

California Regional Water Quality Control Board
North Coast Region

ORDER NO. R1-2009-0107

REQUIRING THE RUSSIAN RIVER COUNTY SANITATION DISTRICT
AND SONOMA COUNTY WATER AGENCY WASTEWATER TREATMENT FACILITY
TO CEASE AND DESIST FROM DISCHARGING OR THREATENING
TO DISCHARGE EFFLUENT IN VIOLATION OF
WASTE DISCHARGE REQUIREMENTS ORDER NO. R1-2009-0003
WDID No. 1B82045OSON

Sonoma County

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

1. The Russian River County Sanitation District and the Sonoma County Water Agency (hereinafter Discharger) own and operate a municipal wastewater treatment facility (WWTF) located in Guerneville, California adjacent to the Russian River. The WWTF provides advanced wastewater treatment and consists of a collection system, coarse screening and aerated grit removal three extended aeration activated sludge basins, three secondary clarifiers, two tertiary filters, and chlorination/dechlorination. Design treatment capacities are 0.71 million gallons per day (mgd) (average dry weather flow) and 3.5 mgd (maximum sustained peak flow).
2. The WWTF is currently regulated by Waste Discharge Requirements, Order No. R1-2009-0003, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0024058, WDID No. 1B82045OSON, adopted by the Regional Water Board on January 29, 2009 with an effective date of March 20, 2009. Order No. R1-2009-0003 includes discharge prohibitions, effluent and receiving water limitations, and compliance provisions, including final effluent limitations for dichlorobromomethane (DCBM) that were effective on the permit adoption date and interim effluent limitations and a compliance schedule for copper requiring the Discharger to comply with final effluent limitations for copper by May 18, 2010.
3. The WWTF was previously regulated by Waste Discharge Requirements (WDRs), Regional Water Board Order No. R1-2003-0026, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0024058, WDID No. 1B82045OSON, adopted by the Regional Water Board on November 5, 2003. Order No. R1-2003-0026 was superseded by Regional Water Board Order No. R1-2009-0003. Order No. R1-2003-0026 contained interim effluent limitations and a compliance schedule for DCBM requiring the Discharger to comply with final effluent limitations for DCBM by November 5, 2008.
4. Section 13301 of the California Water Code states "When a regional board finds that a discharge of waste is taking place, or threatening to take place, in violation

of requirements or discharge prohibitions prescribed by the regional board or the state board, the board may issue an order to cease and desist and direct that those persons not complying with the requirements or discharge prohibitions (a) comply forthwith, (b) comply in accordance with a time schedule set by the board, or (c) in the event of a threatened violation, take appropriate remedial or preventative action.”

5. The Orders identified in Findings 2 and 3 above implement provisions of the California Toxics Rule (CTR) and the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP) by requiring the Discharger to monitor its effluent for CTR constituents that may have reasonable potential to cause or contribute to an excursion above a water quality criterion or objective applicable to the receiving water. The SIP also requires compliance with all final effluent limitations for CTR constituents by May 18, 2010.

Sufficient DCBM data was available at the time Order No. R1-2003-0026 was prepared and adopted to warrant the inclusion of interim and final effluent limitations for DCBM and a time schedule to achieve compliance with final DCBM effluent limitations by November 5, 2008.

Order No. R1-2003-0026 also required the Discharger to monitor its effluent for copper in order to make a reasonable potential determination for copper. Sufficient copper data was available at the time Order No. R1-2009-0003 was prepared and adopted to warrant the inclusion of interim and final effluent limitations for copper. Order No. R1-2009-0003 includes a time schedule to achieve compliance with final copper effluent limitations by May 18, 2010, the compliance date required by the SIP. As further described in Finding 13, the Discharger has already indicated concerns that it will be unable to comply with final effluent limitations for copper by the May 18, 2010 compliance date.

6. The Discharger is violating or threatening to violate the following terms in Order No. R1-2009-0003:

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. EFFLUENT LIMITATIONS

3. Final Effluent Limitations – Discharge Point 002 (Discharge to Russian River)

- b. The Discharger shall maintain compliance with the following final effluent limitations at Discharge Point 002, with compliance measured at Monitoring Location EFF-002, as described in the attached MRP.

