STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

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

February 12, 2016

Mr. Michael J. Lidgard
NPDES Permits Unit Manager
EPA Region 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

Subject: FINAL 401 Water Quality Certification
Avimor Water Reclamation Facility, ID-0028371

Dear Mr. Lidgard:

The Boise Regional Office of the Department of Environmental Quality (DEQ) has reviewed the above-referenced permit for the Avimor Water Reclamation Facility. Section 401 of the Clean Water Act requires that states issue certifications for activities which are authorized by a federal permit and which may result in the discharge to surface waters. In Idaho, the DEQ is responsible for reviewing these activities and evaluating whether the activity will comply with Idaho's Water Quality Standards; including any applicable water quality management plans (e.g., total maximum daily loads). A federal discharge permit cannot be issued until DEQ has provided certification or waived certification either expressively or by taking no action.

This letter is to inform you that DEQ is issuing the attached final 401 certification subject to the terms and conditions contained therein. In this final certification DEQ is requiring additional effluent limitations for BOD, TSS, TP, and TN. DEQ is also requiring additional receiving water monitoring to maintain consistency with IADPA 58.01.02.052. During months with no discharge into Spring Valley Creek, DEQ is requiring a monthly effluent sampling frequency for BOD, TSS, TN, Total Ammonia as N, and TP. Also attached is DEQ's Response to Comments that were received during the public comment period.

Please contact me directly at (208) 373-0420 to discuss any questions or concerns regarding the content of this certification.

Sincerely,

Aaron Scheff
Regional Administrator
Boise Regional Office

c: Catherine Gockel

ec: Nicole Deinarowicz, DEQ State Office
Susan Poulsom

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Idaho Department of Environmental Quality

# Final §401 Water Quality Certification

February 12, 2016

**NPDES Permit Number(s):** ID-0028371 Avimor Water Reclamation Facility (AWRF)

**Receiving Water Body:** Spring Valley Creek

Pursuant to the provisions of Section 401(a)(1) of the Federal Water Pollution Control Act (Clean Water Act), as amended; 33 U.S.C. Section 1341(a)(1); and Idaho Code §§ 39-101 et seq. and 39-3601 et seq., the Idaho Department of Environmental Quality (DEQ) has authority to review National Pollutant Discharge Elimination System (NPDES) permits and issue water quality certification decisions.

Based upon its review of the above-referenced permit and associated fact sheet, DEQ certifies that if the permittee complies with the terms and conditions imposed by the permit along with the conditions set forth in this water quality certification, then there is reasonable assurance the discharge will comply with the applicable requirements of Sections 301, 302, 303, 306, and 307 of the Clean Water Act, the Idaho Water Quality Standards (WQS) (IDAPA 58.01.02), and other appropriate water quality requirements of state law.

This certification does not constitute authorization of the permitted activities by any other state or federal agency or private person or entity. This certification does not excuse the permit holder from the obligation to obtain any other necessary approvals, authorizations, or permits.

## Antidegradation Review

The WQS contain an antidegradation policy providing three levels of protection to water bodies in Idaho (IDAPA 58.01.02.051).

- Tier 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 58.01.02.052.07).
- 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; 58.01.02.052.08).
- 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; 58.01.02.052.09).

DEQ is employing a water body by water body approach to implementing Idaho's antidegradation policy. This approach means that any water body fully supporting its beneficial uses will be considered high quality (IDAPA 58.01.02.052.05.a). Any water body not fully supporting its beneficial uses will be provided Tier 1 protection for that use, unless specific circumstances warranting Tier 2 protection are met (IDAPA 58.01.02.052.05.c). The most recent federally approved Integrated Report and supporting data are used to determine support status and the tier of protection (IDAPA 58.01.02.052.05).

