
North Coast Regional Water Quality Control Board

**Response to Written Comments
and
Staff Initiated Changes**

**Draft Waste Discharge Requirements Order No. R1-2018-0032
National Pollutant Discharge Elimination System (NPDES)
for the McKinleyville Services District
Wastewater Management Facility**

**Regional Water Quality Control Board, North Coast Region
September 6, 2018**

Comment Letter Received

The deadline for submission of public comments regarding draft Waste Discharge Requirements for Order No. R1-2018-0032, National Pollutant Discharge Elimination System Permit (Draft Permit) for the McKinleyville Services District, Wastewater Management Facility (Facility) was June 30, 2018. McKinleyville Services District (Permittee) provided timely comments via email which are shown in italics and are followed by the Regional Water Board staff (Staff) response. The term “Draft Permit” refers to the draft that was sent out for public comment. The term “Proposed Permit” refers to the version of the permit that has been modified in response to comments and is being presented to the Regional Water Board for consideration.

- 1. Page 1, Table 2. “Fischer Ranch” is spelled incorrectly, two places in Table 2.*

Fischer Ranch has been corrected in Table 2.

- 2. Page 6, Section IV.A.1.a, Table 4. Need to confirm effluent limitations shown in Table 4.*

Staff has reviewed the effluent limitations in Table 4 of the Draft Permit. Effluent limitations for Bis (2-Ethylhexyl) Phthalate and Nitrate have been removed from Table 4 (See comment 21 and comment 26 respectively). Ammonia effluent limitations have been changed to Ammonia Impact Ratio effluent limitations (See comment 19).

3. 3a. Page 9, Section IV.D.1. The language included in this section should be updated to reference chlorine residual monitoring at location EFF-001 instead of INT-001 and reference compliance with chlorine limitations (see Comment 3b). Recommended changes to the language are as follows (strikeout indicates deletion, underline indicates added text):

“Total Residual Chlorine, Monitoring Location ~~INT-001~~ EFF-001. As measured at the end of the chlorine contact chamber at Monitoring Location ~~INT-001~~ EFF-001, the total residual chlorine concentration should be maintained at a level that ensures the discharge meets the total coliform chlorine effluent limitation at the end of the disinfection process for discharges to Discharge Point 001 through 006.”

3b. Page 24, Section VII.N.1. The language in this section is unclear and inconsistent with the required monitoring outlined in the Monitoring and Reporting Program (MRP) included as Attachment E. Recommended changes to the language are as follows (strikeout indicates deletion, underline indicates added text):

“Compliance with the chlorine residual effluent limitation shall be based on daily ~~coliform~~ chlorine monitoring at Monitoring Location EFF-001 to demonstrate that the discharge has been adequately dechlorinated.”

The recommended changes have been made to the Proposed Permit.

4. Page E-3, Section I.E. There are two typos in the third sentence in this section. Recommended changes to the language are as follows (strikeout indicates deletion, underline indicates added text):

“For the purposes of the NPDES program, when more than one test procedure is approved under 40 C.F.R., part 136 ~~or~~ for the analysis of a pollutant or pollutant parameter, the test procedure must be sufficiently sensitive ~~as~~ as defined at 40 C.F.R. 122.21(3) and 122.44(i)(1)(iv).”

The recommended changes have been made to the Proposed Permit.

5. Page E-4, Section II, Table E-1. MCS D would like to request a reduction in the number of groundwater monitoring wells required to be monitored under the ND PES program. MCS D requests that groundwater monitoring only be required at monitoring well locations GW-002, GW-007, and GW-008, as these are the wells located near the Upper Fischer Ranch application area where recycled water is applied to land for land discharge as well as reuse.

The Draft Permit requires groundwater monitoring occur at monitoring locations GW-001, GW-002, GW-006, GW-007, GW-008, GW-009, GW-014, GW-015 and GW-016. A Water Reclamation Study (WRS) submitted by the Permittee on February 1,

2011, concluded that “Nitrate concentrations have been measured in the groundwater monitoring wells above MCLs, demonstrating that: 1) the retention time in the vadose zone is not long enough for plants to assimilate available nitrogen, 2) nitrogen loading is too high for the system, and/or 3) the irrigation rates are too high and nitrogen is leaching into the groundwater.”

Monitoring data in the existing well network continue to show nitrate concentrations above the Maximum Contaminant Levels (MCLs) of 10 mg/L. Nitrate levels discharged from the Facility did not show reasonable potential to cause or contribute to exceedances in Water Quality Objectives (WQOs). However, from March 2011 to August of 2017, the Facility discharged an average ammonia concentration of 27 mg/L. The WRS stated that, during the dry season, depth to groundwater from the Upper Fischer Ranch is greater than 20 feet.

