Response to Comments

City of Winchester Wastewater Treatment Plant
NPDES Permit Number: ID0020184

June 8, 2020

On January 29, 2020, the U.S. Environmental Protection Agency Region 10 (EPA) issued a public notice for the proposed reissuance of the City of Winchester's draft National Pollutant Discharge Elimination System (NPDES) Permit No. ID0020184. The public comment period closed February 28, 2020.

During the public comment period the EPA received comments from two parties: The City of Winchester (Winchester) and the Idaho Conservation League (ICL).

This document presents the comments received and provides corresponding responses to those comments. No changes have been made to the permit as a result of the comments received.

Comment 1. Total Ammonia Limit and Low Flow/Mixing Zone [City of Winchester]

"The City believes there was an error related to mixing zone and pH values in the reasonable potential and water quality-based effluent limit calculation for ammonia in the 2013 permit and continued in this permit. The 95th pH value used for the calculation of the average monthly and maximum daily ammonia levels of 8.3 is significantly higher than current effluent data indicate. With the exception of one outlier, the highest pH value recorded 7.9 with the 95th percentile pH of 7.7. Additionally, no mixing zone was included in the permit because the " ... critical low flow condition is zero flow". The City requests that the 95th percentile pH value be changed to 7 .7, the current flows in Lower Lapwai Creek be used as the basis for the mixing zone analysis, and EPA share your updated reasonable potential calculation sheets with the City."

Response 1. Total Ammonia Limit and Low Flow/Mixing Zone [City of Winchester]

Ammonia Criteria

The commenter is requesting that the EPA base the ammonia criteria used in the reasonable potential and effluent limit calculations on the pH of the effluent. As explained on Page 20 of the Fact Sheet, pursuant to IDAPA 58.01.02.250, ammonia criteria are based on a formula which relies on the pH and temperature of the receiving water not the effluent. The fraction of ammonia present as the toxic, un-ionized form increases as the pH and temperature of the receiving water increases; the criteria become more stringent as pH and temperature increase.

The City of Winchester WWTP collected temperature and pH data in the Lapwai Creek spillway upstream of the facility on a quarterly basis from spring of 2006 to summer of 2008. The EPA used the 95th percentile of these data to determine the appropriate pH and temperature values to calculate the ammonia criteria, resulting in a pH of 8.3 and temperature of 15.2 °C.

Low Flow/Mixing Zone

The low flow conditions of a water body are used to assess the need for and develop water quality-based effluent limits. As discussed above, Winchester conducted surface water monitoring in the Lapwai Creek spillway from March 29, 2006 to June 9, 2008. There was no monitoring data for four of the monitored quarters because there was no flow across the spillway. Therefore, the low flow was established as zero under the prior permit and remains zero under this current permit.

In cases where the receiving water flow is too low to provide dilution, a mixing zone cannot be authorized, and the criterion becomes the wasteload allocation. Establishing the criterion as the wasteload allocation (WLA) ensures the effluent discharge will not contribute to an exceedance of the criteria. The ammonia WLA for the City of Winchester WWTP was derived using this method because receiving water flow during portions of the year is too low to provide dilution or a mixing zone.

No change has been made to the permit as a result of this comment. The EPA has not revised the reasonable potential spreadsheets and previously provided Winchester's contractor with the electronic DMR data used in the EPA's calculations.

Comment 2. Ammonia Monitoring [Winchester]

"Both the existing and draft permits for the City identify twice monthly sampling for Total Ammonia as N. The NPDES Fact Sheet provided by EPA note in Section V.B that weekly monitoring will be required for ammonia as N. This sampling is challenging for the City due to their remote location and access to laboratory facilities, further complicated by a small City staff with only one full time maintenance employee for all public works. Monthly samples for multiple constituents are regularly coordinated and can be collected and couriered to the Moscow, Idaho lab located 90 minutes away. More frequent sampling could require a minimum half day of travel time for the operator to deliver samples to the lab if the courier were not available or the timing could not be met due to other regular duties. Additionally, review of historical data indicate very consistent effluent ammonia concentrations. As a result, increased sampling does not appear to add any benefit toward permit compliance, but instead creates a hardship for the City. The City requests that Total Ammonia as N sampling remain monthly."

