CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

Order No. R1-2017-0047
Modifying Waste Discharge Requirements
National Pollutant Discharge Elimination System (NPDES) Permit No. R1-2016-0015

for

City of Healdsburg
Wastewater Treatment, Recycling and Disposal Facility
Order No. R1-2016-0015, NPDES No. CA0025135
WDID No. 1B82046OSON
Sonoma County

The California Regional Water Quality Control Board, North Coast Region, (hereinafter Regional Water Board) finds that:

1. The City of Healdsburg (hereinafter Permittee) is currently discharging disinfected tertiary municipal effluent from the City of Healdsburg Wastewater Treatment, Recycling, and Disposal Facility (hereinafter Facility) under Order No. R1-2016-0015 and National Pollutant Elimination System (NPDES) Permit No. CA0025135 (hereinafter Order No. R1-2016-0015), and a Cease and Desist Order No. R1-2016-0016 (CDO), both adopted on June 16, 2016. Order No. R1-2016-0015 will expire on July 31, 2021.

2. Among other requirements, Order No. R1-2016-0015 established final effluent limitations for total recoverable copper in accordance with the California Toxics Rule and procedures set forth in the State Water Resources Control Board (State Water Board) *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California* (State Implementation Policy or SIP). Section 1.2 of the SIP allows the Regional Water Board to adjust the criteria/objective for metals with discharge-specific water effect ratios (WERs) established in accordance with U.S. Environmental Protection Agency (EPA) guidance as established in *Interim Guidance on Determination and Use of Water Effect Ratios for Metals* (EPA-823-B-94-001) or *Streamlined Water Effect Ratio Procedure for Discharges of Copper* (EPA-822-R-01-005) (Streamlined Procedure).

The Streamlined Procedure determines site-specific values for a WER, a criteria adjustment factor accounting for the effect of site-specific water characteristics on pollutant bioavailability and toxicity to aquatic life.

The State Water Board amended the SIP in 2005 to allow WERs to be established through the normal NPDES permit modification process, rather than through the Basin Planning process. The procedures followed to develop the copper WER identified in this Order and in Order No. R1-2016-0015 are consistent with the amended SIP.

3. The Permittee is unable to consistently comply with final effluent limitations for total recoverable copper as established in Order No. R1-2016-0015. The CDO establishes interim effluent limitations and a compliance schedule for the Permittee to achieve compliance with final effluent limitations for total recoverable copper by December 1, 2017. The compliance schedule requires the Permittee to conduct a discharge-specific WER study and submit study results to the Regional Water Board Executive Officer for review and approval by June 1, 2017.

4. The Permittee submitted an acceptable WER Study Work Plan to the Regional Water Board on March 30, 2016. In accordance with the compliance schedule in Order No. R1-2016-0016, the Permittee submitted the WER study results on April 4, 2017, in a technical memorandum with the subject line "City of Healdsburg, Site Specific Water Effects Ratio Calculations" (WER Study Report) along with a letter requesting the Regional Water Board to modify final copper effluent limitations in Order No. R1-2016-0015 based upon the results of the WER study.

5. Regional Water Board staff has reviewed the WER Study Report and finds that the Permittee conducted the WER study in accordance with the Streamlined Procedure, and evidence provided by the Permittee supports the application of a WER for copper at Discharge Point 001.

6. The Permittee's WER study determined the site-specific toxicity of copper in the receiving water and concluded that a site-specific WER of 6.39 for total recoverable copper applies to the discharge. Regional Water Board staff evaluated the results of the study and determined that (1) the results of the study are within the expected range for a WER for a municipal wastewater discharge; (2) the study followed the guidance in the Streamlined Procedure; and (3) the results of the study are supported by data that generated scientifically defensible results.

Regional Water Board staff revised the reasonable potential analysis for copper, and found that, based on this new information, effluent copper concentrations no longer demonstrate reasonable potential to exceed the WER-adjusted water quality criteria for copper.

