

**Central Valley Regional Water Quality Control Board
5/6 June 2014 Board Meeting**

**Responses to Written Comments
for the
United States Department of the Interior, National Park Service
Yosemite National Park
El Portal Wastewater Treatment Facility
Mariposa County
Tentative Waste Discharge Requirements/NPDES Permit (NPDES CA0081759)
And
Tentative Time Schedule Order R5-2011-0906 Rescission**

The following are Central Valley Regional Water Quality Control Board (Central Valley Water Board) staff responses to comments submitted by the interested parties regarding the tentative Waste Discharge Requirements/NPDES Permit CA0081759 (NPDES permit) renewal and Time Schedule Order (TSO) R5-2011-0906 Rescission for the U.S. Department of the Interior, National Park Service, Yosemite National Park (hereinafter Discharger), El Portal Wastewater Treatment Facility (Facility).

The tentative NPDES Permit and TSO Rescission were circulated on 24 March 2014 for public comment. Written comments from interested parties were required by public notice to be submitted to the Central Valley Water Board by 5:00 pm on 5 May 2014 to receive full consideration. Written comments were received from:

- U.S. Department of the Interior, National Park Service, Yosemite National Park (Discharger) (5 May 2014)

Written comments from the above interested party are summarized below, followed by the responses of Central Valley Water Board staff. Based on the comments, changes were made to the tentative WDRs/NPDES permit. Central Valley Water Board staff also made changes to the tentative WDRs/NPDES permit to correct typographical errors and to improve clarity.

DISCHARGER COMMENTS

Discharger Comment #1: Copper Monitoring Frequency

The tentative WDRs/NPDES permit includes a copper effluent monitoring frequency of 1/month at Monitoring Locations EFF-001 and EFF-002. The Discharger comments that it can meet the copper effluent limits in the tentative WDRs/NPDES permit and, therefore, the copper effluent monitoring frequency should be reduced from 1/month to 1/quarter.

RESPONSE: The maximum reported effluent copper concentration does not exceed the applicable California Toxic Rule Criteria. However, the maximum ambient background copper concentration does. Therefore, in accordance with Section 1.3 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP), Central Valley Water Board staff determined there is reasonable potential and included effluent limitations in the tentative WDRs/NPDES permit. In evaluating the Discharger's request, Central Valley Water Board staff reconsidered the site-specific conditions (e.g., historical records show that

treated wastewater is consistently discharged to the percolation ponds and not directly to the Merced River) and evaluated the copper monitoring data set (e.g., the maximum reported copper effluent since February 2003 has not exceeded the copper effluent limitations in the tentative WDRs/NPDES permit). Because reasonable potential was determined based on the background receiving water concentration exceeding criteria and because of the site-specific conditions at the Facility, Central Valley Water Board staff proposes to relax the copper effluent monitoring at Monitoring Locations EFF-001 and EFF-002 from 1/month to 1/quarter as requested.

Discharger Comment #2: Ammonia Monitoring Frequency and Effluent Limitations

The tentative WDRs/NPDES permit includes an ammonia effluent monitoring frequency of 1/week at effluent Monitoring Locations EFF-001 and EFF-002. The current WDRs/NPDES Permit (Order R5-2008-0060) includes an ammonia effluent monitoring frequency of 2/month at both effluent monitoring locations. The Discharger mentions that the roundtrip distance Facility staff have to travel to deliver samples to the laboratory for analysis is 240 miles. Thus, the Discharger comments that increasing the ammonia effluent monitoring frequency to 1/week will result in an unnecessary burden on the Facility staff. Furthermore, the Discharger states that the tentative WDRs/NPDES permit is unclear how the ammonia criteria were set since ammonia is not a priority pollutant.

RESPONSE: The tentative WDRs/NPDES permit includes total ammonia effluent limitations. Therefore, monitoring the effluent for ammonia is necessary to determine compliance with the applicable ammonia effluent limitations. In evaluating the Discharger's request, Central Valley Water Board staff considered the site-specific conditions. As previously mentioned, treated wastewater is typically discharged to the percolation ponds rather than directly to the Merced River. Based on the fact that monitoring ammonia once per week will result in an additional burden to the Discharger due to the remoteness of the Facility and based on site-specific conditions, Central Valley Water Board staff proposes to reduce the ammonia effluent monitoring to 2/month at Monitoring Location EFF-001.