Response 2. Ammonia Monitoring [Winchester]

The reference to weekly ammonia monitoring in the fact sheet was made in error. The draft and final permit requires twice monthly sampling for ammonia; this remains unchanged from the previous permit. The commenter requests the total ammonia limit remain monthly; the prior permit required twice monthly ammonia sampling. The EPA considers a sampling frequency of twice monthly to be the minimum necessary to determine compliance with the ammonia effluent limits.

The maximum concentration of ammonia observed between June 2014 and January 2019 was 3.88 mg/L; this exceeds the maximum daily limit of 3.1 mg/L. In addition, the coefficient of variation (CV) for ammonia is 1.4, indicating relatively high variability (the 1991 EPA Technical

Support Document for Water Quality-based Toxics Control states that typical CV values range from 0.2 to 1.2). Thus, sampling for ammonia only once per month may not adequately characterize the discharge.

No change has been made to the permit as a result of this comment.

Comment 3. Part II - Special Conditions [Winchester]

II.A, 11.B, and 11.F - Timelines for Updating O&M Plan, QAP, and Emergency Response Plan The draft permit indicates that the Operation and Maintenance Plan, the Quality Assurance Plan (QAP), and the Emergency Response Plan must be updated and submitted to EPA and the Nez Perce Tribe within 90 days of the effective date of the permit. This conflicts with some of the dates elsewhere in the draft permit and fact sheet which indicate that 180 days will be allowed for the City to complete these update. As these efforts will require outside support, the City requests that the final permit allow 180 days for completion of updates to these three documents."

Response 3. Part II - Special Conditions [Winchester]

Updating the O&M Plan, QAP, and Emergency Response Plan should require minimal effort given the minor changes between the 2013 permit and this reissuance.

The final permit has been revised to allow 180 days to update and submit the O&M Plan, QAP, and Emergency Response Plan.

Comment 4. 11.C.1- Table 2: Facility Design Criteria [Winchester]

"The value noted in the permit of 0.03 mgd is the average daily flow. The correct value for maximum monthly flow is 0.1 MGD. This change should be made throughout the fact sheet and permit."

Response 4. 11.C.1- Table 2: Facility Design Criteria [Winchester]

As explained in the Fact Sheet, pursuant to 40 CFR § 122.45(b), effluent limitations for publicly owned treatment works (POTWs) are calculated based on the design flow of the facility. In developing the permit conditions, the EPA used the design flow reported in Winchester's most recent NPDES application, which is 0.03 million gallons per day (mgd), the same as the previous application. The mass-based effluent limits in the permit are calculated directly from this design flow of 0.03 mgd. A review of the effluent loading data indicates that the facility operates well below these mass-based limits. As such, the EPA has no basis to increase the mass-based effluent limits for this permit issuance.

No change has been made to the permit as a result of this comment.

Comment 5. 11.D - Nutrient Reduction Study [Winchester]

"The basis for this requirement is not clear. The NPDES fact sheet Appendix E Antidegradation Analysis indicates that an anti-degradation review has been completed by EPA and that "No adverse change in the water quality and no degradation will result from the discharge of these pollutants in the reissued permit and the quality of the receiving water is maintained and protected." The Nutrient Reduction Study of the EPA Fact sheet, however, indicates that Winchester Lake and Lapwai Creek, 20 miles downstream of the Winchester discharge, are impaired for nutrients and that the City must supply a Nutrient Reduction Study to evaluate the WWTP for ways to achieve nutrient removal using existing infrastructure that would not require structural changes or result in rate increase or substantial investment. This evaluation and analysis will require additional analysis of the treatment plant which will create a financial hardship to the City and is unlikely to identify any methods for system modification that will significantly reduce nutrients in the WWTP discharge without significant capital expense. The

City requests that this evaluation requirement be removed from the final permit."

Response 5. 11.D - Nutrient Reduction Study [Winchester]

Excess nutrients are known to cause and contribute to a wide variety of water quality problems, including low dissolved oxygen, changes in pH, nuisance aquatic growth, and harmful algal blooms. As discussed in the Fact Sheet, the latest Integrated Report identifies Winchester Lake as being impaired for nutrients and Lapwai Creek is listed as impaired for nutrients beginning at the mouth of Sweetwater Creek, approximately 20 miles downstream from the Winchester discharge. In addition, the EPA has determined that the City of Winchester WWTP is a contributor of nutrients to the receiving water.