Table 9. Final Effluent Limitations for Discharge Point 002

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Dichlorobromomethane	µg/L	0.56	---	0.94
Copper	µg/L	[4]	---	[4]

^[4] Final effluent limitations for copper are hardness-dependent. See Appendix E-1 to Attachment E for the full table of hardness-dependent final copper effluent limitations, which are determined based on the hardness of the receiving water at the time the discharge is sampled. *The table of hardness-dependent final copper effluent limitations from Appendix E-1 to Attachment E of Order No. R1-2009-0003 is included as Attachment 1 to this Order.*

VI. PROVISIONS

C. SPECIAL PROVISIONS

7. Compliance Schedules

a. Compliance Schedule for Final Effluent Limitations for Copper

On August 24, 2007, the Discharger submitted justification for and requested a compliance schedule for copper. By **May 18, 2010**, the Discharger shall comply with final effluent limitations for copper.

7. During the term of Order No. R1-2003-0026, the Discharger collected additional monitoring data for DCBM that continued to reveal that the discharge contains levels of DCBM that may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above water quality objectives for DCBM. The data collected between January 2004 and May 2009 consists of 50 samples that reveal that DCBM is present in the Discharger's effluent at levels ranging from 0.6 ug/L to 5.72 ug/L. Forty-nine of these concentrations exceed the final average monthly effluent limitations and forty-six of these concentrations exceed the final maximum daily effluent limitations, which are set out for DCBM in the table in Finding 6, above.
8. During the term of Order No. R1-2003-0026, the Discharger completed several tasks, including DCBM monitoring, preparation and implementation of a source identification program and completion of a study of alternative disinfection processes, including ultraviolet light (UV) disinfection, that may reduce the formation of DCBM and other trihalomethanes (e.g., chloroform, chlorodibromomethane, etc) in its effluent and submitted an implementation plan to achieve compliance with DCBM effluent limitations. In letters dated June 14, 2006 and May 23, 2007, the Discharger notified the Regional Water Board that construction of a UV disinfection system had been selected as the method to achieve compliance with DCBM effluent limitations. The Discharger has completed several necessary tasks to move forward with implementation of the

proposed UV disinfection system, including certification of a California Environmental Quality Act document and completion of UV system design. However, the Discharger is still waiting for funding to construct the UV disinfection system, thus the Discharger did not achieve compliance with final DCBM effluent limitations by November 5, 2008 as required by General Provision K.30 of Order No. R1-2003-0026.

9. On June 12, 2008, the Regional Water Board adopted Administrative Civil Liability Order (ACLO) No. R1-2008-0045 requiring the payment of mandatory minimum penalties for violations of Order No. R1-2003-0026, primarily violations of the coliform effluent limitations. The ACLO allows the Discharger to complete a compliance project (CP) in lieu of paying the full penalty. The proposed CP involves the construction of a UV disinfection system to replace the existing chlorination disinfection system. The new UV system will improve compliance with WDRs with regard to coliform and DCBM (and other THMs) and will increase disinfection system capacity. The CP will ensure compliance with final DCBM effluent limitations because it removes chlorine, the source of THM formation, from the effluent. The ACLO time schedule requires completion of the CP by July 1, 2011.
10. On September 9, 2009, the Discharger submitted a progress report on the status of the Discharger securing a State Revolving Fund loan to construct the UV disinfection system as required by Requirement 2 of the ACLO. The progress report requests additional time, six additional months, for the Discharger to secure funding for the UV disinfection project, stating that the Discharger has an opportunity to secure possible grant funding for construction of the UV disinfection system. The Discharger proposes to complete the UV disinfection system by December 1, 2011, five months later than the schedule in the ACLO. On October 5, 2009, the Regional Water Board Executive Officer approved the ACLO compliance schedule extension request. This Order incorporates the revised schedule for completion of the UV disinfection project.
11. During the term of Order No. R1-2003-0026, the Discharger collected monitoring data for copper that revealed that the discharge contains levels of copper that may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above water quality objectives for copper. The data collected between January 2004 and May 2009 consists of 49 samples that reveal that copper is present in the Discharger's effluent at levels ranging from 1.8 to 34 ug/L with hardness concentrations ranging from 50 to 128 mg/L. Forty-two of these concentrations exceed the final monthly average effluent limitation and 27 of these concentrations exceed the maximum daily effluent limitation for copper required by R1-2009-0063, which is identified in the table in Finding 6, above.
12. On May 22, 2009, the Discharger submitted a Copper Compliance Update Report that summarizes its efforts to identify sources of copper in its effluent that includes source control monitoring to attempt to identify industrial/commercial users

discharging copper, influent monitoring to assess source water corrosivity and assessment of copper removals following installation of new tertiary filters in 2004.