Nitrification is a biological process that converts ammonia to nitrite and nitrate. Denitrification is a process that converts nitrate to nitrogen gas, which is then released to the atmosphere. Inadequate or incomplete denitrification may result in the discharge of nitrate to groundwater. To address the impact on water quality from nitrate and ammonia, the Permittee has recently completed a plant upgrade that included biological nitrogen removal. Effluent monitoring data from September 2017 to May 2018 show an average ammonia concentration of 2.17 mg/L and an average nitrate concentration of 1.83 mg/L in nine samples.

Due to concerns of nitrate levels in groundwater, the Proposed Permit will retain GW-001, GW-002, GW-006, GW-007 and GW-009. The Proposed Permit was amended to remove monitoring requirements for GW-015 and reduced monitoring for GW-016 from quarterly to semi-annually to maintain a background signal (boundary conditions) for groundwater quality. GW-15 is on the Lower Fischer Ranch irrigation use area and GW-016 is on the West Pialorsi Ranch use site. Both wells indicate that nitrate is not impacting groundwater in these areas (GW-015 had an average of 0.08 mg/L and GW-016 had an average of 0.17 mg/L). Both sites apply recycled water at agronomic rates.

Additionally, the Proposed Permit was amended to remove monitoring requirements for GW-014 since monitoring data showed that the discharge did not pose a threat to groundwater quality at this location and to remove monitoring requirements for GW-008 in order to eliminate redundancy and reduce the cost of compliance. GW-008 is comparable to GW-002 in that they are close in proximity and will likely provide similar and redundant data. GW-014 is a monitoring well downgradient of the Hiller Storm Water Treatment Wetland. GW-014 nitrate levels have shown a maximum of 2.6 mg/L from March 2011 to May 2018, which is well below the MCL of 10 mg/L.

6. *Page E-4, Section II, Table E-1. MCSD is not able to reduce the number of wells required to be monitored, as requested under Comment 5, then MCSD would like to request that the monitoring wells be re-numbered in the new permit to align with the original numbering system used for the wells. Proposed revisions to the numbering system are as follows:*

*GW-015 should be GW-016
GW-016 should be GW-019
GW-014 should be GW-020*

Staff agrees. The Proposed Permit has been modified to update GW-016 to GW-019. Table E-1 has been modified to call the West Pialorsi Ranch groundwater monitoring well GW-019 (historically GW-016). GW-015 and GW-014 have been removed per comment 5, above.

7. *Page E-4, Section II, Table E-1. Remove reference to “following dechlorination” from the monitoring location description for LND-001 and REC-001. Effluent is not dechlorinated when discharging to LND-001 and REC-001. Recommended changes to the language are as follows (strikeout indicates deletion, underline indicates added text):*

LND-001 Location for monitoring effluent from the chlorine contact chamber ~~following dechlorination and~~ prior to discharge to the Mad River percolation ponds.

REC-001 Location for monitoring effluent from the chlorine contact chamber ~~following dechlorination and~~ prior to water recycling.

The recommended changes have been made to the Proposed Permit.

8. *Page E-5, Section II, Table E-1, Table Note 1. Total recoverable zinc, flow weighted 24-hour composite sampling added.*

Remove reference to “the sampling point following dechlorination” for LND-001 and REC-001 in table note 1. Recommended changes to the language are as follows (strikeout indicates deletion, underline indicates added text):

“Monitoring locations EFF-001, LND-001, and REC-001 are the same location, the sampling point ~~following dechlorination~~ in the chlorine contact chamber. Different discharge point names and monitoring location names have been assigned due to differences in monitoring requirements at Discharge Points 001 (discharge to the Mad River following dechlorination), 002 (discharge to the percolation ponds) and 003 through 006 (discharge to the water recycling system).

The recommended changes have been made to the Proposed Permit.

9. Page E-5, Section II, Table E-1, Table Note 2. Update reference to flow monitoring location for EFF-001 in table note 2. Recommended changes to the language are as follows (strikeout indicates deletion, underline indicates added text):

"Effluent flow shall be measured immediately prior to the chlorine contact basin ~~to the Mad River under the Hammond Trail railroad bridge.~~"

The recommended changes have been made to the Proposed Permit.

10. Page E-6, Section IV, Table E-3, Table Note 10. Table note 10 indicates that CTR sampling at EFF-001 is only required to be completed once per permit term, no later than June 1, 2021, however the minimum sampling frequency specified in the table is annual sampling. Need clarification if annual CTR sampling is still required, or if the CTR sampling frequency can be reduced to once per permit term, consistent with the CTR sampling requirements at RSW-001.