While the receiving water at and immediately downstream of the discharge remains unassessed, and no nutrient limits are being proposed, the EPA has concluded that the Study is necessary given the downstream impairments and the fact that nutrients bioaccumulate in a waterbody. As such, the EPA is requiring the facility to evaluate current operations to achieve improvements in nutrient removal using existing infrastructure and to analyze other cost-effective methods of achieving nutrient load reductions. The Nutrient Reduction Study is limited to assessing refinements to the wastewater treatment system already in place. The Nutrient Study is not requiring upgrades and should not create a financial burden to the permittee. CWA Section 308 allows the EPA to include studies, such as the Nutrient Reduction Study, in permits.

No change has been made to the permit as a result of this comment.

Comment 6. Compliance Issues [ICL]

"We are concerned by the history of compliance issues at the City of Winchester's Wastewater Treatment Plant ("Winchester"), as reflected by the facility's records available on Enforcement and Compliance History Online ("ECHO"). We appreciate that EPA conducted an inspection of this facility in August 2019. However, it is troubling to learn that not only has this facility regularly violated effluent limits over the past 11 quarters and regularly failed to file between 10 and 21 Discharge Monitoring Report measurements every month for eight quarters between 2017 and 2019, Winchester could not produce a Quality Assurance Plan, as required by Winchester's effective NPDES permit, issued in 2013….

We urge EPA to ensure Winchester maintains compliance with its NPDES permits. We will be interested to follow Winchester's progress."

Response 6. Compliance Issues [ICL]

Thank you for the comment. Winchester is required to comply with all terms and conditions of their permit and the EPA's Compliance Division will be tracking compliance.

No change has been made to the permit as a result of this comment.

Comment 7. Temperature Monitoring Requirements [ICL]

"We are concerned that given the receiving water flow during certain times of the year is 0, that the temperature of Winchester's effluent could cause exceedances of Idaho's Water Quality Criteria for cold water aquatic life. Those criteria require water temperatures of 22 degrees Celsius or less with a maximum daily average of no greater than 19 degrees Celsius. IDAPA 58.01.02.250.02.b.

As indicated in EPA's Fact Sheet at Table 2 and in Appendix B, Winchester has recorded effluent temperature as high as 19.1 degrees Celsius, and Winchester's effluent temperature regularly approaches Idaho's water quality criteria for cold water aquatic life in the summer months.

Accordingly, we request EPA consider incorporating further effluent and receiving water monitoring requirements to ensure Winchester will not impair Lapwai Creek's beneficial use for cold water aquatic life. If EPA declines this request, we further request EPA explain how the proposed monitoring requirements are sufficient to ensure the protection of Lapwai Creek's beneficial use."

Response 7. Temperature Monitoring Requirements [ICL]

As discussed in the Fact Sheet, the City of Winchester WWTP discharges into the spillway draining Winchester Lake. The City of Winchester collected receiving water data at the spillway between March 2006 and June 2008. In both 2006 and 2007 there was no flow recorded over the spillway during the six-month period between July and December. The City of Winchester has also anecdotally indicated that there is no flow in Lapwai Creek for much of the year due to low flow issues in Lake Winchester. Lapwai Creek in the area near the discharge is therefore considered an "intermittent water" under IDAPA 58.01.02.010.54[1]. Pursuant to IDAPA

[1] "Intermittent waters" is defined at IDAPA 58.01.02.010.54 as, "A stream, reach, or water body which naturally has a period of zero (0) flow for at least one (1) week during most years. Where flow records are available, a stream with a 7Q2 hydrologically based unregulated flow of less than one-tenth (0.1) cubic feet per second (cfs) is considered intermittent. Streams with natural perennial pools containing significant aquatic life uses are not intermittent."

58.01.02.070.06[2], numeric water quality standards only apply to intermittent waters with an aquatic life use during periods of optimum flow greater or equal to 1 cfs. During periods of no flow spanning the summer months through December the temperature criteria does not apply. A review of the 2006-2008 spillway data submitted by Winchester indicates periods of optimum flow occur from January through June, when discharge temperatures between 2015 and 2018 averaged 10.9 °C with a 95th percentile temperature of 17.5 °C. The EPA believes the discharge will be protective of the temperature standard during the periods of optimum flow when it applies and that no further effluent or receiving water monitoring are necessary.

No change has been made to the permit as a result of this comment.

[2] IDAPA 58.01.02.070.06: "Numeric water quality standards only apply to intermittent waters during optimum flow periods sufficient to support the uses for which the water body is designated. For recreation, optimum flow is equal to or greater than five (5) cubic feet per second (cfs). For aquatic life uses, optimum flow is equal to or greater than one (1) cfs."