

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER R5-2011-XXXX

AMENDING WASTE DISCHARGE REQUIREMENTS  
ORDER R5-2010-0114 (NPDES PERMIT NO. CA0077682)  
AND TIME SCHEDULE ORDER R5-2010-0115

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT  
SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT  
SACRAMENTO COUNTY

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

1. On 9 December 2010, the Central Valley Water Board adopted Waste Discharge Requirements Order R5-2010-0114, prescribing waste discharge requirements for the Sacramento Regional Wastewater Treatment Plant, Sacramento County. For the purposes of this Order, the Sacramento Regional County Sanitation District is hereafter referred to as "Discharger" and the Sacramento Regional Wastewater Treatment Plant is hereafter referred to as "Facility."
2. The treatment system consists of mechanical bar screens, aerated grit removal, primary sedimentation, pure oxygen activated sludge aeration, secondary clarification, chlorine disinfection with dechlorination and a diffuser for river discharge. Solids handling consists of dissolved air flotation thickeners, gravity belt thickeners, anaerobic digesters and sludge stabilization basins with disposal on-site through land application or biosolids recycling facility. Wastewater is discharged from the effluent outfall to the Sacramento River at Freeport, a water of the United States, and within the legal boundaries of the Sacramento – San Joaquin Delta.

**Changes to NPDES Permit (Order R5-2010-0114)**

3. **Monitoring for Legacy Compounds.** Order R5-2010-0114 includes Attachment E. Monitoring and Reporting Program, Section IV. B. Effluent Characterization Monitoring Location EFF-001 and Section VIII. Receiving Water Monitoring Requirements, which require monitoring effluent and receiving water for specific pesticides and chemical constituents. Some of the chemical constituents are identified below in Tables 1 and 2:

Table 1 - Non-CTR Persistent Chlorinated Hydrocarbon pesticides:

Captan	Dicamba	Isodrin	Mirex
2,4-D	Dichloran	Kepone	PCNB
2,4-DB	Dichloroprop	MCPP	Perthane
2,4-D Compounds	Dicofol	MCPA	Strobane
Dalapon	Dinoseb	Methoxychlor	2,4,5-T Compounds
2,4,5-TP (Silvex)			

Table 2 - Other Chemicals of Concern:

Alachor	1,2-dibromo-3-Chloropropane (DBCP)	Oxamyl	Sulfate
Atrazine	Molinate	Sulfite	Sulfide
Barium	Di(2-ethylhexyl)adipate	Thiobencarb	Trichlorofluoromethane
Bentazon	Endothal	Tributyltin	1,1,2-trichloro-1,2,2-trifluoroethane
Carbofuran	Ethylene Dibromide	Picloram	Xylenes
NEMA & NDEA	Flouride	Radionuclides	Disulfoton
Total Chromium	Glyphosate	Simazine	
Diquat	MBAS	Styrene	

The Discharger has identified several of these constituents in Tables 1 and 2 that are no longer available for use, are used under restricted conditions, or historically have not been detected in the effluent or receiving water. Therefore, Order R5-2010-0114 is modified to remove the Chemical constituents described below in Table 3 from the Monitoring and Reporting Program, Section IV. B. Effluent Characterization Monitoring Location EFF-001 and Section VIII. Receiving Water Monitoring Requirements.

Table 3 – Constituents Removed from MRP

Dalapon, Dinoseb, 2,4,5-T Compounds, Methoxychlor, Kepone, Mirex, Perthane, Strobane, Isodrin, Molinate, Picloram	Registration has expired for these chemicals and use is not allowed in California
2,4,5-TP (Silvex), Alachlor, Bentazon, Oxamyl	Registered with Department of Pesticides Regulation (DPR) but has not been used in the area since 2000
Dichloroprop, Dichloran, 2,4-DB, Pentachloronitrobenzene (PCNB), Dicofol	Registered with DPR but limited use
Captan, MCPP, MCPA, 2,4-D, Dicamba, Endothal	Registered but not detected

4. **Total Kjeldahl Nitrogen (TKN) Monitoring.** Order R5-2010-0114 includes Attachment E. Monitoring and Reporting Program, Section IV. A. Monitoring Location EFF-001, which requires effluent monitoring for Total Kjeldahl Nitrogen (TKN) as a weekly 24-hour composite sample. Ammonia, nitrate and nitrite samples are required to be collected as grab samples instead of 24-hour composite samples in the MRP due to preservation requirements and need for pH

and temperature monitoring at the time of collection. In order to be consistent with the monitoring types for the other nitrogen compounds, , Order R5-2010-0114 is modified to collect TKN samples as grab samples.