13. On May 28, 2009, the Discharger submitted a Request for Cease and Desist Order (Request) for the Russian River Wastewater Treatment Facility which contains an additional compliance analysis regarding copper and DCBM. The Discharger's Request states that it is unable to comply with final effluent limitations for DCBM which are currently in effect, nor does it expect to achieve compliance with final copper effluent limitations by May 18, 2010 as required by Order No. R1-2009-0003. The Request contains an analysis of the Discharger's inability to comply with final effluent limitations for DCBM and copper and identifies proposed actions and compliance schedules to comply with final DCBM and copper effluent limitations. The Regional Water Board concurs with the Discharger's assessment that it is infeasible to comply with final effluent limitations for copper and DCBM because the mean, 95th and 99th percentiles of the data demonstrating the Facility's current performance capabilities, exceed the long term average (LTA), AMEL and MDEL, respectively.
14. Order No. R1-2009-0003 also requires the Discharger to achieve more stringent chlorine residual detection limitations by July 1, 2011 in order to demonstrate removal of chlorine below concentrations that are toxic to aquatic life. Currently the Discharger monitors chlorine residual using monitoring equipment with a detection limit of 0.1 mg/L and Order No. R1-2009-0003 requires the Discharger to achieve more stringent chlorine residual effluent limitations of 0.01 mg/L (average monthly effluent limitation) and 0.02 mg/L (maximum daily effluent limitation) by July 1, 2011.
15. On September 1, 2009, the Discharger submitted a workplan to evaluate methods to comply with chlorine residual effluent limitations in Effluent Limitation IV.A.3.b of Order No. R1-2009-0003. The Discharger proposes to comply with the chlorine residual effluent limitations by eliminating the use of chlorine by constructing the proposed UV disinfection system identified in Findings 8 through 10 above. Compliance with chlorine residual effluent limitations may be demonstrated using the Discharger's current methodology and detection limits identified in Effluent Limitation IV.A.2.c of Order No. R1-2009-0003 until the UV disinfection system is completed. The Discharger's consistent compliance with effluent limitations for acute and chronic toxicity is an indication that the Discharger may be achieving the lower chlorine residual detection limitations, even though its existing chlorine residual monitoring equipment cannot detect down to 0.01 mg/L.
16. Pursuant to Water Code section 13385(j)(3), mandatory minimum penalties (MMPs) will not apply to future violations of the final effluent limitations for DCBM and copper if:

- a. A cease and desist order is issued on or after July 1, 2000, and specifies the actions that the discharger is required to take in order to correct the violations that would otherwise be subject to MMPs;
 - b. The regional board finds that the discharger is not able to consistently comply with one or more of the effluent limitations established in the waste discharge requirements applicable to the waste discharge because the effluent limitation is a new or more stringent regulatory requirement that has become applicable to the waste discharge after the effective date of the waste discharge requirements and after July 1, 2000, new or modified control measures are necessary in order to comply with the effluent limitation, and the new or modified control measures cannot be designed, installed, and put into operation within 30 calendar days;
 - c. The regional board establishes a time schedule for bringing the waste discharge into compliance with the effluent limitations that is as short as possible, taking into account the technological, operational, and economic factors that affect the design, development, and implementation of the control measures that are necessary to comply with the effluent limitations, and where the time schedule exceeds one year, the time schedule includes interim requirements and actions and milestones leading to compliance, and
 - d. The discharger has prepared and is implementing in a timely and proper manner, or is required by the regional board to prepare and implement, a pollution prevention plan pursuant to Water Code section 13263.3.
17. Because this Order establishes a Cease and Desist Order (CDO) for the violations of DCBM after making specific findings and setting interim requirements and specific actions and milestones to lead to compliance with final effluent limitations, in accordance with the Water Code section 13385(j)(3) and the terms of this Order, no MMPs will be assessed for future violations of the DCBM effluent limitation. Specifically, the Regional Water Board finds that:
- a. This CDO is being issued after July 1, 2000, and specifies the actions the Discharger is required to take to correct the violations of Order No. R1-2009-0003, specifically Effluent Limitation IV.A.3.b, as identified in Finding 6 above.
 - b. The DCBM effluent limitations are more stringent than the interim DCBM effluent limitations required by the Discharger's previous Waste Discharge Requirements Order No. R1-2003-0026, adopted on November 5, 2003. The Discharger is not able to consistently comply with final effluent limitations for DCBM that are currently in effect pursuant to Order No. R1-2009-0003, the Discharger's current Permit. To ensure consistent compliance, the Discharger will need to implement control measures and these control measures (e.g., construction of the UV disinfection system) will take more than 30 calendar days to finance and construct.