## Pollutants of Concern

The Avimor Water Reclamation Facility (AWRF) discharges the following pollutants of concern: biochemical oxygen demand, five day ($BOD_5$), total suspended solids (TSS), pH, *E. coli*, total residual chlorine (TRC), ammonia, total phosphorus (TP), temperature, total nitrogen (TN), and oil and grease. Effluent limits were developed by EPA for $BOD_5$, TSS, pH, *E. coli*, TRC, and ammonia. In this final 401 certification, DEQ is proposing water quality-based effluent limits and additional effluent and receiving water body monitoring requirements for $BOD_5$, TSS, TN, and TP to minimize degradation of a high quality (Tier 2) water body (i.e., Spring Valley Creek). No effluent limits are proposed for temperature or oil and grease, however effluent monitoring is required. Effluent monitoring of dissolved oxygen is also required to ensure consistency with water quality standards. Required monitoring of the receiving water flow, $BOD_5$, TSS, ammonia, TN, pH, TP, and temperature will help determine the significance of degradation.

## Receiving Water Body Level of Protection

The AWRF discharges to Spring Valley Creek within the Lower Boise Subbasin assessment unit (AU) ID17050114SW013_03 (Dry, Currant, and Spring Valley Creeks - 3rd order sections). Spring Valley Creek is undesignated. DEQ presumes undesignated waters in the state that are not man-made will support cold water aquatic life and primary and/or secondary contact recreation beneficial uses; therefore, undesignated waters are protected for these uses (IDAPA 58.01.02.101.01.a). There is no available information indicating the presence of any existing beneficial use aside from cold water aquatic life and contact recreation uses.

The cold water aquatic life and secondary contact recreation uses in the Spring Valley Creek AU are fully supported (2012 Integrated Report). As such, DEQ will provide Tier 2 protection, in addition to Tier 1, for both beneficial uses (IDAPA 58.01.02.051.02; 58.01.02.051.01).

## 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 AWRF permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS. The wastewater treatment technology in this system includes primary screening, secondary biological treatment, biological nutrient removal, membrane filtration, chemical phosphorus removal and chlorine disinfection. This combination of treatment provides the most advanced wastewater effluent treatment available with current technology. 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 Boise River AU 17050114SW005_06b (Middleton to Indian Creek), approximately 15 miles downstream from Dry Creek, is impaired for TP. The AWRF discharge has the potential to contribute nutrients to the Boise River. TP has been identified as the limiting nutrient. Therefore, the permit proposes water quality based effluent limits for TP. The *2015 Total Phosphorus TMDL Addendum to the Lower Boise River Subbasin Assessment and Total Maximum Daily Loads* was approved by EPA and addresses the TP impairment in the Lower Boise River. Water quality monitoring and modeling completed since 2012 have determined the extent of impairment in the Boise River as well as wasteload allocations expected to restore beneficial uses in the Boise River. The wasteload allocations developed in the TMDL for the AWRF are included as limits in this NPDES permit.

The EPA-approved *Sediment and Bacteria Addendum to the Lower Boise River TMDL* (April 2008) establishes wasteload allocations for sediment and bacteria. These wasteload allocations are designed to ensure the lower Boise River (which Spring Creek is a tributary to) will achieve the water quality necessary to support its existing and designated aquatic life beneficial uses and comply with the applicable numeric and narrative criteria. The effluent limitations and associated requirements contained in the AWRF permit are set at levels that comply with these wasteload allocations.

In sum, the effluent limitations and associated requirements contained in the AWRF permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS and the wasteload allocations established in the *Sediment and Bacteria Addendum to the Lower Boise River TMDL* and the *2015 Total Phosphorus TMDL Addendum to the Lower Boise River Subbasin Assessment and Total Maximum Daily Loads*. Therefore, DEQ has determined the permit will protect and maintain existing and designated beneficial uses in the Spring Valley Creek in compliance with the Tier 1 provisions of Idaho's WQS (IDAPA 58.01.02.051.01 and 58.01.02.052.07).

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

The Spring Valley Creek is considered high quality for cold water aquatic life and secondary contact recreation. As such, the water quality relevant to cold water aquatic life and secondary contact recreation uses of the Spring Valley Creek 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 cold water aquatic life and secondary contact recreation uses of the Spring Valley Creek (IDAPA 58.01.02.052.05). These include the following: $BOD_5$, TSS, pH, *E. coli*, TRC, ammonia, TP, temperature, TN, and oil and grease. Effluent limits were set in the proposed permit for all these pollutants except TP, temperature, TN, and oil and grease, however effluent monitoring of these pollutants is required. For a new permit or license, the effect on water quality is determined by reviewing the difference between the existing receiving water quality and the water quality that would result from the activity or discharge as proposed in the new permit or license (IDAPA 58.01.02.052.06.a).

