



STATE OF IDAHO  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY

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

June 25, 2013

Mr. Michael Lidgard  
US Environmental Protection Agency, Region 10  
1200 6<sup>th</sup> Avenue, OW-130  
Seattle, WA 98101

RE: Third Revision Draft §401 Water Quality Certification for the Draft NPDES Permit No. ID-0025852 for the City of Post Falls Water Reclamation Facility (Post Falls)

Dear Mr. Lidgard:

On May 21, 2013, the State of Idaho Department of Environmental Quality (DEQ) Director Curt Fransen sent a letter to Representatives Eskridge and Anderson clarifying the agency's interpretation of IDAPA 58.01.02.055.04. This interpretation necessitated some changes to our draft 401 certifications for the three Spokane River dischargers. We have made the necessary revisions and are resubmitting the draft certification for Post Falls to you in its entirety.

To recap the Post Falls certification process, on September 4, 2012 DEQ submitted our first draft certification. On September 18, 2012 DEQ revised the draft certification due to an error in the mixing zone section. We submitted another revised draft certification on April 18, 2013 in response to a revised draft permit.

Please direct any questions to June Bergquist at 208.666.4605 or [june.bergquist@deq.idaho.gov](mailto:june.bergquist@deq.idaho.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Daniel Redline", is written over a large, light-colored circular mark.

Daniel Redline  
Regional Administrator  
Coeur d'Alene Regional Office

Enclosure

C: Miranda Adams, DEQ Boise  
Brian Nickel, EPA Region 10, Seattle  
Mike Neher, City of Post Falls



## Idaho Department of Environmental Quality Revised Draft §401 Water Quality Certification

June 25, 2013

**NPDES Permit Number(s):** ID0025852 City of Post Falls Wastewater Treatment Plant

**Receiving Water Body:** Spokane 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

In March 2011, Idaho incorporated new provisions in Idaho Code § 39-3603 addressing antidegradation implementation. At the same time, Idaho adopted antidegradation implementation procedures in the Idaho WQS. DEQ submitted the antidegradation implementation procedures to the US Environmental Protection Agency (EPA) for approval on April 15, 2011. On August 18, 2011, EPA approved the implementation procedures.

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 58.01.02.052.05).
- **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; 58.01.02.052.06).

- 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; 58.01.02.052.07).

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 (Idaho Code § 39-3603(2)(b)(i)). 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 (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***

The City of Post Falls discharges the following pollutants of concern: carbonaceous biochemical oxygen demand (CBOD<sub>5</sub>), total suspended solids (TSS), pH, E. coli, chlorine, ammonia, phosphorus, copper, lead, cadmium and zinc. Effluent limits have been developed for these pollutants of concern. Butyl benzyl phthalate, di-N-butyl phthalate, nitrate + nitrite, phenol and whole effluent toxicity are additional pollutants of concern for which a reasonable potential analysis was performed. No effluent limits were established for these pollutants because results of the analysis indicated they had no reasonable potential to exceed water quality standards.

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

The City of Post Falls discharges to the Spokane River assessment unit (AU) ID17010305PN003\_04 (Post Falls Dam to Idaho/Washington border). This AU has the following designated beneficial uses: cold water aquatic life, salmonid spawning, primary contact recreation, domestic, agricultural and industrial water supply, wildlife habitat, and aesthetics. There is no available information indicating the presence of any existing beneficial aside from those that are already designated.

The cold water aquatic life use in the Spokane River AU is not fully supported due to excess phosphorus, cadmium, lead and zinc (2010 Integrated Report). The primary contact recreation beneficial use has not been assessed; however E. coli data collected in 2007 indicate that recreation uses are fully supported. As such, DEQ will provide Tier 1 protection only for the aquatic life use and Tier 2 protection, in addition to Tier 1, for the recreation beneficial use (Idaho Code §39-3603(2)(b)).

### ***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 City of Post Falls 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.

The WQS provide that until a TMDL or equivalent process is completed for a high priority water quality limited waterbody, the total load of the impairing pollutant must remain constant or decrease within the watershed. (IDAPA58.01.02.055.04 ). The cold water aquatic life use in the Spokane River AU is not fully supported due to excess cadmium, lead, zinc and phosphorus (2010 Integrated Report). In addition, the 2010 Integrated Report lists the Spokane River as high priority for TMDL development. Therefore, section 055.04 is applicable to the discharges of phosphorus, lead, zinc and cadmium.

### **Phosphorus**

The restrictions on loading set forth in section 055.04 are only applicable until a TMDL or equivalent process is completed. DEQ believes a process equivalent to a TMDL has been completed for phosphorus. In order to meet Washington and Idaho WQS, EPA modeled the cumulative impact of all sources of nutrients and oxygen-demanding pollutants, both point and non-point sources, in Idaho and Washington. The limits EPA has set in the draft permits for the point sources in Idaho, including the Post Falls permit, are based upon this loading analysis. The proposed effluent limits will result in a concentration of 9.1 µg/L of TP in the Idaho portion of the Spokane River. This level meets or exceeds Idaho's narrative criteria for excess nutrients. (See IDAPA 58.01.02.200.06). In summary, equivalent to a TMDL, EPA has calculated the loading from point and non-point sources, and set limits that will attain WQS for phosphorus in Idaho. Therefore, the effluent limits in the draft permit are consistent with section 055.04.

### **Cadmium, Zinc and Lead**

In August 2000, EPA approved a TMDL prepared by DEQ for cadmium, lead and zinc in the CDA River Basin, which included the Spokane River. The TMDL included allocations for the point source dischargers to the Spokane River, including Post Falls. However, this TMDL was invalidated by the Idaho Supreme Court in 2003. There has been no more recent effort by DEQ to develop a TMDL for metals in the Spokane River, and therefore, the river is still on the state's 303d list for metals and is identified as a high priority water body for TMDL development. Thus, the load restrictions in section 055.04 apply to the metals discharged to the Spokane River.

The intent of section 055.04 is to ensure that water quality for designated uses is at least maintained at current levels, until DEQ can make a determination, through a TMDL or equivalent process, regarding reductions necessary to attain WQS. To achieve this goal, Section 055.04 requires that the "load" of the impairing pollutant remain constant or decrease in the watershed. "Load" is not defined in the Idaho WQS. In the context of a TMDL, however, load is

defined as an amount of matter, and is expressed in terms of mass per time, toxicity or other appropriate measure (see 40CFR 130.2(e) (definition of “load”) and 40CFR 130.2(i) (definition of “TMDL”)). The water quality criteria for lead, zinc and cadmium is expressed as dissolved metal concentrations. For these pollutants, it is the concentration, rather than the mass that is critical for the protection of the designated aquatic life uses. Therefore, in this instance, ensuring the load remains constant in the watershed means ensuring that the concentration of lead, zinc and cadmium in the City of Post Falls effluent does not increase.

