

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

RESOLUTION NO. R5-2010-0047

AMENDMENTS TO THE WATER QUALITY CONTROL PLAN FOR THE
SACRAMENTO AND SAN JOAQUIN RIVER BASINS TO ESTABLISH SITE-SPECIFIC
WATER QUALITY OBJECTIVES FOR CHLOROFORM,
CHLORODIBROMOMETHANE, AND DICHLOROBROMOMETHANE FOR NEW
ALAMO AND ULATIS CREEKS, SOLANO COUNTY, AND PERMIT
IMPLEMENTATION PROVISIONS

Whereas, the California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) finds that:

1. In 1975, the Central Valley Water Board adopted the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Basin Plan), which has been amended occasionally.
2. The Basin Plan may be amended in accordance with the California Water Code (Water Code) section 13240, et seq.
3. Water Code section 13241 authorizes the Central Valley Water Board to establish water quality objectives and Water Code section 13242 sets forth the requirements for a program for implementation for achieving water quality objectives.
4. The Federal Clean Water Act (CWA) section 303 requires the Central Valley Water Board to develop water quality objectives that are sufficient to protect beneficial uses designated for each water body found within its region.
5. The CWA section 303 requires the Central Valley Water Board to review the Basin Plan at least every three years and where appropriate modify water quality objectives or beneficial uses in the Basin Plan.
6. The United States Environmental Protection Agency (USEPA) promulgated criteria for priority toxic pollutants for surface waters of California in the California Toxics Rule (CTR) (40 CFR section 131.38). The CTR includes criteria for chlorodibromomethane and dichlorobromomethane. The criteria for carcinogens were derived using a 10^{-6} incremental cancer risk level. The preamble of the CTR acknowledges that the State has the discretion to adopt water quality criteria that protect to a higher risk level, as long as the most highly exposed subpopulations are protected (65 FR 31699).
7. The final CTR reserved promulgation of chloroform criteria to consider new data and analysis on chloroform's mode of action; although, there are federal recommended ambient water quality criteria for chloroform. The current recommended ambient water quality criteria for chloroform were derived using a 10^{-6} incremental cancer risk level.

8. The Policy for Implementation of Toxics Standards for Inland Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) implements criteria for priority pollutants, including THMs. However, the SIP does not address situations where water quality objectives for water bodies downstream of the first receiving water are more stringent than the water quality objectives for the first receiving water.
9. There is a need to refine the water quality criteria associated with chloroform, chlorodibromomethane and dichlorobromomethane applicable to the lower segments of New Alamo Creek and Ulati Creek because the current standards are based on the assumption that people are using these waters as their primary drinking water supply for their lifetime – a level of use that has never occurred in the past, is not currently occurring, and is not reasonably expected to occur in the future. As such, the current criteria are unnecessarily restrictive.
10. The Central Valley Water Board has prepared draft amendments which establish site-specific water quality objectives for chloroform, chlorodibromomethane and dichlorobromomethane to provide appropriate levels of human health protection based on past, present, and reasonable foreseeable future drinking water levels in New Alamo and Ulati Creeks and maintain current levels of MUN protection for THMs in water bodies downstream of the segments. The draft amendments also include permit implementation provisions for point source dischargers to Old Alamo Creek to assure the protection of MUN in New Alamo and Ulati Creeks.
11. The proposed amendments modify Basin Plan Chapter III (Water Quality Objectives) to add site-specific numeric objectives for chloroform, chlorodibromomethane and dichlorobromomethane in New Alamo and Ulati Creeks.
12. The proposed amendments modify Basin Plan Chapter IV (Implementation) to include permit implementation provisions for point source dischargers to Old Alamo Creek. The proposed amendments establish procedures for determination of need for water quality-based effluent limits and calculation of water quality-based effluent limitations for chloroform, chlorodibromomethane and dichlorobromomethane.
13. The proposed amendments modify Basin Plan Chapter V (Surveillance and Monitoring) to include monitoring requirements for point source discharges to Old Alamo Creek that contain detectable concentrations of chloroform, chlorodibromomethane or dichlorobromomethane.
14. The Central Valley Water Board has considered the factors set forth in Water Code section 13241, including economic considerations, in developing this proposed amendment. There are no costs associated with implementing the proposed amendment.
15. Central Valley Water Board staff developed a draft staff report and draft Basin Plan Amendment for independent, external scientific peer review in November 2009 in

accordance with Health and Safety Code Section 57004. The draft final staff report and amendment have been changed to conform to the recommendations of the peer reviewers or staff has provided sound rationale for why individual recommendations were not adopted.

