

Central Valley Regional Water Quality Control Board
13/14 August 2020 Board Meeting

Response to Comments
for the
City of Sacramento
Combined Wastewater Collection and Treatment System
Tentative Waste Discharge Requirements

The following are Central Valley Regional Water Quality Control Board (Central Valley Water Board) staff responses to comments submitted by interested parties regarding the tentative Waste Discharge Requirements, National Pollutant Discharge Elimination System (NPDES) Permit CA0079111 renewal for the City of Sacramento (Discharger) Combined Wastewater Collection and Treatment System (Facility).

The tentative NPDES Permit was issued for a 30-day public comment period on 23 April 2020 with comments due by 25 May 2020. The Central Valley Water Board received public comments regarding the tentative Permit by the due date from the Discharger and several concerned citizens. Some changes were made to the proposed Permit based on public comments received.

The submitted comments were accepted into the record, and are summarized below, followed by Central Valley Water Board staff responses.

DISCHARGER COMMENTS

1. Receiving Water Limitations and Incorporation of the Statewide Bacteria Objectives.

The Fact Sheet (p. F-47) includes the language from the Resolution for the Statewide Objectives, noting that they supersede bacterial objectives in the Basin Plan. The Discharger requests that the fecal coliform receiving water limitation based on the Basin Plan be removed accordingly.

RESPONSE: Central Valley Water Board staff concur and have modified the proposed Order accordingly. Staff also removed the fecal coliform bacteriological objectives from the receiving water limitations section of the permit (Section V.A.1), since the statewide bacteria objectives from *Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California, Bacteria Provisions and Water Quality Standards Variance Policy (dated 4 February 2019)* supersede current Basin Plan bacteriological objectives and to be consistent with modifications made in the Fact Sheet.

2. Receiving Water Monitoring Frequency (Table E-5).

The Discharger requests that one additional footnote be added to the Table E-5 Testing Requirements on p. E-11 to clarify implementation of the monitoring frequency in the table. This footnote was included in the Delta Regional Monitoring Program approval letter issued by the Executive Officer, and helps to

be more specific about the timing of the requirements for receiving water events during the two periods (before and after 1 January) and the untreated discharge event monitoring (that one untreated discharge event would be monitored). The footnote reads as follows:

“If two discharge events have already been monitored for the monitoring year and then an untreated discharge occurs at either EFF-004, EFF-005, or EFF-007, the Discharger shall also monitor the receiving water upstream and downstream of that discharge point for one untreated discharge event per monitoring year.”

RESPONSE: Central Valley Water Board staff concur and have modified the proposed Order accordingly.

3. Language on submittal of Annual monitoring results.

Attachment E, Section IX.A.1 (p E-12) should state that Annual monitoring results should be submitted with the Annual self-monitoring reports (not the monthly reports).

RESPONSE: Central Valley Water Board staff concur and have modified the proposed Order accordingly.

4. Other Editorial Comments.

The Discharger notes other editorial comments, cross-references, and clarifications that should be corrected in the proposed Order.

RESPONSE: Central Valley Water Board staff concur and have modified the proposed Order accordingly.

CONCERNED CITIZENS COMMENTS

Staff received comments on the tentative order from fifteen concerned citizens. The comments center around one of the Discharger’s Long-Term Control Plan projects currently under construction: the McKinley Water Vault. The McKinley Water Vault is a 6 million gallon temporary storage vault being constructed under McKinley Park to manage peak flows in the CSS during significant wet weather events to alleviate street flooding and outflows. Below is some background about the Sacramento CSS followed by responses to the comments received by the concerned citizens.

Background

The City of Sacramento owns and operates a Combined Sewer System or CSS that conveys both wastewater and storm water drainage, as well as, a separated wastewater collection system that collects and discharges wastewater to the Combined Sewer System (CSS). The CSS contains 48 miles of separated sewer pipeline that is a tributary to the CSS and 275 miles of combined sewer system pipeline. The portion of

the City that contributes both wastewater and storm water to the Combined Sewer System serves the Downtown, East Sacramento, Oak Park, and Land Park areas. These areas include developed infrastructure prior to 1946. Developments subsequent to this time, that expanded the original service area, have been constructed with separated wastewater and storm water sewer systems. These areas contribute only wastewater flows to the Combined Sewer System. The CSS serves a total population of approximately 100,000 people.

