrator  
Idaho Falls Regional Office