In the draft NPDES permit for Post Falls, EPA has included effluent limits for lead and zinc that ensure the effluent meets the water quality criteria at the end of pipe. These same limits were contained in the 1999 permit. These limits ensure compliance with section 055.04. However, the draft permit does not contain cadmium limits. In order to ensure compliance with section 055.04, DEQ has included in the draft certification cadmium limits that reflect the current concentration of cadmium in Post Falls’ effluent using the 99<sup>th</sup> percentile value from the 2006-2011 DMR data. Table 1 provides a summary of the existing permit limits and the proposed reissued permit limits, including effluent limitations for cadmium specified in the draft 401 certification.

Section 055.04 provides that once a TMDL or equivalent process is completed, the discharge of causative pollutants must be consistent with the TMDL or equivalent process. Therefore, once a TMDL for metals is completed by DEQ and approved by EPA, the limits for metals in the permit, including the limits discussed herein, should be adjusted to reflect the approved TMDL.

In summary, the effluent limitations and associated requirements contained in the Post Falls 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 and designated beneficial uses in the Spokane River.

**Table 1.** Comparison of current and proposed permit limits.

Parameter	Units	Proposed Permit			Current Permit			Change <sup>1</sup>
		Average Monthly Limit	Average Weekly Limit	Maximum Daily	Average Monthly Limit	Average Weekly Limit	Maximum Daily	
<i>Pollutants with limits in both the current and proposed permit</i>								
<b>CBOD<sub>5</sub></b> <b>November-January</b>	mg/L	25	40	-	30	45	-	<i>I</i> <sup>2</sup>
	lb/day	1043	1668	-	871	1306	-	
	% removal	85%	-	-	85%	-	-	
<b>CBOD<sub>5</sub></b> <b>February-October interim limit</b>	mg/L	25	40	-	30	45	-	<i>nc</i> <sup>3</sup>
	lb/day	726	1161	-	871	1306	-	
	% removal	85%	-	-	85%	-	-	
<b>CBOD<sub>5</sub></b> <b>(February-October)</b>	mg/L	25	40	-	30	45	-	<i>D</i>
	lb/day	seasonal average 255 lb/day		-	871	1306	-	
	% removal	85%	-	-	-	-	-	
<b>TSS</b>	mg/L	30	45	-	30	45	-	<i>I</i> <sup>2</sup>
	lb/day	1251	1877	-	871	1306	-	
	% removal	85%	-	-	85%	-	-	
<b>pH October-June</b>	s.u.	6.3 – 9.0 all times			6.2 – 9.0 all times			<i>D</i>
<b>pH July-September</b>	s.u.	6.4 – 9.0 all times			6.3 – 9.0 all times			<i>D</i>
<b>E. coli</b>	#/100 mL	126	-	406	-	-	-	<i>nc</i> <sup>4</sup>
<b>Fecal coliform<sup>4</sup></b> <b>May-Sept</b>	#/100 mL	-	-	-	50	200	500	<i>nc</i> <sup>4</sup>
<b>Fecal coliform<sup>4</sup></b> <b>October-April</b>	#/100 mL	-	-	-	-	200	800	<i>nc</i> <sup>4</sup>
<b>Total Residual Chlorine July-September</b>	µg/L	127	-	294	36	-	161	<i>I</i> <sup>2</sup>
	lb/day	5.3	-	13.6	1.04	-	4.67	
<b>Total Residual Chlorine October-June if used</b>	µg/L	244	-	565	147	-	662	<i>I</i> <sup>2</sup>
	lb/day	10.2	-	23.6	4.27	-	19.2	
<b>Ammonia (July-Sept)</b>	mg/L	8.2	29.5	-	8.2	-	29.5	<i>I</i> <sup>2</sup>
	lb/day	342	1230	-	238	-	856	
<b>Ammonia (October-June)</b>	-	-	-	-	25.4	-	91.7	<i>D</i>
	-	-	-	-	737	-	2661	
<b>Ammonia (Feb- October)</b>	mg/L	-	-	-	-	-	-	<i>D</i>
	lb/day	seasonal average 255 lb/day		-	-	-	-	
<b>Ammonia (Nov-Jan)</b>	mg/L	25.4	-	91.7	25.4	-	91.7	<i>nc</i>
	lb/day	1059	-	3824	737	-	2661	<i>I</i> <sup>2</sup>
<b>Zinc</b>	µg/L	84.3	-	115	84.3	-	115	<i>nc</i> <sup>6</sup>
	lb/day	-	-	-	2.45	-	3.34	
<b>Lead</b>	µg/L	2.05	-	3.79	2.05	-	3.79	<i>nc</i> <sup>6</sup>
	lb/day	-	-	-	0.059	-	0.110	
<b>Copper (July-September)</b>	µg/L	13.8	-	27.7	13.8	-	27.7	<i>nc</i>
	lb/day	0.58	-	1.16	0.40	-	0.80	<i>I</i> <sup>2</sup>

Table 1 Continued...

Parameter	Units	Proposed Permit			Current Permit			Change <sup>1</sup>
		Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit	Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit	
<i>Pollutants with limits in both the current and proposed permit (continued)</i>								
Phosphorus (March-Oct)	percent removal	-	-	-	70%			D
Phosphorus <sup>5</sup> (Feb-Oct) <i>interim limits</i>	lbs/day	68.5 70% removal	110	-				nc <sup>5</sup>
Phosphorus February-October	µg/L	Report	Report	-	-	-	-	D
	lb/day	3.19 seasonal average		-	-	-	-	D
<i>Pollutants with limits only in the proposed permit</i>								
Cadmium <sup>6</sup>	µg/L	0.270	0.361	-	-	-	-	nc <sup>6</sup>

Table 1 Continued...

