



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

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C.L. "Butch" Otter, Governor
Toni Hardesty, Director

September 20, 2011

Mr. Michael J. Lidgard, Manager
NPDES Permit Unit
US EPA, Region 10
1200 Sixth Avenue
Seattle, WA 98101

RE: Final 401 Water Quality Certification and Antidegradation Review for the City of
Fruitland Wastewater Treatment Plant NPDES Permit No. ID-002033-8

Dear Mr. Lidgard:

The State of Idaho Department of Environmental Quality (DEQ) received a proposed final NPDES permit on April 4th, 2011 regarding the City of Fruitland's wastewater treatment plant discharge into the Snake River.

Upon assessment of the proposed permit and completion of an anti-degradation review, DEQ submits the enclosed final §401 certification and anti-degradation review for the final permit

If you have any questions or need further information please contact Lance Holloway at 373-0550 or by email at Lance.Holloway@deq.idaho.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Pete Wagner", is written over a light blue horizontal line.

Pete Wagner
Regional Administrator
DEQ Boise Regional Office

Cc: Doug Conde, Deputy Attorney General
Barry Burnell, Water Quality Division Administrator
John Drabek, EPA Region 10, Seattle
Miranda Adams, DEQ



Idaho Department of Environmental Quality
FINAL §401 Water Quality Certification

September 20, 2011

NPDES Permit Number: City of Fruitland Wastewater Treatment Plant, ID-002033-8

Pursuant to the provisions of Section 401(a)(1) of the Federal Water Pollution Control Act (Clean Water Act), as amended, 33 USC 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 (NDPES) 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, including 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.

MIXING ZONES

Pursuant to IDAPA 58.01.02.060, DEQ authorizes a mixing zone that utilizes up to 25% of the critical flow volumes of the Snake River for chlorine and ammonia.

ANTIDegradation

Idaho's antidegradation policy (IDAPA 58.01.02.051.01) requires that existing uses and the water quality necessary to protect the existing uses shall be maintained and protected (Tier 1 protection). Because the Department (DEQ) presumes most waters in the state will support cold water aquatic life and primary and secondary contact recreation beneficial uses, undesignated waters shall be protected for these presumed uses; therefore a Tier 1 level of protection will be given (IDAPA 58.01.02.101.01(a)). In addition, where water quality is better than that required to maintain beneficial uses, then DEQ must assure that no degradation will occur unless, after allowing an opportunity for public comment and intergovernmental coordination, degradation is deemed to be necessary to accommodate important economic or social development (Tier 2 protection).

The City of Fruitland WWTP discharges to the Snake River assessment unit (AU) ID17050115SW001_08, which is not fully supporting its cold water aquatic life

beneficial use designation due to excess sedimentation, total phosphorus, dissolved oxygen, and temperature. Accordingly, DEQ will provide Tier 1 protection for aquatic life. This AU is fully supporting its primary contact recreation beneficial use designation; therefore DEQ will provide Tier 2 protection for recreation (see the attached Antidegradation Review document for a more detailed discussion).

The effluent limitations in the proposed final permit for the City of Fruitland are set at levels that ensure the State's numeric and narrative criteria and other WQS provisions will be met and that comply with the *Snake River-Hells Canyon TMDL (2004)*. The numeric and narrative criteria and TMDL wasteload allocations are set at levels, which protect and maintain designated and existing beneficial uses. Therefore, in accordance with IDAPA 58.01.02.051.01, the limits in the permit will protect and maintain designated and existing beneficial uses in the Snake River.

OTHER CONDITIONS

The certification is conditioned upon the requirement that any material modification of this permit or the permitted activities including without limitation, any modifications of the permit to reflect new or modified TMDL waste load allocations or other new information, shall first be provided to DEQ for review to determine compliance with 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 regarding the actions taken in this certification should be directed to Pete Wagner, DEQ (Boise Regional Office) at (208) 373-0550.



Pete Wagner
Administrator, DEQ Boise Regional Office

ANTIDegradation REVIEW
NPDES Permit # ID-002033-8
City of Fruitland Wastewater Treatment Plant
Snake River Discharge

Idaho Department of Environmental Quality
September 2011

Antidegradation Overview

In March 2011, Idaho incorporated new provisions addressing antidegradation implementation in the Idaho Code. The new antidegradation provisions are in Idaho Code § 39-3603. At the same time, Idaho adopted antidegradation implementation procedures in the Idaho Water Quality Standards ("WQS"). DEQ submitted the antidegradation implementation procedures to EPA for approval on April 15, 2011. On August 18, 2011 EPA approved of the implementation procedures.

