

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

TIME SCHEDULE ORDER R5-2010-0904

REQUIRING THE CITY OF MERCED
MERCED WASTEWATER TREATMENT FACILITY
MERCED COUNTY
TO COMPLY WITH REQUIREMENTS PRESCRIBED IN ORDER R5-2008-0027
(NPDES PERMIT NO. CA0079219)

The Executive Officer of the California Regional Water Quality Control Board, Central Valley Region, (hereafter Central Valley Water Board) finds that:

1. On 14 March 2008, the Central Valley Water Board adopted Waste Discharge Requirements (WDR) Order R5-2008-0027 authorizing the City of Merced (hereafter Discharger) to discharge treated wastewater from the Discharger's wastewater treatment facility (hereafter Facility) to Hartley Slough, the Merced Wildlife Management Area (WMA), and cropland.
2. WDR Order R5-2008-0027 contains final effluent limitations for Discharge Points 001 and 002 in section IV.A.1, which reads, in part, as follows:

a.

Table 6. Effluent Limitations – Discharge Points 001 and 002

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Biochemical Oxygen Demand, 5-day @ 20°C	mg/L	10	15	20
	lbs/day ¹	1001	1501	2002
Total Suspended Solids	mg/L	10	15	20
	lbs/day ¹	1001	1501	2002
Settleable Solids	mL/L	0.1	--	0.2
Cyanide	ug/L	3.8	--	9.5
Dibromochloromethane	ug/L	0.41	--	0.89
Dichlorobromomethane	ug/L	0.56	--	1.0

¹ Based on a design monthly average dry weather flow of 12.0 MGD (see Provision VI.C.2.a).

g. **Turbidity:** . . . effluent turbidity shall not exceed the following:

- i. 2 NTU as a daily average;
- ii. 5 NTU more than 5 percent of the time within a 24-hour period; and
- iii. 10 NTU at any time.

- h. **Total Coliform Organisms:** Effluent total coliform organism concentrations shall not exceed the following:
 - i. 2.2 MPN/100 mL as a seven-day median;
 - ii. 23 MPN/100 mL more than once in any 30-day period; and
 - iii. 240 MPN/100 mL at any time.
- i. **Percent Removal:** The average monthly percent removal of BOD 5-day 20°C and total suspended solids shall not be less than 90 percent.

3. WDR Order R5-2008-0027 contains final discharge specifications for Discharge Point 003 (WMA) in section IV.B.1.a, which reads, in part, as follows:

a.

Table 9. Discharge Specifications WMA:

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Cyanide	ug/L	3.8	--	9.5

- 4. WDR Order R5-2008-0027, Provision VI.C.7.a provides a compliance schedule requiring the Discharger to comply with the final effluent limitations at Discharge Points 001 and 002 for cyanide, dibromochloromethane, and dichlorobromomethane presented in Finding 2, above, by 18 May 2010. WDR Order R5-2008-0027, Provision VI.C.7.a also provides a compliance schedule requiring the Discharger to comply with the final discharge specifications at Discharge Point 003 for cyanide presented in Finding 3, above, by 18 May 2010.
- 5. WDR Order R5-2008-0027, Provision VI.C.7.d contains a compliance schedule requiring the Discharger to comply with the final effluent limitations at Discharge Points 001 and 002 for biochemical oxygen demand (BOD), total suspended solids (TSS), settleable solids, total coliform organisms, turbidity, and BOD/TSS percent removal presented in Finding 2, above, by 18 May 2010.
- 6. California Water Code (CWC) section 13300 states:

Whenever a regional board finds that a discharge of waste is taking place or threatening to take place that violates or will violate requirements prescribed by the regional board, or the state board, or that the waste collection, treatment, or disposal facilities of a discharger are approaching capacity, the board may require the discharger to submit for approval of the board, with such modifications as it may deem necessary, a detailed time schedule of specific actions the discharger shall take in order to correct or prevent a violation of requirements.
- 7. Federal regulations, 40 CFR 122.44 (d)(1)(i), require that NPDES permit effluent limitations must control all pollutants which are or may be discharged at a level which will

cause or have the reasonable potential to cause or contribute to an in-stream excursion above any State water quality standard, including any narrative criteria for water quality. Beneficial uses, together with their corresponding water quality objectives or promulgated water quality criteria, can be defined per federal regulations as water quality standards.