Parameter	Units	Proposed Permit			Current Permit			Change <sup>1</sup>
		Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit	Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit	
<i>Pollutants with no limits in either the current and proposed permit</i>								
Temperature	°C	Report	-	Report	-	-	Report	nc
PCB	pg/L	Report	-	Report	-	-	-	nc
Mercury	ng/L	-	-	-	-	-	-	nc
TCDD	pg/L	Report	-	Report	-	-	-	nc
Silver	µg/L	Report	-	Report	-	-	-	nc
	lb/day	-	-	-	-	-	-	
Alkalinity	mg/L as CaCO <sub>3</sub>	Report	-	Report	-	-	-	nc
Hardness	mg/L as CaCO <sub>3</sub>	Report	-	Report	-	-	-	nc
Oil and Grease	mg/L	Report	-	Report	-	-	-	nc
TDS	mg/L	Report	-	Report	-	-	-	nc
Ortho-phosphate	µg/L	Report	-	Report	-	-	-	nc
Kjeldahl Nitrogen	mg/L	Report	-	Report	-	-	-	nc
Nitrate-Nitrite	mg/L	Report	-	Report	-	-	-	nc
Dissolved Oxygen	mg/L	Report minimum and average			-	-	-	nc

<sup>1</sup> *nc* = no change in effluent limit from current permit; *I* = increase of pollutants from current permit; *D* = decrease of pollutants from current permit;

<sup>2</sup> The increased loads of these pollutants in the draft permit do not exceed narrative or numeric criteria in the Idaho WQS which meets the requirements for Tier 1 protection.

<sup>3</sup> The interim concentration and removal rate limits for CBOD<sub>5</sub> are federal technology-based effluent limits (40 CFR 133.102(a)(4)). The interim CBOD<sub>5</sub> load limits are calculated from the concentration limits using the same design flow that was used to calculate the BOD<sub>5</sub> loading limits for the prior permit (3.48 mgd), which ensures that the interim CBOD<sub>5</sub> loading limits are as stringent as the final BOD<sub>5</sub> loading limits in the prior permit, as required by federal regulations (40 CFR 122.44(l)(1)).

<sup>4</sup> DEQ requested EPA replace the fecal coliform limits with *E. coli* effluent limits. See discussion under High Quality Waters section (below).

<sup>5</sup> Interim effluent limits for phosphorus were established based on Post Falls' current design flow and treatment levels authorized by their current permit. See discussion on page 3 regarding the use of an equivalent process.

<sup>6</sup>Effluent limits for cadmium have been added by the 401 certification to ensure that the concentration of cadmium remain constant to meet the requirements of IDAPA 58.01.02.055.04. This limit was based on the actual concentrations of cadmium currently discharged, using the 2006-2012 DMR data. Similarly, the zinc and lead limits established in 1999 are the same in the draft permits to comply with anti-backsliding provisions of the Clean Water Act and WQS Section 055.04.

### ***High-Quality Waters (Tier 2 Protection)***

The Spokane River is not assessed for recreational use. Monitoring data for *E. coli* collected in 2007 within the subject assessment unit, indicates that the Spokane River is high quality for the primary contact recreation beneficial use. As such, the water quality relevant to recreational uses of the Spokane 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 recreational uses of the Spokane River (IDAPA 58.01.02.052.04). These include the following: *E. coli* bacteria, phosphorus and mercury. Effluent limits are set in the proposed and existing permit for all these pollutants except mercury.

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). 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 58.01.02.052.04.a).

### **Pollutants with Limits in the Current and Proposed Permit: *E. coli*, Phosphorus**

For Tier 2 related pollutants that are currently limited (have effluent limits) 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 58.01.02.052.04.a.ii). For the City of Post Falls permit, this means determining the permit's effect on water quality based upon the limits for *E. coli* and phosphorus in the current and proposed permits. Table 1 provides a summary of the current permit limits and the proposed or reissued limits.

#### ***E. coli***

The existing permit for the City of Post Falls contains effluent limits for fecal coliform and *E. coli*. In 1986, EPA updated its criteria to protect recreational use of water by recommending an *E. coli* criterion as a better indicator than fecal coliform of bacteria levels that may cause gastrointestinal distress in swimmers. In 2000, DEQ changed its bacteria criterion from fecal coliform to *E. coli*. The *E. coli* limits are 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 are 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 requirement specified that fecal coliform concentrations not exceed a geometric mean of 200/100 mL based on a minimum of five samples in one week. This section of the Idaho WQS was revised in 2002 to reflect the change in the bacteria criterion from fecal coliform to *E. coli*. 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 limits that comply with previous and current numeric “end-of-pipe” criteria.

Because the fecal coliform criterion has been replaced with an *E. coli* criterion, DEQ has requested that EPA remove the fecal coliform effluent limits, consistent with how EPA has handled other NPDES permits for wastewater treatment plants in Idaho. Retaining 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 limits, DEQ believes the discharge will not cause or contribute to a violation of the bacteria criteria because the permit incorporates “end-of-pipe” limits 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 increased design flow (3.48mgd to 5mgd) will theoretically increase the concentration of *E. coli* bacteria at the edge of a mixing zone. A Tier 2 analysis, however, is only required if the degradation is determined to be significant (Idaho Code §39-3603(2)(c)). Degradation is determined to be significant when the discharge of the pollutant will cumulatively decrease the remaining assimilative capacity by more than ten percent (Idaho Code §39-3603(2)(c)(i)). Post Falls new design flow will increase *E. coli* by 0.44% over the currently permitted amount. Since this value is less than 10% of the remaining assimilative capacity, Post Falls new design flow is an insignificant increase (see Appendix A for the analysis).

### **Phosphorus**

The proposed permit for Post Falls includes new final effluent limits for phosphorus (draft permit Table 1). Tier 2 waters are waters in which the quality of the water is better than necessary to support beneficial uses. The tier 2 antidegradation policy provides that pollutants relevant to recreational uses may be significantly increased only if socially or economically justified. However, while the Spokane River is tier 2 for recreational uses, it is also impaired for aquatic life uses due to excess total phosphorous (TP). Because TP is relevant to both uses, and the water quality standards require both uses be protected, the use with the more stringent requirement limits the TP levels. Thus, the phosphorus levels must be reduced to get the River back into compliance with criteria for support of aquatic life uses. This needed reduction is reflected in the proposed permit limits. Because the River is impaired for phosphorus in Idaho, and because the Post Falls permit must ensure compliance with Washington WQS, the limits in the permit require a significant reduction in phosphorus. Specifically, the draft permit final effluent limits for the three Idaho dischargers will reduce phosphorus concentrations in the Idaho portion of the Spokane River to approximately 9.1µg/L at the state line. These limits meet the Tier 2 requirement under the antidegradation policy because there will be no degradation in water quality, but rather an improvement in TP levels.

