

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER R5-2018-XXXX

AMENDING WASTE DISCHARGE REQUIREMENTS  
ORDER R5-2016-0062 (NPDES PERMIT NO. CA0078999)  
AND RESCINDING TIME SCHEDULE ORDER R5-2016-0075

CITY OF COLUSA  
WASTEWATER TREATMENT PLANT  
COLUSA COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter "Central Valley Water Board") finds that:

1. The City of Colusa Wastewater Treatment Plant (Facility) is a Publicly-Owned Treatment Works, owned and operated by the City of Colusa (Discharger). The Facility provides sewerage service for the City of Colusa, serves a population of approximately 6,000, and has no industrial users. The Facility has a design average dry weather flow capacity of 0.7 million gallons per day and is an activated sludge tertiary treatment plant. The treatment system consists of an influent pump station, plant headworks with mechanical screens and flow metering, a nitrifying activated sludge system (an aeration basin, air blowers, secondary clarifier, and return sludge pump station), tertiary filtration facilities (chemical addition, flocculation, and cloth media filtration), ultraviolet (UV) light disinfection, and an effluent re-aeration basin and pump station. Disinfected tertiary treated wastewater is discharged to Powell Slough. Waste sludge is digested in two lined solids storage basins, dewatered, and solar dried every two years. Dried biosolids are hauled to either the Recology landfill in Marysville or the Colusa County Landfill near Stonyford.
2. On 18 August 2016, the Central Valley Water Board adopted Waste Discharge Requirements (WDR) Order R5-2016-0062 that went into effect on 1 November 2016. This Order prescribes waste discharge requirements for the discharge, including final effluent limitations for copper. The Discharger was unable to immediately comply with these effluent limitations.
3. On 18 August 2016 the Central Valley Water Board adopted Time Schedule Order (TSO) R5-2016-0075, providing interim effluent limitations for copper. The TSO required the Discharger to complete a streamlined copper water-effect ratio (WER) study by 27 October 2017. If the discharge did not meet the revised final effluent limitations after incorporation of the WER, the Discharger would pursue relocating its discharge to land with the intent of ceasing discharge to surface water by 30 June 2020.
4. The Discharger submitted a *Copper Water-Effect Ratio Study Work Plan* on 28 October 2016 and *City of Colusa Copper Water-Effect Ratio Study* (Study) on 20 October 2017. The Study is in accordance with applicable USEPA guidance (i.e., EPA-822-R-01-005 and EPA-821-R-02-012), and the results concluded that a site-specific WER of 9.11 for total recoverable copper and 9.57 for dissolved copper apply to the discharge.

Central Valley Water Board staff conducted a reasonable potential analysis for copper

T  
E  
N  
T  
A  
T  
I  
V  
E  
  
O  
R  
D  
E  
R

based on the adjusted criteria using the site-specific total recoverable copper WER of 9.11. The reasonable potential analysis demonstrated that reasonable potential no longer exists for copper to cause or contribute to exceedance of the copper water quality objectives. Therefore, this Order amends Order R5-2016-0062 to remove the final effluent limitations and monthly compliance effluent monitoring requirements for copper.

5. For the reasons detailed above, the Discharger is now in compliance with the TSO, the TSO is no longer necessary; therefore, the TSO is rescinded by this Order.
6. Issuance of this Order is exempt from the provisions of the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) ("CEQA") pursuant to Water Code section 13389, since the adoption or modification of a NPDES permit for an existing source is statutorily exempt and this Order only serves to modify a NPDES permit (*Pacific Water Conditioning Ass'n, Inc. v. City Council of City of Riverside* (1977) 73 Cal.App.3d 546, 555-556.).
7. The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to amend WDRs Order R5-2016-0062 and rescind TSO R5-2016-0075 for this discharge and has provided them with an opportunity to submit their written views and recommendations.

**IT IS HEREBY ORDERED THAT:**

1. Time Schedule Order R5-2016-0075 is rescinded upon the effective date of this Order except for enforcement purposes
2. Waste Discharge Requirements Order R5-2016-0062 is amended in order to remove the compliance schedule for copper.