### Pollutants with Limits in the Proposed Permit

For pollutants that will have limits under the new permit, the future discharge quality is based on the proposed permit limits (IDAPA 58.01.02.052.06.a.ii). For the AWRF permit, this means determining the permit's effect on water quality based upon the limits for $BOD_5$, TSS, pH, TRC, *E. coli*, and ammonia. Table 1 provides a summary of the current water quality in Spring Valley Creek and the proposed permit limits. Discharge is authorized in the proposed permit October 1 through March 31. Background receiving water concentrations are based on winter flow of 0.067 cubic feet per second (cfs) or 0.043 million gallons per day (MGD) as identified at the discharge site through monitoring by AWRF.

The proposed permit for AWRF includes effluent limits for TSS and *E. coli* (Table 1). These limits were included in the permit to be consistent with the wasteload allocations in the approved *Sediment and Bacteria Addendum to the Lower Boise River TMDL*. The TSS and *E. coli* limits in the proposed permit reflect a maintenance or improvement in water quality in the Lower Boise River from current conditions. Therefore, no adverse change in water quality and no degradation will occur with respect to these pollutants. In this final 401 certification, DEQ is proposing a water quality-based effluent limit for TSS to protect high quality (Tier 2) water in Spring Valley Creek.

In addition to these pollutants, the proposed permit also includes effluent limits for $BOD_5$, pH, TRC, and ammonia. Because this is a new discharge, and given the comparison of the receiving water quality and flow, discharge as allowed under the limits in the proposed permit will cause an increase in the concentration of these pollutants in the receiving water, and therefore, will cause degradation.

### Pollutants with No Limits

There are several pollutants of concern: TP, temperature, TN, and oil and grease relevant to Tier 2 protection of aquatic life and recreation for which the proposed permit contains no limit, but does contain monitoring requirements (Table 1). For such pollutants, future discharge quality will be based on information provided by the applicant or other relevant information (IDAPA 58.01.02.052.06.a.iv). Because this is a new discharge, and given the comparison of the receiving water quality and flow, the discharge will cause an increase in the concentration of these pollutants in the receiving water, and therefore, will cause degradation. In this final 401 certification, DEQ is proposing water quality-based effluent limits for TP and TN.

**Table 1. Comparison of proposed permit limits and receiving water quality for pollutants of concern.**

| Pollutant | Units | Background Receiving Water Quality | Proposed NPDES Permit | | | Pollutant Concentration Change[a] |
|---|---|---|---|---|---|---|
| | | | Average Monthly Limit | Average Weekly Limit | Maximum Daily Limit | |
| **Pollutants with limits in the proposed permit** | | | | | | |
| Five-Day BOD | mg/L | 10 | 30 | 45 | — | I |
| | lb/day | 3 | 105 | 158 | — | |
| | % removal | — | 85% | — | — | |
| TSS | mg/L | 5 | 30 | 45 | — | I |
| | lb/day | 1.5 | 105 | 158 | — | |
| | % removal | — | 85% | — | — | |
| pH | standard units | 7 | 6.5–9.0 all times | | | NC |
| *E. coli* | no./100 mL | 50 | 126 | | 406 | I |
| Total Residual Chlorine (TRC) | µg/L | 0 | 9 | | 18 | I |
| | lb/day | 0 | 0.03 | | 0.06 | |
| Total Ammonia | mg/L | 0.04 | 2.4 | — | 4.7 | I |
| | lb/day | 0.012 | 8 | | 17 | I |
| **Pollutants with no limits in the proposed permit** | | | | | | |
| Flow | MGD | 0.043 | Report | Report | | I |
| Total Phosphorus | mg/L | 0.18 | Report | — | Report | — |
| | lb/day | 0.054 | | | | — |
| Temperature | °C | — | Report | — | Report | — |
| Dissolved oxygen | | — | Report | — | Report | — |
| Alkalinity | | — | Report | — | Report | — |
| Hardness | | — | Report | — | Report | — |
| Total Kjeldahl Nitrogen | mg/L | Total Nitrogen = 0.3 | Report | — | Report | — |
| Nitrate plus Nitrite Nitrogen | mg/L | | Report | — | Report | — |
| Oil and Grease | | — | Report | — | Report | — |
| Total Dissolved Solids | | — | Report | — | Report | — |