The Central Valley Water Board regulates discharges of treated and untreated combined wastewater and storm water runoff to the Sacramento River from the Sacramento CSS under Waste Discharge Requirements (WDRs) Order R5-2015-0045 (NPDES CA0079111). These discharges are called combined sewer overflows or CSOs. The City has an operating agreement to pump up to 60 million gallons per day (MGD) from the combined system to Sacramento Regional County Sanitation District's (Regional San), Sacramento Regional Wastewater Treatment Plant (WWTP), which is the normal operation for the vast majority of flows captured by the CSS. During the current permit term 95 percent of all CSS flows were treated by the Sacramento Regional WWTP. The City's average daily flow captured by the CSS is 17 MGD during dry months.

During wet weather and large storm events, the Sacramento CSS begins storing and treating flows in excess of 60 MGD in its storage and treatment facilities, consisting of the Pioneer Reservoir and Treatment Plant and the Combined Wastewater Treatment Plant. When storage capacities are depleted primary treated and disinfected combined wastewater is discharged to the Sacramento River. Direct untreated CSOs of combined wastewater and storm water to the Sacramento River are rare. The existing and proposed permit prohibits untreated discharges to occur except when flows exceed the system's total storage and treatment capacity at the Combined Wastewater Treatment Plant and Pioneer Reservoir and Treatment Plant. Discharges to the Sacramento River are infrequent and short in duration. Over the past 10 years the CSS averaged 5 discharges per year. During this period there have been only 2 untreated discharges of combined wastewater, with the last occurring in 2013.

CSOs are point source discharges subject to the Clean Water Act but not regulated the same as other NPDES discharges. U.S. EPA's Combined Sewer Overflow Control Policy establishes a consistent national approach for controlling CSOs. The CSO Control Policy is a national framework for permittees to comply with requirements of the Clean Water Act. The two main elements of the CSO Control Policy are: 1) implementation of the Nine Minimum Controls which are technology-based actions that can reduce CSOs and their effects on receiving water quality, and 2) development of Long-Term Control Plans for controlling CSOs to ensure protection of water quality standards. The WDRs implement the CSO Control Policy and include effluent limitations and prohibitions with which the City must comply for discharges to the Sacramento River.

Along with other Capital Improvement Projects, the City selected the McKinley Water Vault as the best project alternative to alleviate an area of major flooding and overcapacity within the Sacramento CSS. Many of the comments from the concerned citizens are related to the McKinley Water Vault project and are outside the scope of the proposed NPDES permit. The following sections provide a summary of the major comments expressed by the concerned citizens within the scope of the proposed NPDES permit renewal.

Comments:

- 1. The City should separate the combined system. The sewer system is antiquated. The difficult problem is needing to replace the old combined sewer system with a separated system throughout the old part of the City of Sacramento. As other comparable cities are currently doing, constructing the separated system is expensive, takes years and creates some hardship throughout construction- but it is a necessary step towards ensuring safe and well managed sewerage.**

RESPONSE: Combined sewer systems are rare in California. However, they are legally allowed under the Clean Water Act and United States Environmental Protection Agency (U.S. EPA) policies. Throughout the Northwest, Great Lakes, and North East areas of the country, combined sewer systems serve more than 800 communities. The Sacramento CSS is one of only two systems in California. U.S. EPA recognizes the unique issues associated with combined systems in U.S. EPA's Combined Sewer Overflow Control Policy, which is implemented through the proposed NPDES Permit.

The Sacramento CSS collects and transports nearly all wastewater to the Sacramento Regional WWTP for secondary treatment and disposal (soon to be tertiary treatment in 2023). However, when the Sacramento CSS is overtaxed during peak wet weather events the system discharges mixed storm water and sewage to the Sacramento River with only primary or no treatment, which carries the risk of public exposure. U.S. EPA's policy presumes the risk is minimized during the time period of discharge due to high river flows (e.g., dilution) and stormy weather, in which contact recreation is minimal. The City conducted a water quality assessment in 2013 by evaluating receiving water data collected upstream and downstream of the discharge during CSO events. The 2013 water quality assessment demonstrated water quality standards are being met in the receiving water. The proposed permit requires an updated Water Quality Assessment to evaluate the effectiveness of the CSS operations in meeting water quality standards in the Sacramento River.