**Effective immediately upon adoption**, Order R5-2016-0062 is amended as shown in Items 1.a through 1.p below.

- a. Change the order number throughout to R5-2016-0062-01.
- b. **TITLE.** Update information found in the title of the Order to reflect changes made in this amending Order as shown in underline/strikeout format below:

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
 CENTRAL VALLEY REGION**

**ORDER R5-2016-0062-01  
 AS AMENDED BY ORDER R5-2018-XXXX  
 NPDES NO. CA0078999**

**WASTE DISCHARGE REQUIREMENTS FOR THE  
 CITY OF COLUSA  
 WASTEWATER TREATMENT PLANT  
 COLUSA COUNTY**

- c. **Cover Page.** Modify the paragraph above the signatory line on the Cover Page, as shown in underline format below:

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **18 August 2016 and amended by order R5-2018-XXXX on XX April 2018.**

- d. **Effluent Limitations and Discharge Specifications.** Modify Table 4, in part, in section IV.A.1.a of the Limitations and Discharge Requirements, as shown in strikeout format below:

**Table 4. Effluent Limitations**

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Copper	µg/L	5	--	9.3	--	--

- e. **Special Provisions.** Modify section VI.C.1.e of the Limitations and Discharge Requirements, as shown in underline/strikeout format below:

**e. Water-Effects Ratios (WER) and Metal Translators.** With the exception of copper, aA-default WER of 1.0 has been used in this Order for calculating criteria for applicable inorganic constituents. The Discharger conducted a site-specific WER for copper (City of Colusa Copper Water-Effect Ratio Study submitted 20 October 2017), in accordance with applicable USEPA guidance (i.e., EPA-822-R-01-005 and EPA-821-R-02-012), and the results concluded that a site-specific WER of 9.11 for total recoverable copper and 9.57 for dissolved copper applies to the discharge. Based on this new information, the Central Valley water Board adopted an amendment to WDR Order R5-2016-0062 on XX April 2018 and effluent limitations and monthly compliance monitoring for copper were removed. 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 copper. ~~If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal~~

T  
E  
N  
T  
A  
T  
I  
V  
E  
  
O  
R  
D  
E  
R

translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

- f. **Effluent Monitoring Requirements.** Modify Table E-3, in part, in section IV.A.1 of Attachment E - Monitoring and Reporting Program, as shown in strikethrough format below:

**Table E-3 Effluent Monitoring**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Copper, Total Recoverable	µg/L	Grab	1/Month	<sup>1</sup>

- g. **Applicable Beneficial Uses and Water Quality Criteria and Objectives.** Modify Table F-6 of Attachment F – Fact Sheet, as shown in underline/strikethrough format below:

**Table F-6. Summary of CTR Criteria for Hardness-dependent Metals**

CTR Metals	Ambient Hardness (mg/L) <sup>2</sup>	CTR Criteria (µg/L, total recoverable) <sup>1</sup>	
		acute	chronic
Copper	<del>65</del> <sup>34</sup>	<del>9.385</del>	<del>6.559</del>
Chromium III	65 <sup>3</sup>	1220	145
Cadmium	65 <sup>3</sup> (acute) 65 <sup>3</sup> (chronic)	2.7	1.8
Lead	65 <sup>3</sup>	46	1.8
Nickel	65 <sup>3</sup>	325	36
Silver	65 <sup>3</sup>	1.9	--
Zinc	65 <sup>3</sup>	83	83

<sup>1</sup> Metal criteria rounded to two significant figures in accordance with the CTR (40 C.F.R. §131.38(b)(2)).

<sup>2</sup> The ambient hardness values in this table represent actual observed receiving water hardness measurements from the dataset shown in Figure F-1.

<sup>3</sup> Collected on 7 October 2014.

- h. **Determining the Need for WQBEL's. Constituents with No Reasonable Potential.** Add section IV.C.3.a.iii to Attachment F – Fact Sheet, as shown in underline format below: The subsequent sections were also renumbered accordingly:

**iii. Copper**

- (a) **WQO.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for copper. These criteria for copper are presented in dissolved concentrations. USEPA recommends conversion factors to translate dissolved concentrations to total concentrations.

The Discharger conducted a site-specific WER for copper (City of Colusa Copper Water-Effect Ratio Study, dated October 2017) in accordance with

applicable USEPA guidance (i.e., EPA-822-R-01-005 and EPA-821-R-02-012), and the results concluded that a site-specific WER of 9.11 for total recoverable copper and 9.57 for dissolved copper apply to the discharge. The site-specific WER of 9.11 is used in place of the default WER.