Regarding the Discharger's comment on how the ammonia criteria were established, Central Valley Water Board staff used the U.S. EPA 2013 National Ambient Water Quality Criteria (NAWQC) to calculate total ammonia criteria protective of freshwater aquatic life. U.S. EPA published the criteria in August 2013. A brief summary of the 2013 NAWQC and a detailed description of how the ammonia NAWQC were calculated for the Facility are provided in Section IV.C.3.c.i.(a) of the tentative Fact Sheet (Attachment F). An excerpt of Section IV.C.3.c.i.(a) of the Fact Sheet is provided below describing how the 2013 ammonia NAWQC were calculated:

"The U.S. NAWQC document states that "unionid mussel species are not prevalent in some waters, such as the arid west." The 2013 ammonia NAWQC also states that, "In the case of ammonia, where a state demonstrates that mussels are not present on a site-specific basis, the recalculation procedure may be used to remove the mussel species from the national criteria dataset to better

*represent the species present at the site.” Therefore, the 2013 ammonia NAWQC document includes acute and chronic criteria for waters where mussels are not present. The 2013 ammonia NAWQC also provides criteria for waters where *Oncorhynchus* species are not present and where protection of early life stages of fish genera is unnecessary.*

Central Valley Regional Board staff could not find any documentation that recorded mussel species present in the Merced River within the vicinity of the Facility’s discharge points. The Central Valley Water Board is currently in the process of determining the best way to evaluate receiving waters within the Central Valley for the presence of mussels. Therefore, since 1) the Central Valley Water Board is not aware of any documentation recording the presence of mussels in the upper Merced River and 2) the site conditions (e.g., low calcium and pH concentrations) may inhibit mussels from being present in the receiving water near the Facility’s discharge points, the site-specific criteria for waters where mussels are not present were used. However, because the Merced River has a beneficial use of cold freshwater habitat (COLD) and the presence of salmonids and early fish life stages in the Merced River is well-documented, the recommended criteria for waters where salmonids and early life stages are present were used.

Tertiary-treated wastewater is either discharged directly to the Merced River under minimum required dilution ratios (200:1 or 150:1) or via percolation. Thus, the Central Valley Regional Water Board considers it overly stringent to use the Facility’s effluent pH and temperature immediately after treatment to calculate the ammonia criteria protective of the downstream receiving water beneficial uses. The acute criteria were calculated from the max reported downstream receiving water pH and temperature. The chronic criteria were calculated for each reported paired downstream receiving water pH and temperature.

Due to the variability of pH and especially temperature in the receiving water throughout the year, seasonal acute and chronic ammonia criteria were calculated. The pH and temperature within a specified “season” were used to derive seasonal acute and chronic criterion. The resulting acute criterion from May to October and from November to April is 8.1 mg/L (as N) and 13 mg/L (as N), respectively. The resulting 30-day CCC from May to October and from November to April is 3.5 mg/L (as N) and 4.8 mg/L (as N), respectively.”

Details regarding how the ammonia criteria were translated into effluent limitations are provided in the Fact Sheet, Section IV.C.3.c.i.(c).

Discharger Comment #3: Nitrite plus Nitrate Effluent Limitation

The tentative WDRs/NPDES permit includes a performance-based nitrite plus nitrate (as N) average monthly effluent limitation of 64 mg/L. The Discharger references a section in the Fact Sheet (Attachment F) that describes how applying the human health-based dilution ratio

(48:1) would result in a water quality based effluent limitation of 477 mg/L (as N). The Discharger comments that the Facility's nitrite plus nitrate effluent concentrations are lower than both 64 mg/L (as N) and 477 mg/L (as N) and that the Discharger does not intend to reduce the level of treatment at the Facility. The Discharger states that it has not violated state or federal antidegradation policies and that it is "*unreasonable...arbitrary and capricious*" to assign a performance-based effluent limitation that is over 700% lower than an effluent limit calculated using a dilution ratio of 48:1.