The issue of continued improvement of the Sacramento CSS versus construction of separate storm and sanitary sewer systems was studied extensively in the 1990's. At that time, the Central Valley Water Board initiated discussions with the City and subsequently took enforcement actions

concerning the environmental and public health concerns associated with both the discharge to the Sacramento River and the outflow of sewage from the combined system pipes into streets that can cause flooding. After considerable engineering, environmental and health studies, the City proposed enhancements to the combined system rather than construction of separate systems. The Central Valley Water Board, after careful consideration and hearings, accepted and approved the City's proposal to enhance the combined system.

As described more recently in the City's April 2018 Draft Environmental Impact Report (EIR), separating the sewer system has been extensively evaluated and found to be infeasible with the City's current operations. Section 4.1.3.1 of the City's April 2018 Draft EIR states:

"The City, in conjunction with HDR Engineering, conducted numerous studies and evaluated this alternative in the 1990's. Based on the findings, the City decided that separating was not feasible for four primary reasons: (1) the design and construction of such a system would require funding far beyond the levels that are supported by the existing sewer rates, and it would require a new agreement with regulatory authorities; (2) construction of a new system would require several decades of construction in the City (including streets in East Sacramento) and would have substantial construction impacts (e.g., construction noise and vibration, traffic and transportation, air quality); ; (3) the disposal of existing infrastructure that are in functioning order, and energy devoted to the construction project could be viewed as wasteful uses of energy and resources; and (4) storm drainage would no longer be treated and would result in an adverse water quality impact to receiving waters[.]"

U.S. EPA's Combined Sewer Overflow Control Policy requires the City develop a Long-Term Control Plan for the combined sewer system. The City prepared a Long-Term Control Plan (known as the Combined Sewer System Improvement Plan or CSSIP) in 1995 to enhance the CSS in lieu of separation, with the ultimate goal of alleviating outflows and flooding in the CSS area during a 10-year storm event and to prevent structure flooding during a 100-year storm event. The City completed the update of the CSSIP in 2015 and developed a Long-Term Control Plan Update in 2018 to model and identify storage and conveyance projects for prioritization and construction. The 2018 Long Term Control Plan Update provided an implementation schedule for top-prioritized projects extending out to 2029.

The City has concluded that the separation alternative is not feasible, and it was not evaluated further in the EIR. The City has discretion to design and construct projects in accordance with Federal, State, and local regulations and policies, considering the costs and benefits of various approaches and has developed the proposed McKinley Water Vault Project to alleviate flooding within the McKinley Park area consistent with that responsibility. The

Central Valley Water Board cannot specify methods of compliance with waste discharge requirements to dischargers.

2. Primary purpose of McKinley Water Vault is to meet permit requirements, not reduce flooding. Even moderately severe storms will lead to far more sewage outflows than the Vault is designed to handle.

RESPONSE: The McKinley Water Vault project is included in the City's Long-term Control Plan, which is required by the NPDES permit to implement the CSO Control Policy. Based on the City's model, the McKinley Park area has been found to be one of the largest outflow problem areas in the combined collection system. The McKinley Water Vault is designed to help manage and equalize flows in the collection system during heavy storm events by preventing backups and flooding, and maximize treatment by the Sacramento Regional WWTP. Based on the modeling the combined wastewater/storm water in the vault will not be stored for long periods of time. The vault will be kept empty except during heavy storm events and will be drained when there is capacity in the CSS. The McKinley Water Vault is one of several storage facilities throughout the CSS that in combination have been designed to reduce flooding and outflows from the CSS, meeting the requirements of the NPDES permit.

3. New planned urban growth, such as the Railyards, and lack of green infrastructure is increasing flows to the CSS at a rapid rate and will result in more overflows and outflows.

RESPONSE: The current and proposed permit requires the City operate the CSS in accordance with an approved Combined Wastewater Control System Plan of Operations to ensure compliance with the Nine Minimum Controls and Long-term Control Plan. Furthermore, the Combined Wastewater Control System Plan of Operations shall specify the procedures to be used by the Discharger to manage the CSS. The Combined Wastewater Control System Plan of Operations shall clearly establish operation, maintenance, and inspection procedures to maximize the removal of pollutants during and after each precipitation event using all available facilities within the combined wastewater collection and treatment system, with the goal of achieving the maximum treatment possible and minimizing CSO's and CSS outflows.

