CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

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SPECIAL BOARD ORDER NO. R7-2008-0028
AMENDING WASTE DISCHARGE REQUIREMENTS ORDER NO. R7-2004-0009
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PERMIT NO. CA7000009 FOR THE
CITY OF CALEXICO WASTEWATER TREATMENT PLANT
IMPERIAL COUNTY

The California Regional Water Quality Control Board, Colorado River Basin Region (hereinafter Regional Water Board), finds:

A. Background.

1. On February 11, 2004, the Regional Water Board adopted Board Order No. R7-2004-0009, NPDES Permit No. CA7000009, prescribing Waste Discharge Requirements for the City of Calexico (hereinafter Discharger) Wastewater Treatment Plant (WWTP) for the discharge of 4.3 million gallons per day (MGD) of secondary treated wastewater to the New River, a water of the United States. The New River conveys the effluent to the Salton Sea. Board Order No. R7-2004-0009 will expire on February 11, 2009.

2. The California Toxics Rule (CTR) (40 CFR 131.38) and the State Water Resource Control Board's (State Water Board) Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) establish specific criteria for freshwater and saltwater. When the salinity of receiving water is between 1 and 10 parts per thousand, such as is the case for the New River, the CTR and SIP provide for the Regional Water Board to prescribe in a permit the more stringent of the two criteria. Based on the foregoing, Board Order No. R7-2004-0009, as adopted by the Regional Water Board in 2004, includes interim and final effluent limits for copper and mercury that were developed based on saltwater and freshwater criteria. The final effluent limits for copper were based on saltwater criteria, which is more stringent than freshwater criteria for these pollutants.

3. The Discharger conducted a Biological Assessment at the location of the discharge. The areas of observation were approximately 200 meters upstream and 200 meters downstream of the discharge. The objective of the Biological Assessment was to determine whether water, plant life, and aquatic life at the discharge location are more typical of a saltwater or a freshwater environment.

4. On September 27, 2007 the Discharger submitted the results of the Biological Assessment to the U.S. Environmental Protection Agency (USEPA) requesting approval to use alternative freshwater criteria at the location of the discharge. This assessment determined that the applicable reach of the New River is characterized as freshwater; therefore, saltwater aquatic life criteria are not applicable for this reach of the New River.

5. USEPA reviewed the Biological Assessment prepared by the Discharger. On March 11, 2008, USEPA issued a tentative approval of the findings in the Discharger's Biological Assessment and the application of water quality criteria for the protection of freshwater aquatic life.

6. Board Order No. R7-2004-0009 may be modified, rescinded and reissued, for cause. The filing of a request by the Discharger for a Board Order modification, rescission and reissuance, or a notification of planned changes or anticipated noncompliance does not stay any Board Order condition. Causes for modification include, but are not limited to, the promulgation of new regulations, modification of land application plans, or modification in sludge use or disposal practices, or adoption of new regulations by the State Water Board or the Regional Water Board, including revisions to the Basin Plan.

7. This Special Board Order revises Board Order No. R7-2004-0009 to designate the City of Calexico's discharge location at the New River as a freshwater environment and establish interim and final effluent limits based on CTR and SIP freshwater criteria for the discharge.

8. In accordance with section 1.3 of the SIP, the Regional Water Board conducted a Reasonable Potential Analysis (RPA) for each priority pollutant with an applicable criterion or objective to determine if a water quality-based effluent limitation (WQBEL) was required in the Order. For the existing Board Order, R7-2004-0009, the discharge demonstrates a reasonable potential to cause or contribute to an excursion above the applicable water quality standards for copper and mercury. The discharge did not demonstrate a reasonable potential to cause or contribute to an excursion above the applicable water quality standards for mercury; therefore, the effluent limitations for mercury have been discontinued.

9. Pursuant to 40 CFR 124.10(b), a thirty (30) day public notice and comment period of USEPA's proposed tentative approval of the Biological Assessment and this revised Board Order is required prior to their becoming final. These public participation requirements are necessary to provide stakeholders potentially affected by this action with an opportunity to object to or comment on the proposed tentative approval and revised Board Order.

10. Pursuant to 40 CFR 124.10(b) and California Water Code (CWC) Section 13167.5, the Regional Water Board published Public Notice No. 7-08-09 for this proposed Board Order on April 11, 2008.