16. The Central Valley Water Board finds that the scientific portions of the draft Basin Plan Amendment are based on sound scientific knowledge, methods, and practices in accordance with Health and Safety Code Section 57004.
17. The Central Valley Water Board finds that the proposed amendment is consistent with the State Water Resources Control Board (State Water Board) Resolution No. 68-16, in that the changes to water quality objectives (i) consider maximum benefit to the people of the state, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies, and that the proposed amendment is consistent with the federal Antidegradation Policy (Code of Federal Regulations, title 40, section 131.12). The proposed amendment requires that the current water quality be maintained. Such actions are of maximum benefit to the people of the state. The proposed amendment will not unreasonably affect present and anticipated beneficial uses nor result in water quality less than described in applicable policies because the amendment is intended to result in compliance with water quality objectives. The actions to be taken are not expected to cause other impacts on water quality.
18. The regulatory action proposed meets the "Necessity" standard of the Administrative Procedures Act, Government Code, section 11353, subdivision (b).
19. The basin planning process has been certified by the Resources Agency as an exempt regulatory program because its process adequately fulfills the purposes of the California Environmental Quality Act (CEQA). The Central Valley Water Board is therefore exempt from CEQA's requirements to prepare an environmental impact report, negative declaration, or initial study (Public Resources Code, section 21000 et seq.) for the proposed amendment. Central Valley Water Board staff has prepared the required documentation for adoption of a Basin Plan Amendment, including a completed environmental checklist and written report (Staff Report) prepared for the Board (California Code of Regulations, title 23, section 3777).
20. The Central Valley Water Board staff held a CEQA scoping meeting on 27 June 2008 to identify any significant issues that must be considered. A notice of the CEQA Scoping hearing was sent to interested parties including cities and counties with jurisdiction in or bordering New Alamo and Ulati creeks and Cache Slough.
21. Central Valley Water Board staff has prepared a draft amendment and a staff report dated April 2010. The staff report included a description of the proposed amendment and analysis of reasonable alternatives to the proposed amendment. The staff report included an analysis of the reasonably foreseeable environmental

impacts of the methods of compliance and an analysis of the reasonably foreseeable alternative methods of compliance with the proposed amendment. No environmental impacts were identified based on the analysis of the reasonably foreseeable methods of compliance.

22. Central Valley Water Board staff completed an environmental checklist that concluded that the proposed amendment results in no effect, either individually or cumulatively, on fish, wildlife or the environment.
23. Central Valley Water Board staff has circulated a Notice of Public Hearing, Notice of Filing, a written staff report, and environmental checklist, and a draft proposed amendment to interested individuals and public agencies, including persons having special expertise with regard to the environmental effects involved with the proposed amendment, for review and comment in accordance with state and federal environmental regulations (California Code of Regulations, title 23, section 3775; Code of Federal Regulations, title 40, sections 25 and 131).
24. All comments received regarding the draft Basin Plan amendments support adoption of the amendments and no response to the comments was necessary.
25. The Central Valley Water Board held a public hearing on 27 May 2010, for the purpose of receiving testimony on the draft Basin Plan amendment. Notice of the public hearing was sent to all interested persons and published in accordance with California Water Code section 13244.
26. Based on the record as a whole, including the draft Basin Plan amendments, the environmental document, accompanying written documentation, and public comments received, the Central Valley Water Board concurs with staff's conclusion that the amendments will result in no effect on fish, wildlife or the environment and therefore no mitigation measures are proposed.
27. A Basin Plan amendment must be approved by the State Water Board, Office of Administrative Law (OAL), and the U. S. Environmental Protection Agency (USEPA). The proposed amendment becomes effective under State law after OAL approval and becomes effective under the federal Clean Water Act after USEPA approval.
28. The Central Valley Water Board finds that the amendment to the Basin Plan was developed in accordance with California Water Code section 13240, et seq.

THEREFORE BE IT RESOLVED:

1. Pursuant to California Water Code section 13240, et seq., the Central Valley Water Board, after considering the entire record, including oral testimony at the hearing, and any late revisions, hereby approves the staff report and adopts the amendment to the Basin Plan as set forth in Attachment 1.