8. CWC subsections 13385(h) and (i) require the Central Valley Water Board to impose mandatory minimum penalties upon dischargers that violate certain effluent limitations. CWC section 13385(j)(3) provides protection from mandatory minimum penalties for violations of an effluent limitation when:

... the waste discharge is in compliance with either a cease and desist order issued pursuant to Section 13301 or a time schedule order issued pursuant to Section 13300 or 13308, if all of the following requirements are met:

(A) The 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 subdivisions (h) and (i).

(B) The regional board finds that, for one of the following reasons, 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:

(i) The effluent limitation is a new, more stringent, or modified 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 limitation 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 limitation. For the purposes of this subdivision, the time schedule may not exceed five years in length.... If the time schedule exceeds one year from the effective date of the order, the schedule shall include interim requirements and the dates for their achievement. The interim requirements shall include both of the following:

(i) Effluent limitations for the pollutant or pollutants of concern.

(ii) Actions and milestones leading to compliance with the effluent limitation.

(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 Section 13263.3.

In accordance with CWC section 13385(j)(3), and based upon effluent monitoring results, the Discharger is unable to consistently comply with final BOD, TSS, settleable solids, total coliform organisms, turbidity, BOD/TSS percent removal, cyanide, dibromochloromethane, and dichlorobromomethane effluent limitations at Discharge Points 001 and 002 contained in WDR Order R5-2008-0027. In addition, the Discharger

is unable to consistently comply with final cyanide effluent limitations at Discharge Point 003 contained in WDR Order R5-2008-0027.

The final effluent limitations contained in WDR Order R5-2008-0027, section IV.A.1 for cyanide, dibromochloromethane, and dichlorobromomethane at Discharge Points 001 and 002 are based on implementation of the California Toxics Rule. The final discharge specification contained in WDR Order R5-2008-0027, section IV.B.1.a for cyanide at Discharge Point 003 is based on the United States Environmental Protection Agency's National Recommended Water Quality Criteria. The final effluent limitations contained in WDR Order R5-2008-0027, section IV.A.1 for BOD, TSS, settleable solids, total coliform organisms, turbidity, and BOD/TSS percent removal are based on tertiary treatment requirements. The final effluent limitations presented above are new requirements that will become applicable to the discharge on 18 May 2010, and new or modified control measures will need to be implemented to comply with the limitations, and these new or modified control measures cannot be completed and put into operation within 30 calendar days. This Order requires the Discharger to prepare and implement a pollution prevention plan (PPP) pursuant to CWC section 13263.3 for cyanide, dibromochloromethane, and dichlorobromomethane. A PPP for BOD, TSS, settleable solids, total coliform organisms, and turbidity is unnecessary for the reasons described in the Finding 9, below, and the Discharger has met the requirements of CWC section 13263.3 for these constituents.

9. BOD, TSS, settleable solids, and total coliform organisms are components of human sewage and are not feasible to reduce by pollution prevention, but are dependent on additional control measures such as tertiary treatment, which is currently under construction at the Facility. Turbidity is an operational parameter used to confirm the effectiveness of tertiary treatment systems and not a water quality based requirement in WDR Order R5-2008-0027. Thus, no additional pollution prevention measures or source control measures are necessary for BOD, TSS, settleable solids, total coliform organisms, and turbidity once the Discharger implements tertiary treatment.
10. In April 2005, the Discharger filed a Report of Waste Discharge to expand the treatment capacity of the Facility and to upgrade the Facility to include, among other improvements, tertiary treatment and ultraviolet disinfection. The Facility upgrades are the Discharger's primary means of complying with the new effluent limitations for cyanide, dibromochloromethane, dichlorobromomethane, BOD, TSS, settleable solids, total coliform organisms, turbidity, and BOD/TSS percent removal.
11. In a letter dated 8 January 2010, the Discharger stated that additional time is required to comply with the final effluent limitations for cyanide, dibromochloromethane, dichlorobromomethane, BOD, TSS, settleable solids, total coliform organisms, turbidity, and BOD/TSS percent removal. The Discharger is currently in the construction phase of the tertiary treatment and ultraviolet disinfection upgrades, which are not scheduled for completion until June 2011. The Discharger requests an additional three months beyond

June 2011 to account for unforeseen construction delays and start-up testing and adjustments.