11. The 2006 USEPA Clean Water Act (CWA) Section 303(d) List identifies the New River as impaired by 1,2,4-trimethylbenzene, chlordane, chloroform, chlorpyrifos, DDT, diazinon, dieldrin, mercury, meta-para xylenees, nutrients, dissolved oxygen, o-xylenes, PCBs, p-cymene, p-dichlorobenzene, pesticides, selenium, toluene, toxaphene, toxicity, copper and trash. A pathogen and sedimentation/siltation Total Maximum Daily Loads (TMDLs) have been approved by USEPA for the New River. The pathogen and sedimentation/siltation TMDLs established waste load allocations (WLAs) for fecal coliform, E. Coli, enterococci and sediment. The existing E. Coli and total suspended solids effluent limitations in Board Order No. R7-2004-0009 comply with the WLAs established in the New River pathogen and sedimentation/siltation TMDLs. Effluent limitations for fecal coliform and enterococci, consistent with the WLAs established in the New River pathogen TMDL, have been included in this Special Order to amend the Final Effluent Limitations of Board Order No. R7-2004-0009. Further, there are two TMDLs under development for dissolved oxygen and VOCs for the New River. A Trash TMDL for the New River has been approved by the Regional Water Board and State Water Board and is in the process of being approved by the Office of Administrative Law and the USEPA.

In addition, the 303(d) list classifies the Salton Sea as impaired by nutrients, salt and selenium. No TMDL has been developed to date for the Salton Sea, although a nutrient TMDL is under development for the Salton Sea that may impact the permitted discharges to tributaries to the Salton Sea. The nutrient TMDL for the Salton Sea is tentatively scheduled for completion in 2009. Receiving water monitoring for nutrients (e.g., nitrites, nitrates, and orthophosphate), total hardness and priority pollutants have been included to amend the Monitoring and Reporting Program of Board Order No. R7-2004-0009.

12. Board Order No. R7-2004-0009 established WQBELs for TDS. These WQBELs were based on receiving water quality objectives (WQOs) established in the Basin Plan that state that any discharge to the New River shall not cause the concentration of TDS in the surface water to exceed a maximum daily concentration of 4,500 mg/L and an annual average concentration of 4,000 mg/L. Board Order No. R7-2004-0009 included average annual and maximum daily effluent limitations for TDS. Due to the incorrect interpretation of the Basin Plan receiving water quality objectives for TDS as numeric effluent limitations, this Special Board Order replaces the numeric effluent limitations for TDS with a narrative effluent limitation and establishes a receiving water limitation for TDS to accurately apply the WQOs of the Basin Plan. The replacement of those numeric effluent limitations with a narrative effluent limitation and receiving water limitation for TDS does not violate the CWA's backsliding prohibition due to the exception contained in CWA section 402(o)(2)(B)(ii). This statutory provision states that a permit may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant if "the Administrator determines that technical mistakes or mistaken interpretations of law were made in issuing the permit . . . ." Furthermore, the effluent data were evaluated in conducting a Reasonable Potential Analysis (RPA) to determine whether TDS would be discharged at a level that would have the reasonable potential to cause or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality. The discharge does not demonstrate the reasonable potential to exceed water quality objectives for TDS. Therefore, TDS WQBELs are not required for the discharge. Corresponding to the application of receiving water limits for TDS, monitoring requirements have been established in this amendment for TDS at receiving water monitoring locations R-1 and R-2.

B. Facility Description. The City of Calexico owns and operates the wastewater collection, treatment, and disposal system (hereinafter referred to as facility) and provides sewerage service to the City of Calexico. The WWTP has a treatment capacity of 4.3 MGD and is located in the NW1/4 of the SW1/4 of Section 14, T17S, R14E, SBB&M.

C. California Environmental Quality Act (CEQA). This action to amend an NPDES permit is exempt from the provisions of Chapter 3 of CEQA (commencing with Section 21100) of Division 13 of the California Public Resources Code in accordance with Section 13389 of the CWC.

D. Notification of Interested Parties. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations (see Attachment A of this Order for full details on Public Participation).

E. Consideration of Public Comment. The Regional Water Board, in a public hearing, heard and considered all comments pertaining to the discharge.

F. Anti-degradation Policy. 40 CFR Section 131.12 requires that state water quality standards include an anti-degradation policy consistent with the federal policy. To comply with this federal requirement, the State Water Board established California's anti-degradation policy in State Water Board Resolution No. 68-16, titled "Policy with Respect to Maintaining High Quality Waters of the State." Resolution No. 68-16 incorporates the federal anti-degradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires discharges to waters of the State be regulated to achieve the "highest water quality consistent with maximum benefit to the people of the State." It also establishes the intent that where waters of the State are of higher quality than that required by state policies, including Water Quality Control Plans, such higher quality "shall be maintained to the maximum extent possible" unless it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in plans and policies (e.g., violation of any water quality objective). The discharge is also required to meet waste discharge requirements that result in the best practicable treatment or control necessary to assure that pollution or nuisance will not occur, and that the highest water quality consistent with maximum benefit to the people will be maintained.