2. The Executive Officer is directed to forward copies of the Basin Plan amendment to the State Water Board in accordance with the requirements of California Water Code section 13245.
3. The Central Valley Water Board requests that the State Water Board approve the Basin Plan amendment in accordance with the requirements of California Water Code sections 13245 and 13246 and forward it to OAL and the USEPA. The Central Valley Water Board specifically requests USEPA approval of all Basin Plan amendment provisions that require USEPA approval.
4. If during its approval process the Central Valley Water Board staff, State Water Board or OAL determines that minor, non-substantive corrections to the language of the amendment are needed for clarity or consistency, the Executive Officer may make such changes, and shall inform the Central Valley Water Board of any such changes.
5. The Central Valley Water Board hereby approves and adopts the environmental documentation, which was prepared in accordance with Public Resources Code section 21159 and California Code of Regulations, title 14, section 15187, and directs the Executive Officer to sign the environmental checklist.
6. Following approval of the Basin Plan amendment by the OAL, the Executive Officer shall file a Notice of Decision with the Secretary for Resources in accordance with Public Resources Code section 21080.5, subsection (d)(2)(E), and California Code of Regulations, title 23, section 3781.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Central Valley Region, on 27 May 2010.


PAMELA C. CREEDON, Executive Officer

Attachments: Attachment 1: Amendment to Basin Plan to Establish Site-Specific Water Quality Objectives for Chloroform, Chlorodibromomethane, and Dichlorobromomethane for New Alamo and Ulati Creek, Solano County, and Permit Implementation Provisions

ATTACHMENT 1
RESOLUTION NO. R5-2010-0047
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IMPLEMENTATION PROVISIONS

Revise Basin Plan sections as follows:

CHAPTER III: WATER QUALITY OBJECTIVES

Revise the first paragraph of the Chemical Constituents section of Chapter III. Water Quality Objectives as follows:

Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. The chemical constituent objectives in Table Tables III-1 and III-1A apply to the water bodies specified.

Add the following table to the Chemical Constituents section of Chapter III. Water Quality Objectives:

TABLE III-1A
ORGANIC CHEMICAL WATER QUALITY OBJECTIVES

<u>CONSTITUENT</u>	<u>MAXIMUM CONCENTRATION (ug/l)</u>	<u>APPLICABLE WATER BODIES</u>
<u>Chlorodibromomethane (DBCM)</u>	4.9 µg/l	<u>New Alamo Creek, from Old Alamo Creek to Ulatis Creek</u> <u>Ulatis Creek, from New Alamo Creek to Cache Slough</u>
<u>Dichlorobromomethane (DCBM)</u>	16 µg/l	<u>New Alamo Creek, from Old Alamo Creek to Ulatis Creek</u> <u>Ulatis Creek, from New Alamo Creek to Cache Slough</u>

Chloroform

46 µg/l

New Alamo Creek, from
Old Alamo Creek to Ulati
Creek

Ulati Creek, from New
Alamo Creek to Cache
Slough

CHAPTER IV: IMPLEMENTATION

Add the following to the Actions and Schedule to Achieve Water Quality Objectives section of Chapter IV. Implementation:

Point Source Discharges Containing Trihalomethanes Lower New Alamo and Ulati Creeks

Municipal wastewater that is chlorinated to remove bacteria generally forms trihalomethanes as disinfection by-products. The Policy for Implementation of Toxics Standards for Inland Waters, Enclosed Bays, and Estuaries of California ("State Implementation Plan" or "SIP") (see the 15th Policy in State Water Board Policies and Plans, page IV-10.01) implements criteria for priority pollutants, including trihalomethanes. However, the SIP does not address situations where water quality objectives for water bodies downstream of the first receiving water are more stringent than the water quality objectives for the first receiving water.

Old Alamo Creek is tributary to New Alamo Creek and Ulati Creek. Ulati Creek, downstream of the confluence with New Alamo Creek, is within the legal boundary of the Delta. Old Alamo Creek is not designated MUN, but New Alamo and Ulati Creeks are designated MUN. The SIP does not specifically address how to determine the need for water quality-based effluent limitations or calculate water quality-based effluent limitations in this situation, so special permitting provisions are needed for discharges of trihalomethanes to Old Alamo Creek.

With respect to the site-specific water quality objectives in Table III-1A for trihalomethanes in New Alamo Creek, from Old Alamo Creek to Ulati Creek, and Ulati Creek, from New Alamo Creek to Cache Slough, the following provisions shall apply to any point source discharges into Old Alamo Creek. For determining if water quality-based effluent limitations are necessary, Section 1.3 of the SIP does not apply. For calculation of water quality-based effluent limitations, Section 1.4 of the SIP does not apply, unless specified below.