- (b) **RPA Results.** Section IV.C.2.e of this Fact Sheet includes procedures for conducting the RPA for hardness-dependent CTR metals, such as copper. The CTR includes hardness-dependent criteria for copper for the receiving water. The upstream receiving water hardness and reasonable worst-case downstream hardness, plus the site-specific WER of 9.11, were used to calculate the criteria. The acute criterion and chronic criterion were calculated to be 85 µg/L and 59 µg/L, respectively. The maximum background concentration was 671 µg/L (based on the dataset from January 2012 to November 2015) and the MEC is 8 µg/L from 44 effluent samples (based on the dataset from January 2012 to November 2015) and 2 additional effluent samples (based on the dataset from June and July 2017). Therefore, copper in the discharge does not have reasonable potential to cause or contribute to an in-stream excursion above the water quality criteria. Removal of copper effluent limitations is in accordance with federal and anti-backsliding regulations (see section IV.D.3 of the Fact Sheet).

- i. **Determining the Need for WQBEL's. Constituents with Reasonable Potential.** Remove section IV.C.3.b.ii from Attachment F – Fact Sheet, as shown in strikeout format below: The subsequent sections were also renumbered accordingly:

**iv. Copper**

- (a) **WQO.** ~~The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for copper. These criteria for copper are presented in dissolved concentrations. USEPA recommends conversion factors to translate dissolved concentrations to total concentrations. Default USEPA translators were used for the receiving water and effluent.~~
- (b) **RPA Results.** ~~Section IV.C.2 of this Fact Sheet includes procedures for conducting the RPA for hardness-dependent CTR metals, such as copper. The CTR includes hardness-dependent criteria for copper for the receiving water. The upstream receiving water was not monitored for copper. The RPA was conducted using the upstream receiving water hardness to calculate the criteria for comparison to the maximum ambient background concentration, and likewise using the effluent hardness as the reasonable worst-case downstream hardness to compare the maximum effluent concentration. The table below shows the specific criteria used for the RPA.~~

	CTR-Chronic-Criterion (Total Recoverable)	Maximum-Concentration (Total-Recoverable)	Reasonable Potential?-(Y/N)
Receiving-Water	6.5 µg/L <sup>1</sup>	5.9 µg/L	No <sup>3</sup>
Effluent	<b>6.5 µg/L<sup>2</sup></b>	<b>9.3 µg/L</b>	<b>Yes<sup>4</sup></b>

<sup>1</sup>Effluent dominated stream. Based on lowest observed effluent hardness of 65 mg/L (as CaCO<sub>3</sub>)

<sup>2</sup>Based on reasonable worst case downstream hardness of 65 mg/L (as CaCO<sub>3</sub>)

<sup>3</sup>Per Section 1.3, step 4 of the SIP.

<sup>4</sup>Per Section 1.3, step 6 of the SIP.

Based on the available data, copper in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for the protection of freshwater aquatic life.

- (c) ~~**WQBEL's.** Due to no assimilative capacity, dilution credits are not allowed for development of the WQBEL's for copper. This Order contains a final average monthly effluent limitation (AMEL) and maximum daily effluent limitation (MDEL) for copper of 5 µg/L and 9.3 µg/L, respectively, based on the CTR criterion for the protection of freshwater aquatic life.~~
  
- (d) ~~**Plant Performance and Attainability.** The maximum copper detection of 8 µg/L occurred twice in 44 monthly sampling events over a 3-year period. A total of 21 sample results exceeded the AMEL of 5 µg/L. The sample results for the effluent indicate that the Discharger will be in immediate non-compliance upon issuance of the permit. Section 2.1 of the SIP allows for compliance schedules within the permit for existing discharges where it is demonstrated that it is infeasible for a Discharger to achieve immediate compliance with a CTR criterion. The Discharger submitted an Infeasibility Study on 11 July 2016 demonstrating that the Facility cannot immediately comply with the final copper effluent limitations. As part of the Infeasibility Study, the Discharger requested a compliance schedule that would be completed by February 2017. If granted, the time schedule order would provide a compliance schedule from the date of adoption of this Order through the proposed compliance schedule date of February 2017.~~

- j. **WQBEL Calculations.** Modify section IV.C.4.a of Attachment F – Fact Sheet, as shown in strikethrough format below:

- a. This Order includes WQBEL's for ammonia, ~~copper~~, BOD<sub>5</sub>, electrical conductivity, pH, settleable solids, total coliform organisms, and TSS. The general methodology for calculating WQBEL's based on the different criteria/objectives is described in subsections IV.C.4.b through e, below. See Attachment H for the WQBEL calculations.