The WQS contain an antidegradation policy providing three levels of protection to water bodies in Idaho (IDAPA 58.01.02.051). The first level of protection applies to all water bodies subject to Clean Water Act jurisdiction and assures that the level of water quality needed to protect existing uses of a water body will be maintained (Tier 1 protection) (IDAPA 58.01.02.051.01; 58.01.02.052.01). Because the Department (DEQ) presumes most waters in the state will support cold water aquatic life and primary and secondary contact recreation beneficial uses, undesignated waters shall be protected for these presumed uses; therefore a Tier 1 level of protection will be given (IDAPA 58.01.02.101.01(a)). Additionally, a Tier 1 review is performed for all new or reissued permits or licenses (IDAPA 58.01.02.052.05). The second level of protection applies to those water bodies that are considered high quality and assures that no lowering of water quality will be allowed unless it is deemed necessary to accommodate important economic or social development (Tier 2 protection) (IDAPA 58.01.02.051.02; 58.01.02.052.06). The third level of protection applies to water bodies that have been designated outstanding resource waters and requires activities to not cause a lowering of water quality (Tier 3 protection) (IDAPA 58.01.02.03; 58.01.02.052.07).

DEQ is employing a waterbody-by-waterbody approach to implementing Idaho's antidegradation policy. This approach to antidegradation implementation means that any water body fully supporting its beneficial uses will be considered high quality (Idaho Code §39-3603(2)(b)(i)). Any waterbody not fully supporting its beneficial uses will be provided Tier 1 protection for that use, unless specific circumstances warranting Tier 2 protection are met (Idaho Code §39-3603(2)(b)(iii)). The most recent federally-approved Integrated Report and supporting data are used to determine support status and the tier of protection (Idaho Code §39-3603(2)(b)).

Pollutants of Concern

According to the NPDES Permit Fact Sheet, EPA analyzed the following pollutants discharged by the City of Fruitland Wastewater Treatment Plant (Fruitland WWTP) to determine whether effluent limits were needed. DEQ reviewed these pollutants in this antidegradation review: biological oxygen demand (BOD), total suspended solids (TSS), *E. coli*, pH, chlorine, ammonia, mercury, total phosphorus (TP) and temperature. Effluent limitations have been developed for

BOD, TSS, *E. coli*, pH, chlorine, TP and temperature. No effluent limits are proposed for ammonia or mercury.

Receiving Water Body Level of Protection

The City of Fruitland WWTP discharges its treated wastewater to the Snake River (assessment unit ID17050115SW001_08). This Snake River assessment unit (AU) has the following designated beneficial uses: cold water aquatic life; primary contact recreation; domestic, agricultural, and industrial water supply; wildlife habitat; and aesthetics.

Idaho has established a waterbody-by-waterbody approach for identifying what level of antidegradation protection DEQ will provide when reviewing whether activities or discharges will comply with Idaho's antidegradation policy. This approach relies upon Idaho's most recent federally-approved Integrated Report (IR) of water quality status and its supporting data. The cold water aquatic life use in this Snake River AU is not fully supported due to excess sedimentation, total phosphorus, temperature and low levels of dissolved oxygen (DEQ, 2008 IR). The primary contact beneficial use is fully supported. As such, DEQ will provide Tier 1 protection only for the aquatic life use (Idaho Code §39-3603(20)(b)(i)) and Tier 2 protection, in addition to Tier 1, for the recreation beneficial use (Idaho Code §39-3603(2)(b)(iii)).

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 CWA, and requires a showing 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 Idaho water quality standards (WQS), which contain narrative and numeric criteria 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 which ensure protection of designated beneficial uses. The effluent limitations and associated requirements contained in the Fruitland WWTP permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS. Because there is no available information indicating the presence of any existing uses other than the designated uses discussed above, the permit ensures that the level of water quality necessary to protect both designated and existing uses is maintained and protected, in compliance with IDAPA 58.01.02.051.01, IDAPA 58.01.02.052.05 and 40 CFR 131.12(a)(1).

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 any water quality limited water body. 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 WLAs in the approved TMDL.

The EPA-approved *Snake River – Hells Canyon TMDL* (DEQ 2004) establishes wasteload allocations for TSS, temperature, and total phosphorus. These wasteload allocations are designed to ensure the Snake River will achieve the 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 Fruitland WWTP permit are set at levels that are consistent with these WLAs.

In sum, the effluent limitations and associated requirements contained in the Fruitland WWTP permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS as well as the wasteload allocations established in the *Snake River – Hells Canyon TMDL*. Therefore, DEQ has determined the permit will protect and maintain existing and designated beneficial uses in the Snake River.

High Quality Waters (Tier 2 Protection)

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

In order to determine whether degradation will occur, DEQ must evaluate the effect on water quality of the issuance of the permit for each pollutant that is relevant to recreational uses of the Snake River (IDAPA 58.01.02.052.04). 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 58.01.02.052.04.a). *E. Coli and mercury* have criteria in the WQS specific to the protection of recreational uses (IDAPA 58.01.02.251; 58.01.02.210.01). The narrative criteria in the WQS for excess nutrients and sediment prohibit levels of these pollutants that impair designated uses. Nutrients and sediment may be relevant to the impairment of recreational uses in some circumstances. Therefore, DEQ will review the effect on water quality of the discharge of *E. coli*, TP, mercury and TSS. Effluent limits are set in the proposed and existing permit for TSS and *E. coli*.