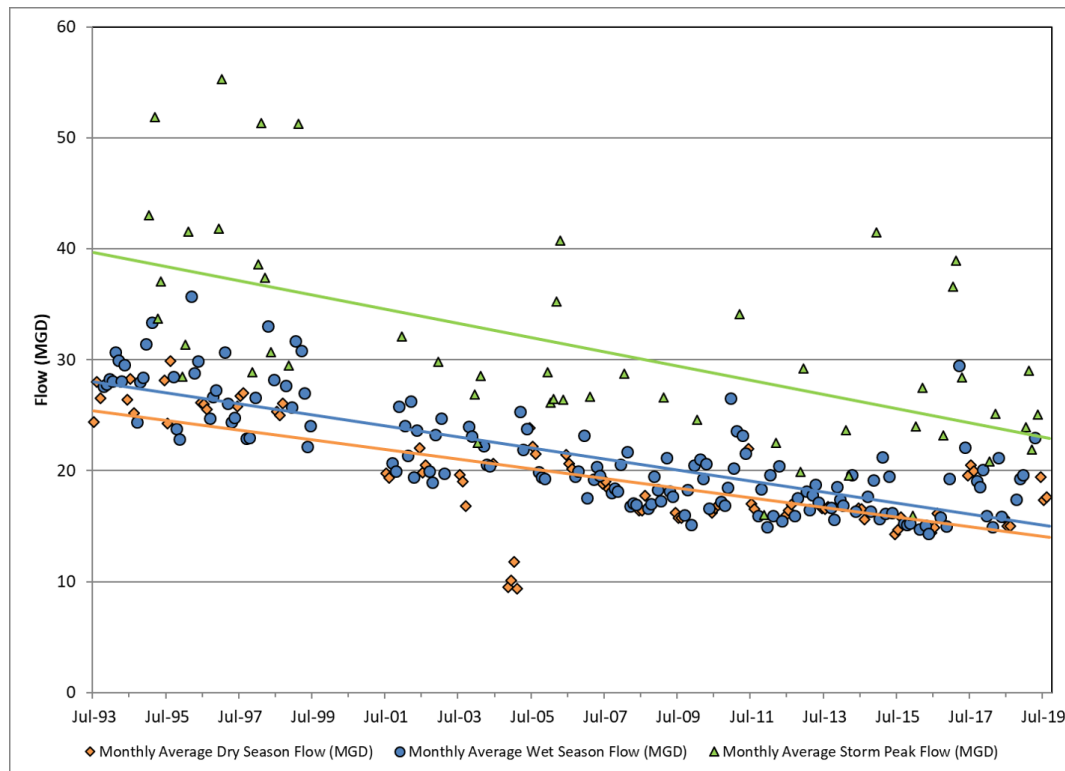
The current and proposed permit also requires the City implements its Combined Wastewater Control System Plan of Operations to maximize its CSS flows are routed to the Sacramento Regional WWTP for treatment. During the current permit term (past 5-years) the City routed 95% of all CSS flows to the Sacramento Regional WWTP. As flows to the CSS increase due to new development and redevelopment the City must continue to maximize

treatment. The City's CSS Development Policy includes requirements to management the capacity of the CSS. The City's Department of Utilities assesses each redevelopment and infill project on a case-by-case basis. Individual development projects are required to mitigate any impacts to the CSS. This is accomplished by implementation of CSS development fees, which is used for flow mitigation projects that are implemented through the Long-Term Control Plan.

The Long-term Control Plan, which is a federal requirement included in the NPDES permit to implement the CSO Control Policy, acknowledges planning for green infrastructure. The Long-term Control Plan includes provisions that allow piloting green infrastructure technologies and low impact development (LID) retrofits and soliciting community/residential feedback. According to the Long-term Control Plan, green infrastructure projects will be targeted at reducing CSS overflows and further reducing treated CSS discharges. A number of green infrastructure projects have been functioning in the combined sewer system area of the City for several years (e.g., bioretention planters on 16th St between N St and O St and pervious pavers at The Mill on Broadway). Development projects that discharge to separated drainage system are required to implement low impact development requirements per the Sacramento Stormwater Quality Partnership (Partnership) Stormwater Quality Design Manual (July 2018).

