

RESPONSE TO COMMENTS

City of American Falls Wastewater Treatment Plant NPDES Permit # ID0020753 May 28, 2014

On November 25, 2013, the U.S. Environmental Protection Agency (EPA) issued a public notice for the issuance of the City of American Falls Wastewater Treatment Plant (WWTP) draft National Pollutant Discharge Elimination System (NPDES) Permit No. ID0020753. The Public Comment Period for the permit was from November 25, 2013 to December 26, 2013. This Response to Comments provides a summary of comments and provides corresponding EPA responses. Comments were received from Pete Cortez, Water/Wastewater Superintendent, City of American Falls (City) dated December 23, 2013 and Justin Hayes, Program Director, Idaho Conservation League, dated December 24, 2013.

Comments received from City of American Falls:

- 1. Comment (City):** The City requested that Whole Effluent Toxicity (WET) testing be eliminated because the City's WWTP is designed for an average daily flow of 0.9 MGD, which is less than the 1.0 MGD threshold for the requirement of WET testing. In addition, "The City cannot handle the additional cost associated with the toxicity test. The City has not budgeted for such samples and would exceed our budget for testing."

Response: Whole effluent toxicity (WET) testing requirements are not based solely on design flow. In the case of the American Falls WWTP, the EPA is requiring WET testing because of both the design flow of the facility and to assess the toxicity of the effluent from the new treatment train. No WET testing had previously been performed to evaluate possible toxicity impacts on the receiving water.

In the draft permit, EPA considered the City's WWTP to have a design capacity of 1.1 MGD because in the NPDES Permit Application dated June 28, 2012, the City provided a design flow rate of 1.1 MGD. The application defines this as "the wastewater flow rate that the plant was built to handle." In response to this comment, EPA requested, and received additional information of the WWTP's Design Criteria which includes a Maximum Month Design Flow of 1.1 MGD and an Average Day Design Flow of 0.9 MGD.

In reviewing the City's comment, EPA concludes that for purposes of developing the WET testing requirement, the applicable design flow is the Maximum Month Design Flow for the WWTP of 1.1 MGD. The Maximum Month Design Flow is relevant because it takes into account the hydraulic peaking factor. Permit conditions are developed to protect the receiving water under critical conditions. Using the Average Day Design Flow as requested by the City would not represent the higher flows that the WWTP is designed to treat and therefore would be inappropriate. See "Design of Municipal Wastewater Treatment Plants", 5th Edition, 2010 at pages 3-6. Therefore, when classifying this WWTP in an NPDES Permit, EPA considers the WWTP to have a design flow of 1.10 MGD, as originally

represented by the City. Because the WWTP has a design flow of 1.10 MGD, it is considered a major source.

Due to this conclusion, the City is required to perform WET testing. The cost of WET testing for facilities of this size is reasonable. It is in fact required for all municipal wastewater treatment plants of this size.

Due to the WWTP's upgrade, the uncertainties of the upgrade's effect on water quality, and the fact that no WET testing had previously been performed to evaluate possible impacts to the receiving water, EPA would have required WET testing in an NPDES Permit even if the design flow was 0.9 MGD.

No change in the permit resulted from this comment.

2. **Comment (City):** The City requests a twelve month extension for the submission of the Operations and Maintenance Plan ("O&M Plan"), the Quality Assurance Plan ("QAP"), and the Emergency Response and Public Notification Plans.

Response: EPA clarifies that the Permit does not require the City to submit the O&M Plan or the QAP unless otherwise requested. However, the draft permit does require the City to develop such plans and to notify EPA and the Idaho Department of Environmental Quality (IDEQ) that the plans have been developed within specified timeframes.

Pertaining to the requested time extension for notification of having developed the O&M Plan and the QAP, EPA extended the notification timeframe for the Upgraded WWTP from May 1, 2014 to January 1, 2015. EPA believes the extended timeframe will allow the City ample time to develop such plans for the Upgraded WWTP. In addition, EPA has eliminated these notification requirements for the Existing WWTP because the Existing WWTP is expected to cease operation shortly after (if not before) the effective date of the reissued permit. The City is already required to have developed such plans for the Existing WWTP under the previous permit.