### **Pollutants with No Limits: Mercury**

Mercury is a pollutant relevant to Tier 2 protection of recreation 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 58.01.02.052.04.a.ii). With respect to mercury, there is no reason to believe this pollutant will be discharged in quantities greater than those discharged under the current permit. This conclusion is based upon the fact that there have been no changes in the influent quality or treatment processes that would likely result in an increased discharge of this pollutant. Additionally, whole effluent toxicity testing using three different organisms will be required twice per year to detect toxics in toxic amounts. A toxicity reduction evaluation is required in the event of an excursion above a trigger value. Mercury monitoring will be required three times over a five year period as part of the expanded effluent testing requirements in Part D of NPDES application Form 2A (EPA Form 3510-2A, revised 1-99). Mercury levels in Post Fall's effluent were tested in 2004 and reported in Part D of Form 2A as "no detection". Because of these provisions, the proposed permit does not allow for any increased water quality impact from this pollutant and DEQ concludes that the proposed permit should not cause a lowering of water quality for mercury. As such, the proposed permit should maintain the existing high water quality in the Spokane River.

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

The 2010 Integrated Report lists the Spokane River as high priority for TMDL development. Pursuant to IDAPA 58.01.02.055.04, DEQ must ensure that discharges of pollutants of concern remain constant or decrease within the watershed. Pollutants of concerns for which a TMDL is to be developed are cadmium, lead, zinc and total phosphorus. The draft permit retains the previously permitted limits for lead and zinc which meets the requirements of Section 055.04. The draft permit, however, lacks effluent limits for cadmium because the discharge didn't have reasonable potential to exceed WQS criteria for this pollutant. Therefore, to meet Section 055.04 requirements, this 401 certification adds effluent limits as specified in Table 2, below.

<b>Table 2: Final Effluent Limit Requirements for Outfall 001</b>			
Parameter	Units	Average Monthly Limit	Average Weekly Limit
Cadmium	µg/L	0.270	0.361

Once a TMDL for metals is approved by EPA, the wasteload allocation specified in the TMDL shall replace the above Table 2 effluent limit requirements.

## 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 Post Falls cannot immediately achieve compliance with the effluent limits for phosphorus and under some circumstances CBOD<sub>5</sub>; therefore, DEQ authorizes a compliance schedule and interim requirements as set forth below.

<b>Table 3. Interim Limits</b>			
Parameter	Units	Average Monthly Limit	Average Weekly Limit
CBOD <sub>5</sub> (Feb-Oct)	mg/L	25	40
	lb/day	726	1161
	% removal	85% (min)	-
Phosphorus (Feb-Oct)	mg/L	report	report
	lb/day	68.5	110
	% removal	70%	-

Records indicate that since 2001, Post Falls has fallen short of achieving reductions necessary to meet the final effluent limits for CBOD, 30% of the time. Additionally, as this facility transitions to tertiary treatment to meet their final limits, there is also less of an assurance that the current high levels of CBOD<sub>5</sub> removal can be maintained until the new treatment system is operational. The CBOD<sub>5</sub> interim limits maintain the currently permitted load and concentration (Table 1). The compliance schedule described below 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 (see Appendix B).

1. The permittee must comply with all effluent limitations and monitoring requirements in Part I.B and I.C beginning on the effective date of the permit, except those for which a compliance schedule is specified in Part I.D of the final permit.
2. The permittee must achieve compliance with the final effluent limitations for phosphorus and CBOD<sub>5</sub> as set forth in Part I.B. (Table 1) of the permit, not later than ten (10) years after the effective date of the final permit.
3. While the schedules of compliance specified in Part I.D are in effect, the permittee must complete interim requirements and meet interim effluent limits and monitoring requirements as specified in Part I.E of the permit.
4. All other provisions of the permit, except the final effluent limits for phosphorus and CBOD<sub>5</sub> as described in Table 3 of this certification, must be met after the effective date of the final permit.

### **Interim Requirements for Compliance Schedules**

1. By one (1) year after the effective date of the final permit, the permittee must provide a preliminary engineering report to EPA and IDEQ outlining estimated costs and schedules for completing capacity expansion and implementation of technologies to achieve final effluent

limitations. This schedule must include a timeline for full scale pilot testing and results of any testing conducted to date.

2. By three (3) years after the effective date of the final permit, the permittee must provide written notice to EPA and IDEQ that full scale pilot testing of the technology that will be employed to achieve the final limits has been completed and must submit a summary report of results and plan for implementation.
3. By five (5) years after the effective date of the final permit, the permittee must provide EPA and IDEQ with written notice that design has been completed and bids have been awarded to begin construction to achieve final effluent limitations.
4. By eight (8) years after the effective date of the final permit, the permittee must provide EPA and DEQ with written notice that construction has been completed on the facilities to achieve final effluent limitations.
5. 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 and must achieve compliance with the final effluent limitations of Part I.B. The report shall include two years of effluent data demonstrating that final effluent limits can be achieved by year ten (10).
6. By year six (6), seven (7), and eight (8) after the effective date of the final permit, the permittee must submit to EPA and IDEQ progress reports, which outline the progress made toward achieving compliance with the phosphorus and CBOD<sub>5</sub> effluent limitations. At a minimum, the reports must include:
  - a) An assessment of the previous year of effluent data and comparison to the interim effluent limitations.
  - b) A report on progress made toward meeting the final effluent limits.
  - c) Further actions and milestones targeted for the upcoming year.
7. When the schedules of compliance specified in Part I.D of the permit are in effect, the permittee must comply with interim effluent limitations and monitoring requirements as specified in Part I.E of the permit.

## Mixing Zones

Pursuant to IDAPA 58.01.02.060, DEQ authorizes a mixing zone that utilizes 25% of the critical flow volumes of the Spokane River for pH, ammonia, chlorine, butyl benzyl phthalate, copper, diethyl phthalate, di-N-butyl phthalate, nitrate + nitrite, phenol, TSS and WET.

## Pollutant Trading

Pursuant to IDAPA 58.01.02.055.06, DEQ authorizes pollutant trading for phosphorus and other oxygen demanding pollutants. 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](http://www.deq.idaho.gov/media/488798-water_quality_pollutant_trading_guidance_0710.pdf).

The use of pollutant offsets is authorized for purposes of compliance with antidegradation rules and IDAPA 58.01.02.055.