7. Conditions that support a major modification of an NPDES permit are described in 40 CFR 122.62 and include circumstances where new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance. Since Order No. R1-2016-0015 was adopted, the Permittee has performed a study to determine a site-specific WER for the discharge from the Facility, providing new information that was not available at the time of permit issuance. This new information would have justified new permit conditions at the time of issuance, because, with the application of the WER, there is no reasonable potential for toxicity to aquatic organisms from copper in the effluent from Discharge Point 001. Consequently, based on this finding of no reasonable potential, effluent limitations for total recoverable copper at Discharge Point 001 would not have been included in Order No. R1-2016-0015 at the time of permit issuance.

8. This Order, which modifies Order No. R1-2016-0015 to remove effluent limitations and discharge specifications for copper at Discharge Point 001, is consistent with anti-backsliding requirements set forth in 40 CFR section 122.44. Effluent limitations for total recoverable copper have been removed from the permit at Discharge Point 001 based upon site-specific conditions at the Facility. The new information provided by the Permittee indicates that, based upon the relative bioavailability of copper to aquatic organisms, there is no reasonable potential for toxicity to those organisms from copper at concentrations detected in the effluent. Therefore, the protection afforded under the modified permit results in a level of protection for beneficial uses equal to the previous conditions of Order No. R1-2016-0015. Additionally, this Order is consistent with section 303 (d)(4)(B) of the Clean Water Act, which allows for changes to effluent limitations or other permitting standards provided that the quality of receiving waters equals or exceeds levels necessary to protect the beneficial uses for such waters and the change is consistent with the antidegradation policy. Consistency with the anti-degradation policy is addressed in Finding 9, below.

9. The antidegradation policy provides that the lowering of water quality can be allowed only if beneficial uses are protected, and if there is a maximum benefit to the people of the State. The removal of total recoverable copper effluent limits at Discharge Point 001 will not result in any increase in the amount of copper discharged to the water body when compared with the amount that would be discharged in compliance with the existing effluent limitations, because the Permittee will continue to provide the same level of treatment and discharge the same quality of effluent. The removal of total recoverable copper effluent limitations is predicated on a finding that there is no reasonable potential for toxicity to organisms from copper in the effluent. Accordingly, this action will result in no less protection of beneficial uses and will maintain water quality.

Furthermore, discharges regulated in accordance with Order No. R1-2016-0015 are for a publicly owned treatment works (POTW) achieving tertiary treatment. Further reduction of copper from the effluent may require construction of additional treatment facilities. The significant costs associated with additional treatment that would be required are not in the best interest of the public given that beneficial uses are already shown to be protected. Any resources available for water quality improvements should be used for other pressing water quality issues as opposed to treating effluent beyond what is required for protecting beneficial uses. In this case, the Permittee's resources are best directed toward its efforts to cease discharges to Basalt Pond during the Basin Plan seasonal discharge period (May 15 – September 30) which is a requirement of the CDO.

10. The requirements to consider California Water Code section 13241 factors and California Environmental Quality Act (CEQA) are not triggered. Under Water Code section 13389, this action to modify an NPDES permit is exempt from the provisions of Chapter 3 of CEQA.

11. Pursuant to 40 CFR sections 124.5(c)(2) and 122.62, only those conditions to be modified by this Order shall be reopened with this amendment. All other aspects of the existing NPDES permit shall remain in effect and are not subject to modification by this amendment.

12. The Permittee and interested agencies and persons have been notified of the Regional Water Board's intent to modify waste discharge requirements for the existing discharge and have been provided opportunities for public meetings and to submit their written views and recommendations. Notification was provided through posting on the Regional Water Board's Internet site at: https://www.waterboards.ca.gov/northcoast/public_notices/public_hearings/npdes_permits_and_wdrs/ and through publication in the Press Democrat on **September 11, 2017**.

13. On December 13, 2017, after due notice to the Permittee and all other interested persons, the Regional Water Board conducted a public hearing and received evidence regarding this Order.

14. Any person affected by this action of the Regional Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with Water Code Section 13320 and Title 23, California Code of Regulations, Section 2050. The petition must be received by the State Water Board within 30 days of the date of this Order. Copies of the law and regulations applicable to filing petitions will be provided upon request. In addition to filing a petition with the State Water Board, any person affected by this Order may request

the Regional Water Board to reconsider this Order. To be timely, such request must be made within 30 days of the date of this Order. Note that even if reconsideration by the Regional Water Board is sought, filing a petition with the State Water Board within the 30-day period is necessary to preserve the petitioner's legal rights. If you choose to request reconsideration of this Order or file a petition with the State Water Board, be advised that you must comply with the Order while your request for reconsideration and/or petition is being considered.