Concerning the Emergency Response and Public Notification Plans, EPA has retained the requirement in the draft permit due to the urgency of an emergency situation. The City is required to develop and implement an overflow emergency response and public notification plan. The permittee must submit written notice to EPA and IDEQ that the plan has been developed and implemented within 180 days of the effective date of this permit. EPA believes that the originally proposed timeframe provides ample time for the City to develop an emergency response and public notification plan.

As a result of this comment, notification timeframes for the O&M Plan and the QAP as required in the permit have been changed.

3. **Comment (City):** The City requests EPA to adjust dates in the permit to account for a delayed schedule of operation at the Upgraded WWTP until March 2014, however, there are uncertainties on the timing of operational effectiveness.

Response: Because the same effluent limits now apply to both the existing and upgraded facility, EPA has removed language regarding operation of the upgraded facility in the final permit.

Comments from Justin Hayes, Program Director, Idaho Conservation League, dated December 24, 2013:

4. Comment: Total Phosphorus effluent limits need to be developed.

A Total Maximum Daily Load (TMDL) was developed for the Lake Walcott Subbasin (HUC 17040209) and approved in 2000. Phosphorus and Total Suspended Solids (TSS) were listed as pollutants of concern. Pursuant to this TMDL, the American Falls WWTP has a Waste Load Allocation (WLA) for TSS. However, the American Falls WWTP does not have a WLA for phosphorus. Interestingly, it is the only point source discharging into this Hydrological Unit Code (HUC) without a WLA allocation for Total Phosphorus (TP). It is not clear to us why this WWTP was not assigned a WLA in the relevant TMDL. EPA and IDEQ should assign a TP effluent limit to the WWTP in this reissuance of the facilities NPDES.

Response: Based on this comment, EPA reviewed the information regarding TP in the effluent for the American Falls WWTP and has confirmed our conclusion as stated in the fact sheet that effluent limits for TP are not needed. The final permit does not include effluent limits for TP due to the following:

- a. The receiving water is not impaired for TP.
- b. The American Falls WWTP was not assigned a WLA in the TMDL for TP.
- c. There is no reasonable potential to cause or contribute to an in-stream excursion above the water quality criteria.
- d. The IDEQ did not include a TP limit in the final 401 certification.

a. Impairment

The segment of the Snake River to which the American Falls WWTP discharges is ID17040209SK011 (American Falls to Rock Creek). As required under the CWA, IDEQ conducts a comprehensive analysis of Idaho's water bodies to determine whether they meet state water quality standards and support beneficial uses or if additional pollution controls are needed. This analysis is summarized in an "Integrated Water Quality Monitoring and Assessment Report" (Integrated Report). According to the most recently EPA-approved Integrated Report (2010), this segment of the Snake River is not impaired for TP. There are no impairments of TP for an additional three receiving water segments, until after Lake Walcott, a distance of approximately 35 miles from the American Falls discharge location.

b. The American Falls WWTP was not assigned a WLA in the TMDL.

The Lake Walcott Subbasin Assessment and TMDL (*Lake Walcott TMDL*) addresses surface waters of the HUC 17040209 for waterbodies that were listed on the 1996 and 1998 §303(d) lists (IDEQ, 2010). The *Lake Walcott TMDL* did not establish a wasteload allocation (WLA) for phosphorus for the American Falls WWTP, since, as noted in the paragraph above, the receiving water is not impaired. Further, in correspondence, IDEQ notes that the receiving water from American Falls Reservoir to Lake Walcott (inclusive of Lake Walcott) appears to be meeting a target TP concentration of 0.080 mg/L.

c. There is no reasonable potential to cause or contribute to an in-stream excursion above the water quality criteria.

The narrative WQS for nutrients in surface water is found at IDAPA 58.01.02.200.06, which states: *“Surface waters of the state shall be free from excess nutrients that can cause visible slime growths or other nuisance aquatic growths impairing designated beneficial uses.”*

When assessing the need for permit limits and conditions, the EPA conducts a reasonable potential analysis to determine if the discharge “has a reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numeric criteria.”

The EPA used a qualitative approach in assessing reasonable potential. (EPA’s Permit Writer’s Manual on Page 6-23 states: *“A permit writer can conduct a reasonable potential analysis using effluent and receiving water data and modeling techniques.... or using a non-quantitative approach.”* EPA had used a non-quantitative approach to conduct a reasonable potential analysis as shown in the Fact Sheet.) The narrative criteria for nutrients (phosphorus) in this river reach is met below American Falls Reservoir and through Lake Walcott. The segment of the Snake River to which the facility discharges is not listed for nutrients. However, there is a target phosphorus concentration downstream at the Milner Lake segment of 0.08 mg/l. According to IDEQ, the stretch of the Snake River from American Falls Reservoir to Lake Walcott (inclusive of Lake Walcott) appears to be meeting a TP instream target of 0.080 mg/l.