The source water for the City of Calexico and the entire Imperial Valley is the Colorado River. Average annual precipitation in the Imperial Valley is insignificant (approximately 2 inches/year). Therefore, the New River is an effluent-dominated surface water that carries discharges from wastewater treatment plants (WWTPs); agricultural returns flows from approximately 30 Imperial Valley Drains that discharge tilewater and tailwater from farmlands; occasional operational spills of irrigation water from adjacent farmlands; and, wastes from Mexicali, Mexico. The wastes from Mexico include agricultural runoff (tailwater), partially treated and untreated municipal and industrial wastewater, stormwater, and urban runoff from the Mexicali Valley. The wastes from Mexico contain pollutants (e.g., pathogens, trash, VOCs, pesticides, nutrients, raw sewage, BOD and metals) that impair the river's beneficial uses. Tailwater is irrigation water that does not percolate into the soil, and exits the lower end of the field into the drain. Tailwater tends to erode fields and thus acquire silt and sediments as it crosses and exits a field. Tilewater is water that has percolated through the soil, but is not absorbed by crops. Tilewater flushes salts from the soil. This highly saline water accumulates in tile lines beneath the fields, wherein it is transported to drains by gravity flow or a sump system. Consequently, "background" water quality in the New River is difficult to establish for the purpose of conducting a typical antidegradation analysis. It is likely that the New River has historically contained "background" water from farmland[1] and Mexico that contains pollutants at concentrations that violate certain Basin Plan water quality objectives for those pollutants, in particular, pesticides, silt/sediment[2], VOCs, nutrients, pathogens and selenium. The nutrients (e.g., phosphorous) discharged into the drains and New River contribute to the nutrient impairment of the Salton Sea.

The discharge from the WWTP contains conventional pollutants (BOD, TSS, fecal coliform bacteria and pH) that are controlled through best practicable control technology currently available (BPT) and best available technology economically achievable (BCT) to prevent exceedances of the receiving water quality objectives for those pollutants and prevent adverse impacts on the REC-I and REC-II beneficial uses of the New River. The discharge also contains TDS, but at concentrations significantly below the 4000 mg/L TDS WQO for the receiving water. Copper has been measured in the discharge effluent from the treatment facility at concentrations above the numeric criteria for priority toxic pollutants for the State of

[1] The agricultural return flows, however, are essentially free of BOD and fecal coliform bacteria and have pH well within the receiving water quality objective of 6.0 to 9.0 pH Units.
[2] Silt/sediment can be measured in terms of TSS.

California. This toxic pollutant is being controlled through WQBELs derived from water quality criteria established in the California Toxics Rule (CTR). The established WQBELs for copper prevent adverse impacts of the beneficial uses of the river and ensure compliance with the Basin Plan. Board Order No. R7-2004-0009 established interim effluent limitations for copper that are effective from June 29, 2005 to January 14, 2009 and final WQBELs become effective thereafter. Never the less, the BOD, TSS, fecal coliform bacteria, pH, and copper are likely to lower water quality in the receiving water (i.e., cause degradation). For conventional pollutants, including BOD, TSS, fecal coliform and pH, this degradation is restricted to pollutants associated with domestic wastewater, is localized and will not result in water quality less than prescribed in the Basin Plan. For toxic pollutants, including copper, this degradation will not be significant once controlled and will not result in water quality less than prescribed in the Basin Plan.

The discharge from the WWTP as permitted herein reflects best practicable treatment and control (BPTC) for the subject wastewater. The control is intended to assure that the discharge does not create a condition of pollution or nuisance and that the highest "background" water quality as defined above will be maintained. The WWTP incorporates:

a. technology for secondary treated domestic wastewater;

b. effluent disinfection;

c. sludge handling facilities;

d. an operation and maintenance manual;

e. staffing to assure proper operation and maintenance; and

f. standby emergency power generator of sufficient size to operate the necessary treatment units during periods of loss of commercial power.

The discharge is necessary to accommodate economic development in the area and essential public services to the City of Calexico, which are an important benefit to the State. Based on the foregoing, the discharge as permitted herein is consistent with Resolution No. 68-16.

IT IS HEREBY ORDERED, that Board Order No. R7-2004-0009 is amended in the manner specified below upon the effective date of this Special Board Order, and, in order to meet the provisions contained in Division 7 of the California Water Code (CWC) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA), and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Special Board Order as well as with those portions of Board Order No. R7-2004-0009 that were not amended by this Special Board Order:

1. Page 3, Finding No. 21. Delete the last sentence of the finding and replace with the language:

"In the development of the existing Order, Board Order No. R7-2004-0009, monitoring results indicated reasonable potential for Copper and Mercury. Based on the data submitted by the Discharger over the last four years, the discharge did not demonstrate a reasonable potential to cause or contribute to an excursion above the applicable water quality standards for mercury."