12. This Order provides a time schedule that is as short as possible for the Discharger to develop, submit, and implement methods of compliance, including developing and implementing pollution prevention activities and constructing necessary treatment facilities to meet the final effluent limitations described herein.
13. Since the time schedule for completion of actions necessary to bring the waste discharge into compliance exceeds one year, this Order includes interim requirements and dates for their achievement. The time schedule does not exceed five years.
14. The compliance time schedule in this Order includes interim performance-based effluent limitations at 1) Discharge Points 001 and 002 for cyanide, dibromochloromethane, and dichlorobromomethane and 2) Discharge Point 003 for cyanide. The interim effluent limitations consist of a maximum daily effluent concentration derived using sample data provided by the Discharger for the period of January 2007 to February 2010. In developing the performance-based interim limitations, where there are 10 sampling data points or more, sampling and laboratory variability is accounted for by establishing interim limitations that are based on normally distributed data where 99.9 percent of the data points will lie within 3.3 standard deviations of the mean (*Basic Statistical Methods for Engineers and Scientists, Kennedy and Neville, Harper and Row, 3rd Edition, January 1986*). The following table summarizes the calculations of the interim performance-based effluent limitations:

Interim Effluent Limitation Calculation Summary

Parameter	Units	MEC	Mean ¹	Std. Dev. ¹	# of Samples	Interim Limitation
Cyanide	µg/L	11	5.9	3.4	26	17
Dibromochloromethane	µg/L	4.75	2.5	1.0	26	5.8
Dichlorobromomethane	µg/L	18	10.7	3.2	26	21

¹ Non-detect results were assumed to be equal to one-half the detection limit for the purposes of calculating the mean and standard deviation.

15. The compliance schedule in this Order also includes interim effluent limitations at Discharge Points 001 and 002 for BOD, TSS, settleable solids, total coliform organisms, and BOD/TSS percent removal consistent with the interim effluent limitations for these constituents in WDR Order R5-2008-0027.
16. The Discharger can, in addition to other treatment and control options, undertake source control to maintain compliance with the interim limitations included in this Order. Interim limitations are established when compliance with the final effluent limitations cannot be achieved by the existing discharge. Discharge of constituents in concentrations in excess of the final effluent limitations, but in compliance with the interim effluent

limitations, can significantly degrade water quality and adversely affect the beneficial uses of the receiving stream on a long-term basis. The interim limitations, however, establish an enforceable ceiling concentration until compliance with the effluent limitations can be achieved.

17. The Executive Officer has provided a 30-day public comment period and addressed all pertinent comments.
18. Issuance of this Order is exempt from the provisions of CEQA (Pub. Resources Code § 21000 et seq.) in accordance with CWC section 13389 and California Code of Regulations, title 14, section 15321(a)(2).

IT IS HEREBY ORDERED pursuant to sections 13300 and 13267 of the California Water Code, that:

1. The Discharger shall comply with the following time schedule to ensure compliance with 1) final BOD, TSS, settleable solids, total coliform organisms, turbidity, BOD/TSS percent removal, cyanide, dibromochloromethane, and dichlorobromomethane effluent limitations at Discharge Points 001 and 002 contained in WDR Order R5-2008-0027, section IV.A.1 and 2) final cyanide effluent limitations at Discharge Point 003 contained in WDR Order R5-2008-0027, section IV.B.1.a., as described in the above Findings:

<u>Task</u>	<u>Date Due</u>
a. Submit and begin implementing a Pollution Prevention Plan (PPP) ¹ pursuant to CWC section 13263.3 for cyanide, dibromochloromethane, and dichlorobromomethane.	18 November 2010
b. Submit progress reports ² .	Semi-annually, 1 February and 1 August until final compliance
c. Achieve full compliance with final BOD, TSS, settleable solids, total coliform organisms, turbidity, BOD/TSS percent removal, cyanide, dibromochloromethane, and dichlorobromomethane effluent limitations at Discharge Points 001 and 002 contained in WDR Order R5-2008-0027, section IV.A.1.	30 September 2011