The Long-term Control Plan also addresses increased CSS flows through the Rainfall Derived Infiltration and Inflow Program. The pilot program is intended to address infiltration/inflow from the separated collection system that contributes flows to the CSS. Infiltration/inflow sources include roof drains and yard inlets connected to the sewer, as well as, leaky collection lines and sewer manholes.

Finally, the Discharger's water conservation efforts have resulted in consistent and significant reductions in dry weather and dry season flows over the last 20 years. These flow reduction measures offset new flows to the CSS. The figure below shows the consistent downward trend and demonstrates that the CSS service area is not generating new flows. The overall annual average CSO discharge volume decreased by over 42 percent over the past 26 years. Water conservation, new plumbing codes for redevelopment, and ongoing collection system improvements are all factors in the gradual decrease in dry and wet weather flows over time.



Although the City has measures in place to address growth and flows have been decreasing over time, as discussed above, the tentative permit has been modified to add a new provision to manage flows due to growth to ensure CSOs and CSS outflows do not increase and the overall percentage of flow routed to the Sacramento Regional Wastewater Treatment Plant does not decrease due to growth within the CSS service area. The Special Provision regarding implementation of the LTCP (WDR section VI.C.4.c) has been updated to include the following subsection iii:

- iii. *The Discharger shall continue to implement the LTCP to manage the flow capacity of the CSS to minimize CSO's and CSS outflows as new development and redevelopment projects are implemented throughout the CSS service area that have the potential to increase combined sewer system flows. The Discharger shall implement measures to the maximum extent practicable to ensure that new flows from growth within the CSS service area do not result in an increase in CSO's or CSS outflows, or reduce the overall percentage of flow routed to the Sacramento Regional Wastewater Treatment Plant.*

Furthermore, the Special Provision regarding implementation of the LTCP (WDR section VI.C.4.c) has been revised to require an update of the LTCP to be more proactive in addressing increasing flows by adding the following

requirement to update the LTCP to evaluate buildout flows from growth in the City, as well as, evaluate the current CSS outflow goals (e.g., protection from 10-year, 6-hour storm event) and to update the design storm return frequencies based on current climatic information and considering the effects of climate change, as appropriate. The Special Provision regarding implementation of the LTCP (WDR section VI.C.4.c) has been updated to include the following subsection iv:

- iv. **LTCP Update.** *The Discharger shall update the LTCP by the due date in the Technical Reports Table to:*
- *Estimate, at minimum, 30-year buildout flows for the CSS based on new development and redevelopment projects expected throughout the CSS service area. If flows are expected to increase that could result in an increase in CSO's and/or CSS outflows, an adaptive management strategy shall be developed to identify projects to mitigate increased flows to ensure CSO's and CSS outflows do not increase as a result of the growth.*
 - *Conduct a review on the LTCP's goal and timeline of achieving protection from CSS outflows during the 10 yr (6-hr) storm event. The review should consider potential impacts of CSS outflows to the public. The evaluation should consider these items and provide any recommended updates to the goals of the LTCP and timeline. In developing this update, the Discharger must consult with Department of Public Health staff and/or Sacramento County Public Health, as applicable.*
 - *The Discharger shall recalculate the 5-year, 10-year, and 100-year design storm return frequencies based on current climatic information and considering the effects of climate change, as appropriate. The updated design storms shall be incorporated into the LTCP and an evaluation on the progress of achieving the interim goals listed above shall be discussed in the Annual LTCP Progress Report.*

- 4. The LTCP has been developed to minimize overflows and outflows based on a 10 year, 6 hour storm. This is not acceptable. Considering the effects of Climate Change, the LTCP must be updated to protect the public based on a larger storm.**

RESPONSE: The CSO Control Policy does not include proscriptive requirements for the statistical return frequency of rainfall events to design the CSS to control flooding and outflows. The City's design storm return frequency established in the Long-term Control Plan is based on City Resolution 93-164, which is regarding storm drainage to prevent street flooding during a 10-year return storm and prevent flooding of structures during 100-year storms. Central Valley Water Board staff concur that the City should re-evaluate the appropriateness of the design storms for protecting public health and also update the storm intensities currently being used to model the CSS. The design storm return frequencies are based on information from the early 1900's up to 1990. The design storms should be updated based on current climatic information, and the effects of climate change should also be factored into the calculations, as appropriate. See response to Comment 3 above for proposed changes to the Tentative Permit to address this issue.