THEREFORE, IT IS HEREBY ORDERED that the Permittee, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted hereunder and the provisions of the Clean Water Act as amended, shall comply with the following revisions identified in underline and strikeout format to indicate language to be modified in Order No. R1-2016-0015:

1. **Order Section IV.A.1.a. Final Effluent Limitations – Discharge Point 001 (Basalt Pond)**

   The discharge of tertiary treated wastewater shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program (MRP) (Attachment E).

Table 4. Effluent Limitations – Discharge Point 001 (Monitoring Location EFF-001)

Parameter	Units	Effluent Limitations[1]				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C (BOD_5)	mg/L	10	15	--	--	--
Total Suspended Solids (TSS)	mg/L	10	15	--	--	--
pH	s.u.	--	--	--	6.5	8.5
~~Copper, Total Recoverable~~	~~µg/L~~	~~9.9~~	~~--~~	~~15~~	~~--~~	~~--~~
Ammonia Nitrogen, Total (as N)	mg/L	0.19	--	0.53	--	--

Table Notes:
1. See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order.

2. **Order Section VI.C.1.e. Special Provisions**

   Water Effects Ratios (WERs) and Metal Translators. A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents, with the exception of copper, for which a site-specific WER of 6.39 has been used, as further described in section IV.C.3.c of the Fact Sheet. In

addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable ~~when developing effluent limitations~~ for the reasonable potential analysis for copper. ~~If the Permittee performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators and submits a report that demonstrates that WER or translator studies were performed in accordance with U.S. EPA or other approved guidance, t~~This Order may be reopened to modify ~~the~~ effluent limitations for ~~the~~ applicable CTR constituents, if the Permittee performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators and submits documentation that WER or translator studies were performed in accordance with U.S. EPA or other approved guidance.

3. Monitoring and Reporting Program (Attachment E – MRP), Section I.E

Minimum Levels (ML) and Reporting Levels (RL). Compliance and reasonable potential monitoring analyses shall be conducted using detection limits that are lower than the applicable effluent limitations and/or water quality criteria. If no Minimum Level (ML) value is below these levels, the lowest ML shall be selected as the Reporting Level (RL). ~~Table E-1 lists the test methods the Permittee may use for compliance and reasonable potential monitoring to analyze priority pollutants with effluent limitations or specific monitoring requirements.~~ Appendix 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP) lists the test methods the Permittee may use for reasonable potential monitoring to analyze priority pollutants.

4. Monitoring and Reporting Program (Attachment E - MRP), Section I.E, Table E-1, Test Methods and Minimum Levels for Priority Pollutants

~~Table E-1.Test Methods and Minimum Levels for Priority Pollutants~~

~~CTR No.~~	~~Constituent~~	~~Types of Analytical Methods MLs (µg/L)~~			
		~~Graphite Furnace Atomic Absorption~~	~~Inductively Coupled Plasma/Mass Spectrometry~~	~~Stabilized Platform Graphite Furnace Atomic Absorption~~	~~Gas Chromatography/Mass Spectrometry~~
~~6~~	~~Copper, Total Recoverable~~	~~5~~	~~0.5~~	~~2~~	~~--~~

Note that removal of this table from the MRP required the renumbering of all subsequent tables and references to Table E-4 (now Table E-3) in sections V.A.1 (Acute Toxicity Testing) and V.B.1 (Chronic Toxicity Testing).