- | <u>Task</u> | <u>Date Due</u> |
|--|--------------------------|
| d. Achieve full compliance with final cyanide effluent limitations at Discharge Point 003 contained in WDR Order R5-2008-0027, section IV.B.1.a. | 30 September 2011 |

¹ The PPP shall be prepared and implemented for cyanide, dibromochloromethane, and dichlorobromomethane and shall meet the requirements specified in CWC section 13263.3. The PPP shall describe pollution prevention activities the Discharger will implement in the short-term (i.e., pending completion of tertiary treatment) and the long-term to reduce effluent concentrations for cyanide, dibromochloromethane, and dichlorobromomethane.

² The progress reports shall detail what steps have been implemented towards achieving compliance with waste discharge requirements, including studies, construction progress, evaluation of measures implemented, and recommendations for additional measures as necessary to achieve full compliance by the final date.

2. The following interim effluent limitations at Discharge Points 001 and 002 for cyanide, dibromochloromethane, and dichlorobromomethane shall be effective upon issuance of this Order. The interim effluent limitations shall be effective through **30 September 2011**, or when the Discharger is able to come into compliance with final effluent limitations, whichever is sooner:

a.

Parameter	Units	Maximum Daily
Cyanide	µg/L	17
Dibromochloromethane	µg/L	5.8
Dichlorobromomethane	µg/L	21

3. The following interim effluent limitations at Discharge Points 001 and 002 for BOD, TSS, settleable solids, total coliform organisms, BOD/TSS percent removal shall be effective upon issuance of this Order. The interim effluent limitations shall be effective through **30 September 2011**, or when the Discharger is able to come into compliance with final effluent limitations, whichever is sooner:

a.

Parameter	Units	Average Monthly	Average Weekly	Maximum Daily
Biochemical Oxygen Demand, 5-day @ 20°C (BOD)	mg/L	30	45	90
	lbs/day	2877	4316	8632
Total Suspended Solids (TSS)	mg/L	30	45	90
	lb/day	2877	4316	8632
Settleable Solids	mL/L	0.2	--	1.0

b. **Total Coliform Organisms:** Total coliform organisms concentrations shall not exceed the following:

- i. 23 MPN/100 mL as a seven-day median; and
- ii. 240 MPN/100 mL as a daily maximum.

c. **BOD/TSS Percent Removal:** The average monthly percent removal of BOD 5-day (at 20°C) and TSS shall not be less than 85 percent.

4. The following interim effluent limitation at Discharge Point 003 for cyanide shall be effective upon issuance of this Order. The interim effluent limitation shall be effective through **30 September 2011**, or when the Discharger is able to come into compliance with final effluent limitations, whichever is sooner:

a.

Parameter	Units	Maximum Daily
Cyanide	µg/L	17

5. For the compliance schedule required by this Order, the Discharger shall submit to the Central Valley Water Board on or before each compliance report due date, the specified document or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, the reasons for such noncompliance shall be stated, and shall include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board by letter when it returns to compliance with the time schedule.

Issuance of this Order does not preclude the Central Valley Water Board from taking additional enforcement actions against the Discharger. If compliance is not achieved by the full compliance date, the discharge will be subject to mandatory minimum penalties for violations of certain effluent limitations.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Resources Control Board to review the action in accordance with CWC section 13320 and Title 23, California Code of Regulations, Sections 2050 and following. The State Water Resources Control Board must receive the petition by 5:00 p.m., 30 days after the date that this Order becomes final, except that if the thirtieth day following the date that this Order becomes final falls on a Saturday, Sunday, or State holiday or furlough day, the petition must be received by the State Water Resources Control 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:

http://www.waterboards.ca.gov/public_notices/petitions/water_quality

or will be provided upon request.

This Order is effective upon the date of signature.

Original signed by Clay L. Rodgers for

PAMELA C. CREEDON, Executive Officer

18 May 2010

Date

MSS: 5/17/2010