2. Page 4, Finding No. 23. Replace finding with the following language:

"23. The governing Water Quality Objective (WQO) for copper is 26.5 µg/L, the freshwater aquatic life criteria contained in the CTR. As noted in Finding 21 of WDR No. R7-2004-0009, copper has reasonable potential to exceed water quality objectives, and final Water Quality Based Effluent Limitations (WQBELs) are required. The WQBELs calculated pursuant to the State Implementation Policy (SIP) procedures are 22 µg/L for the Average Monthly Effluent Limitation (AMEL) and 44 µg/L for the Maximum Daily Effluent Limitation (MDEL). The Discharger indicated in its July 18, 2003 Feasibility Study that it is infeasible to comply immediately with the WQBELs. Therefore, pursuant to the provisions of the SIP, an interim effluent limit for copper is appropriate. The previous permit did not contain an effluent limit for copper, and based on the data submitted, the interim AMEL is set at the maximum effluent concentration (MEC), 30 µg/L. Since the MEC is less than the final MDEL, the interim MDEL is set equal to the final MDEL at 44 µg/L. The interim limits for copper are based on the best professional judgment of Regional Board staff."

3. Page 4, Finding No. 24. Delete the entire finding.

4. Page 4, Finding No. 25. Delete "and Mercury" from the finding.

5. Page 5, A.1, Effluent Limitations. Replace the table with the following:

Constituents	Units	30-Day Arithmetic Mean Discharge Rate [4]	7-Day Arithmetic Mean Discharge Rate [5]
Flow	MGD	4.3	--
20° C BOD_5 [6]	mg/L [7] lb/day [8, 9]	30 1,100	45 1,600
Total Suspended Solids	mg/L lb/day	36 1,300	53 1,900

[4] 30 Day Mean- Arithmetic average of all samples collected during the calendar month
[5] 7 Day Mean- Arithmetic average of all samples collected during a calendar week (Sunday through Saturday)
[6] BOD_5 - Biochemical Oxygen Demand
[7] mg/L - milligrams per Liter
[8] lb/day - pounds per day (Calculated as flow rate (MGD) x 8.34 x Concentration (mg/L))
[9] Based on a design treatment capacity of 4.3 MGD

6. Page 5, A., Effluent Limitations. Replace A.4 with the following:

"4. The bacterial density in the wastewater effluent discharged to the New River shall not exceed the following values, as measured by the following bacterial indicators:

a. *E. Coli*. The 30-day geometric mean bacterial density shall not exceed a Most Probable Number (MPN) of 126 MPN per 100 milliliters, nor shall any sample exceed the maximum allowable bacterial density of 400 MPN per 100 milliliters.

b. Enterococci. The 30-day geometric mean bacterial density shall not exceed a Most Probable Number (MPN) of 33 MPN per 100 milliliters, nor shall any sample exceed the maximum allowable bacterial density of 100 MPN per 100 milliliters.

c. Fecal Coliform. The 30-day geometric mean bacterial density shall not exceed a Most Probable Number (MPN) of 200 MPN per 100 milliliters, nor shall more than ten percent of the total samples during any 30-day period exceed 400 MPN per 100 milliliters."

7. Page 6, A.6, Effluent Limitations. Replace the table with the following:

Constituents	Units	Date Effluent Limit Becomes Effective	Average Monthly Effluent Limit [10]	Maximum Daily Effluent Limit [10]
Copper [11] (interim)	µg/L	June 25, 2008	30	44
Copper [11] (final)	µg/L	January 14, 2009	22	44

[10] Compliance with the Average Monthly Effluent Limit and Maximum Daily Effluent Limit shall be determined as described in Section 2.4.5 Compliance Determination (Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California).
[11] In conformance with 40 CFR 122.45(c), analyses to determine compliance with effluent limitations for metals shall be conducted using total recoverable methods.

8. Page 6, A. Effluent Limitations. Add the following new effluent limitation No. 7:

"7. Discharges of wastes or wastewater shall not increase the total dissolved solids content of receiving waters, unless it can be demonstrated to the satisfaction of the Regional Water Board that such an increase in total dissolved solids does not adversely affect beneficial uses of receiving waters."

9. Page 7, B. Receiving Water Limitations. Add the following new receiving water limitation B.1.m as follows:

"m. The concentration of total dissolved solids in the New River to exceed an annual average concentration of 4,000 mg/L or an instantaneous maximum concentration of 4,500 mg/L"

10. Page 7, D.3. Specifications. Delete Specifications No. D.3 and move the average monthly flow limitation to Effluent Limitations table A.1

11. Page 14, E. Provisions. Add the following new compliance determination language E.34 as follows:

"34. Compliance with the bacterial effluent limitations established in section A.4 of this Order shall be determined as follows:

a. If the calculated geometric mean bacterial concentrations for *E. coli*, enterococci, or fecal coliform exceed the 30-day geometric mean effluent limitations summarized in the Effluent Limitations section A.4 of this Order, this will represent a single violation of the water quality-based effluent limitation for bacteria and the Discharger will be considered out of compliance for the month in which the samples were collected.

b. If the bacterial concentrations for *E. coli* or enterococci (when both samples are collected on the same day) exceed the maximum bacterial densities summarized in the Effluent Limitations section A.4 of this Order, this will represent a single violation of the water quality-based effluent limitation for bacteria and the Discharger will be considered out of compliance for the day in which the samples were collected.

c. If more than ten percent of the bacterial concentrations for fecal coliform exceed 400 MPN per 100 milliliters, this will represent a single violation of the water quality-based effluent limitation for bacteria and the Discharger will be considered out of compliance for the month in which the samples were collected."