a – D = Decrease, I= Increase, NC = no change

## Alternatives Analysis

In order to determine whether the degradation is necessary, an analysis must be performed that considers alternatives aimed at selecting the best combination of site, structural, managerial and treatment approaches that can be reasonably implemented to avoid or minimize the degradation of water quality (IDAPA 58.01.02.052.08.c).

The AWRF provided DEQ with the *Antidegradation Analysis for the Avimor Water Reuse Facility, Alternatives Analysis and Social and Economic Justification* (December 2013), see Attachment A. This document details the six (6) treatment technology alternatives that were reviewed in the Facility Plan (2006) including: 1) relocation of the outfall to avoid discharge to a high quality water body, 2) transport of excess waste to an existing treatment facility, 3) land application of treated water, 4) discharge to a rapid infiltration system, 5) construction of a mechanical treatment plant, and 6) construction of a winter storage lagoon.

The preferred alternative for the Avimor community was determined to be the use of a combination of the above mentioned evaluated technologies to avoid surface water impacts. The AWRF will provide mechanical treatment via a membrane bioreactor: this treatment provides the highest level of wastewater treatment possible with current technology. Additionally, Avimor will land apply treated wastewater from the mechanical treatment plant through onsite irrigation during the growing season. During the non-growing season, treated wastewater will be discharged from the mechanical treatment facility to rapid infiltration basins up to 0.19 MGD, with any excess treated wastewater being discharged to Spring Valley Creek. The water reuse system eliminates discharge to Spring Valley Creek during the critical summer months and the rapid infiltration system reduces the volume of discharge to Spring Valley Creek during the winter months.

While the preferred alternative is not the least degrading option, it is the best alternative in terms of cost effectiveness at pollution reduction and the selection of this alternative is justified in accordance with IDAPA 58.01.02.052.08.c.iv(4).

### Socioeconomic Justification

As previously noted, AWRF provided DEQ with an Antidegradation Analysis document that included a social and economic justification.

The wastewater treatment facility is a critical service for the affected community. Without wastewater treatment, the community would face significant environmental and public health consequences, as well as economic impacts. The winter storage alternative would allow for elimination of all discharge to Spring Valley Creek, but requires a large storage lagoon which only provides a small increase in pollutant reduction. This alternative is not economically justifiable based on the very low concentration of pollutants discharged to Spring Valley Creek during the non-critical period. Given these factors, as well as other information provided by Avimor Water Reclamation Facility in its social and economic justification, DEQ has determined that the degradation that will result from the preferred alternative is socially and economically justified.

### Other Source Controls

In allowing degradation in high quality waters, DEQ must assure that there shall be achieved in the watershed the highest statutory and regulatory requirements for all new and existing point sources and cost-effective and reasonable best management practices (BMPs) for all nonpoint source controls (IDAPA 58.01.02.052.08.b). Avimor Water Reclamation Facility is the only point source to Spring Valley Creek. Compliance with the new NPDES permit along with the conditions imposed by this certification will ensure the highest statutory and regulatory requirements for point sources shall be achieved.

Nonpoint sources of pollution in the watershed include stormwater, livestock grazing and irrigated agriculture. Cost effective and reasonable BMPs are identified in the WQS as those set forth in the Idaho Agricultural Pollution Abatement Plan. The Avimor Planned Community has implemented projects including BMPs from the Idaho Agricultural Pollution Abatement Plan to restore stream banks, fence off and re-vegetate stream and spring areas, and create a wetland treatment basin to decrease sediment transport from the upper Spring Valley Creek watershed. In the developed community property, engineered stormwater retention ponds reduce pollutant

transport from public areas and residential and commercial property. Reclaimed wastewater will be used to irrigate the common areas of the development and in the future may also be used to irrigate 100 acres of agricultural land. The requirements set forth in the wastewater reuse permit are considered by DEQ to be cost effective and reasonable BMPs.