## 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 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](mailto:june.bergquist@deq.idaho.gov) .

DRAFT

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Daniel Redline  
Regional Administrator  
Coeur d'Alene Regional Office

## Appendix A HARSB and Post Falls *E. coli* Significance Tests

### Background

The Spokane River is considered a high quality water for recreational uses. To prevent the lowering of water quality with respect to *E. coli*, DEQ must ensure that the Hayden Area Regional Sewer Board (HARSB) and Post Falls (PF) draft permits do not cumulatively decrease the remaining assimilative capacity of the river by more than ten percent to be considered insignificant degradation (Idaho Code §39-3603(2)(c)(i)).

Assimilative capacity is determined by comparing the background (ambient) concentration of a pollutant with the Water Quality Standard. The difference between these two numbers is the remaining assimilative capacity. A ten percent or less decrease of the remaining assimilative capacity is considered to be insignificant degradation. Because no data exists for *E. coli* in the Spokane River above the three dischargers, data from USGS monitoring station #12419000 located below the Post Falls WWTP (6 samples in 2007) will be used as the upstream background concentration until new data is made available.

### Analysis

The following information was used in calculating assimilative capacity in order to determine significance:

- Background concentration upstream of CdA discharge: 11.7 *E. coli* colony forming units/100ml (cfu) (average value of USGS data that was collected monthly from April to September in 2007);
- The increased discharge from current design flow to proposed design flow for all dischargers along the Spokane River: CdA 6.0 mgd (no increase), HARSB 1.5 to 2.4 mgd increase (0.9mgd increase); Post Falls 3.48 to 5 mgd (1.52mgd increase);
- The WQS effluent limit of 126 colony forming units/100ml (cfu) for *E. coli*;
- A river flow of 500cfs as measured at the USGS Station #12419000 located below the Post Falls hydroelectric facility. This minimum flow is required in the 2009 Avista Corporation relicensing agreement for the operation of the Post Falls hydroelectric facility.
- The full river width for mixing.

**CdA**

current design  
6.0 mgd

new design  
6.0 mgd=no change  
(9.3 cfs)

spreadsheet inputs:

500cfs upstream flow

11.7 cfu/L upstream *E. coli*

126cfu maximum *E. coli* effluent concentration per current NPDES permit

9.3 cfs effluent flow = 13.79 in-river concentration of *E. coli* downstream of CdA outfall

**HARSB**

current design  
1.5 mgd  
(2.32 cfs)

new design  
2.4 mgd  
(3.7 cfs)

**HARSB Current**

spreadsheet inputs:

509.3cfs upstream flow + CdA discharge

13.79 cfu/L upstream *E. coli*

126 max effluent concentration

2.32 cfs effluent flow=14.3cfu in-river concentration of *E. coli* downstream of HARSB

**HARSB Proposed**

spreadsheet inputs:

509.3cfs upstream flow + CdA discharge

13.79 cfu/L upstream *E. coli*

126 max effluent concentration

3.7cfs effluent flow= 14.6cfu in-river concentration of *E. coli* downstream of HARSB

**Increase of 0.3cfu**

**Post Falls**

current design  
3.48mgd  
(5.38cfs)

new design  
5mgd  
(7.7cfs)

**Post Falls Current**

spreadsheet inputs:

513 cfs upstream flow + CdA + HARSB current

14.6 cfu/L upstream *E. coli*

126 max effluent concentration

5.38cfs effluent flow= 15.8cfu in-river concentration of *E. coli* downstream of Post Falls

**Post Falls Proposed**

spreadsheet inputs:

513 cfs upstream flow + CdA + HARSB proposed

14.6 cfu/L upstream *E. coli*

126 max effluent concentration

7.7 cfs effluent flow = 16.2cfu in-river concentration of *E. coli* downstream of Post Falls**Increase of 0.5cfu****Assimilative Capacity**

The assimilative capacity and the amount of that capacity that is determined to be insignificant degradation is calculated as follows:

$$126 \text{ cfu (Standard)} - 13.79 \text{ cfu } E. \text{ coli (background + current design of CdA)} = 112.21 \text{ X } \%10 \text{ (insignificant amount)} = 11.22 \text{ cfu}$$

Therefore, the dischargers collectively, cannot increase *E. coli* concentrations in the river by more than 11.22cfu as a result of increased design flows.

Currently Permitted

11.7cfu above CdA → 13.8cfu below CdA → 14.3cfu below HARSB →  
15.5cfu below Post Falls

Proposed Increases

11.7cfu above CdA → 13.8cfu below CdA → 14.6cfu below HARSB →  
16.2cfu below Post Falls

**Calculation of Significance**

HARSB new design flow increased *E. coli* by 0.3cfu or  
 $0.3 \text{ cfu} \div 112.21 \text{ cfu} = 0.27\% \text{ increase}$

Post Falls new design flow increased *E. coli* by 0.5cfu or  
 $0.5 \text{ cfu} \div 111.91 \text{ cfu} = 0.44\% \text{ increase}$

In total, the two dischargers at their new design flows would decrease assimilative capacity by 0.71%. This increase does not exceed 10% of the remaining assimilative capacity and therefore, is not a significant degradation of river water quality.

## **Appendix B**

Compliance Schedule Justification Letters  
dated  
April 1, 2013 and April 12, 2013  
from  
City of Post Falls, Department of Public Services



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Department of Public Services

April 1, 2013

Daniel Redline, Regional Administrator  
Coeur d'Alene Office  
Idaho Department of Environmental Quality  
2110 Ironwood Parkway  
Coeur d'Alene, ID 83815

Re: City of Post Falls NPDES Permit ID-002585-2, 401 Certification – CBOD Compliance Schedule

Dear Mr. Redline:

The City of Post Falls requests a compliance schedule of at least 8 years to meet the seasonal CBOD discharge limit proposed in the latest draft permit from EPA. As with phosphorus, the compliance schedule for CBOD should allow sufficient time to pilot test, design, install and optimize the tertiary treatment facilities required to meet the final waste load allocation. For both parameters, interim requirements for schedules of compliance would be as indicated in the February 2013 draft permit for phosphorus, Section I.E. As explained below, we propose an interim seasonal limit of 348 pounds per day for BOD.

A compliance schedule is allowable for the following reasons.