Pollutants with limits in the current and proposed permit

For pollutants that currently are 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 58.01.02.052.04.a.i), and the future discharge quality is based on the proposed permit limits. (IDAPA 58.01.02.052.04ii). For the Fruitland permit this means determining the effect on water quality based upon the limits for TSS and *E. coli* in the current and proposed permits.

Table 1 provides a summary of the existing permit limits and the proposed reissued permit limits.

Table 1. Comparison of proposed permit limits with current permit limits for the parameters of concern. The rows with parameters relevant or possibly relevant to recreation are shaded in gray.

Parameter	Units	Proposed Permit			Current Permit		
		Average Monthly Limit	Average Weekly Limit	Instantaneous Maximum Limit	Average Monthly Limit	Average Weekly Limit	Instantaneous Maximum Limit
Five-Day BOD	mg/L	45	65	-	45	65	-
	lb/day	200	430	-	200	430	-
	% removal	65%	-	-	65%	-	-
TSS	mg/L	45	65	-	70	105	-
	lb/day	170	290	-	290	440	-
	% removal	65%	-	-	65%	-	-
pH	s.u.	6.5 – 9.0 all times			6.5 – 9.0 all times		
<i>E. coli</i>	#/100 mL	126		406	126		406
Fecal coliform ¹	#/100 mL	50	200	-	50	200	-
Total Phosphorus	lbs/day (May – Sept.)	12	18		-	-	Report
Total Residual Chlorine (final)	mg/L	0.5	0.75	-	0.5	0.75	-
	lb/day	2.1	3.1	-	2.1	3.1	-
Total Ammonia	mg/L	-	-	Report	-	-	Report
Mercury	ng/L	-	-	Report	-	-	Report
Temperature	°C	72	-	23	-	-	-
	BTU (million) /day	300	-	-	-	-	-

¹ DEQ is requesting EPA remove the fecal coliform limits.

The existing permit for the Fruitland WWTP contains effluent limitations for fecal coliform as well as *E. coli*. In 1986, EPA updated its criteria to protect recreational use of water recommending an *E. coli* criterion as a better indicator of bacteria levels that may cause gastrointestinal distress in swimmers than fecal coliform. In 2000, DEQ changed its bacteria criterion from fecal coliform to *E. coli*. The *E. coli* limits were in the existing permit to reflect the bacteria criterion that DEQ adopted to protect the contact recreation beneficial use (IDAPA 58.01.02.251.01). The fecal coliform limits were in the current permit because at the time the permit was issued, IDAPA 58.01.02.420.05 established a disinfection requirement for sewage wastewater treatment plant effluent. This section of Idaho WQS was revised in 2002 to reflect the change in the bacteria criterion from fecal coliform to *E. coli* in 2000. The *E. coli* limits are as or more protective of water quality than the old fecal coliform limits. The proposed final permit contains both fecal coliform and *E. coli* effluent limitations that comply with previous and current numeric criteria at the “end-of-pipe.” Because the fecal coliform criteria have been replaced with *E. coli* criteria, DEQ is requesting that EPA remove the fecal coliform effluent limitations. This is consistent with how EPA has handled other NPDES permits for WWTPs in Idaho. Furthermore, retention of the *E. coli* limits will ensure that the receiving water quality will not be degraded even when the fecal coliform limits are removed. Even with the omission of fecal coliform limitations, DEQ believes the discharge will not cause or contribute to a violation of the bacteria criteria because the permit incorporates “end-of-pipe” limitations for *E. coli*. Thus, removal of the fecal coliform limits complies with both the Tier 1 and Tier 2 components of Idaho’s antidegradation policy.

The proposed permit limits for TSS are more stringent than the limits in the current permit. Therefore, there will be no adverse change in water quality and no degradation resulting from the discharge of TSS or *E. coli*.

New permit limits for pollutants currently discharged

The proposed permit for Fruitland contains a new limit for total phosphorus (TP). This limit was included in the permit in order to be consistent with the WLAs in the approved *Snake River-Hells Canyon TMDL*. The TMDL includes a WLA for Fruitland that reflects current loading. In accordance with the approved TMDL, the TP limit in the proposed permit is based upon the current level of TP discharged by Fruitland, determined by a review of the discharge monitoring data from the facility. Therefore, there will be no adverse change in water quality and no degradation with respect to the discharge of this pollutant.

Pollutants with no limits

There are two pollutants of concern, ammonia and mercury, that are currently not limited, and for which the proposed permit contains no limits. For these pollutants, a change in water quality is determined by reviewing whether there will likely be changes in production, treatment or operation that will increase the discharge of these pollutants. (IDAPA 58.01.02.052.04.a.ii).

There is no reason to believe that ammonia or mercury will be discharged in quantities greater than that at which it is discharged under the current permit. This conclusion is based upon the fact that there has been no change in the design flow, influent quality or treatment processes that would likely result in an increased discharge of these pollutants. Because the proposed permit does not allow for any increased water quality impact from ammonia or mercury, DEQ has concluded that the proposed permit should not cause a lowering of water quality with respect to these pollutants. As such, the proposed permit should maintain the existing water quality in the Snake River.