DEQ has determined that cost effective and reasonable BMPs as set forth in the Idaho Agricultural Pollution Abatement Plan, in the Avimor reuse permit and in connection with the management of stormwater are being implemented in the watershed. In sum, there is reasonable assurance that there shall be achieved the highest statutory and regulatory requirements for point sources and cost-effective and reasonable BMPs for non-point source control.

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

## *Compliance with IDAPA 58.01.02.052 Antidegradation Implementation*

While the chosen alternative is justified in accordance with IDAPA 58.01.02.052.08.c.iv.4, DEQ must ensure degradation is minimized consistent with the alternative that was chosen. Since the alternative chosen can achieve more stringent limits than those included in EPA's proposed permit, DEQ is requiring lower effluent limits for $BOD_5$ and TSS and additional effluent limitations for TN and TP (Table 2). These water quality effluent limitations are consistent with treatment that can be reasonably implemented at AWRF. In addition to effluent limits, DEQ is also requiring more frequent effluent monitoring during times of discharge to Spring Valley Creek for select pollutants to ensure that the treatment system is performing as expected and that effluent limits are achieved (Table 3). Monthly monitoring of the receiving water for pollutants with effluent limitations is required to determine the significance of degradation. Depending on results from the first permit cycle, the receiving water monitoring frequency may be reduced or eliminated in future permits. These revised effluent limitations and monitoring requirements must be included in the permit to ensure compliance with WQS.

As shown on Table 2

**Table 2. Proposed permit limits to ensure consistency with Antidegradation Implementation (IDAPA 58.01.02.052).**

| Pollutant | Units | Background Receiving Water Quality | DEQ Proposed Limit | | | Rationale |
|---|---|---|---|---|---|---|
| | | | Average Monthly Limit | Average Weekly Limit | Maximum Daily Limit | |
| **Pollutants with limits in the proposed permit** | | | | | | |
| Five-Day BOD | mg/L | 10 | 15 | 25 | — | Facility performance 2013-2014 |
| | lb/day | 3 | 52 | 87 | — | |
| | % removal | — | 85% | — | — | |
| TSS | mg/L | 5 | 10 | 17 | — | Facility performance 2013-2014 |
| | lb/day | 1.5 | 35 | 59 | — | |
| | % removal | — | 85% | — | — | |
| pH | standard units | 7 | 6.5–9.0 all times | | | NC |
| *E. coli* | no./100 mL | 50 | 126 | | 406 | NC |
| Total Residual Chlorine (TRC) | µg/L | 0 | 9 | | 18 | NC |
| | lb/day | 0 | 0.03 | | 0.06 | |
| Total Ammonia as N | mg/L | 0.04 | 2.4 | — | 4.7 | NC |
| | lb/day | 0.012 | 8 | | 17 | |
| Total Nitrogen | mg/L | 0.3 | 15.0 | | | Facility performance 2013-2014 |
| Total Phosphorus | mg/L | 0.18 | Report | Report | — | TP Addendum to Lower Boise River TMDL 2015 |
| | lb/day | 0.054 | 1.2 | Report | — | |