- c. Requirement 1.a of this Order establishes a time schedule for bringing the WWTF into compliance with the DCBM effluent limitations established in R1-2009-003 that is as short as possible. This Order provides the Discharger 20 months to complete the construction of the UV disinfection system and 24 months to achieve compliance with final DCBM effluent limitations.
 - d. The Discharger has submitted a pollution prevention plan to eliminate DCBM formation that involves replacing its chlorination disinfection system with a UV disinfection system. This Order further requires the Discharger to submit a pollution prevention plan designed to minimize the formation of DCBM at the WWTF until the UV disinfection system is completed. These pollution prevention plan elements are included in Requirement 1.a of this Order.
18. Because this Order establishes a CDO for anticipated future violations of final copper effluent limitations, after making specific findings and setting interim requirements and specific actions and milestones to lead to compliance with final effluent limitations, in accordance with the Water Code section 13385(j)(3) and the terms of this Order, no MMPs will be assessed for violations of the final copper effluent limitations when they become effective on May 18, 2010. Specifically, the Regional Water Board finds that:
 - a. The CDO is being issued after July 1, 2000, and specifies the actions the Discharger is required to take to correct the violations of Order No. R1-2009-0003, specifically Effluent Limitation IV.A.3.b and Provision VI.C.7.a., as set out in Finding 6, above.
 - b. The Discharger will be unable to consistently comply with the new final copper effluent limitations by the May 18, 2010 compliance date that is in Order No. R1-2009-0003 because new or modified control measures will be needed for the Discharger to comply, and the new or modified control measures are dependent on the completion of a series of studies, thus the new or modified control measures cannot be designed, installed, and put into operation within 30 calendar days;
 - c. Requirement 1.b of this Order establishes a time schedule for bringing the WWTF into compliance with the final copper effluent limitations that is as short as possible. A maximum of 60 months are provided to the Discharger to complete a series of studies, and based upon the findings from those studies, to design, install and implement control measures that will lead to compliance with final effluent limitations for copper.
 - d. The Discharger has submitted a pollution prevention plan designed to identify and control copper at the WWTF. The specific elements of the pollution prevention plan are included in Requirement 1.b. of this Order.

19. Accordingly, the Regional Water Board finds that MMPs for violations of effluent limitations for DCBM and copper when discharging to the Russian River do not apply, so long as the Discharger complies with the interim effluent limitations and compliance schedules included in this Order.
20. The compliance schedules in this Order are parameter-specific and intended to be as short as possible. The compliance schedule for DCBM is specific due to the fact that a specific implementation plan has been identified by the Discharger. The compliance schedule for copper accounts for the considerable uncertainty in determining effective measures (e.g., address water supply corrosivity, treatment plant upgrades, applicability of a site specific translator or water effect ratio) necessary to achieve compliance with final effluent limitations for copper. This Order allows time for the Discharger to first explore measures to address water supply corrosivity and treatment plant modifications before requiring further actions which are likely to be more costly and take more time to explore and implement. The copper compliance schedule is based on reasonably expected times needed to evaluate potential compliance measures in a step-wise manner. The Regional Water Board may wish to revisit these assumptions as more information becomes available from the Discharger's evaluations.
21. This Order requires the Discharger to comply with interim effluent limitations for DCBM and copper. These interim limitations are intended to ensure that the Discharger maintains at least its existing performance while completing all tasks required by the compliance schedules. The interim limitations are based on past performance or limits in previous orders, whichever is more stringent. The interim limitation for DCBM is based on the existing performance of the WWTF and is stricter than the interim limitation from the previous permit, Order No. R1-2003-0026, while the interim limitations for copper are new and are based on existing performance of the WWTF.