- k. **WQBEL Calculations.** Modify Table F-10, in part, in section IV.C.4.e of Attachment F – Fact Sheet, as shown in strikeout format below:

**Table F-10. Summary of Water Quality-Based Effluent Limitations**

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Copper	ug/L	5	--	9.3	--	--

- i. **Final Effluent Limitation Considerations.** Modify section IV.D.3, in part, of Attachment F – Fact Sheet, as shown in underline/strikeout format below: Section IV.D.3.b is also renumbered accordingly:

**3. Satisfaction of Anti-Backsliding Requirements**

The CWA specifies that a revised permit may not include effluent limitations that are less stringent than the previous permit unless a less stringent limitation is justified based on exceptions to the anti-backsliding provisions contained in CWA sections 402(o) or 303(d)(4), or, where applicable, 40 C.F.R. section 122.44(l).

The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, with the exception of effluent limitations for aluminum, bis (2-ethylhexyl) phthalate, copper, dibromochloromethane, dichlorobromomethane, iron, methylene blue active substances, manganese, nitrate plus nitrite, total residual chlorine, and total trihalomethanes. The effluent limitations for these pollutants are less stringent than those in Order R5-2008-0184. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

- a. **CWA section 402(o)(1) and 303(d)(4).** CWA section 402(o)(1) prohibits the establishment of less stringent water quality-based effluent limits “*except in compliance with Section 303(d)(4).*” CWA section 303(d)(4) has two parts: paragraph (A) which applies to nonattainment waters and paragraph (B) which applies to attainment waters.
  - i. For waters where standards are not attained, CWA section 304(d)(4)(A) specifies that any effluent limit based on a TMDL or other WLA may be revised only if the cumulative effect of all such revised effluent limits based on such TMDL's or WLAs will assure the attainment of such water quality standards.

- ii. For attainment waters, CWA section 303(d)(4)(B) specifies that a limitation based on a water quality standard may be relaxed where the action is consistent with the antidegradation policy.

The unnamed tributary is considered an attainment water for aluminum, bis (2-ethylhexyl) phthalate, copper, dibromochloromethane, dichlorobromomethane, iron, methylene blue active substances, manganese, nitrate plus nitrite, total residual chlorine, and total trihalomethanes because the receiving water is not listed as impaired on the 303(d) list for these constituents.<sup>1</sup> As discussed in section IV.D.4, below, removal of the effluent limits complies with federal and state antidegradation requirements. Thus, removal of the effluent limitations for aluminum, bis (2-ethylhexyl) phthalate, copper, dibromochloromethane, dichlorobromomethane, iron, methylene blue active substances, manganese, nitrate plus nitrite, total residual chlorine, and total trihalomethanes from Order R5-2008-0184 meets the exception in CWA section 303(d)(4)(B).

- b. **CWA section 402(o)(2).** CWA section 402(o)(2) provides several exceptions to the anti-backsliding regulations. CWA 402(o)(2)(B)(i) allows a renewed, reissued, or modified permit to contain a less stringent effluent limitation for a pollutant if information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.

As described further in section IV.C.3.b of this Fact Sheet, updated information that was not available at the time Order R5-2008-0184 was issued indicates that aluminum, bis (2-ethylhexyl) phthalate, copper, dibromochloromethane, dichlorobromomethane, iron, methylene blue active substances, manganese, nitrate plus nitrite, total residual chlorine, and total trihalomethanes do not exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives in the receiving water. Additionally, updated information that was not available at the time Order R5-2008-0184 was issued indicates that less stringent effluent limitations for aluminum, bis (2-ethylhexyl) phthalate, copper, dibromochloromethane, dichlorobromomethane, iron, methylene blue active substances, manganese, nitrate plus nitrite, total residual chlorine, and total trihalomethanes based on available dilution credits satisfy requirements in CWA section 402(o)(2). The updated information that supports the relaxation of effluent limitations for these constituents includes the following:

---

<sup>1</sup> "The exceptions in Section 303(d)(4) address both waters in attainment with water quality standards and those not in attainment, i.e. waters on the section 303(d) impaired waters list." State Water Board Order WQ 2008-0006, Berry Petroleum Company, Poso Creek/McVan Facility.