NC – no change from public comment draft permit limits

**Table 3. Proposed monitoring requirements to ensure consistency with IDAPA 58.01.02.052.**

| Pollutant | Unit | Sample Location | Sample Frequency | Sample Type |
|---|---|---|---|---|
| Flow [NC] | CFS | Upstream Receiving Water | 1/month | measure |
| | MGD | Effluent | Continuous | Recording |
| Five-Day BOD [1] | mg/L | Upstream Receiving Water | 1/month | grab |
| | mg/L | Influent and Effluent | 2/week | 24-hour composite |
| | lb/day | | | calculation |
| | % removal | % Removal | 1/month | calculation |
| TSS [1] | mg/L | Upstream Receiving Water | 1/month | grab |
| | mg/L | Influent and Effluent | 2/week | 24-hour composite |
| | lb/day | | | calculation |
| | % removal | % Removal | 1/month | calculation |
| pH [NC] | standard units | Upstream Receiving Water | 1/month | grab |
| | standard units | Effluent | 5/week | grab |
| *E. coli* [NC] | no./100 mL | Effluent | 5/month | grab |
| Total Residual Chlorine [NC] (TRC) | mg/L | Effluent | 5/week | grab |
| | lb/day | | | calculation |
| Total Nitrogen [1] | mg/L | Upstream Receiving Water | 1/month | grab |
| | mg/L | Effluent | 1/week | 24-hour composite |
| Total Ammonia as N [1] | mg/L | Upstream Receiving Water | 1/month | grab |
| | mg/L | Effluent | 2/week | 24-hour composite |
| | lb/day | | | calculation |
| Total Kjeldahl Nitrogen [NC] | mg/L | Effluent | 1/quarter | 24-hour composite |
| Nitrate + Nitrite Nitrogen [NC] | mg/L | Effluent | 1/quarter | 24-hour composite |
| Total Phosphorus [1] | mg/L | Upstream Receiving Water | 1/month | grab |
| | mg/L | Effluent | 1/week | 24-hour composite |
| | lb/day | | 1/week | calculation |
| Temperature [NC] | °C | Upstream Receiving Water | continuous | meter |
| | | Effluent | | |
| Dissolved oxygen [NC] | mg/L | Effluent | 2/month | grab |
| Alkalinity [NC] | mg/L | Effluent | 1/quarter | 24-hour composite |
| Hardness [NC] | mg/L as $CaCO_3$ | Effluent | 1/quarter | 24-hour composite |
| Oil and Grease [NC] | mg/L | Effluent | 1/quarter | grab |
| Total Dissolved Solids [NC] | mg/L | Effluent | 1/quarter | 24-hour composite |

[NC] – no change from public comment draft permit monitoring requirements
1- For months where there is no discharge to Spring Valley Creek, a monthly sampling frequency will apply.

## Other Conditions

This certification is conditioned upon the requirement that any material modification of the permit or the permitted activities—including without limitation, any modifications of the permit to reflect new or modified TMDLs, wasteload allocations, site-specific criteria, variances, or other new information—shall first be provided to DEQ for review to determine compliance with Idaho WQS and to provide additional certification pursuant to Section 401.

## Right to Appeal Final Certification

The final Section 401 Water Quality Certification may be appealed by submitting a petition to initiate a contested case, pursuant to Idaho Code § 39-107(5) and the "Rules of Administrative Procedure before the Board of Environmental Quality" (IDAPA 58.01.23), within 35 days of the date of the final certification.

Questions or comments regarding the actions taken in this certification should be directed to Kati Carberry, Boise Regional Office, at 208.373.0434 or kati.carberry@deq.idaho.gov .

Aaron Scheff
Regional Administrator
Boise Regional Office

# RESPONSE TO COMMENTS

## Avimor Water Reclamation Facility NPDES Permit # ID0028371

Idaho Department of Environmental Quality

On April 4, 2014, the U.S. Environmental Protection Agency issued a public notice for the issuance of the Avimor Water Reclamation Facility (AWRF) National Pollutant Discharge Elimination System (NPDES) permit No. ID -0028371, including the draft Clean Water Act (CWA) Section 401 certification and antidegradation analysis prepared by Idaho Department of Environmental Quality (DEQ). This Response to Comments provides a summary of significant comments received by DEQ on the 401 certification of this NPDES permit and provides corresponding DEQ responses. Comments were received on May 5, 2014from Justin Hayes, Program Director, Idaho Conservation League (ICL).