- 5. Total Coliform Organisms Monitoring.** Order R5-2010-0114 includes Attachment E. Monitoring and Reporting Program, Section IV. A. Monitoring Location EFF-001, which requires effluent monitoring for total coliform organisms shall be monitored at monitoring location EFF-001, which is described as the final dechlorinated effluent.

Historically, the Discharger has collected total coliform organisms samples after chlorination and prior to dechlorination. Locating the sample collection for total coliform organisms between chlorination and dechlorination is a standard practice in the monitoring of wastewater effluent. Therefore, Order R5-2010-0114 is modified to allow the monitoring for total coliform organisms to occur after chlorination and prior to dechlorination.

- 6. Compliance Determination with Receiving Water Limits.** Order R5-2010-0114 includes Receiving Surface Water Limitations V.A.5 for dissolved oxygen, V.A.8 for pH, and V.A.15 for temperature. Order R5-2010-0114 also includes Attachment E. Monitoring and Reporting Program, Section VIII. Receiving Water Monitoring Requirements, which require receiving water monitoring for dissolved oxygen, temperature and pH upstream of the effluent discharge and three locations at various distances downstream of the discharge. Compliance determination language is needed to specify how compliance will be determined with these receiving water limitations. Therefore, Order R5-2010-0114 is modified to include compliance determination language for dissolved oxygen, pH and temperature.
- 7. pH Monitoring.** Order R5-2010-0114 includes Attachment E. Monitoring and Reporting Program, Section IV. A. Monitoring Location INF-001 which requires influent monitoring for pH as a continuous meter monitoring. However, in order to accurately and continuously monitor pH the meter must be periodically cleaned and calibrated. The Discharger has determined cleaning and calibrating the pH meter will require approximately 30 minutes three times each day. In order to provide pH monitoring data during the cleaning and calibrating of the pH meter, grab samples will be taken.

Allowing grab sampling during times when the pH meter is cleaned and calibrated will provide data without substantially limiting the pH database. Therefore, Order R5-2010-0114 is modified to allow for grab samples of pH during cleaning and calibration of the pH meter.

- 8. Municipal Water Supply Monitoring.** Order R5-2010-0114 includes Attachment E. Monitoring and Reporting Program, Section IX. B. Other Water Quality Monitoring – Municipal Water Supply, which requires municipal water supply

monitoring for total dissolved solids (TDS), electrical conductivity (EC) and standard minerals. Most NPDES discharge Monitoring and Reporting Programs (MRPs) require monitoring for TDS and EC in the municipal water supply. The purpose of this monitoring is to evaluate the efficacy of salt minimization plans. The Discharger is a regional facility that covers about 20 individual water purveyors. The Discharger expresses difficulty in collecting the water quality data since there are so many water purveyors, over 200 groundwater wells and the Discharger has no authority to require data from water purveyors. The Discharger suggests instead of the standard water quality data monitoring for water supply as required in the MRP, an annual report to be submitted as a study provision requirement of the permit that contains an annual water supply characterization. The water supply characterization would include data from the water purveyors and other publically available databases. The water supply characterization would provide a weighted average of groundwater and surface TDS and EC. Order R5-2010-0114 is modified to include an annual technical report on the water quality for TDS and EC for the municipal water supply and eliminates the Municipal Water Supply monitoring in the MRP.

9. **Recycled Water Use.** Order 5-00-188, the previous NPDES permit, allowed exceptions to the Discharge Prohibitions for use of disinfected secondary effluent for dust control, compaction for construction projects, landscape irrigation, wash down water, vehicle washing and grounds maintenance within the plant site. Use of disinfected secondary effluent is consistent with Title 22 Code of Regulations for the uses described above. The Water Quality Control Plan for the Sacramento and San Joaquin River Basins encourages the use of recycled treated wastewater. Order R5-2010-0114 does not include this allowance for on-site recycled water usage in the Discharge Prohibitions. Order R5-2010-0114 is modified to allow on-site use of disinfected secondary effluent.
10. **Mercury Monitoring.** Order R5-2010-0114 includes Attachment E. Monitoring and Reporting Program, Section IV. B. Effluent Characterization Monitoring Location EFF-001, which requires effluent monitoring for mercury as a “clean technique” grab sample. Historically, the Discharger collected 24-hour composite samples for mercury and it is these samples that the final mass load performance-based limit was calculated. From January 2011 to July 2011, the grab samples for mercury show greater mercury concentrations than the 24-hour composite samples by about 20 percent. The Discharger does not know why the grab samples concentrations are higher and is concerned about violating the annual mass mercury limit. The Discharger’s effluent sample building is set up with a “clean room” structure to ensure for ultra-low level sample acquisition. The Discharger argues the federal pretreatment requirements mandate a 24-hour composite except for those that require grab sampling due to analytical necessity (cyanide, oil and grease, volatiles). Plus all other metals are sampled and collected as 24-hour composites. Additionally, to be consistent and comparable, methylmercury should be collected as 24-hour composite samples instead of grab

samples. Therefore, the MRP is modified to require 24-hour composite samples instead of grab samples.