EPA also conducted a quantitative loading analysis of TP from the existing facility. EPA analyzed the USGS surface water data from Neeley (downstream from the facility), from the USBR surface water data upstream from the facility, and the facility’s DMR surface water monitoring data conducted by the facility at an upstream location. The median value of the combined surface water data for phosphorus is 0.08 mg/l. This is further evidence that the receiving water segment which the existing WWTP discharges is meeting the downstream target.

Based on the qualitative analysis and loading analysis, EPA concludes there is no reasonable potential for the discharge to cause or contribute to an in-stream excursion above the narrative criteria.

The permittee is completing installation of an upgraded treatment system with a membrane bioreactor (MBR). Based on data from other MBR facilities, the upgraded treatment system will likely discharge much lower levels of phosphorus compared with pre-upgrade levels. The final permit requires quarterly monitoring for phosphorus. Consequently, additional phosphorous level data will be available during the permit term.

d. IDEQ Final 401 Certification

In the Final 401 Certification dated February 21, 2014, DEQ did not require an effluent limit for phosphorus.

No changes to the final permit resulted from this comment.

5. Comment: TSS weekly average limits are not consistent with TMDL assigned WLA.

The TMDL developed for Lake Walcott assigns the American Falls WWTP a WLA of 324 lbs/day. The draft permit factsheet errors when it implies that the facility's WLA is expressed in terms of a monthly average concentration limit. In the actual TMDL, the facility's WLA is plainly stated as the total maximum daily load -- daily load, not monthly average. As such, the NPDES permit needs to contain a daily maximum TSS effluent limit of 324 lbs per day. The effluent limits proposed in the draft permit are not sufficiently protective to ensure that this daily maximum (as stated in the TMDL) is not exceeded. This is especially true with regard to the weekly average limit in the draft permit. If the facility discharged for a week in compliance with the 413 lbs/day average weekly limit, it would be in violation of the WLA.

Response: The fact sheet associated with the draft permit states that the TMDL developed for Lake Walcott assigned the American Falls WWTP a WLA of 324 lbs/day. Although the TMDL does include a WLA for TSS for the American Falls WWTP, that portion of the TMDL was developed for informational purposes only, per 40 C.F.R. § 130.7(e). The TMDL was for informational purposes only because that portion of the Snake River was found to be meeting the narrative standard for sediment. The State was not required to submit that portion of the TMDL to EPA and EPA was not required to approve that portion of the TMDL. That portion of the TMDL was never approved by EPA (See attachment, IDEQ letter dated July 28, 2000).

Federal regulations require EPA, as the permitting authority in this matter, to develop water quality-based effluent limits that ensure consistency with WLAs prepared by the State and approved by EPA pursuant to 40 C.F.R. § 130.7. See 40 C.F.R. § 122.44(d)(1)(vii)(B). Because there is no EPA-approved WLA for TSS, EPA, as the permitting authority, is not required to develop water quality-based effluent limits for TSS.

That said, EPA, in setting forth limits in the permit, took into consideration the informational limit outlined in the Lake Walcott TMDL for TSS. Specifically, EPA revised the TSS loading limits in the final permit to be consistent with IDEQ's Final §401 Water Quality Certification (February 21, 2014) which reduced the proposed TSS loading limits. In the final permit, EPA reduced the Average Monthly loading limit from 275 lbs/day in the draft to 225 lbs/day, and the Average Weekly loading limit from 413 lbs/day to 338 lbs/day. These final limits are consistent with the assumptions and requirements of the WLA of 0.162 tons/day from the Lake Walcott informational TMDL. In addition, the limits are consistent with the limits in IDEQ's Final §401 Water Quality Certification (February 21, 2014) and are the same as the

limits in the previous permit. EPA has concluded that allowing the facility to discharge at these limits ensures compliance with Idaho Water Quality Standards.

6. Comment: Failure to undertake Tier 2 Review.

The current NPDES permit for this WWTP limits TSS discharge to 225 lbs/day for a Monthly Average and 338 lbs/day for a Weekly Average.