5. MRP Section IV.A.1, Table E-3 (previously Table E-4) Effluent Monitoring – Monitoring Location EFF-001

Table E-43 Effluent Monitoring – Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]
Effluent Flow[2,3]	mgd	Meter	Continuous	--
Dilution Rate	% of stream flow	Calculation	Daily	--
Biochemical Oxygen Demand 5-day @ 20°C (BOD_5)	mg/L	24-hr Composite	Weekly[4]	Standard Methods
Total Suspended Solids (TSS)	mg/L	24-hr Composite	Weekly[4]	Standard Methods
pH	s.u.	Grab	Weekly[4,5]	Standard Methods
Temperature	°C	Grab	Weekly[5]	Standard Methods
Total Coliform Bacteria	MPN/100 mL	Grab	Weekly[4]	Standard Methods
Hardness, Total (as $CaCO_3$)[6]	mg/L	Grab	~~Monthly~~ 3x/5 years	Standard Methods
~~Copper, Total Recoverable~~	~~µg/L~~	~~Grab~~	~~Monthly[7]~~	~~GFAA (ML 5 µg/L) ICPMS (ML 0.5 µg/L) SPGFAA (ML 2 µg/L)[8]~~
Ammonia Nitrogen, Total (as N)	mg/L	24-hr Composite	Monthly[7]	Standard Methods
Ammonia Nitrogen, Unionized	mg/L	Calculation	Monthly	Standard Methods
Dissolved Oxygen	mg/L	Grab	Weekly	Standard Methods
Nitrate Nitrogen, Total (as N)	mg/L	Grab	Monthly	Standard Methods
Phosphorus, Total (as P)	mg/L	Grab	Monthly	Standard Methods
CTR Priority Pollutants~~[9]~~[8]	µg/L	24-hour composite~~[10]~~[9]	3X/5 years	Standard Methods[10,11,~~12~~]
Acute Toxicity~~[13]~~[12]	% Survival, Pass or Fail, and % Effect	24-hour composite	Quarterly	See Section V below
Chronic Toxicity~~[13]~~[12]	Pass or Fail, and % Effect	24-hour composite	Annually	See Section V below

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]

Table Notes:

1. In accordance with the current edition of *Standard Methods for Examination of Water and Wastewater* (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136.
2. Each month, the Permittee shall report the daily average and monthly average flows.
3. Effluent flow is measured at a point that is downstream of the membrane filters and upstream of the UV disinfection system.
4. Accelerated Monitoring (weekly monitoring frequency). If two consecutive weekly test results exceed an effluent limitation, the Permittee shall take two samples each of the two weeks following receipt of the second sample result. During the intervening period, the Permittee shall take steps to identify the cause of the exceedance and take steps to return to compliance.
5. pH and temperature monitoring must coincide with monthly monitoring for ammonia.
6. Effluent and receiving water hardness samples shall be collected ~~on the same day and at approximately the same time as effluent samples for copper~~ concurrently with effluent CTR Priority Pollutant samples.
7. Accelerated Monitoring (monthly monitoring frequency). If a test result exceeds an effluent limitation, the Permittee shall take two more samples, one within 14 days and one within 21 days following receipt of the initial sample result. During the intervening period, the Permittee shall take steps to identify the cause of the exceedance and take steps needed to return to compliance.
8. ~~GFAA = Graphite Furnace Atomic Absorption~~
   ~~ICPMS = Inductively Coupled Plasma/Mass Spectrometry~~
   ~~SPGFAA = Stabilized Platform Graphic Furnace Atomic Absorption~~
8. Those pollutants identified by the California Toxics Rule at 40 C.F.R. section 131.38. The Permittee is not required to sample and analyze for asbestos. Hardness shall be monitored concurrently with the priority pollutant sample.
9. CTR pollutant samples shall be collected using 24-hour composite sampling, except for pollutants that are volatile.
10. Analytical methods must achieve the lowest minimum level (ML) specified in Appendix 4 of the SIP and, in accordance with section 2.4 of the SIP, the Permittee shall report the ML and MDL for each sample result.
11. In order to verify bis (2-ethylhexyl) is truly present in the effluent discharge, the Permittee shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant.
12. Whole effluent acute and chronic toxicity shall be monitored in accordance with the requirements of section V of this Monitoring and Reporting Program.