### Comment #1: Not Appropriate to Apply POTW Technology Based Limits to AWRF

EPA correctly determined that the AWRF is not a POTW. However, EPA failed to adequately utilize "Best Professional Judgment" (BPJ) when it chose to utilize the POTW technology effluent limits in the AWRF permit. This is the case because the POTW technology effluent limits utilized are significantly less stringent than the anticipated discharge concentrations that Avimor states that it will discharge. (See below for more discussion on this).

Avimor reports that its treatment facility "represents the most advanced wastewater treatment system available with current technology." If the discharger is stating that its treatment facility utilizes state of the art technology and that its discharge will thus be significantly less polluting than the POTW technology effluent limits would require, it is not a mark of "Best Professional Judgment" for EPA to propose effluent limits that allow significantly more pollution than the discharger's own statements and already installed technology would suggest is necessary.

The EPA needs to develop technology based effluent limits for this facility that are based on the operation of this technology – not the expected operation of dis-similar treatment works.

**Response:** DEQ has reviewed data collected for the AWRF Reuse Permit # LA-211-02 in 2013 and 2014 to determine, in connection with the antidegradation analysis, facility performance capability. DEQ is proposing facility specific effluent limitations for $BOD_5$ and TSS in the final 401 certification for this permit to ensure consistency with IDAPA 58.01.02.052.

### Comment #2: Total Phosphorus Effluent Limits Need to be Developed

The EPA has stated that this facility does not need total phosphorus effluent limits because this facility will not discharge to Spring Valley Creek (which is a tributary to Dry Creek, which is a tributary to the Boise River, which is a tributary to the Snake River) during the season (May-September) that the Snake River Hells Canyon TMDL calls for the attainment of an instream target of less than or equal to 0.07 mg/l TP. However, phosphorus discharged by AWRF between October 1 and March 31 does not travel completely through and exit the segment of the Snake

River covered in the Hells Canyon TMDL during this October 1 – March 31 time frame. Rather, phosphorus discharged by AWRF between October 1 – March 31 will still be present in the Hells Canyon reach and bio available into the May-September time period. As such, this facility needs a TP limit in the permit.

Further, evidence has shown that water quality in the Hells Canyon stretch is failing to meet the water quality standards for nutrients (i.e. "Surface waters of the state shall be free from excess nutrients that can cause visible slime growths or other nuisance aquatic growths that impair designated beneficial uses.") during periods of time outside of the TMDL's season of applicability (May – September). As such, EPA is aware of the fact that the TMDL is not adequately protecting WQS in the Hells Canyon reach. Pursuant to this, the EPA is obligated to develop NPDES effluent limits necessary to meet water quality standards. As a result, EPA needs to develop TP limits year round – not just during the May-September timeframe.

**Response:** The Lower Boise River (LBR) Total Phosphorus (TP) TMDL, which has been approved by EPA, addresses nutrient impairment in the lower Boise River and implements the load allocation the SRHC TMDL identified for the Boise River. After the draft 401 certification was issued, DEQ identified the seasonality and extent of nutrient impairment as well as pollutant reductions and source allocations necessary to support beneficial uses in the Boise River. In the final 401 certification, DEQ is requiring total phosphorus limitations that are consistent with the TP TMDL wasteload allocation developed for AWRF in the approved TP TMDL, *2015 Total Phosphorus TMDL Addendum to the Lower Boise River Subbasin Assessment and Total Maximum Daily Loads*.

**Comment #3: Failure to Minimize Degradation of a Tier 2 Water**

DEQ has determined that the degradation of water quality in Spring Valley Creek (a tier 2 water) is necessary to accommodate important economic or social development in the area. Pursuant to this, the EPA has drafted proposed effluent limits for the AWRF facility and has proposed to authorize discharges from this facility between October and March.