Interim effluent limitations for DCBM and copper established in Requirement 4 of this Order were calculated using statistical methods utilized in the SIP. Average monthly interim effluent limitations were calculated as the 95th percentile value from each data set and maximum daily interim effluent limitations were calculated as the 99th percentile value from each data set.

22. Pursuant to Water Code section 13389 and section 15321 of title 14 of the California Code of Regulations, this is an enforcement action for violations and threatened violations of waste discharge requirements, and as such is exempt from the requirements of the California Environmental Quality Act (Public Resources Code sections 21000-21177).
23. On December 10, 2009, after due notice to the Discharger and all other interested persons, the Regional Water Board conducted a public hearing and received evidence regarding this Order.

24. 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 pursuant to Water Code sections 13300 and 13301, the Discharger shall cease discharging waste contrary to the prohibitions and effluent limitations contained in Finding 6, above, and comply with the following requirements:

1. The Discharger shall cease and desist from discharging and threatening to discharge waste in violation of the terms of Order No. R1-2009-0003 (NPDES Permit No. CA0024058) described in Finding 6 above by implementing the following compliance schedules for DCBM, chlorine residual and copper:
 - a. Compliance Schedule for Final Effluent Limitations for DCBM and Chlorine Residual. The Discharger shall achieve compliance with DCBM and Chlorine Residual effluent limitations in accordance with the following compliance schedule:

Task	Task Description	Compliance Date
A	Submit a pollution prevention plan for Regional Water Board Executive Officer approval that identifies measures that the Discharger will take to minimize the potential for DCBM formation in its effluent until the UV disinfection system project (Project) is completed.	March 1, 2010
B	Secure State Revolving Fund (SRF) loan or American Recovery and Reinvestment Act (ARRA) grant funding for construction of the Project and submit progress report to Regional Water Board Executive Officer.	March 1, 2010
C	Prepare bid package for Project, advertise for bids, and submit progress report to Regional Water Board Executive Officer.	April 1, 2010
D	Award construction and submit progress report to Regional Water Board Executive Officer.	July 1, 2010

Task	Task Description	Compliance Date
E	Issue Notice to Proceed to construction contractor and submit progress report to Regional Water Board Executive Officer.	August 1, 2010
F	Submit UV Disinfection System Engineering Report to California Department of Public Health and Regional Water Board Executive Officer for approval.	February 1, 2011
G	Submit UV Disinfection System Operations and Maintenance Plan to California Department of Public Health and Regional Water Board Executive Officer for approval.	April 1, 2011
H	Submit progress report on construction activities related to Project to Regional Water Board Executive Officer.	June 1, 2011
I	Test installed UV equipment and provide testing results to California Department of Health and Regional Water Board Executive Officer for approval.	August 1, 2011
J	Complete Project and submit final report to Regional Water Board Executive Officer, certifying completion of Project and an overall evaluation showing that the Project achieved its intended objectives, including compliance with final DCBM effluent limitations.	December 1, 2011

- b. Compliance Schedule for Final Effluent Limitations for Copper. The Discharger shall achieve compliance with copper effluent limitations at the earliest possible date in accordance with the following compliance schedule:

Task	Task Description	Compliance Date
A	Conduct testing of raw water, tap water, treatment plant influent and effluent to evaluate water supply corrosivity over a six month period beginning in June 2009. The Discharger shall submit a written progress report to the Regional Water Board Executive Officer that includes the results of the water supply corrosivity study and the District's plans to address water supply corrosivity.	February 1, 2010
B	The Discharger shall develop and submit to the Regional Water Board Executive Officer, a written plan and time schedule to provide education and outreach to the public and dischargers to its wastewater treatment system regarding copper control.	March 1, 2010
C	Conduct in-plant monitoring to assess filtration effectiveness; modify treatment processes as appropriate to increase copper removal beginning in September 2009. The Discharger shall submit a written progress report to the Regional Water Board Executive Officer	June 1, 2010