6. Attachment E – MRP, Section VIII.A.1, Table E-5 (previously Table E-6). Receiving Water Monitoring – Monitoring Location RSW-001

Table E-~~6~~5. Receiving Water Monitoring – Monitoring Location RSW-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]
Flow[2]	mgd	Meter	Daily	--
Biochemical Oxygen Demand 5-day @ 20°C (BOD_5)	mg/L	Grab	Monthly	Standard Methods
pH	s.u.	Grab	Monthly[3]	Standard Methods
Hardness, Total (as $CaCO_3$)[4]	mg/L	Grab	~~Monthly~~3X/5 years	Standard Methods
Temperature	°C	Grab	Monthly[3]	Standard Methods
Turbidity	NTU	Grab	Monthly	Standard Methods
Nitrate Nitrogen, Total (as N)	mg/L	Grab	Monthly	Standard Methods
Phosphorus, Total (as P)	mg/L	Grab	Monthly	Standard Methods
CTR Priority Pollutants[5]	µg/L	Grab	Once per permit term	Standard Methods[6]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]

Table Notes:

1. In accordance with the current edition of *Standard Methods for Examination of Water and Wastewater* (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136.
2. The flow rate shall be determined using the sum of the flows at United States Geological Survey (USGS) Gauge No. 11-4640-00 in the Russian River near Healdsburg and USGS Gauge No. 11-4653.50 in Dry Creek near its mouth.
3. pH and temperature monitoring must coincide with monthly effluent monitoring for ammonia.
4. ~~Effluent and receiving water hardness samples shall be collected on the same day and at approximately the same time as effluent samples for copper and hardness.~~ Hardness samples shall be collected concurrently with effluent CTR Priority Pollutant samples.
5. Those pollutants identified by the California Toxics Rule at 40 C.F.R. section 131.38. The Permittee is not required to sample and analyze for asbestos. Hardness shall be monitored concurrently with the priority pollutant sample. Monitoring shall occur simultaneously with the first effluent monitoring for CTR priority pollutants required by section IV.A of this MRP.
6. Analytical methods must achieve the lowest minimum level (ML) specified in Appendix 4 of the SIP and, in accordance with section 2.4 of the SIP, the Permittee shall report the ML and MDL for each sample result.

7. Attachment F – Fact Sheet Section IV.C.3.c, Reasonable Potential Determination

~~The RPA demonstrated reasonable potential for discharges of copper from the Facility to cause or contribute to exceedances of applicable water quality criteria.~~ Reasonable potential could not be determined for all pollutants, as there are not applicable water quality criteria for all pollutants. The RPA determined that there is either no reasonable potential or there was insufficient information to conclude affirmative reasonable potential for ~~125 of the~~ all 126 priority pollutants.

8. Attachment F – Fact Sheet Section IV.C.3.c, Table F-4. Summary of Reasonable Potential Analysis Results

Table F-4. Summary of Reasonable Potential Analysis Results

CTR No.	Pollutant	Unit	C or Most Stringent WQO/WQC	MEC or Minimum DL[1]	B or Minimum DL	RPA Results[2]
1	Antimony	µg/L	6	0.32	<6.0	No
2	Arsenic	µg/L	10	1.1	2.1	No
4	Cadmium	µg/L	2.9	0.033	<0.30	No
5a	Chromium (III)	µg/L	244	0.27	<4.0	No
6	Copper	µg/L	7011[3]	1315	--	No~~Yes (Trigger 1)~~
7	Lead	µg/L	4.1	1.0	--	No
9	Nickel	µg/L	62	2.8	4.1	No
10	Selenium	µg/L	5	0.21	<1.0	No
12	Thallium	µg/L	1.7	9.0	6.7	No~~3~~4

CTR No.	Pollutant	Unit	C or Most Stringent WQO/WQC	MEC or Minimum DL[1]	B or Minimum DL	RPA Results[2]
13	Zinc	µg/L	142	66	--	No
14	Cyanide	µg/L	5.2	2.4	4.1	No
26	Chloroform	µg/L	No Criteria	3.0	<0.5	No
68	Bis (2-Ethylhexyl) Phthalate	µg/L	1.8	21	<0.5	No[4][5]
Not Applicable	Aluminum	µg/L	200	74	110	No
Not Applicable	Ammonia	mg/L	0.28[5][6]	0.56	0.81	Yes (Trigger 1)
Not Applicable	Nitrate (as N)	mg/L	10	9.3	3.5	No

Table Notes:

1. The Maximum Effluent Concentration (MEC) or maximum background concentration (B) is the actual detected concentration unless it is preceded by "<", in which case the value shown is the minimum detection level as the analytical result was reported as not detected (ND).
2. RPA Results:
   = Yes, if MEC > WQO/WQC, or B > WQO/WQC and MEC is detected.
   = No, if MEC and B or < WQO/WQC or all effluent data are undetected.
   = Undetermined (UD).
3. Copper WQO calculated with a water effect ratio (WER) of 6.39 and the most stringent WQO from the CTR using the lowest receiving water hardness of 122 mg/L (6.39 x 11 µg/L = 70 µg/L).
4. Thallium was detected in two samples analyzed with an insensitive method (EPA Method 200.7). All samples analyzed with more sensitive methods were less than the most stringent WQO. See additional discussion in the narrative portion of this section (section IV.C.3.c).
5. See discussion in the narrative portion of this section (section IV.C.3.c).
6. Ammonia criteria are determined on a sliding scale based upon temperature and pH. The criterion represented in this table is based upon chronic exposure and a temperature of 24.22°C and a pH of 9.38.

Additional details regarding priority pollutant constituents for which reasonable potential was not found based on a revised RPA (e.g., copper) or found and dismissed (e.g., thallium and bis (2-ethylhexyl) phthalate) are included in the following paragraphs:

Copper. ~~Order No. R1-2010-0034 included an effluent limitation for copper. The most stringent water quality objective for copper is 11 µg/L.~~

The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for copper. The criteria for copper is in dissolved concentrations. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. The U.S. EPA default conversion factors for copper in freshwater are 0.96 for both the acute and chronic criteria. The default WER for calculating criteria for copper is 1.0. The Permittee conducted a WER study to determine the site-specific toxicity of copper in the receiving water at the point of discharge. The

Permittee submitted the results of the WER study in a technical memorandum on April 4, 2017. Regional Water Board staff reviewed the WER study technical memorandum and determined that the WER test results were developed in accordance with the methodology in EPA's guidance document *Streamlined Water Effect Ratio Procedure for Discharges of Copper* (EPA-822-R-01-005). The Permittee's study concluded that a site specific WER of 6.39 for total recoverable copper applies to the discharge. Using the worst-case measured hardness from the receiving water (122 mg/L), the U.S. EPA-recommended dissolved-total translator of 0.96, and the site-specific WER, the applicable chronic criterion (maximum 4-day average concentration) is adjusted to 70 µg/L and the applicable acute criterion (maximum 1-hour average concentration) is adjusted to 109 µg/L.

The Permittee sampled the effluent for copper ~~64~~ 88 times ~~during the term of Order No. R1-2010-0034~~ between December 2010 and March ~~2015~~2017. The data demonstrated results that were not detected in the effluent (MDL 0.4 µg/L) through ~~13~~15 µg/L. The MEC for copper was 15 µg/L on April 13, 2016. ~~A determination of reasonable potential has been made based on the MEC of 13 µg/L exceeding the most stringent water quality objective of 11 µg/L.~~ Therefore, copper in the effluent does not exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives. Based on the results of the RPA, effluent limitations for copper are not necessary.

~~Additional details regarding constituents for which reasonable potential was not found but warrant further explanation are included in the following paragraph:~~

9. Attachment F – Fact Sheet Section IV.C.4, WQBEL Calculations

Step 2: For each ECA based on an aquatic life criterion/objective (ammonia ~~and copper~~), the long term average discharge condition (LTA) is determined by multiplying the ECA by a factor (multiplier), which adjusts the ECA to account for effluent variability. The multiplier depends on the coefficient of variation (CV) of the data set and whether it is an acute or chronic criterion/objective. Table 1 of the SIP provides pre-calculated values for the multipliers based on the values of the CV. 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. Derivation of the multipliers is presented in Section 1.4 of the SIP.

The SIP procedure assumes a 4-day averaging period for calculating the LTA. However, U.S. EPA recommends modifying the procedure for calculating permit limits for ammonia using a 30-day averaging period for the calculation of the LTA corresponding to the 30-day CCC. Therefore, while the LTAs corresponding to the acute and 4-day chronic criteria were calculated according to SIP procedures, the LTA for ammonia corresponding to the 30-day CCC was calculated assuming a 30-day averaging period.