Table note 10, in Table E-3, of the Draft Permit states, "CTR priority pollutant sampling shall be completed no later than **June 1, 2021** during a period of discharge to the Mad River. Effluent and receiving water monitoring shall occur concurrently." The intent of table note 10 is to notify the Permittee of the last date that their once per permit term CTR monitoring shall be taken. The change from annual monitoring to once per permit term is to be consistent with other adopted NPDES permits.

Table note 10 in the Proposed permit has been updated to state, "CTR priority pollutant annual sampling shall be completed no later than **May 15, 2022**, during a period of discharge to the Mad River. If receiving water monitoring for CTR pollutants has not been completed, receiving water monitoring shall occur concurrently."

The minimum sampling time in Table E-3 has also been reduced to once per permit term.

11. Page E-15, Section VI.A.1, Table E-4, Table Note 3. Revise percolation pond project completion date to 2020/2021.

The completion date for the percolation pond project has been updated in the Proposed Permit.

12. Page E-16, Section VI.A.1, Table E-5. The monitoring frequency for total coliform bacteria at REC-001 has been set as a daily minimum sampling frequency. MCSD would like to request weekly sampling for coliform at REC-001 consistent with the coliform sampling requirements for EFF-001 and LND-001. Note there are no animals

that produce milk for human consumption that are allowed to graze in the pasture areas where recycled water is applied for reuse.

Title 22, Division 4, Chapter 3, Article 3, Section 60304 discusses the uses allowed for recycled water for irrigation. Information submitted in the Permittee's ROWD states that recycled water produced by the Permittee is used on "fodder and fiber crops and pasture for animals not producing milk for human consumption" with the fodder crop being sold and used offsite for milk producing animals. According to section 60304 (d), "fodder and fiber crops and pasture for animals not producing milk for human consumption" does not require tertiary treatment. Therefore, weekly coliform sampling is appropriate when the Permittee is sending recycled water to a use type described in section 60304(d).

The Permittee Table E-5 in the Proposed Permit has been modified to include a table note that states, "If animals that produce milk for human consumption are allowed to graze in the pasture areas where recycled water is applied for reuse, coliform sampling shall be increased to a minimum of daily sampling".

- 13.** *Page E-18, Section VIII.C. As noted in Comment 5, MCSD would like to reduce the groundwater monitoring network to include wells GW-002, GW-007, and GW-008 only. These are the groundwater monitoring wells that are located in the Upper Fischer Ranch recycled water application area where effluent is applied for land discharge as well as reuse.*

Please see Response to Comment 5.

- 14.** *Page F-6, Section II.B.2. Revise the percolation pond project completion date to 2020/2021.*

The completion date for the percolation pond project has been updated in the Proposed Permit.

- 15.** *Page F-6, Section II.B.3. Need to update description of current recycled water system in this section to be consistent with the reuse area descriptions included in the Title 22 Report. Recommended changes to the language are as follows (strikeout indicates deletion, underline indicates added text):*

"The Upper Fischer Ranch has ~~28~~ 36 acres available for irrigation: ~~19~~ 14 by flood irrigation and ~~9~~ 22 by spray irrigation. The Lower Fischer and West Pialorsi sites receive spray irrigation and are 45 and 35 acres; respectively."

The recommended changes have been made to the Proposed Permit.

- 16.** *Page F-7, Section II.E. Need to remove reference to treatment plant upgrades in the planned changes section, upgrades have been completed. Recommend updating section to include reference to the future expansion of the water recycling system on the East Pialorsi Ranch which will provide 53 acres for spray irrigation, and the transition of the percolation ponds to off channel salmonid habitat by 2020/2021.*

The Proposed Permit has removed reference to the treatment plant upgrade and has updated the language to state, "The Permittee plans on decommissioning the percolation pond and creating coho habitat and expanding the water recycling system on the 53-acre East Pialorsi Ranch by 2021".

- 17.** *Page F-17, Section IV.A.14. The word "receivinbg" is spelled incorrectly.*

The Proposed Permit has removed the "b" from the incorrect spelling above.

- 18.** *The permit language in this section indicates that the numeric effluent limitations for BOD5 and TSS, including the percent removal requirements are "retained" from Order No. R1-2011-0054. However, the new draft permit contains more stringent numeric effluent limitations for BOD₅ and TSS, including more stringent percent removal requirements, than the previous order. Recommend this section be updated to include reference to new more stringent limitations for BOD5 and TSS.*

The Proposed Permit has been modified to state, "...and have been ~~retained~~ updated from equivalent to secondary standards to secondary standards".

- 19.** *Page F-24, Section IV.C.3.a.v.(b).*

The reasonable potential analysis for ammonia uses numeric effluent limitations for ammonia that are based on a paired receiving water pH of 8.6 and temperature of 10.7 °C at Monitoring Location RSW-001, the assumed presence of salmonids, and the assumed absence of mussels. MCSD would like to request further review of the receiving water data selected for use in establishing the ammonia criteria. Temperature and pH values recorded in the Mad River vary throughout the year, and the variability in data for each parameter should be taken into account when establishing effluent limitations that are based on these parameters.