Avimor reports, in its "Antidegradation Analysis," that its water reuse facility "has the capability to produce the highest effluent water quality in the state." And that their facility "is optimized for extremely high levels of treatment." And that the Avimor treatment facility "represents the most advanced wastewater treatment system available with current technology." Indeed, the facility's impressive equipment is capable of treating the effluent to levels that are much cleaner than the effluent limits that the EPA permit contains. Avimor acknowledges this when it states: "It can be seen from this section, that the impacts to Spring Valley Creek will be significantly less than the NPDES permitted levels due to the high levels of treatment provided by the MBR treatment system." The table below reports the actual effluent pollutant levels that Avimor reports that it anticipates discharging. The table also displays the proposed permits limits that the EPA developed (and DEQ has endorsed via 401 cert) and the observed concentration of these pollutants in Spring Valley Creek.

| | Proposed permit effluent limits Monthly Average | Proposed permit effluent limits Weekly Average | "anticipated" wastewater discharge | Background concentration in receiving water |
|---|---|---|---|---|
| Biochemical Oxygen Demand | 30 mg/l | 45 mg/l | < 5.0 mg/l | 10 mg/l |
| TSS | 30 mg/l | 45 mg/l | <2.0 NTU | 5 mg/l |
| Total Nitrogen | No limit | No limit | < 8.0 mg/l | 0.3 mg/l |
| Total Phosphorus | No limit | No limit | < 0.1 mg/l | 0.18 mg/l |
| Total Coliform | 126 #/100 ml | **daily max** 406 #/100 ml | < 2.2 #/100 ml | 50 #/100 ml |

We encourage the utilization of state of the art technology to remove pollutants from wastewater and are pleased that Avimor has deployed such technology at their development.

The DEQ and the EPA have errored by proposing/concurring with permit limits that authorize the discharge of more pollution than is necessary to accommodate the important economic or social development. The antidegradation language found in the Clean Water Act and in Idaho's antidegradation rules require that degradation of tier 2 waters (which is determined to be necessary to accommodate important economic or social development) must be minimized so as to provide only for the degradation needed to accommodate the development. In this instance, the EPA and the DEQ have failed to provide permit limits that minimize this degradation.

Idaho's Antidegradation Rules state "Degradation will be deemed necessary only if there are no reasonable alternatives to the discharging at the levels proposed."

Avimor has stated that the facility that it has already built can treat its effluent to levels many times cleaner than the proposed permit limits. Yet the draft NPDES permit and 401 certification authorize degradation significantly greater than the level of degradation required for the facility to operate. As such, EPA and DEQ are authorizing degradation that is not necessary and in violation of the Clean Water Act and DEQ's own Rules.

To remedy this situation, the permit limits should be made much more stringent – in line with the level of pollution that Avimor reports that it anticipates discharging.

**Response**: DEQ has reviewed data collected for the AWRF Reuse Permit #LA-211-02 in 2013 and 2014 to determine facility performance capability. The treatment capability stated in the antidegradation analysis was best average performance achievable by the treatment system. DEQ recognizes that normal, non-upset performance of the treatment system, can achieve higher effluent quality than required by some of the draft permit effluent limitations. To minimize degradation of Spring Valley Creek and maintain consistency with IDAPA 58.01.02.052, DEQ is requiring more stringent effluent limitations for BOD and TSS, in addition to new effluent limitations for total nitrogen and total phosphorus. DEQ is not proposing more stringent limits for *E. coli* bacteria or chlorine. Due to the toxicity of chlorine, the facility must strike a balance between disinfection and de-chlorination prior to discharge. This balance is consistent with the effluent limits in the public comment draft permit, therefore no changes are proposed for effluent limits of these pollutants. DEQ is also requiring monthly upstream monitoring of Spring Valley Creek for all pollutants with effluent limitations so DEQ can assess the significance of degradation to Spring Valley Creek.

**Comment #4: Effluent limits needed for Nitrogen and Phosphorus**

DEQ has determined that the degradation of water quality in Spring Valley Creek (a tier 2 water) is necessary to accommodate important economic or social development in the area. As such, some level of degradation will be allowed. Avimor has determined that the AWRF will discharge nitrogen and phosphorus into Spring Valley Creek. To ensure that the minimum amount of degradation necessary will be caused by these two pollutants, the EPA needs to develop effluent limits for these pollutants.

**Response:** As stated in the response to comment # 3 above, DEQ has reviewed data collected for the AWRF Reuse Permit #LA-211-02 in 2013 and 2014 to determine facility performance capability and is requiring effluent limitations for total nitrogen and total phosphorus.