RESPONSE: Central Valley Water Board staff does not concur that it is unreasonable to set a nitrite plus nitrate (as N) effluent limit based on the performance of the Discharger's current wastewater treatment capabilities. The Central Valley Water Board is required to comply with the State Antidegradation Policy established in State Water Resources Control Board Resolution No. 68-16. As stated in the tentative WDRs/NPDES permit, Resolution No. 68-16 requires the Central Valley Water Board to adopt waste discharge requirements which require the Discharger to implement best practicable treatment or control of the discharge necessary to ensure that (a) pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

The nitrite plus nitrate (as N) effluent limitation would be 477 mg/L if the Central Valley Water Board granted the maximum allowed dilution credit of 48 (i.e., use of Merced River's entire assimilative capacity). Central Valley Water Board staff agrees that the reported nitrite plus nitrate (as N) effluent concentrations are significantly lower than the calculated effluent limitation of 477 mg/L. However, Central Valley Water Board staff cannot justify that a 477 mg/L nitrite plus nitrate (as N) effluent limitation will result in the best practicable treatment or control of the discharge consistent with Resolution No. 68-16. Instead, Central Valley Water Board staff calculated a performance-based effluent limitation using existing effluent and receiving water quality data to avoid allocating an unnecessarily large portion of the Merced River's assimilative capacity. The recently adopted Central Valley Water Board NPDES permit for the Wawona Wastewater Treatment Facility (Order R5-2013-0092) employed this approach in setting an effluent limitation for nitrite plus nitrate (as N).

Section IV.C.3.c.iii. of the Fact Sheet in the tentative WDRs/NPDES permit describes the procedure Central Valley Water Board staff used to calculate the performance-based nitrite plus nitrate effluent limitation. Central Valley Water Board staff used U.S. EPA *Technical Support Document for Water Quality-Based Toxics Control (TSD)* to project the maximum effluent concentration (64 mg/L as N) based on the reported effluent nitrite plus nitrate data. Therefore, the Discharger is expected to comply with the nitrite plus nitrate (as N) performance-based effluent limitation provided that the Discharger maintains the current Facility treatment level.

Discharger Comment #4: Salinity Evaluation and Minimization Plan

The tentative WDRs/NPDES permit requires the Discharger to submit an Evaluation and Minimization Plan for salinity. The Discharger notes that the Facility effluent electrical

conductivity is consistently lower than the 900 $\mu\text{mhos/cm}$ recommended Secondary Maximum Contaminant Level and that the average increase in effluent electrical conductivity attributed to treatment at the Facility is 117 $\mu\text{mhos/cm}$. The Discharger also mentions that salinity is mainly a Central Valley issue and states that the Facility is located on the eastern edge of the Central Valley Water Board region. For these reasons, the Discharger requests that the Salinity Evaluation and Minimization Plan requirement be removed from the tentative WDRs/NPDES permit.

RESPONSE: The requested change has not been made. Section VI.C.3 of the tentative WDRs/NPDES permit requires that the Salinity Evaluation and Minimization Plan evaluate and address sources not only from the Facility, but also sources to the Facility (e.g., from treatment of the drinking water and from commercial users). The intent of the plan is to ensure the Discharger remains mindful of all sources of salinity and diligent in minimizing the discharge of salinity to the Merced River.

Central Valley Water Board staff recognizes that the effluent electrical conductivity is below the recommended Secondary Maximum Contaminant Level of 900 $\mu\text{mhos/cm}$. However, the average difference between the Discharger's source water and effluent electrical conductivity is 639 $\mu\text{mhos/cm}$ when comparing the annual water supply well electrical conductivity to the annual average effluent electrical conductivity. This average net increase in electrical conductivity is higher than typically seen at other similarly situated wastewater treatment facilities.