1. The TMDL allows it. The 2010 WDOE Spokane River and Lake Spokane DO TMDL includes a ten year period in the Managed Implementation Plan to meet final waste load allocations. With the exception of Spokane County (which is a new facility and therefore can comply upon opening), all of the Washington permits provide ten-year compliance schedules for CBOD, phosphorus and ammonia.
2. Federal law allows it. There are two key regulations regarding the CBOD compliance schedule. The first is 40 CFR Section 122.47(a)(1), which states that NPDES permits may include a compliance schedule "when appropriate" and any compliance schedule must require compliance "as soon as possible." The second key regulation is 40 CFR Section 122.45(b)(1), which states that, for POTWs, "effluent limitations, standards, or prohibitions shall be calculated based on design flow." The question is how to read Section 122.45(b)(1) in conjunction with Section 122.47(a)(1) in a situation where a POTW can comply with an effluent mass limit upon issuance of a permit because the discharger is discharging below design flows but later on in the permit cycle cannot comply due to increased flows until new treatment technology is installed.

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As an example, assume that a POTW in a growing community currently discharges 1 lbs/day of CBOD at 10 mg/L. A TMDL is adopted that limits the POTW to 2 lbs/day based on a 5 mg/L CBOD concentration. It will take 4 years to install the technology to reduce the discharge to 5 mg/L. Because of growth, the POTW will discharge 4 lbs/day CBOD (in violation of the mass limit) after 4 years at the point at which the new technology begins operating, and 2 lbs/day (in compliance) after the technology is installed.

Under these circumstances, it is not “possible” within the meaning of Section 122.47(a)(1) for the POTW to comply once flows increase to the point that the mass load exceeds 2 lbs/day. It is only possible to comply after 4 years when the new treatment technology is installed. Therefore, EPA meets the requirements of Section 122.47(a)(1) if the permit includes a 4-year compliance schedule for CBOD. The compliance schedule should include interim limits that ensure that current levels of performance for the treatment system are maintained, without arbitrarily limiting the discharge prior to the installation of the technology needed to meet the TMDL limits.

EPA policy states that, if a compliance schedule is issued, EPA must make a reasonable finding based on evidence in the record that compliance cannot be achieved “immediately” upon issuance of a permit. This is a reasonable general policy, but, of course, it must be read in conjunction with the applicable regulations. It seems to me that Section 122.45(b)(1) becomes meaningless if EPA or DEQ cannot include a compliance schedule that accounts for the fact that flows may increase to design flows before treatment technology necessary to support lower limits can be installed. At that point, the POTW’s limits are not “based on design flows” but are based on the happenstance that the facility will discharge below design flows at the beginning of the permit cycle while completely ignoring the facility’s higher flows and inability to comply later on.

3. The requested interim limit is needed to ensure the City can remain in compliance during the period before the tertiary treatment facilities are completed and ready to meet the final waste load allocations.

The City’s data indicate that BOD loading to the WRF has been increasing at an average rate of 4.6% per year since 2001. The average influent BOD loading in 2012 was 5,809 pounds per day. In 8 years from permit issuance (2013), the projected influent BOD loading is 8,707 pounds per day. In order to meet the draft permit load limit of 255 pounds per day seasonal average in year 8, the WRF would need to perform at 97% efficiency or better, on a seasonal average. Since 2001, the WRF has not performed at that level 30% of the time. Thus, there is a 1 in 3 chance of violating the draft permit limit before tertiary facilities are up and running.

The WRF is a secondary treatment facility. Although it has performed remarkably well compared to the minimum level of 85% specified under the Clean Water Act, BOD removal efficiency is variable and not entirely under the control of operations. Conditions that cannot be controlled by the secondary treatment facility are temperature, influent quality, weather and metabolic conditions of the naturally diverse biota that form the basis of secondary treatment. That is why EPA regulation has established 85% as a

reasonable minimum performance criterion for secondary treatment. In spite of that, the interim BOD limit of 348 pounds per day represents a high level of treatment, and the City believes the WRF can achieve a BOD removal efficiency of 96% on a TMDL seasonal basis.

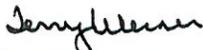
4. Post Falls' requested interim BOD limit will have de minimis effect on Long Lake dissolved oxygen. In aggregate, the Washington permits allow a combined BOD load of over 12,000 pounds per day during the interim ten year period. The City of Spokane, located 11 miles upstream of Long Lake, is allowed 10,759 pounds per day of the aggregate BOD load during the low flow season. Post Falls is asking for an increase of 93 pounds from the draft permit BOD limit. This will increase the aggregate interim load allocation by a fraction of 1 percent.

Modeling experts have demonstrated that a mass nutrient unit discharged from Post Falls has a fractional effect on dissolved oxygen in Long Lake compared to a unit discharged from Spokane. This is because there are 30 river miles and two impoundments that provide assimilation of nutrients from Post Falls, above and beyond what is available to Spokane.

5. The requested interim BOD limit represents a significant reduction in allowable BOD load compared to the current permit. The City's administratively extended discharge permit allows up to 871 pounds per day of effluent BOD. The requested interim load limit of 348 pounds per day is 60% less than the current allowable amount, which represents a significant improvement.

Thank you for this opportunity to comment on EPA's proposed seasonal CBOD limit, and for considering our request for a compliance schedule and interim seasonal BOD limit in your revision of the 401 certification.