Task	Task Description	Compliance Date
	describing the results of the assessment, modifications made to treatment processes, and the effectiveness of any modifications made.	
D	Implement plans to control water supply corrosivity starting in February 2010. The Discharger shall submit a written progress report to the Regional Water Board Executive Officer after one year of implementing measures to control water supply corrosivity describing the effectiveness of this action.	February 1, 2011
E	If compliance with final effluent limitations is not expected with water supply corrosivity controls and wastewater treatment process modifications, then prepare work plan for translator study and submit to Regional Water Board Executive Officer for approval.	June 1, 2011
F	Conduct translator study (using samples collected over one entire discharge season) and submit translator study report to Regional Water Board Executive Officer.	August 1, 2012
G	If compliance with final effluent limitations is not expected with implementation of water supply corrosivity controls, wastewater treatment process modifications, and/or a site-specific translator, then the Discharger will conduct a preliminary assessment of potential Water Effects Ratio (WER) during translator study sampling period. If necessary, by October 1, 2012 the Discharger must prepare a WER study work plan, and submit it to the Regional Water Board Executive Officer for approval.	October 1, 2012
H	Conduct WER study and submit study report to Regional Water Board Executive Officer.	December 1, 2013
I	Discharger must comply with final effluent limitations for copper no later than October 1, 2014.	October 1, 2014

Regional Water Board staff may periodically present an informational update to the Regional Water Board based on the progress reports.

- The Discharger shall comply with the following interim effluent limitations for DCBM, copper, and chlorine residual in the interim period established by this Order for the Discharger to reach compliance with final effluent limitations set forth in Order No. R1-2009-0003:

Interim Effluent Limitations for Discharge Point 002, Discharge to Russian River

Parameter	Units	Average Monthly Effluent Limitation	Maximum Daily Effluent Limitation
Dichlorobromomethane	µg/L	4.5	5.5
Copper	µg/L	30	38
Chlorine Residual	mg/L	---	0.1

3. In the interim period for the Discharger to achieve full compliance with Order No. R1-2009-0003, the Discharger shall operate and maintain, as efficiently as possible, all facilities and systems necessary to comply with all prohibitions, effluent limitations and requirements identified in Order No. R1-2009-0003 or any future waste discharge requirements issued for the WWTF.
4. If, for any reason, the Discharger is unable to perform any activity or submit any documentation in compliance with the deadlines set forth in Requirements 1.a and 1.b, above, the Discharger may request, in writing, that the Regional Water Board grant an extension of the time. The extension request shall include justification for the delay. An extension may be granted by the Regional Water Board Executive Officer for good cause, in which case this Order will be accordingly revised in writing.
5. If the Executive Officer of the Regional Water Board finds that the Discharger fails to comply with the provisions of this Order, the Executive Officer may take all actions authorized by law, including referring the matter to the Attorney General for judicial enforcement or issuing a complaint for administrative civil liability pursuant to Water Code sections 13350 and 13385. The Regional Water Board reserves the right to take any enforcement actions authorized by law.

CERTIFICATION

I, Catherine Kuhlman, 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 10, 2009.

Catherine Kuhlman
Executive Officer

Attachment 1. Hardness dependent Final Copper Effluent Limitations from Appendix E-1 to Attachment E of Order No. R1-2009-0003.