There is an increasing concern of salinity in ground and surface waters in the Central Valley. The Central Valley Water Board has been requiring most dischargers in the Region to submit similar plans as part of a region-wide effort to address salinity problems. The Merced River eventually flows into the Central Valley, where it recharges groundwater and is also used as a municipal water supply. Therefore, requiring the Discharger to evaluate the salinity discharged from the Facility to the Merced River is keeping with the Central Valley Water Board's region-wide effort to address salinity. However, Central Valley Water Board staff proposes to move the Salinity Evaluation and Minimization Plan due date to 180 days prior to the tentative permit expiration date.

Discharger Comment #5: Influent Electrical Conductivity Monitoring Requirement

The tentative WDRs/NPDES permit in Section III.A. of the Monitoring and Reporting Program (Attachment E) requires the Discharger to collect a grab sample 1/week, at different times, for electrical conductivity at Monitoring Location INF-001 (influent). The Discharger contends that due to the way the wastewater collection system works, the influent sewage is homogenized by the time it reaches the Facility. Thus, requiring the influent grab sample to be collected at different times each week adds no value and is an unnecessary burden on the Discharger.

RESPONSE: Central Valley Water Board staff proposes to change the weekly grab sample to a 1/week composite sample. This allows the Discharger to only take one influent sample a week for all three constituents (electrical conductivity, biochemical

oxygen demand, and total suspended solids). Thus, an influent electrical conductivity composite sample requirement should be less burdensome. In addition, a composite sample would be more representative of the influent than a grab sample.

Discharger Comment #6: Influent Composite Sampling Requirement

Section III.A.1. of the Monitoring and Reporting Program of the tentative WDRs/NPDES permit requires all influent composite samples, at Monitoring Location INF-001, be 24-hour in duration. The Discharger contends that this would violate Section II. of the Monitoring and Reporting Program which requires Monitoring Location INF-001 be representative of the influent prior to any plant return flows or treatment processes. According to the Discharger, a 24-hour composite sample would include backwash flows, which violates Section II. of the Monitoring and Reporting Program. The Discharger comments that it would require major reconstruction of the Facility to move the return point of the backwash flows downstream of the influent monitoring location and that while a plant improvement project is planned, it will not occur during the next permit cycle.

Section III.A.1. of the Monitoring and Reporting Program also requires all composite samples at Monitoring Location INF-001 (influent) be time proportional until 31 December 2014 and all composite samples starting 1 January 2016 be flow proportional. The Discharger contends this requirement cannot be met until the facility improvement project is completed, which, according to the Discharger, will not be completed by 1 January 2016.

RESPONSE: Central Valley Water Board staff is concerned that a 12-hour influent composite sample may not always be representative of the influent to the Facility. Federal regulations at Title 40, Code of Federal Regulations, section 122.41(j)(1) require that "Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity." Typically, 24-hour flow-proportional composite sampling is required to ensure representative samples. However, a 12-hour composite sample may be representative of the influent quality depending on the method and time of collection. Current Order R5-2008-0060 requires the Discharger to conduct influent flow proportional composite sampling, and the Discharger has indicated to Central Valley Water Board staff that the plant improvement project that will implement flow proportional composite sampling (among other upgrades) should begin construction in 2014. Unfortunately, according to the comment letter, the improvement project has been postponed indefinitely.

Central Valley Water Board staff proposes to include language in the Fact Sheet (Attachment F) highlighting staff's concern with the representativeness of the 12-hour time proportional influent composite samples. Central Valley Water Board staff will work with the Discharger to address concerns regarding representative influent monitoring outside of the permitting process. Resolutions could include 1) analysis (with supporting data) of the sampling method and collection system flows and timing to demonstrate that samples are representative, 2) changes in collection methods, or 3) implementing the plant improvement project as described by the Discharger.