Based on review of the pH data collected at R-001 from November 2011 through April 2018, the median pH value for R-001 is 7.7 and the 85th percentile pH value for R-001 is 8.3. The receiving water pH value used in the permit (8.6) appears to be a maximum observed value at R-001, equivalent to the 99th percentile pH value for the data set.

MCSD would like to request that the ammonia effluent limitations be established based on the median or 85th percentile receiving water values, as these values are more representative of the baseline receiving water conditions under normal discharge

conditions. Alternatively, a calculation-based limitation could be used in the permit, where the permittee is allowed to determine the ammonia toxicity limit for each discrete ammonia sampling event based on the receiving water pH and temperature at the time of sample collection. This would ensure that the ammonia effluent limitations being applied for the facility are directly related to actual receiving water conditions at the time of discharge.

Staff agrees with a calculation-based ammonia effluent limitation based on the receiving water pH and temperature taken concurrently with the ammonia effluent sample. U.S. EPA supports establishing an Ammonia Impact Ratio (AIR) as an effluent limitation to track and allow for these “floating” ammonia effluent limitations while not losing the ability to analyze NPDES effluent data and easily determine compliance. This method requires the permittee to compare the effluent ammonia concentration with a calculated standard based on concurrent data for pH and temperature.

Final WQBELs for ammonia are determined by calculating the Ammonia Impact Ratio (AIR) for each of the ammonia standards (Average Monthly Effluent Limitation and Maximum Daily Effluent Limitation). Attachment H of the Proposed Permit includes two tables that display the AMEL and MDEL ammonia standards. The ammonia standards are calculated by taking the variable ammonia criteria and multiplying it by the Effluent Concentration Allowance (ECA) multiplier and the appropriate AMEL and MDEL multiplier. The 2013 [*Aquatic Life Ambient Water Quality Criteria for ammonia – Freshwater \(2013 Ammonia Criteria\)*](#) are dependent on the pH and temperature of the receiving water. For example:

AMEL Ammonia Standard = (2013 Ammonia Criteria (Attachment H) * AMEL Multiplier (1.40) * ECA Multiplier (0.41))

MDEL Ammonia Standard = (2013 Ammonia Criteria (Attachment H) * MDEL Multiplier (2.47) * ECA Multiplier (0.41))

The AIR, or final WQBEL, is determined by dividing the ammonia sample by the appropriate ammonia standard (AMEL and MDEL). The AIR always has a limit of 1.0. If the AIR is greater than 1.0 then the Permittee is not in compliance with the AIR effluent limitation. The AIR is the ammonia effluent limit and must be reported in the self-monitoring reports in addition to the ammonia, pH, and temperature value. The Permittee will be provided with an AIR calculator (in excel format with embedded formulas) to determine compliance with the AMEL and MDEL AIR effluent limitations. Attachment I of the Proposed Permit provides a PDF copy of the calculator. The Proposed Permit has been revised to include the AIR as the effluent limitation for ammonia.

- 20.** *Page F-24, Section IV.C.3.a.v.(b). There is a typo in the MDEL value set for ammonia (0.1.6 mg/L) in the second to last sentence in this section.*

The Proposed Permit has been modified to remove the fixed MDEL in lieu of the AIR effluent limitation.

- 21.** *Page F-26, Section IV.C.3.c. This section is missing reference to ammonia and dichlorobromomethane in the first sentence, also need to remove reference to reasonable potential for discharges of bis (2-ethylhexyl) phthalate per rationale presented in Comment 22 below.*

Bis (2-ethylhexyl) phthalate has been removed from the first paragraph in Section IV.C.3.c. of the Proposed Permit (See Response to Comment 22 below). Dichlorobromomethane and ammonia have been added to this section of the Proposed Permit.

- 22.** *Page F-27, Section IV.C.3.c. The rationale provided regarding the RPA results for bis (2-ethylhexyl) phthalate is unclear. The permit specifies that for pollutants with effluent limitations set below the lowest achievable quantitation limits, pollutants not detected at the lowest practical quantitation limits will be considered in compliance with effluent limitations. For bis (2-ethylhexyl) phthalate, it appears all results collected in the past four years have been identified as having concentrations less than or equal to the minimum level set forth in the SIP for bis (2-ethylhexyl) phthalate (5 ug/L), indicating that compliance with the effluent limitations for this constituent has been met. The only exception to this is when the minimum reporting level has been elevated for bis (2-ethylhexyl) phthalate due to sample matrix interference. Need further clarification on how to address the reasonable potential for this parameter based on "J-flagged" data values that are less than or equal to the minimum level.*