12. Monitoring and Reporting Program, Page 2, Effluent Monitoring. Add monitoring requirements for enterococci, fecal coliform, and priority pollutants, change the monitoring frequency for copper, and delete the monitoring requirements for mercury, nickel, selenium and VOCs as follows:

Constituent	Unit	Type of Sample	Sampling Frequency	Reporting Frequency
Enterococci	MPN/100 mL	Grab	2/Week	Monthly
Fecal coliform	MPN/100 mL	Grab	2/Week	Monthly
Copper	µg/L	Grab	Monthly	Monthly
Priority Pollutants [1]	µg/L	Grab	Annually	Annually
~~Mercury~~	~~µg/L~~	~~Grab~~	~~Quarterly~~	~~Quarterly~~
~~Nickel~~	~~µg/L~~	~~Grab~~	~~Annually~~	~~Annually~~
~~Selenium~~	~~µg/L~~	~~Grab~~	~~Annually~~	~~Annually~~

[1] Priority Pollutants as defined by the California Toxics Rule (CTR), 40 CFR 131.38. The method of analysis and detection levels shall comply with the minimum levels (MLs) specified in Attachment 4 of the State Implementation Policy (SIP), where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board.

13. Monitoring and Reporting Program, Page 3, Receiving Water Monitoring. Add monitoring requirements for total hardness, total dissolved solids, nitrite, nitrate, orthophosphate and priority pollutants as follows:

Constituent	Unit	Station	Sampling Frequency	Reporting Frequency
Total Hardness (as $CaCO_3$)	mg/L	R-1 & R-2	Monthly	Monthly
Total Dissolved Solids (TDS)	mg/L	R-1 & R-2	Monthly	Monthly
Nitrites (as Nitrogen)	mg/L	R-1 & R-2	Monthly	Monthly
Nitrate (as N)	mg/L	R-1 & R-2	Monthly	Monthly
Orthophosphate (as P)	mg/L	R-1 & R-2	Monthly	Monthly
Priority Pollutants [1]	mg/L	R-1	Annually	Annually

[1] Priority Pollutants as defined by the California Toxics Rule (CTR), 40 CFR 131.38. The method of analysis and detection levels shall comply with the minimum levels (MLs) specified in Attachment 4 of the State Implementation Policy (SIP), where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board.

14. Monitoring and Reporting Program, Page 8, Reporting No. 13. Replace with the following:

"13. DMRs must be signed and certified as required by the standard provisions. The Discharge shall submit the original DMR and one copy of the DMR to the address listed below:"

Standard Mail	FedEx/UPS/ Other Private Carriers
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15th Floor Sacramento, CA 95814

15. Fact Sheet, Pages 6 to 8, VI. Proposed Water Quality-Based Effluent Limitations. Replace the entire section with the following:

"VI. Proposed Water Quality-Based Effluent Limitations (WQBELs)

Effluent discharged from this facility could contain pollutants in sufficient quantities to affect receiving water quality. Pursuant to Section 13263, Article 4, Chapter 4 of the Porter-Cologne Water Quality Control Act, the Regional Water Boards are required to issue Waste Discharge Requirements for discharges that could affect the quality of the State's waters. Furthermore, 40 CFR 122.1 requires the issuance of an NPDES permit for pollutants discharged from a point source to waters of the United States. The discharge requirements contain specific discharge limitations for selected pollutants.

Constituents	Basis for Limitations
Escherichia coli (E. coli), Enterococci, and Fecal Coliform	These limits are required by the Basin Plan for waters designated for water contact recreation (REC-I) or noncontact water recreation (REC-II).
Copper	Copper is toxic to aquatic life in concentrations above the freshwater criteria. The freshwater aquatic life criterion for this limitation has been adopted in USEPA's CTR.

The U.S. Environmental Protection Agency promulgated the California Toxics Rule (CTR) (40 CFR §131.38). The CTR prescribes new criteria for both human health protection and protection of aquatic life. New numeric aquatic life criteria for 23 priority toxic pollutants and numeric human health criteria for 57 priority toxic pollutants are listed. In addition, the CTR contains a compliance schedule provision, which authorizes the State to issue schedules of compliance for new or revised NPDES permit limits based on the federal criteria when certain conditions are met.

The following final water quality-based effluent limitations (WQBELs) are based on monitoring results, the California Toxics Rule, and the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP). The derivation of WQBELs in general, and the limits for copper in particular as shown in the table below, follows.