From Table 1 of the SIP, ~~the ECA multipliers for calculating LTAs for copper at the 99th percentile occurrence probability are 0.524 (acute multiplier) and 0.712 (chronic 4-day multiplier). T~~the ECA multipliers for calculating LTAs for ammonia at the 99th percentile occurrence probability are 0.152 (acute multiplier), 0.281 (chronic 4-day multiplier), and 0.575 (chronic 30-day multiplier). The LTAs are determined as follows in Table F-5.

Table F-5. Determination of Long Term Averages

Pollutant	Units	ECA			ECA Multiplier			LTA		
		Acute	Chronic 4-Day	Chronic 30-Day	Acute	Chronic 4-Day	Chronic 30-Day	Acute	Chronic 4-Day	Chronic 30-Day
Ammonia (as N)	mg/L	0.53	0.71	0.28	0.152	0.281	0.575	0.081	0.16	0.20
~~Copper, Total Recoverable~~	~~µg/L~~	~~17~~	~~11~~	~~--~~	~~0.524~~	~~0.712~~	~~--~~	~~8.9~~	~~7.8~~	~~--~~

Step 3: WQBELs, including an AMEL and MDEL, are calculated using the most limiting (lowest) LTA. The LTA is multiplied by a factor that accounts for averaging periods and exceedance frequencies of the effluent limitations, and for the AMEL, the effluent monitoring frequency. Here, the CV is set equal to ~~0.30 for copper and~~ 1.4 for ammonia, and the sampling frequency is set equal to 4 (n = 4) for the acute criterion and chronic 4-day criterion, and 30 (n = 30) for the chronic 30-day criterion. The 99th percentile occurrence probability was used to determine the MDEL multiplier and a 95th percentile occurrence probability was used to determine the AMEL multiplier. ~~From Table 2 of the SIP, the MDEL multiplier for copper is 1.9, and the AMEL multiplier is 1.3.~~ From Table 2 of the SIP, the MDEL multiplier for ammonia is 6.56, and the AMEL multiplier is 2.32. Final WQBELs for ammonia ~~and copper~~ are determined as follows.

Table F-6. Determination of Final WQBELs Based on Aquatic Life Criteria

Pollutant	Unit	LTA	MDEL Multiplier	AMEL Multiplier	MDEL	AMEL
Ammonia (as N)	mg/L	0.081	6.56	2.32	0.53	0.19
~~Copper, Total Recoverable~~	~~µg/L~~	~~7.8~~	~~1.9~~	~~1.3~~	~~15~~	~~9.9~~

10. Attachment F – Fact Sheet Section IV.D.1 Anti-Backsliding Requirements

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in Order No. R1-2010-0034, with the exception of mass-based effluent limitations for BOD_5 and TSS, and effluent limitations for copper.

This Order previously contained effluent limitations for copper based on the CTR default criteria of one (1) for the protection of aquatic life. As described in section IV.C.3.c of this Fact Sheet, the Permittee conducted a WER study that resulted in the development of a WER multiplier for total recoverable copper of 6.39. Accordingly, Regional Water Board staff conducted a reasonable potential analysis (RPA), using the WER multiplier of 6.39. The WER was used to update the applicable CTR aquatic life criteria for copper. Based on effluent monitoring conducted between December 2010 and March 2017, the concentration of copper in the effluent did not exceed the CTR aquatic life criteria, and the data demonstrate that the discharge no longer exhibits reasonable potential to cause or contribute to an exceedance of the water quality objectives. The WER study results and updated effluent data for copper constitutes new information, which permits the removal of effluent limitations for copper consistent with CWA section 402(o)(2)(B). Therefore, this Order does not retain effluent limitations for copper.

11. Attachment F – Fact Sheet Section IV.D.2 Antidegradation Policies

This Order is consistent with applicable federal and state antidegradation policies, as it does not authorize the discharge of increased concentrations of pollutants or increased volumes of treated wastewater beyond that which was permitted to discharge in accordance with Order No. R1-2010-0034.

The removal of the effluent limits for copper at Discharge Point 001 is predicated on a finding that there is no reasonable potential for toxicity to aquatic organisms from copper in the effluent. Accordingly, this action will result in no less protection of beneficial uses than the previous action to include effluent limitations that were based on the default WER of 1 and will maintain water quality.