11. **Manganese Limitation.** Order R5-2010-0114 includes a performance-based final maximum daily effluent limit (MDEL) for manganese to cap the Facility at its current performance. The Discharger violated the manganese maximum daily limit in February and May 2011. The manganese limit was based on a limited dataset of 30 data points from April – June 2009. The Discharger has since collected additional data on manganese and the maximum effluent concentration (MEC) is greater than the performance-based limit. The performance-based final MDEL is 85 µg/L, but the MEC is now 270 µg/L. The water quality-based limit was calculated as 2700 µg/L with the dilution credits allowed in Order R5—2010-0114. The performance-based limit was adopted because, based on the available effluent data it appeared the Discharger could comply with it, and the water quality-based limit was unreasonably high. Recalculating the performance-based effluent limit using the procedures described in the Fact Sheet (Attachment F) Section IV.D.6 of Order R5-2010-0114 results in a MDEL of 270 µg/L. Order R5-2010-0114 is modified to include a recalculated final performance-based limit of 270 µg/L, based on the new manganese data.
12. **Miscellaneous Corrections.** Order R5-2010-0114 contained a number of typographical errors and inconsistencies. Order R5-2010-0114 is modified to correct these typographical errors and inconsistencies.
13. Issuance of modifications to the NPDES Permit are exempt from the California Environmental Quality Control Act (Public Resources Code section 21000, et seq.) in accordance with Water Code section 13389.

### **Changes to Time Schedule Order (TSO R5-2010-0115)**

14. Order R5-2010-0114 includes a final limit for diazinon and chlorpyrifos based on the Delta Total Maximum Daily Load (TMDL) for diazinon and chlorpyrifos as presented below:

Final Effluent Limit

$$S_{AMEL} = \frac{C_{D-avg}}{0.08} + \frac{C_{C-avg}}{0.012} \leq 1.0$$

$C_{D-avg}$  = average monthly diazinon effluent concentration in µg/L

$C_{C-avg}$  = average monthly chlorpyrifos effluent concentration in µg/L

The Discharger has detected chlorpyrifos that would result in violations of the limit, so Time Schedule Order (TSO) R5-2010-0115 allows a compliance schedule. There have been no detections of diazinon since 2004, so the TSO

includes an interim limit for chlorpyrifos, but not for diazinon. The interim limit for chlorpyrifos is 0.12 µg/L as a daily maximum.

TSO R5-2010-0115 is modified to include a modified interim limit using best professional judgment to be consistent with the final limit, which is a combined diazinon and chlorpyrifos limit. The final limit uses the criteria for diazinon and chlorpyrifos in the denominator as shown above. For the interim limit, the performance-based limit is used in the denominator instead. The interim limit for chlorpyrifos is 0.12 µg/L, whereas the final limit is 0.012 µg/L. Since, there are no detections of diazinon, the denominator would remain the same as the final limit (i.e., 0.08 µg/L). The modified interim limit would be as follows:

Interim Effluent Limit

$$S_{AMEL} = \frac{C_{D-avg}}{0.08} + \frac{C_{C-avg}}{0.12^*} \leq 1.0$$

*\*Note the final limit has 0.012 in denominator vs 0.12 in interim limit denominator.*

$C_{D-avg}$  = average monthly diazinon effluent concentration in µg/L

$C_{C-avg}$  = average monthly chlorpyrifos effluent concentration in µg/L

15. Orders R5-2010-0114 and R5-2010-0115 may be reopened and modified in accordance with 40 CFR 122.62(a)(2).
16. Issuance of modifications to the Time Schedule Order is exempt from the provisions of the California Environmental Quality Act (Public Resources Code section 21000, et seq.), in accordance with California Code of Regulations, title 14, section 15321(a)(2).
17. The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to amend Waste Discharge Requirements and the Monitoring Program Requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations.
18. Any person adversely affected by this action of the Board may petition the State Water Resources Control Board to review this action. The petition must be received by the State Water Resources Control Board, Office of the Chief Counsel, P.O. Box 100, Sacramento, CA 95812-0100, within 30 days of the date on which this action was taken. Copies of the law and regulations applicable to filing petitions will be provided on request.

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SACRAMENTO COUNTY

**IT IS HEREBY ORDERED THAT:**

Waste Discharge Requirements Order R5-2010-0114 (NPDES No. CA0077682) and Time Schedule Order R5-2010-0115 are amended as shown in underline/strikeout format in Attachment 1 and 2 to this Order, respectively.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 1 December 2011.

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PAMELA C. CREEDON, Executive Officer