The *Policy for Implementation of Toxics Standards for Inland Surface Waters, Eclosed Bays, and Estuaries of California* (SIP) establishes a water quality objective (WQO) for the protection of human health for bis (2-ethylhexyl) phthalate of 1.8 ug/L. Bis (2-ethylhexyl) phthalate was detected but not quantified in the effluent at a concentration of 5.0 ug/L on February 23, 2012, but the laboratory stated the Reporting Level (RL) was 10.0 ug/L due to the sample being diluted due to matrix interference. With the 5.0 ug/L sample below the RL, bis (2-ethylhexyl) phthalate no longer has reasonable potential to cause or contribute to exceedances of the WQO.

Therefore, the Proposed Permit has been modified to remove the effluent limitations from Table 4. Monthly monitoring will still be required for bis (2-ethylhexyl) phthalate to ensure that the pollutant is no longer a threat to water quality. The Proposed Permit has also removed the language for bis (2-ethylhexyl) phthalate in Section IV.C.3.c. of the Fact Sheet.

23. *Page F-29, Section IV.C.4. This section has inconsistent references to the CV value used for ammonia. Under Step 2 the text states “When the data set contains less than 10 sample results (as for the facility), or when 80 percent or more of the data set is reported as non-detect (ND), the CV is set equal to 0.6.” Under Step 3, the CV value used for ammonia is set equal to 0.25. The first reference to CV equal to 0.6 should be removed.*

In order to calculate the ammonia standards, Staff utilized an updated ammonia effluent data set through May 8, 2018, which included more than ten sample results. This expanded data set resulted in a new coefficient of variance (CV) value of 0.45. A CV of 0.45 was used to develop the ammonia effluent limitations in Attachment H. These attachments have been added to the Proposed Permit to help in calculating the AIR for each month.

24. *24a. Page F-30, Section IV.C.4, Table F-6. This section references the use of Table 2 in the SIP to establish the MDEL and AMEL multipliers based on the identified CV value for each constituent. For ammonia (CV=0.25), the permit establishes an AMEL multiplier of 1.08, using the 95th percentile occurrence probability, based on a sample set with n=30. Under Step 5 in Section 1.4 of the SIP (pg. 10), the SIP notes that “The AMEL and MDEL multipliers shall be calculated as described below, or shall be found in Table 2 using the previously calculated CV and the monthly sampling frequency (n) of the pollutant in the effluent.” The monthly sampling frequency set forth for ammonia in the permit is a monthly frequency. Per the SIP, if the sampling frequency is four times a month or less, n shall be set equal to 4. Request revision of the AMEL multiplier to 1.22, based on the 95th percentile occurrence probability for CV = 0.25, with a sample set n=4.*

With a CV of 0.45 (see comment 23), the AMEL multiplier has been updated to 1.40 in [Section IV.C.4. of the Proposed Permit](#). ~~Section IV.C.4. of the Proposed Permit.~~

24b. Page F-30, Section IV.C.4, Table F-6. Need to update values shown in Table F-6 to be consistent with changes to the AMEL multiplier and resulting AMEL for ammonia as noted in Comment 24a above. The AMEL multiplier referenced should be 1.22 and the resulting AMEL would be equal to 1.11. Also, the LTA value shown in Table F-6 (0.90) is inconsistent with the lowest LTA value shown in Table F-5 (0.91). Need to update LTA value shown as well.

The Staff removed Table F-6 in the Proposed Permit and added language to describe how the Permittee shall calculate the ammonia standards and the AIR limitations (see Response to Comment 19). An AMEL multiplier of 1.40 and a MDEL multiplier of 2.47 is used to calculate the monthly ammonia standard.

- 25.** *Page F-30, Section IV. Table F-8. The maximum daily effluent limitation for ammonia in the table (1.7) is inconsistent with the value referenced in Table F-6 and in the text on page F-24.*

Table F-7 of the Proposed Permit has been updated to remove the fixed ammonia effluent limitation and to include the AIR effluent limitations of 1.0.

- 26.** *Page F-36, Section IV.D.1. The second to last paragraph in this section states “...this Order does not retain effluent limitations for nitrate”. This statement conflicts with the statement on page F-23 that provides a rationale for including effluent limitations for nitrate. MCSD requests clarification on whether nitrate limitations are required under the new permit terms.*

The nitrate effluent limitation has been removed from the Proposed Permit. Anti-Backsliding language in Section IV.D.1. of the Fact Sheet in the Draft Permit states, “Order No. 2011-0008-DWQ included effluent limitations for nitrate based on the MCL of 10 mg/L. Nitrate was not detected in the effluent based on 87 results collected between May 2011 and September 2015 and was detected in one result at 1 mg/L. The data demonstrate that the discharge no longer demonstrates reasonable potential to cause or contribute to an exceedance of the water quality objectives. The updated effluent data for nitrate constitutes new information, which permits the removal of effluent limitations consistent with CWA section 402(o)(2)(B). Therefore, this Order does not retain effluent limitations for nitrate.”