The proposed permit contains two sets of TSS limits for the WWTP. The first set of limits is the reissued permit as it will be applied to the existing WWTP. The second set of limits will be applied to the soon to be operational “upgraded” WWTP.

For the existing WWTP, the limits are: 225 lbs/day for a Monthly Average and 338 lbs/day for a Weekly Average. This limits for the existing facility are identical to the TSS limits in the current permit. So there is “no change” with regard to the existing WWTP.

For the upgraded WWTP, these limits are: 275 lbs/day for a Monthly Average and 413 lbs/day for a Weekly Average. So, with regard to the limits for the upgraded WWTP, these new limits represent an increase in the amount of pollution that can be discharged pursuant to the NPDES permit.¹

The State’s 401 certification includes an “Antidegradation Review.” This review notes that Idaho’s antidegradation rule has a means of determining if a reissued permit will cause degradation in the receiving water.

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 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)

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This draft permit is clearly treating the proposed new permit as a ‘reissued’ permit for an upgraded facility as opposed to a new permit for a new facility. As such, the effect on water quality should be determined by looking at the difference in water quality that would result from the discharge as authorized in the current permit with limits of 225 and 338 lbs/day and the water quality that would result from the discharge as proposed in the reissued permit with limits of 275 and 413 lbs/day.

A wasteload allocation of 324 lbs/day, based on monthly loading, was assigned to the American Falls WWTP in the germane, EPA approved TMDL. The monthly average limits that have been proposed in the draft permit, both for the 'existing' and the 'upgraded' WWTP are stated to be consistent with the facility's wasteload allocation. However, being consistent with the wasteload allocation is not sufficient to demonstrate that degradation is not resulting.

In this instance the reissued permit allows for an increase in TSS discharge. Specifically, utilizing the average monthly limits, the new NPDES permit allows for an additional 18,250 lbs per year of TSS that can be discharged from the upgraded WWTP. Pursuant to IDAPA 58.01.02.052.06.a, as cited above and in the State's 401 cert, this increase in the allowable discharge from American Falls WWTP constitutes degradation.

However, neither the DEQ nor the EPA conducted the required antideg review to determine what impact this increase in allowable discharge will have on the receiving water. Further, neither agency has conducted the necessary economic and societal review to determine whether the increased degradation to this waterbody is necessary for societal needs. Nor is there a review demonstrating that non-point sources are employing adequate BMPs.

This shortcoming is not only true for TSS discharges, but for all pollutants that will be discharged from the WWTP. The increased design capacity and discharge flow of this upgraded facility will result in increased loading of these pollutants as well. EPA and DEQ need to conduct a thorough antideg review prior to the issuance of this permit.”

Note that although the allowable concentration remains the same in the permit for the existing WWTP and the upgraded WWTP, because the design flow of the upgraded WWTP is greater than the design flow of the existing WWTP, the total load of TSS that is allowed to be discharged by the upgraded WWTP is greater than the allowable discharge of existing WWTP.

Response: As stated in IDEQ's February 21, 2014 Final § 401 Water Quality Certification, for a reissued permit, 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.

In the Final Permit, BOD and TSS loading limits have been reduced and are the same as the loading limits in the current permit. Limits for pH and *E. coli* are the same in the current permit and the proposed permit.

The only limits that changed from the current permit to the proposed permit are for Total Residual Chlorine (TRC). Where the current permit includes limits for TRC, limits were no longer needed and not included in the proposed permit since chlorine has been replaced with UV disinfection at the WWTP.

Therefore, except for TRC limits which are no longer necessary, all effluent limitations in the final permit are the same, and as stringent as in the previous permit. On Page 4 of IDEQ's February 21, 2014 Final §401 Water Quality Certification, IDEQ concluded that the final

discharge permit complies with the Tier 2 provision of Idaho's WQS (IDAPA 58.01.02.051.02, and IDAPA 58.01.02.052.06). Accordingly, the final permit complies with antidegradation and anti-backsliding regulations.

7. Comment: Concerning "mixing zones for pollutants without limits" for ammonia and phosphorus. Summarizing the comment:

(a) The commenter requests clarification concerning the mixing zone for ammonia, and if effluent limits are required.

(b) A mixing zone for Total Phosphorus should not be authorized. In addition, no reasonable potential analysis was provided for Total Phosphorus.