Hardness (mg/L as CaCO3)	CCC 4-Day Average (ug/L)	CMC 1-Hour Average (ug/L)	0.527*CCC	0.321*CMC	Lowest LTA	AMEL (ug/L)	MDEL (ug/L)
5	0.72	0.83	0.38	0.27	0.27	0.41	0.83
10	1.3	1.6	0.69	0.51	0.51	0.80	1.6
15	1.8	2.3	0.97	0.75	0.75	1.2	2.3
20	2.4	3.1	1.2	0.99	0.99	1.5	3.1
25	2.9	3.8	1.5	1.2	1.2	1.9	3.8
30	3.3	4.5	1.8	1.4	1.4	2.2	4.5
35	3.8	5.2	2.0	1.7	1.7	2.6	5.2
40	4.3	5.9	2.2	1.9	1.9	2.9	5.9
45	4.7	6.6	2.5	2.1	2.1	3.3	6.6
50	5.2	7.3	2.7	2.3	2.3	3.6	7.3
55	5.6	8.0	2.9	2.6	2.6	4.0	8.0
60	6.0	8.7	3.2	2.8	2.8	4.3	8.6
65	6.5	9.3	3.4	3.0	3.0	4.6	9.3
70	6.9	10	3.6	3.2	3.2	5.0	10.0
75	7.3	11	3.8	3.4	3.4	5.3	11
80	7.7	11	4.1	3.6	3.6	5.6	11
85	8.1	12	4.3	3.9	3.9	6.0	12
90	8.5	13	4.5	4.1	4.1	6.3	13
95	8.9	13	4.7	4.3	4.3	6.6	13
100	9.3	14	4.9	4.5	4.5	7.0	14
105	9.7	15	5.1	4.7	4.7	7.3	15
110	10	15	5.3	4.9	4.9	7.6	15
115	11	16	5.5	5.1	5.1	7.9	16
120	11	17	5.7	5.3	5.3	8.3	17
125	11	17	5.9	5.5	5.5	8.6	17
130	12	18	6.2	5.8	5.8	8.9	18
135	12	19	6.4	6.0	6.0	9.2	19
140	12	19	6.6	6.2	6.2	9.6	19
145	13	20	6.8	6.4	6.4	9.9	20
150	13	21	7.0	6.6	6.6	10	20
155	14	21	7.1	6.8	6.8	11	21
160	14	22	7.3	7.0	7.0	11	22
165	14	22	7.5	7.2	7.2	11	22
170	15	23	7.7	7.4	7.4	11	23
175	15	24	7.9	7.6	7.6	12	24
180	15	24	8.1	7.8	7.8	12	24
185	16	25	8.3	8.0	8.0	12	25
190	16	26	8.5	8.2	8.2	13	26
195	17	26	8.7	8.4	8.4	13	26

Hardness (mg/L as CaCO3)	CCC 4-Day Average (ug/L)	CMC 1-Hour Average (ug/L)	0.527*CCC	0.321*CMC	Lowest LTA	AMEL (ug/L)	MDEL (ug/L)
200	17	27	8.9	8.6	8.6	13	27
205	17	28	9.1	8.8	8.8	14	27
210	18	28	9.3	9.0	9.0	14	28
215	18	29	9.5	9.2	9.2	14	29
220	18	29	9.6	9.4	9.4	15	29
225	19	30	9.8	9.6	9.6	15	30
230	19	31	10	9.8	9.8	15	31
235	19	31	10	10	10	16	31
240	20	32	10	10	10	16	32
245	20	33	11	10	10	16	33
250	20	33	11	11	11	17	33
255	21	34	11	11	11	17	34
260	21	34	11	11	11	17	34
265	21	35	11	11	11	17	35
270	22	36	11	11	11	18	36
275	22	36	12	12	12	18	36
280	22	37	12	12	12	18	37
285	23	38	12	12	12	19	37
290	23	38	12	12	12	19	38
295	24	39	12	12	12	19	39
300	24	39	13	13	13	19	39
310	25	41	13	13	13	20	40
320	25	42	13	13	13	21	41
330	26	43	14	14	14	21	42
340	27	44	14	14	14	22	44
350	27	46	14	15	14	22	45
360	28	47	15	15	15	23	46
370	29	48	15	15	15	23	47
380	29	49	15	16	15	24	48
390	30	50	16	16	16	24	49
400	30	52	16	17	16	25	50
>400	30	52	16	17	16	25	50

CCC (Criteria Continuous Concentration) = $(0.8545 \cdot \ln(\text{hardness})) - 1.702$

CMC (Criteria Maximum Concentration) = $(0.8545 \cdot \ln(\text{hardness})) - 1.702$

AMEL (Average Monthly Effluent Limitation) = $1.55 \cdot (\text{minimum } 0.527\text{CCC}, 0.321\text{CMC})$

MDEL (Maximum Daily Effluent Limitation) = $3.11 \cdot (\text{minimum } 0.527\text{CCC}, 0.321\text{CMC})$

Hardness = hardness of the receiving water at the time the discharge is sampled

LTA = Long-term average

CV = 0.60