Section VI.C.1.f. of the Draft Permit states, “This Order contains effluent limitations for ammonia and effluent monitoring for nutrients (ammonia, nitrate, and phosphorus).” The word nitrate has been removed from this section in the Proposed Permit.

- 27.** *Page F-38, Section IV.F.3.a. In reference to discharge specifications for BOD₅, the permit language in this section references the previous “equivalent-to-secondary treatment” regulations that no longer apply for the facility. MCSD recommends this section be updated to remove reference to the old permit language.*

Section IV.F.3.a. of the Fact Sheet in the Proposed Permit has been modified as follows, “The secondary treatment standards at 40 C.F.R. part 133 establish the minimum level of effluent quality attainable by secondary treatment for BOD₅ (30 mg/L and 45 mg/L). Numeric discharge specifications for BOD₅ in the Proposed Permit have been updated from Order No. R1-2011-0008-DWQ to reflect the secondary treatment standards at 40 C.F.R. part 133.”

- 28.** *Page F-38, Section IV.F.3.b. In reference to discharge specifications for TSS, the permit language in this section references the previous “95th percentile TSS effluent*

concentration value” that no longer applies for the facility. MCSD recommends this section be updated to remove reference to the old permit language.

Section IV.F.3.b. of the Fact Sheet in the Proposed Permit has been modified as follows, “The secondary treatment standards at 40 C.F.R. part 133 establish the minimum level of effluent quality attainable by secondary treatment for TSS (30 mg/L and 45 mg/L). Numeric discharge specifications for TSS have been updated from Order No. R1-2011-0008-DWQ to reflect the secondary treatment standards at 40 C.F.R. part 133.”

- 29.** *Page F-39, Section IV.F.3.d. This section states “...this Order does not retain the discharge specification for nitrate from Order No. 2011-0008-DWQ”. This statement conflicts with the statement on page F-23 that provides a rationale for including effluent limitations for nitrate in the new permit. MCSD requests clarification on whether nitrate limitations are required under the new permit terms.*

Nitrate effluent limitations have been removed from the Proposed Permit (see Response to Comment 26). Nitrate discharge specifications are included in the Proposed Permit. Language from page F-23 has been modified to state, “However, groundwater monitoring data shows that groundwater has been impacted due to elevated levels of ammonia in the discharge to land. The Permittee has upgraded the Facility and the new process was designed to meet a 10 mg/L effluent limitation. The upgraded Facility was also designed to provide ammonia treatment of < 1 mg/L. Ammonia is converted to nitrate through nitrification. To ensure adequate denitrification occurs, to reduce nitrate concentrations below 10 mg/L, this Order retains the discharge specification for nitrate from Order No. 2011-0008-DWQ.”

- 30.** *Page F-40, Section IV.G.3.b. In reference to discharge specifications for BOD₅, the permit language in this section references the previous “equivalent-to-secondary treatment” regulations that no longer apply for the facility. MCSD recommends this section be updated to remove reference to the old permit language.*

Section IV.G.3.b. of the Fact Sheet in the Proposed Permit has been modified as follows, “The secondary treatment standards at 40 C.F.R. part 133 establish the minimum level of effluent quality attainable by secondary treatment in terms of BOD₅ (30 mg/L and 45 mg/L). Numeric recycling specifications for BOD₅ have been updated from Order No. R1-2011-0008-DWQ and reflect the secondary treatment standards at 40 C.F.R. part 133.”

- 31.** *Page F-41, Section IV.G.3.c. In reference to discharge specifications for TSS, the permit language in this section references the previous “95th percentile TSS effluent concentration value” that no longer applies for the facility. MCSD recommends this section be updated to remove reference to the old permit language.*

Section IV.G.3.C. of the Fact Sheet in the Proposed Permit has been modified as follows, "The secondary treatment standards at 40 C.F.R. part 133 establish the minimum level of effluent quality attainable by secondary treatment in terms of TSS (30 mg/L and 45 mg/L). Numeric recycling specifications for TSS have been updated from Order No. R1-2011-0008-DWQ and reflect the secondary treatment standards at 40 C.F.R. part 133."

- 32.** *Page F-41, Section IV.G.3.e. Update text to reference 240 MPN/100 mL as the daily maximum limit for coliform.*

The Proposed Permit has been modified as follows, "The Order includes discharge specifications for total coliform bacteria of 23 MPN/100 mL as a monthly median and ~~230~~ 240 MPN/100 mL as a daily maximum."