Response for part (a): According to EPA's Permit Writers Manual on Page 6-23, "EPA regulations at § 122.44(d)(1)(i) state, "Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above any [s]tate water quality standard". On Page 6-28, the Permit Writers Manual also states: "If the projected concentration is equal to or less than the applicable criterion, there is no reasonable potential and, thus far, there is no demonstrated need to calculate WQBELs." In determining whether a discharge causes, has the reasonable potential to cause or contribute to an excursion above any water quality standard, the permitting authority may account for mixing zones. See 40 CFR §122.44(d)(1)(ii) and IDAPA 58.01.02.060.

Whether an effluent limit is required for a particular pollutant is determined based on the procedures identified in the *Technical Support Document for Water Quality-based Toxics Control*, US Environmental Protection Agency, Office of Water, EPA/505/2-90-001, EPA 1991. This document provides the procedures for implementing the Clean Water Act requirements in NPDES permits. Using these procedures, the EPA found that the level of ammonia in the effluent does not have a reasonable potential to violate Idaho's water quality standards at the edge of the mixing zone. As the level of ammonia in the effluent discharge does not have a reasonable potential to violate (exceed) the ammonia water quality standards during critical flow conditions, the EPA has not included an effluent limit for this parameter in the permit. In Idaho's Final § 401 Water Quality Certification, IDEQ concluded that the permit was in compliance with Idaho's mixing zone policy.

As the result of this comment, no changes to the final permit were made.

Response for part (b):

For phosphorus, see response to Comment 4 above.

8. Comment: Typo in the fact sheet, Table 1 – In one of the cells for TSS units, the units are expressed as both mg/l and also for lbs/day.

Response: EPA corrects for this typographic error in the table below, which clarifies Table 1 in the Fact Sheet. For clarification, Table 1 is a summary of effluent limitations from the previous permit.

Table 1: Effluent Limitations from the Previous Permit				
Parameter	Units	Monthly Average	Weekly Average	Instantaneous Maximum
Biochemical Oxygen Demand, BOD₅	mg/l	30	45	---
	lbs/day	225	338	---
Total Suspended Solids, TSS	mg/l	30	45	---
	lbs/day	225	338	---
<i>E.coli</i> Bacteria	number/100 ml	126	---	406
Total Residual Chlorine	ug/l	120	210	---
	lbs/day	0.9	1.6	---
pH	Shall not be less than 6.5, nor greater than 9.0.			
Percent Removal for BOD₅ and TSS	Minimum 85% removal.			
Discharge	There shall be no discharge of floating solids or visible foam in other than trace amounts.			



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY



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Dirk Kempthorne, Governor
C. Stephen Allred, Director

July 28, 2000

Randall Smith, Director
Office of Water
U.S. Environmental Protection Agency-Region 10
1200 Sixth Avenue
Seattle, WA 98101

RE: Lake Walcott Subbasin (Hydrologic Unit Code 17040209) TMDL Approval

Dear Mr. Smith:

Thank you for your letter dated June 28, 2000 approving Idaho's Lake Walcott subbasin TMDL. Although your letter specifically mentions only the total phosphorus TMDL for Milner Pool, DEQ presumes EPA's approval applies to the three other sediment TMDLs included in the document as well. These sediment TMDLs cover Rock Creek and its two main forks.

In the Lake Walcott subbasin assessment DEQ identified eight waterbody segment pollutant combinations, which we found to be meeting Idaho water quality standards and therefore to be removed from Idaho's 303(d) list. For three of these segments on the Snake River DEQ prepared informational sediment TMDLs (see section 3.6 of TMDL document).

Ordinarily DEQ would ask that you approve our de-listings in conjunction with the approval of the TMDLs and would have assumed so here. However, our public notice on the Lake Walcott TMDL failed to mention these de-listings. Therefore, we plan on gathering together the Lake Walcott subbasin de-listings with de-listings from other recent subbasin assessments, which have not had public notice and issue a public notice on all of them. Upon responding to public comment we will submit to EPA for consideration a group of waters we are removing from Idaho's 303(d) list based upon our subbasin assessments.

Sincerely,

David Mabe
State Water Quality Programs Administrator

DM/DE/lg

cc: Christine Psyk, USEPA Reg 10, Manager Watershed Restoration
Leigh Woodruff, USEPA IOO, State TMDL Coordinator
Steve Allred, DEQ Director
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