The significant increase in costs for additional treatment that would be required to remove low levels of copper at this POTW are not in the best interest of the public given that beneficial uses are already shown to be protected based upon the site specific water quality objective for copper applicable to Discharge Point 001 and developed in accordance with SIP requirements. Any resources available for water quality improvements should be used for other pressing water quality issues as opposed to treating effluent beyond what is required for protecting beneficial uses. The Permittee's resources are best directed toward its efforts to cease discharges to Basalt Pond during the Basin Plan seasonal discharge period (May 15 – September 30), which is a requirement of Cease and Desist Order No. R1-2016-0016.

This action to modify waste discharge requirements applies to discharges from an existing facility. Discharges from the Facility are required to maintain protection of the beneficial uses of the receiving water and comply with applicable provisions of the Basin Plan.

12. Attachment F – Fact Sheet Section IV.D.3 Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD_5 and TSS. Restrictions on these pollutants are discussed in section IV.B of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations for ammonia, ~~copper~~, pH, and total coliform bacteria that are more stringent than the minimum, federal technology-based requirements but are necessary to meet water quality standards. These requirements are discussed in section IV.C.3 of the Fact Sheet.

13. Attachment F – Fact Sheet Section VI.B.1.e Reopener Provision for Water Effect Ratios (WERs) and Metal Translators (Special Provision VI.C.1.e)

This provision allows the Regional Water Board to reopen this Order if future studies undertaken by the Permittee provide new information and justification for applying a WER or metal translator to a water quality objective for one or more priority pollutants. On April 4, 2017, the Permittee provided new information and justification for applying a WER for copper, as described in section IV.C.3.c of the Fact Sheet.

14. Attachment F – Fact Sheet Section VII.B.1.b Rationale for Effluent Monitoring and Reporting Requirements

Effluent monitoring data indicates that the discharge does not exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives for copper, lead, zinc, or aluminum. Therefore, this Order discontinues effluent monitoring requirements for copper, lead, zinc, and aluminum from Order No. R1-2010-0034.

15. Attachment F – Fact Sheet Section VII.E.1.c and VII.E.1.e Rationale for Receiving Water Monitoring Requirements

c. Monitoring requirements at Monitoring Location RSW-001 for flow, BOD, turbidity, ~~hardness~~, nitrate, phosphorus, and title 22 pollutants have been retained from Order No. R1-2010-0034.

e. In light of the removal of copper effluent limitations, the hardness monitoring frequency has been reduced to 3X/5 years. This monitoring frequency will ensure that sufficient hardness data is available to run the metals RPA for the next permit renewal.

16. Attachment F – Fact Sheet Section VIII Public Participation

This section of the Fact Sheet has been modified to identify the dates and details related to public noticing for this proposed permit modification, as follows:

A. Notification of Interested Parties – add the following paragraph:

For the December 2017 permit modification, notification was provided through a public notice posted on the Regional Water Board's Internet site and through publication in the Press Democrat on **September 11, 2017.**

B. Written Comments – add the following paragraph:

For the December 2017 permit modification, to be fully responded to by staff and considered by the Regional Water Board, the written comments were due at the Regional Water Board office by 5:00 p.m. on **October 11, 2017**.

C. Public Hearing – add the following paragraph:

For the December 2017 permit modification, the Regional Water Board will hold a public hearing on the draft WDRs during its regular Board meeting on the following date and time and at the following location:

Date: **December 13, 2017**
Time: 8:30 a.m. or as announced in the Regional Water Board's agenda
Location: Regional Water Board Hearing Room
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403

17. Attachment F-1 – City of Healdsburg Water Recycling RPA Summary - Modify the table with regard to copper as follows:

Constituent	Units	Qualifier	MEC	Qualifier	B	C	CMC	CCC	Water & Org	Org. Only	MCL	Reasonable Potential
Copper	µg/L	--	~~13~~ 15	--	--	~~11~~70	17	11	1,300	--	--	~~Yes~~No

CERTIFICATION

I, Matthias St. John, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, North Coast Region, on December 13, 2017.

Matthias St.John

Digitally signed by Matthias St.John
Date: 2017.12.21 13:32:45 -08'00'

Matthias St. John
Executive Officer