- 33.** *Page F-47, Section VII.B.1. Update text to remove reference to "following dechlorination" for discharges to the percolation ponds and the water recycling system. Recommended changes to the language are as follows (strikeout indicates deletion, underline indicates added text):*

"Order No. R1-2011-0008-DWQ established effluent monitoring requirements at Monitoring Location M-001, located in the chlorine contact chamber ~~following dechlorination~~, for discharges to the Mad River, following dechlorination (Discharge Point 001), the percolation ponds (Discharge Point 002) and the water recycling system (Discharge Points 003 through 006)."

The recommended changes have been made to the Proposed Permit.

- 34.** *Page F-48, Section VII.B.2.b. The rationale included in this section regarding the change from daily grab sampling to continuous chlorine monitoring at INT-001 is unclear. Section IV.D.1. in the draft order indicates that total residual chlorine is monitored at the INT-001 location to ensure the discharge meets the total coliform effluent limitation at the end of the disinfection process. In this section of the fact sheet, the rationale for continuous chlorine residual monitoring is linked to the potential for formation of chlorine disinfection by-products. Request revision of this section to reference continuous chlorine monitoring requirements at monitoring location EFF-001, as noted in Comments 3a and 3b above.*

See response to comments 3a and 3b, above.

- 35.** *Page F-49, Section VII.B.2.f. This section is missing reference to dichlorobromomethane in the last sentence. Also need to remove reference to bis (2-ethylhexyl) phthalate in the last sentence based on rationale presented in Comment 22 above.*

Section VII.B.2.f. of the Fact Sheet in the Proposed Permit has been modified to remove bis-2 (2-ethylhexyl) phthalate and adds dichlorobromomethane.

Staff Initiated Changes

1. Receiving Water Limitations

After the public comment period closed, Regional Water Board staff determined that the receiving water limitation language in the Draft Permit did not reflect the current Basin Plan. In June 2015, the Water Quality Objectives contained within Chapter 3 of the Basin Plan were amended by the Regional Water Board. The revised groundwater objectives became effective in June 2016 and the revised surface water objectives became effective in April 2017. The amendment included a new groundwater toxicity objective, a revised dissolved oxygen objective for surface waters, and revised chemical constituent objectives for groundwater and surface waters. These revisions result in changes to the receiving water limitations in permits. Therefore, the Proposed Permit has been revised to reflect these new Basin Plan requirements as follows:

A. Dissolved Oxygen. Order Section V.A.1 has been modified to replace the old Basin Plan dissolved oxygen receiving water limitation with the new Basin Plan dissolved oxygen receiving water limitation as follows:

The discharge shall not cause the dissolved oxygen concentration of the receiving water to be depressed below 9.0 mg/L.

In those waterbodies for which the aquatic life-based DO requirements are unachievable due to natural conditions¹, site-specific background DO requirements can be applied² as water quality objectives by calculating the daily minimum DO necessary to maintain 85% DO saturation during the dry season and 90% DO saturation during the wet season under site salinity, site atmospheric pressure, and natural receiving water temperature³. In no event may controllable factors reduce the daily minimum DO below 6.0 mg/L.

For the protection of estuarine habitat (EST), the dissolved oxygen concentration of enclosed bays and estuaries shall not be depressed to levels adversely affecting beneficial uses as a result of controllable water quality factors.

¹ Natural conditions are conditions or circumstances affecting the physical, chemical, or biological integrity of water that are not influenced by past or present anthropogenic activities.

² Upon approval from the Regional Water Board Executive Officer

³ The method(s) used to estimate natural temperatures for a given waterbody or stream length must be approved by the Executive Officer and may include, as appropriate, comparison with reference streams, simple calculation, or computer models.

~~The discharge shall not cause the dissolved oxygen concentration of the receiving water to be depressed below 7.0 mg/L. Additionally, the discharge shall not cause the dissolved oxygen content of the receiving water to fall below 10.0 mg/L more than 50 percent of the time, or below 7.5 mg/L more than 10 percent of the time in a calendar year. In the event that the receiving waters are determined to have a dissolved oxygen concentration of less than 7.0 mg/L, the discharge shall not depress the dissolved oxygen concentration below the existing level.~~

In addition, Fact Sheet section V.A. has been modified to add the following language to explain the reason for the change in the dissolved oxygen receiving water limitation: “The dissolved oxygen limitation in this Order reflects the new Basin Plan dissolved oxygen limit that was adopted by the Regional Water Board on June 18, 2015, and effective beginning April 24, 2017, after receiving approval from U.S. EPA. The new Basin Plan dissolved oxygen limitation specifies limits for the WARM, COLD, and SPWN beneficial uses. The COLD and SPWN beneficial uses occur in the Salt River and its tributaries. This Order includes only the SPWN limitations because it is the most restrictive and protective limit and the SPWN beneficial use is present throughout the entire discharge season.”