Determination of Need for Water Quality-Based Effluent Limitations:

Step 1: For chlorodibromomethane (DBCM), dichlorobromomethane (DCBM) and chloroform, if the pollutant is not detected in the effluent and any of the reported detection limits is less than or equal to the site-specific objectives specified in Table III-1A (the site-specific objectives specified in Table III-1A will be referred to as C), then water quality-based effluent limitations are not necessary. If the pollutant is not detected in the effluent and all of the detection limits are greater than site-specific objectives (C), then proceed to Step 5. If the pollutant is detected in the effluent then proceed to Step 2.

Step 2: Determine the observed maximum ambient background concentration for DBCM, DCBM, and chloroform. The observed maximum ambient background concentrations shall be measured in New Alamo Creek at Lewis Road and is the B, as defined in section 1.4.3.1 of the SIP. If the background (B) is greater than the site-specific objectives (C), then water quality-based effluent limitations are necessary. If the background (B) is less than or equal to the site-specific objectives (C), then proceed to Step 3.

Step 3: Determine the observed maximum pollutant concentration for the effluent (MEC). If the MEC is less than or equal to the site-specific objectives (C), water quality-based effluent limitations are not necessary. If the MEC is greater than the site-specific objectives (C), then proceed to Step 4 to determine if water quality-based effluent limitations are necessary.

Step 4: If the in-stream maximum concentrations of DBCM, DCBM or chloroform at the terminus of Old Alamo Creek are greater than the site-specific objectives (C), then water quality-based effluent limitations are necessary for the constituents that exceeded the applicable objectives.

Step 5: If the pollutant has not been detected in the effluent and all detection limits are greater than the site-specific objectives (C), then the discharger shall be required to conduct twice-monthly monitoring of the effluent and of the terminus of Old Alamo Creek between 1 November and 31 March using detection limits less than or equal to the site-specific objectives (C). Steps 1-4 above will then be applied to these data to determine whether water-quality based effluent limitations are necessary.

Calculation of water quality-based effluent limitations for DBCM, DCBM, and chloroform shall be as follows:

An Attenuation Factor, which is the median of the individual sample attenuation values, is necessary because the water quality objectives do not apply in the first receiving water of the discharge (i.e., do not apply in Old Alamo Creek). If water quality-based effluent limitations are required, an attenuation factor to account for the reduction in constituent concentrations between the point of effluent discharge to Old Alamo Creek and the terminus of Old Alamo Creek shall be applied to the calculation of the Effluent Concentration Allowance (ECA), which is one of the factors used in the derivation of the effluent limitations as described in Section 1.4B of the SIP.

The ECA shall be calculated as:

$$\text{ECA} = \text{Attenuation Factor} \times [C + D(C-B)] \quad \text{when } C > B$$

$$\text{ECA} = \text{Attenuation Factor} \times C \quad \text{when } C \leq B$$

Where:

Attenuation Factor = the median of the individual sample attenuation values derived from all representative historical data for the 1 November through 31 March period of each year. An individual sample attenuation value is calculated as the effluent constituent concentration measured on a given day divided by the in-stream constituent concentration at the terminus of Old Alamo Creek measured the same day. It should be noted that the effluent should be sampled prior to sampling at the terminus of Old Alamo Creek.

C = the site-specific objective specified in Table III-1A

D = dilution credit, as determined in section 1.4.2 of the SIP

B = background concentration, as defined by Section 1.4.3 of the SIP, and measured in New Alamo Creek at Lewis Road

Dilution credits may be allowed in deriving water quality-based effluent limitations for DBCM, DCBM, and chloroform in accordance with Section 1.4.2 of the SIP.

The Average Monthly Effluent Limitation (AMEL) and the Maximum Daily Effluent Limitation (MDEL) shall be calculated in accordance with Section 1.4 of the SIP using the ECA calculated above.

CHAPTER V: SURVEILLANCE AND MONITORING

Add the following to the Self-Monitoring section of Chapter V. Surveillance and Monitoring:

For point source discharges to Old Alamo Creek that contain detectable concentrations of chlorodibromomethane (DBCM), dichlorobromomethane

(DCBM) or chloroform, the discharger's monitoring and reporting program shall include coordinated monitoring of the effluent and Old Alamo Creek at its terminus, immediately prior to Old Alamo Creek's discharge into New Alamo Creek, for DBCM, DCBM or chloroform. It should be noted that the effluent should be sampled prior to sampling at the terminus of Old Alamo Creek. At a minimum, the discharger shall conduct the coordinated monitoring twice-monthly from 1 November through 31 March once during the 5-year term of the NPDES permit.