- iii. **Chlorine Residual.** The Discharger converted from chlorine disinfection to UV disinfection upon operation of the updated facility in October 2008. With approval of the BPA, the criteria no longer apply so there is no RP for chlorine residual.
- iv. **Chlorodibromomethane.** The Discharger converted from chlorine disinfection to UV disinfection upon operation of the updated facility in October 2008. With approval of the BPA, the criteria no longer apply so there is no RP for chlorodibromomethane.
- v. The Discharger conducted a site-specific WER for copper (*City of Colusa Copper Water-Effect Ratio Study*, dated October 2017) in accordance with applicable USEPA guidance (i.e., EPA-822-R-01-005 and EPA-821-R-02-012), and the results concluded that a site-specific WER of 9.11 for total recoverable copper and 9.57 for dissolved copper apply to the discharge. Application of the site-specific WER of 9.11 to the effluent discharge results in the Facility no longer exhibiting reasonable potential to cause or contribute to exceedance of the water quality objective for copper.

m. **Final Effluent Limitation Considerations.** Modify Table F-12, in part, in section IV.D.5 of Attachment F – Fact Sheet, as shown in strikeout format below:

**Table F-12. Summary of Final Effluent Limitations**

Copper	µg/L	5	--	9.3	--	--	CTR
--------	------	---	----	-----	----	----	-----

CTR – Based on water quality criteria contained in the California Toxics Rule and applied as specified in the SIP.

n. **FINDINGS. Rational for Provisions.** Modify section VI.B.1.c of Attachment F – Fact Sheet, as shown in underline/strikeout format below:

- c. **Water Effects Ratio (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating criteria for applicable inorganic constituents. The Discharger conducted a site-specific WER for copper (*City of Colusa Copper Water-Effect Ratio Study*, dated October 2017) in accordance with applicable USEPA guidance (i.e., EPA-822-R-01-005 and EPA-821-R-02-012), and the results concluded that a site-specific WER of 9.11 for total recoverable copper apply to the discharge. The site-specific WER of 9.11 is used in place of the default WER. Based on this new information, the Central Valley Water Board adopted an amendment to Order R5-2018-XXXX on XX April 2018 and effluent limitation and monthly compliance monitoring for copper were removed. 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 copper. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this

~~Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.~~

**o. Rational for Monitoring and Reporting Requirements.** Modify sections VII.B.2 through VII.B.4 of Attachment F – Fact Sheet, as shown in strikeout format below:

2. Effluent monitoring frequencies and sample types for flow (continuous), ammonia (1/week), BOD<sub>5</sub> (1/week), ~~copper, total recoverable (1/month)~~, electrical conductivity (1/week), hardness (1/quarter), total mercury (1/quarter), pH (3/week), standard minerals (1/year), settleable solids (1/month), temperature (1/week), total dissolved solids (1/week), and total suspended solids (1/week) have been retained from Order R5-2008-0184 to determine compliance with effluent limitations for these parameters.
3. Monitoring data collected over the previous permit term for aluminum, MBAS, chlorodibromomethane, dichlorobromomethane, methyl mercury, and manganese did not demonstrate reasonable potential to exceed water quality objectives/criteria. Thus, specific monitoring requirements for these parameters have not been retained from Order R5-2008-0184.
4. Monitoring data collected from 1 January 2012 to 18 July 2017, did not demonstrate reasonable potential to exceed water quality objectives/criteria. Thus, specific monitoring requirements for copper has been removed from this Order.

**p. Attachment G.** Modify the Table in Attachment G - Summary of Reasonable Potential Analysis, in part, as shown in underline/strikeout format below:

**ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS**

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Copper, Total Recoverable <sup>1</sup>	µg/L	8	<del>-</del> -5	<del>6.58.4</del>	<del>9.385</del>	<del>6.559</del>	1,300	--	--	1,000	<del>Yes</del> No

Footnotes:

(1) See discussion in Fact Sheet section IV.C.3.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

T E N T A T I V E O R D E R

ORDER R5-2018-XXXX  
AMENDING WDR ORDER R5-2016-0062 AND  
RESCINDING TIME SCHEDULE ORDER R5-2016-0075  
CITY OF COLUSA  
WASTEWATER TREATMENT PLANT  
COLUSA COUNTY

[http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](http://www.waterboards.ca.gov/public_notices/petitions/water_quality) or will be provided upon request.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **XX April 2018**.

---

PAMELA C. CREEDON, Executive Officer

T  
E  
N  
T  
A  
T  
I  
V  
E  
  
O  
R  
D  
E  
R