B. *Chemical Constituents, Pesticides and Radioactivity.* The following modifications were made so that permit language is consistent with the Basin Plan amendment language regarding chemical constituents, pesticides, and radioactivity.

Order section V.A.15 has been modified to remove the reference to article 4 as there are no pesticides listed in article 4, and to read: “The discharge shall not cause receiving waters to contain concentrations of pesticides in excess of Maximum Contaminant Levels (MCLs) established for these pollutants in title 22, division 4, chapter 15, ~~articles 4 and 5.5~~ of the CCR. “

Order section V.A.18 has been modified to specify all of the title 22 sections with numeric limits for chemical constituents, and reads: “The discharge shall not cause concentrations of chemical constituents to occur in excess of MCLs and secondary MCLs (SMCLs) established for these pollutants in title 22, division 4, chapter 15, articles 4, section 64431, article 5.5, section 64444, and article 16, section 64449 of the CCR.”

Order section V.A.19 has been modified to specify the title 22 sections with numeric limits for radioactivity, and reads: “The discharge shall not cause receiving waters to contain radionuclides in concentrations which are deleterious to human, plant, animal or aquatic life, nor which result in the

accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal or indigenous aquatic life, nor in excess of the MCLs and SMCLs established for these pollutants in title 22, division 4, chapter 15, article 5, sections 64442 and 64443 of the CCR."

Order section V.B.2 has been modified to include correct references to title 22 sections with numeric limits and reads: "The collection, treatment, storage, and disposal of wastewater or use of recycled water shall not cause alterations of groundwater that contain chemical concentrations in excess of the MCLs and SMCLs specified established for these pollutants in title 22, division 4, chapter 15, article 4, sections 64435 (Tables 2 and 3) 64431, and article 5.5, section 64444, and article 16 section 64449 and the Basin Plan."

Order section V.B.3 has been modified to make corrections to the title 22 sections related to radioactivity and reads: "The collection, treatment, storage, and disposal of wastewater or use of recycled water shall not cause groundwater to contain radionuclides in concentrations that cause nuisance or adversely affect beneficial uses, nor in excess of the MCLs and SMCLs limits specified established for these pollutants in title 22, division 4, chapter 15, article 5, sections 64442 and 64443 of the CCR.

Fact Sheet section V.B has been revised to remove the enumerated statements and to replace them with a narrative discussion regarding the basis for groundwater limitations to read: "Groundwater limitations are included in the Order to protect the beneficial uses of the underlying groundwater. The beneficial uses of the underlying groundwater are municipal and domestic supply, industrial service supply, industrial process supply, agricultural supply, and freshwater replenishment to surface waters. Discharges from the Facility shall not cause exceedance of applicable water quality objectives or create adverse impacts to beneficial uses of groundwater. Groundwater data must be evaluated using appropriate statistical tools to determine when groundwater degradation is occurring.

- C. *Groundwater Toxicity.*** The following modifications were made to add the new language to reflect the Basin Plan amendment groundwater toxicity objective.

Order Section V.B.6 has been added to include the new groundwater toxicity objective, as follows: "Groundwaters shall not contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in humans, or that adversely affects beneficial uses. This limitation applies regardless of whether the toxicity is caused by a single substance or the synergistic effect of multiple substances."

Fact Sheet section V.B has been modified to include the following statement:
“The Basin Plan further requires that groundwaters shall not contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in humans, or that adversely affects beneficial uses. This limitation applies regardless of whether the toxicity is caused by a single substance or the synergistic effect of multiple substances.”

2. Spill Notification

After the public comment period closed, Regional Water Board staff determined that the Spill Notification language in Section X.E.3.a. of the MRP in the Draft Permit referred to notification requirements for tertiary treated recycled water. Section X.E.3.a. of the MRP in the Proposed Permit has been modified as follows:

a. Secondary Recycled Water⁴

- ~~i. For unauthorized discharges of 50,000 gallons or more of secondary recycled water, the Permittee shall immediately notify the Regional Water Board as soon as (a) the Permittee has knowledge of the discharge or probable discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures.~~
- i. For unauthorized discharges of more than 1,000 gallons, ~~but less than 50,000 gallons~~ of secondary recycled water, the Permittee shall immediately notify the Regional Water Board as soon as (a) the Permittee has knowledge of the discharge or probable discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures. as soon as possible, but no longer than 3 days after becoming aware of the discharge.

⁴ Secondary Recycled Water means “disinfected secondary 23 recycled water” as defined by DDW or wastewater receiving advanced treatment beyond disinfected secondary 23 recycled water.