Meanwhile, Central Valley Water Board staff proposes to make the following revisions to footnote 3 of Table E-2 in Section III.A.1. of the Monitoring Reporting Program:

- ³ The Discharger shall conduct ~~12-hour or 24-hour time-proportional composite sampling, until 31 December 2015. Starting 1 January 2016 the Discharger shall conduct 24-hour flow-proportional composite sampling.~~

Discharger Comment #7: Compliance Summary

The Discharger contends that the summary of the key findings from the 25 March 2010 Facility inspection in Section II.D.2. of the Fact Sheet (Attachment F) in the tentative WDRs/NPDES permit inaccurately reflects the Facility and are erroneous. The following is a summary of the comments the Discharger provided regarding the key findings of the 25 March 2010 compliance inspection:

- a) The statement regarding the ultraviolet light system transmittance meter not functioning leads the reader to assume the ultraviolet light disinfection system was inoperable. The meter not functioning only affects power consumption not quality since the default setting was to have all the lights running at 100% when the meter is not functioning.
- b) The statement that the lime storage area needing improvement is inaccurate. The area is routinely cleaned and washed and the staining of the concrete is due to 40 years of use, not a housekeeping issue.
- c) The statement about the concrete clarifier being inoperable due to concrete being cracked and broken off is inaccurate. The broken concrete was only cosmetic damage and did not make the clarifier inoperable.

RESPONSE: The key findings from the 25 March 2010 inspection were not listed as violations, but were items that were deemed unsatisfactory and/or marginal by the contract inspector. The summary does not state that the ultraviolet light disinfection system was inoperable, just that the ultraviolet light transmittance meter was not functioning at the time of the inspection, which is an accurate statement.

Regarding the statement about the lime storage area needing improvement, the 25 March 2010 inspection report does not state that the area needs improved housekeeping because of concrete staining. The inspection report only states improved housekeeping is needed. It appears based on the photograph included in the contractor's inspection report that powder is on the ground, railings, and wall, which could be tracked outside by Facility staff. The subsequent compliance inspection, conducted on 1 June 2011, noted that lime powder was not observed to be present in the air or on the concrete surfaces and listed the housekeeping procedures as satisfactory.

Central Valley Water Board staff proposes to revise the statement in the tentative WDRs/NPDES Permit about the concrete clarifier being inoperable due to the cracked and broken off concrete (see ~~strikeout~~/underline revisions below).

Staff proposes the following revisions to Section II.D.2. of the Fact Sheet:

2. A compliance inspection of the Facility was conducted on 25 March 2010. The ~~major~~ key findings from the inspection report are as follows:
 - a. Monitoring data reported in the self-monitoring reports were not consistent with monitoring data recorded in the raw data sheets for pH and dissolved oxygen. Concentrations of constituents detected below the reporting limit (RL) and above the method detection limit (MDL) were not noted as such in the self-monitoring reports.
 - a. The ultraviolet light system transmittance meter was not functioning at the time of the inspection.
 - b. Housekeeping in the lime storage area needed improvement.
 - c. The concrete around one of the primary clarifiers was cracked and broken off, ~~which rendered the clarifier inoperable.~~

In response to the key findings of the 25 March 2010 inspection report, the Discharger stated that ultraviolet light system was running all lights at 100% to ensure proper disinfection was maintained while the ultraviolet light transmittance meter was not functioning. The 1 June 2011 inspection report noted that the ultraviolet light transmittance meter was repaired and that a backup meter was purchased. The 1 June 2011 inspection report also noted that the housekeeping procedures in the lime storage area appeared satisfactory and lime powder was not observed to be present in the air or on the concrete surfaces.

Discharger Comment #8: Aluminum Sulfate

The Discharger stated that polyaluminum chloride is used for phosphorous removal not aluminum sulfate as stated in page F-47 of the tentative WDRs/NPDES permit.

RESPONSE: The tentative WDRs/NPDES permit has been updated to reflect the change.

Discharger Comment #9: Notice of Public Hearing Posting Requirements

The Discharger contends posting the Notice of Public Hearing in the newspaper is expensive and minimally effective and requests the removal of posting the Notice of Public Hearing in the newspaper and allow the Notice of Public Hearing to be posted electronically instead.

RESPONSE: Federal regulations [40 CFR 124.10] require publication of a notice in a daily or weekly newspaper within the area affected by the facility or activity for all major NPDES permits. The Discharger is not restricted from also posting the Notice of Public Hearing on its own website; however, since the Facility is a major NPDES permitted facility, a publication of

notice must be posted for the tentative WDRs/NPDES Permit in a newspaper as required by federal regulations.