Copper	Average Monthly Effluent Limit (µg/L) = 22 Maximum Daily Effluent Limit (µg/L) = 44

The discharger is not able to consistently comply with the new effluent limitations for copper. Therefore, interim limits have been established as follows:

The governing Water Quality Objective (WQO) for copper is 26.5 µg/L, the freshwater aquatic life criteria contained in the CTR. As noted in Finding 21 of WDR No. R7-2004-0009, copper has reasonable potential to exceed water quality objectives, and final Water Quality Based Effluent Limitations (WQBELs) are required. The WQBELs calculated pursuant to the State Implementation Policy (SIP) procedures are 22 µg/L for the Average Monthly Effluent Limitation (AMEL) and 44 µg/L for the Maximum Daily Effluent Limitation (MDEL). The Discharger indicated in its July 18, 2003 Feasibility Study that it is infeasible to comply immediately with the WQBELs. Therefore, pursuant

to the provisions of the SIP, an interim effluent limit for copper is appropriate. The previous permit did not contain an effluent limit for copper, and based on the data submitted, the interim AMEL is set at the maximum effluent concentration (MEC), 30 µg/L. Since the MEC is less than the final MDEL, the interim MDEL is set equal to the final MDEL at 44 µg/L. The interim limit for AMEL is based on the best professional judgment of Regional Board staff.

Constituents	Unit	Date Effluent Limit Becomes Effective	Average Monthly Effluent Limit	Maximum Daily Effluent Limit [10]
Copper (interim)	µg/L	June 25, 2008	30	44
Copper (final)	µg/L	January 14. 2009	22	44

In accordance with section 1.3 of the SIP, the Regional Water Board conducted a Reasonable Potential Analysis (RPA) for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the Order. The Regional Water Board analyzed effluent data to determine if a pollutant in a discharge has the reasonable potential to cause or contribute to an excursion above a state water quality standard. For all parameters that have the reasonable potential to cause or contribute to an excursion above a water quality standard, numeric WQBELs are required. The RPA considers criteria from the CTR and National Toxics Rule (NTR), and when applicable, water quality objectives specified in the Basin Plan. To conduct the RPA, the Regional Water Board identified the maximum observed effluent concentration (MEC) for each constituent, based on data provided by the Discharger.

Section 1.3 of the SIP provides the procedures for determining reasonable potential to exceed applicable water quality criteria and objectives. The SIP specifies three triggers to complete a RPA:

1) Trigger 1 – If the MEC is greater than or equal to the CTR water quality criteria or applicable objective (C), a limit is needed.

2) Trigger 2 – If background water quality (B) > C and the pollutant is detected in the effluent, a limit is needed.

3) Trigger 3 – If other related information, such as a 303(d) listing for a pollutant, discharge type, compliance history, etc., indicates that a WQBEL is required.

Final WQBELs are based on monitoring results and following the calculation process outlined in section 1.4 of the SIP.

The WQBELs for copper, based on aquatic life criteria, were established for Order No. R7-2008-0028 as described below. The process for developing these limits is in accordance with section 1.4 of the SIP.

Step 1: For each constituent requiring an effluent limit, identify the applicable water quality criteria or objective. For each criterion determine the effluent concentration allowance (ECA) using the following steady state equation:

ECA = C + D(C-B) when C>B, and
ECA = C when C<= B,

Where C = The priority pollutant criterion/objective, adjusted if necessary for hardness, pH and translators. In this Order a hardness value of 340 mg/L (as $CaCO_3$) was used for development of hardness-dependant criteria, and a pH of 7.4 was used for pH-dependant criteria.

D = The dilution credit, and

B = The ambient background concentration

For this Order, dilution was not allowed due to the nature of the receiving water and quantity of the effluent; therefore:

ECA = C

For copper, the applicable water quality criteria are:

ECA_{acute}= 44.3 µg/L
$ECA_{chronic}$= 26.5 µg/L
$ECA_{human\ health}$= Not Available

Step 2: For each ECA based on aquatic life criterion/objective, determine the long-term average discharge condition (LTA) by multiplying the ECA by a factor (multiplier). The multiplier is a statistically based factor that adjusts the ECA to account for effluent variability. The value of the multiplier varies depending 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 value of the CV. Equations to develop the multipliers in place of using values in the tables are provided in section 1.4, Step 3 of the SIP and will not be repeated here.

$LTA_{acute} = ECA_{acute} \times Multiplier_{acute}$

$LTA_{chronic} = ECA_{chronic} \times Multiplier_{chronic}$

The CV for the data set must be determined before the multipliers can be selected and will vary depending on the number of samples and the standard deviation of a data set. If the data set is less than 10 samples, or at least 80% of the samples in the data set are reported as non-detect, the CV shall be set equal to 0.6.