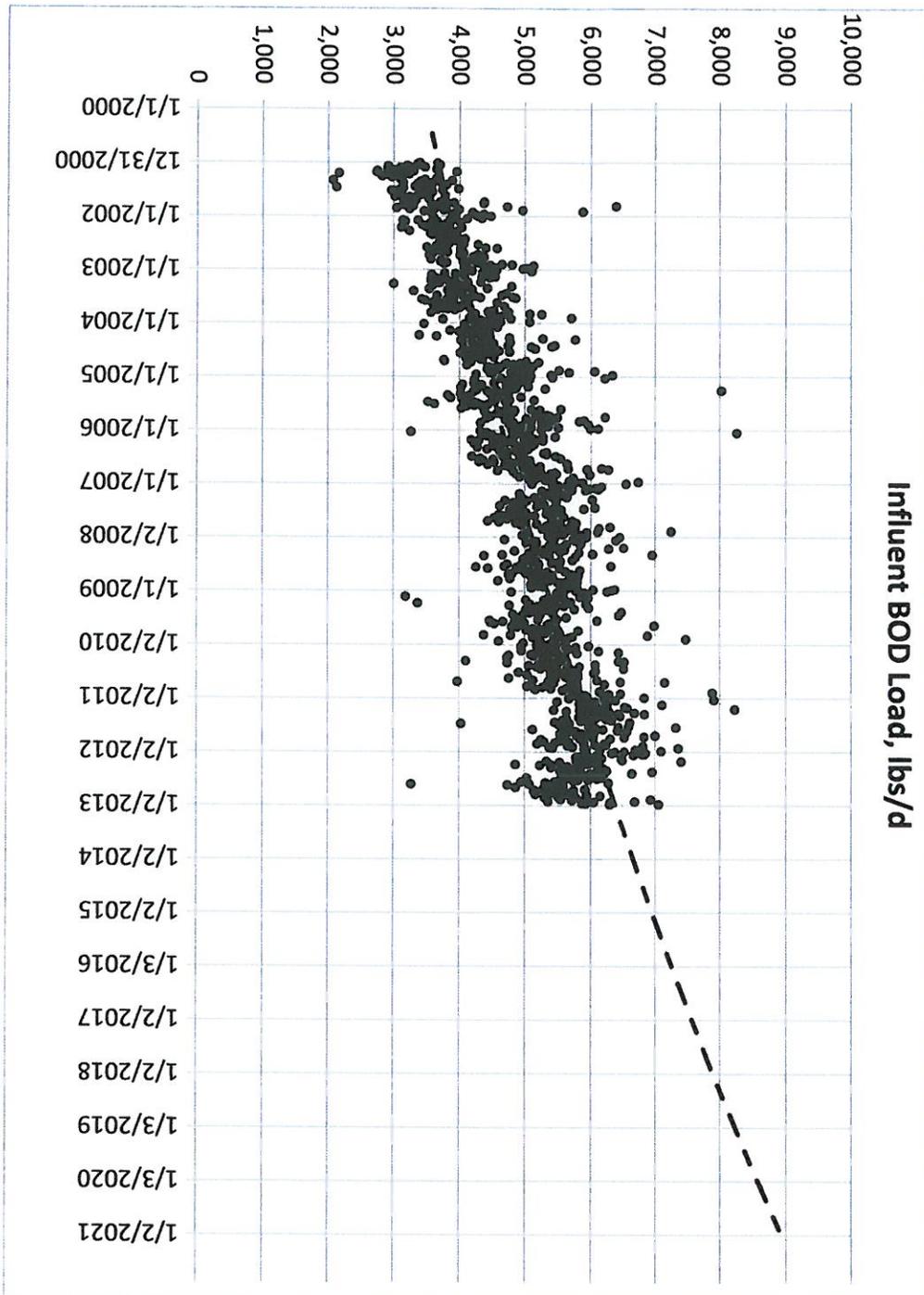
Sincerely,

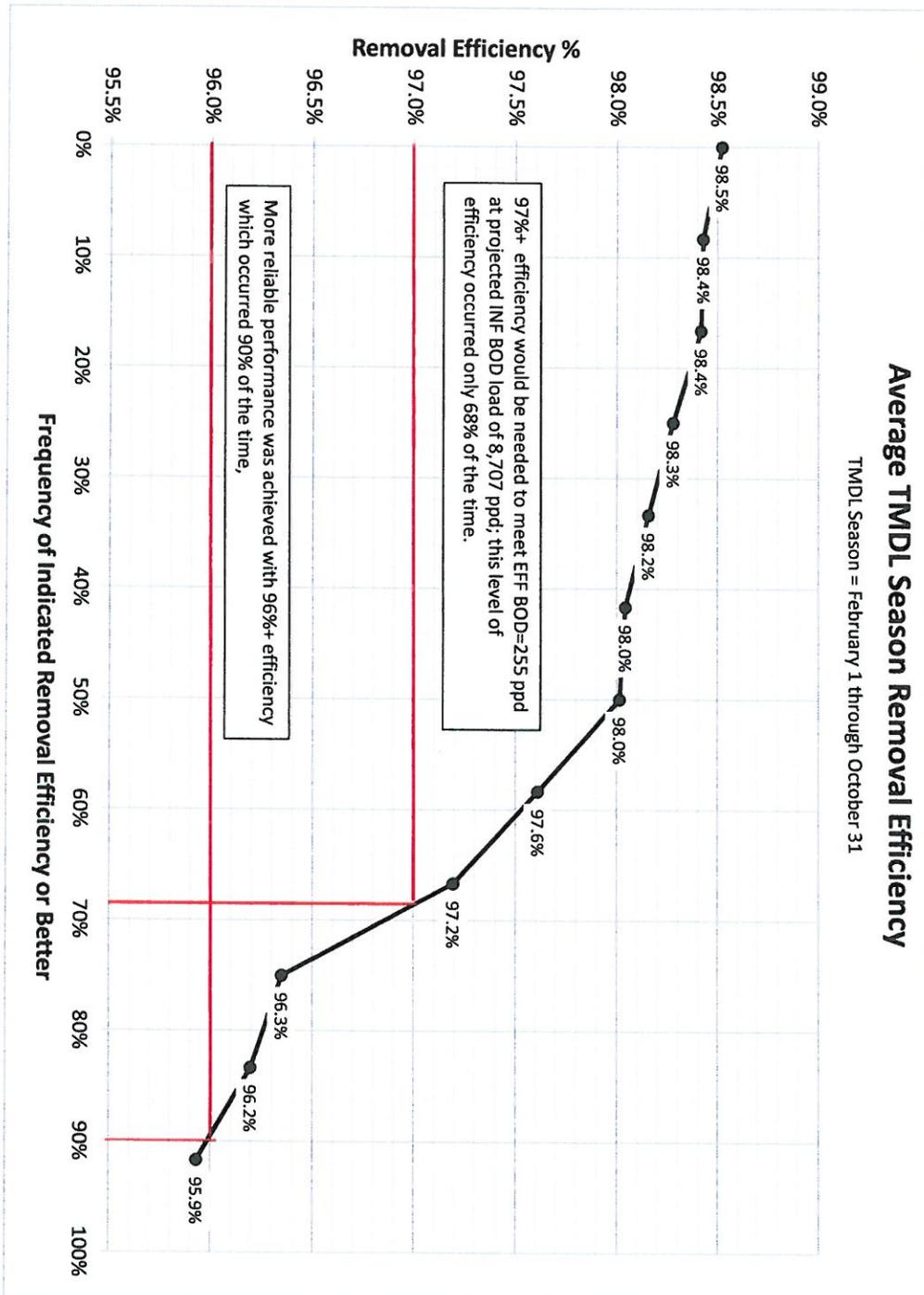


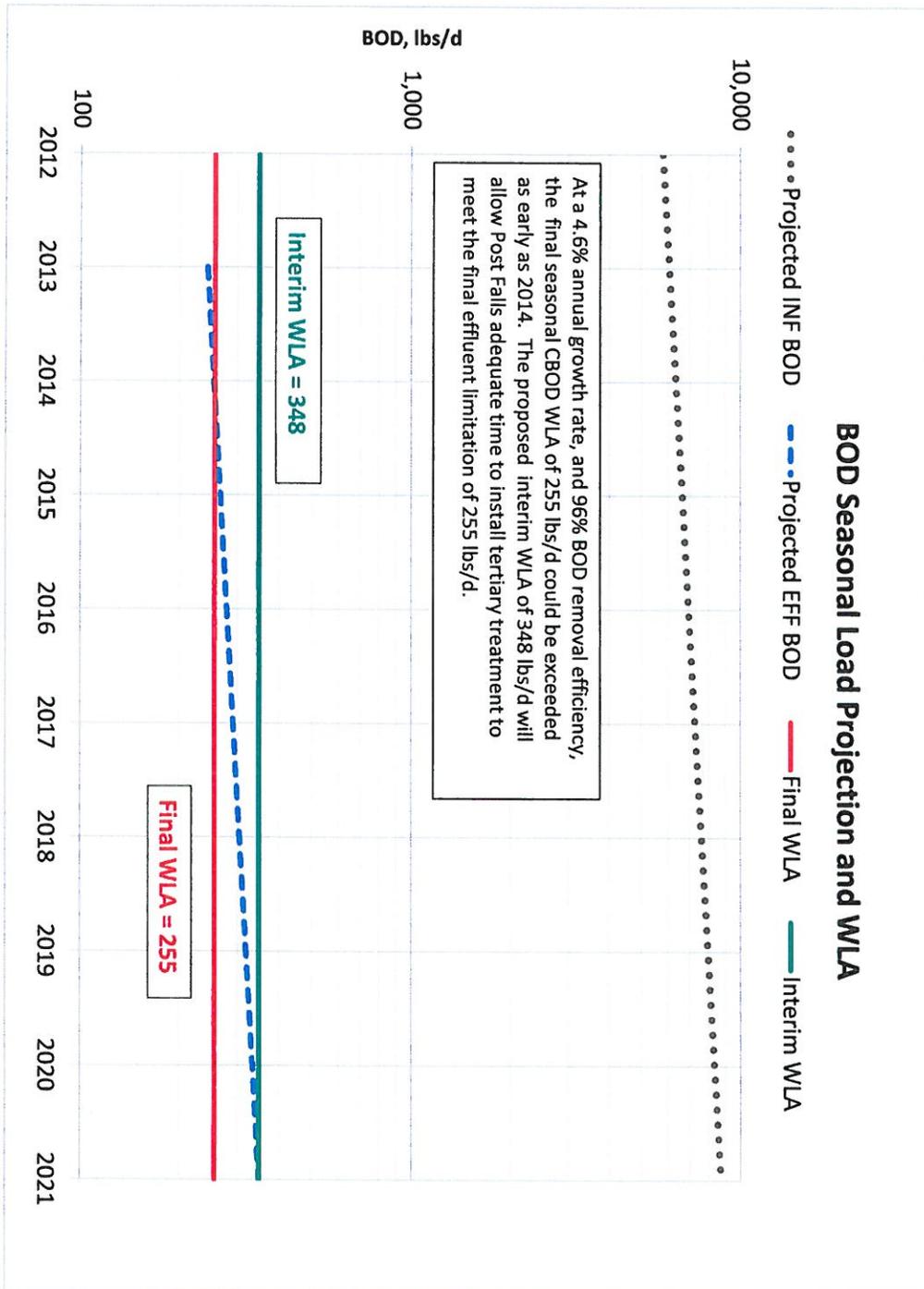
Terry Werner, Director  
Department of Public Services

c: Mike Neher, Environmental Manager  
June Bergquist, IDEQ  
Gary Allen, Givens Pursley  
Paul Klatt, JUB ENGINEERS

Attachments: BOD charts









Department of Public Services

April 12, 2013

Daniel Redline, Regional Administrator  
Coeur d'Alene Office  
Idaho Department of Environmental Quality  
2110 Ironwood Parkway  
Coeur d'Alene, ID 83815

Re: City of Post Falls NPDES Permit ID-002585-2: 401 Certification – CBOD Compliance  
Schedule Supplemental Information

Dear Mr. Redline:

This letter is to supplement the City of Post Falls' April 1, 2013 letter requesting an 8-year compliance schedule to meet the anticipated seasonal 5-day carbonaceous biochemical oxygen demand (CBOD) discharge limit in our upcoming NPDES permit renewal.

In addition to the detailed justification provided in our previous letter, it is important to realize that the improvements necessary to meet our anticipated final permit limits for CBOD and phosphorus will require significant and disruptive construction at our Water Reclamation Facility. We anticipate new preliminary treatment (headworks and equalization basins), new chemical coagulation facilities, possible tertiary clarification, tertiary filtration, disinfection improvements, and multiple recycle streams into the existing process units.

In particular, equalization basins and headworks construction will require complete rerouting of influent and preliminary treatment flows through the facility and increase the likelihood of biological upsets which can easily migrate through secondary clarification. The equalization basins are important because they will moderate the daily flow and load fluctuations that currently reduce the reliability of our biological phosphorus removal process (BPR). BPR is an essential component of permit compliance since it will significantly affect the pilot testing, selection, and sizing of our final tertiary process.

In addition, because our treatment system is biologically based, when the proposed tertiary treatment systems introduce chemicals for coagulation, filter cleaning and pH/alkalinity adjustments, they will undoubtedly create biological stresses that must be carefully managed. As with all new systems, start-up of the operations often negatively affects the existing biological system performance and the BPR often takes a number of weeks or even several months to return to previous performance levels.

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Thank you again for this opportunity to comment on EPA's proposed seasonal CBOD limit, and for considering our request for a compliance schedule and interim seasonal BOD limit in your revision of the 401 certification.

Sincerely,



Terry Werner, Director  
Department of Public Services

c: Mike Neher, Environmental Manager  
June Bergquist, IDEQ  
Gary Allen, Givens Pursley  
Paul Klatt, JUB ENGINEERS

Attachments: BOD charts