For copper, the following data was used to develop the acute and chronic LTA using Table 1 of the SIP:

No. of Samples	**CV**	**$Multiplier_{acute}$**	**$Multiplier_{chronic}$**
14	0.6	0.321	0.527

LTA_{acute} = 44.3 µg/L x 0.321 = 14.2 µg/L

$LTA_{chronic}$ = 26.5 µg/L x 0.527 = 14.0 µg/L

Step 3: Select the most limiting (lowest) of the LTA.

LTA = most limiting of LTA_{acute} or $LTA_{chronic}$

For copper, the most limiting LTA was the $LTA_{chronic}$

LTA = 14.0 µg/L

Step 4: Calculate the WQBELs by multiplying the LTA by a factor (multiplier). WQBELs are expressed as Average Monthly Effluent Limitations (AMEL) and Maximum Daily Effluent Limitations (MDEL). The multiplier is a statistically based factor that adjusts the LTA for the averaging periods and exceedance frequencies of the criteria/objectives and the effluent limitations. The value of the multiplier varies depending on the probability basis, the coefficient of variation (CV) of the data set, the number of samples (for AMEL) and whether it is monthly or daily limit. Table 2 of the SIP provides pre-calculated values for the multipliers based on the value of the CV and the number of samples. Equations to develop the multipliers in place of using values in the tables are provided in section 1.4, Step 5 of the SIP and will not be repeated here.

$AMEL_{aquatic\ life} = LTA \times AMEL_{multiplier}$

$MDEL_{aquatic\ life} = LTA \times MDEL_{multiplier}$

AMEL multipliers are based on a 95th percentile occurrence probability, and the MDEL multipliers are based on the 99th percentile occurrence probability. If the number of samples is less than four (4), the default number of samples to be used is four (4).

For copper, the following data was used to develop the AMEL and MDEL for aquatic life using Table 2 of the SIP:

No. of Samples	**CV**	**$Multiplier_{MDEL}$**	**$Multiplier_{AMEL}$**
14	0.6	3.11	1.55

$AMEL_{aquatic\ life} = 14.0 \times 1.55 = 21.7$ µg/L

$MDEL_{aquatic\ life} = 14.0 \times 3.11 = 43.6$ µg/L

Step 5: For the ECA based on human health, set the AMEL equal to the $ECA_{human\ health}$

$AMEL_{human\ health} = ECA_{human\ health}$

However, for copper, the $ECA_{human\ health}$ = Not Available. The CTR does not contain a numeric Copper criterion protective of human health for organism only; therefore, it was not possible to develop a Copper AMEL based on human health criteria.

Step 6: Calculate the MDEL for human health by multiplying the AMEL by the ratio of the $Multiplier_{MDEL}$ to the $Multiplier_{AMEL}$. Table 2 of the SIP provides pre-calculated ratios to be used in this calculation based on the CV and the number of samples.

A copper $MDEL_{human\ health}$ could not be calculated because a copper $AMEL_{human\ health}$ was not available. There are no criteria protective of human health for copper; therefore, none of the limitations for copper are based on human health criteria.

Step 7: Select the lower of the AMEL and MDEL based on aquatic life and human health as the water-quality based effluent limit for the Order.

$AMEL_{aquatic\ life}$	$MDEL_{aquatic\ life}$	$AMEL_{human\ health}$	$MDEL_{human\ health}$
22 µg/L	44 µg/L	Not Applicable	Not Applicable

For copper, there are no human health criteria; therefore, the AMEL and MDEL based on aquatic life criteria are considered for WQBELs. The lowest (most restrictive) effluent limits, those based on aquatic life criteria, were incorporated into this Order.

16. Fact Sheet, Page 10, Table 1, Effluent Limitations No. 1. Replace the table with the following:

Constituents	Units	30-Day Arithmetic Mean Discharge Rate [4]	7-Day Arithmetic Mean Discharge Rate [5]
Flow	MGD	4.3	--
20^{o} C BOD_5 [6]	mg/L [7] lb/day [8]	30 1,100 [9]	45 1,600
Total Suspended Solids	mg/L lb/day	36 1,300	53 1,900

17. Fact Sheet, Page 10, Table 1, Effluent Limitations No. 4. Replace No. 4 with the following:

"4. The bacterial density in the wastewater effluent discharged to the New River shall not exceed the following values, as measured by the following bacterial indicators:

a. *E. Coli*. The 30-day geometric mean bacterial density shall not exceed a Most Probable Number (MPN) of 126 MPN per 100 milliliters, nor shall any sample exceed the maximum allowable bacterial density of 400 MPN per 100 milliliters.

b. Enterococci. The 30-day geometric mean bacterial density shall not exceed a Most Probable Number (MPN) of 33 MPN per 100 milliliters, nor shall any sample exceed the maximum allowable bacterial density of 100 MPN per 100 milliliters.

c. Fecal Coliform. The 30-day geometric mean bacterial density shall not exceed a Most Probable Number (MPN) of 200 MPN per 100 milliliters, nor shall more than ten percent of the total samples during any 30-day period exceed 400 MPN per 100 milliliters."

18. Fact Sheet, Page 11, Effluent Limitations No. 6. Replace the table with the following:

Constituents	Units	Date Effluent Limit Becomes Effective	Average Monthly Effluent Limit [10]	Maximum Daily Effluent Limit [10]
Copper [11] (interim)	µg/L	June 25, 2008	30	44
Copper [11] (final)	µg/L	January 14. 2009	22	44

19. Fact Sheet, Page 11, Effluent Limitations. Add the following new effluent limitation:

"7. Discharges of wastes or wastewater shall not increase the total dissolved solids content of receiving waters, unless it can be demonstrated to the satisfaction of the Regional Water Board that such an increase in total dissolved solids does not adversely affect beneficial uses of receiving waters."

20. Fact Sheet, Page 11, Receiving Water Limitations. Add the following new receiving water limitation as 1.m.:

"m. The concentration of total dissolved solids in the New River to exceed an annual average concentration of 4,000 mg/L or an instantaneous maximum concentration of 4,500 mg/L"

21. Attachment A, Delete the entire attachment and replace with the following:

Attachment A – Summary Water Quality-Based Effluent Limit Calculations

The water quality-based effluent limits developed for this Board Order are summarized below and were calculated as described in the methodology summarized in the Fact Sheet.

Priority Pollutant	**Human Health Calculations**			**Aquatic Life Calculations**											**Selected Limits**	
	Human Health			Freshwater												
	AMEL = ECA = C hh	MDEL/AMEL multiplier	MDEL hh	ECA acute = C acute	ECA acute multiplier	LTA acute	ECA chronic = C chronic	ECA chronic multiplier	LTA chronic	Lowest LTA	AMEL multiplier 95	AMEL aquatic life	MDEL multiplier 99	MDEL aquatic life	AMEL	MDEL
	ug/L		ug/L	ug/L		ug/L	ug/L		ug/L	ug/L		ug/L		ug/L	ug/L	ug/L
Copper	N/A	N/A	N/A	44.3	0.321	14.2	26.5	0.527	14.0	14.0	1.55	21.7	3.11	43.6	22	44

Notes:

C = Water Quality Criteria
hh = human health
AMEL = Average monthly effluent limitation
MDEL = Maximum daily effluent limitation
ECA = Effluent concentration allowance
LTA = Long-term average concentration

I, Robert E. Perdue, Executive Officer, do hereby certify the following is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Colorado River Basin Region, on June 25, 2008.

ROBERT E. PERDUE, Executive Officer

ATTACHMENT A – PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Colorado River Basin Region (Regional Water Board) is considering the amendment of Waste Discharge Requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for City of Calexico Wastewater Treatment Plant. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was published in the following newspapers: Desert Sun and Imperial Valley Press. In addition, copies of the proposed permit were sent to interested agencies and persons.

B. Written Comments

The Regional Water Board staff's determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments should be submitted either in person or by mail to the Executive Officer at the Regional Water Board at the address above on the cover page of this Order.

Comments made in reference to the Biological Assessment and USEPA's approval letter should be directed to:

Matthew Mitchell
USEPA
75 Hawthorne Street (WTR-5)
San Francisco, CA 94105

To be fully responded to by staff and considered by the Regional Water Board and USEPA, written comments should be received at the Regional Water Board and USEPA offices by 5:00 p.m. on May 16, 2008.

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date:	June 25, 2008
Time:	10:00 a.m.
Location:	City Council Chambers City of Indio 150 Civic Center Mall Indio, CA 92201

Interested persons are invited to attend. At the public hearing, the Regional Water Board will take testimony pertinent to the discharge, WDRs, and permit. For accuracy of the record, however, a written copy of the proposed oral testimony to be given should be provided prior to or at the hearing.

Please be aware that dates and venues of the Regional Water Board's public meeting and hearing may change. The latest information concerning any scheduling changes can be found at the Regional Water Board's website: **http://www.waterboards.ca.gov/coloradoriver/**.

Any person who is disabled and requires special accommodations to participate in this public meeting and hearing, please contact Hilda Vasquez at (760) 776-8950 no later than ten (10) days before the scheduled event.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within thirty (30) days of the Regional Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
1001 I Street
P.O. Box 100
Sacramento, CA 95812-0100

E. Information and Copying

Information related to the discharge facility and this proposed amendment, including any comments received on the proposed amendment are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (760) 346-7491.

F. Register of Interested Persons

If you are interested in being placed on the mailing list for information regarding the WDRs and NPDES permit, please contact the Regional Water Board, reference this facility, and provide your name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this draft order should be directed to Kirk Larkin, Water Resources Control Engineer, at (760) 776-8964.