- 5. The allowance of discharges of untreated discharges to the Sacramento River is unacceptable because it is polluting the waterways. The effluent limits for pathogens are not protective, because a 6-week median has been used rather than maximum daily requirement. The bacteria water quality standards are not protective and the mercury compliance schedule is too long.**

RESPONSE: The proposed permit includes new receiving water limitations that implement the Statewide Bacteria objectives required by the State Water Resources Control Board's (State Water Board) Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California. The State Water Board adopted the new statewide bacteria water quality objectives and implementation options to protect recreational users from the effects of pathogens in California water bodies. The U.S. EPA approved the amendments to update the bacteria objectives on 22 March 2019. In its approval letter the U.S. EPA states, "The amendments are consistent with the requirements of section 303(c) of the Clean Water Act (CWA) and 40 C.F.R Part 131. Supported by robust science and stakeholder engagement, the bacteria objectives and the generalized variance provisions safeguard human health and aquatic wildlife." The proposed permit requires the City to conduct a water quality assessment (WQA) to ensure the CSS operations are resulting in compliance with water quality standards in the Sacramento River. The proposed permit has been modified to include more details regarding the

requirements for conducting the WQA. Furthermore, to address concerns about impacts at the nearest downstream drinking water intake at Freeport (Freeport Regional Water Authority) an additional WQA requirement has been added for the City to evaluate impacts of the discharge at the drinking water intake with respect to pathogens. Section VI.C.2.a has been modified to read as follows:

- a. **Water Quality Assessment (WQA).** *The CSO Control Policy requires a WQA of the combined wastewater and stormwater to confirm that the presumptive approach results in compliance with water quality standards and protection of beneficial uses. The Discharger shall perform an updated WQA by the due date in the Technical Reports table.*
 - i. **Work Plan.** *The Discharger shall provide to the Central Valley Water Board for review and approval by the due date in the Technical Reports table, a work plan for conducting the WQA, including proposed data, data sources, and methodology(ies) to be used for evaluating compliance with water quality objectives. The work plan shall describe the monitoring that will be conducted for use in the WQA, including:*
 - 1) *Pollutant parameters (including individual pollutants of concern, indicator pollutants (e.g., E. coli, Giardia, and Cryptosporidium), and other indicator tests such as whole effluent toxicity.*
 - 2) *Sampling locations.*
 - 3) *Sampling frequencies.*
 - 4) *Analytical methods.*

Monitoring shall, at a minimum, include two full wet weather seasons. In developing the work plan, the Discharger may propose coordinating data collection with 1) the routine pollutant monitoring required as part of the Monitoring and Reporting Program (see Attachment E), and 2) the monitoring program required as part of the Discharger's municipal separate storm sewer system (MS4) program (as required in Order R5-2016-0040/NPDES Permit No. CAS0085324).

- ii. **Final Report.** *The Discharger shall complete the WQA and provide a final report to the Central Valley Water Board by the due date in the Technical Reports table. The CSO water quality assessment final report shall, at a minimum, include the following components:*
- 1) *An analysis of compliance with all applicable water quality objectives (e.g., Basin Plan and California Toxics Rule water quality objectives) to ensure protection of receiving water beneficial uses.*
 - 2) *An evaluation of the effects of the CSO discharges (e.g., pathogens) on the municipal and domestic water supply beneficial use. The evaluation may include existing studies or other information, receiving water monitoring, and/or modeling to estimate the impacts.*
 - 3) *If applicable water quality objectives cannot be achieved and/or beneficial uses cannot be adequately protected, the Discharger shall assess the need for coordination with the Central Valley Water Board for the review and revision of water quality objectives and/or implementation procedures to ensure that CSS controls are sufficient to meet water quality objectives.*
 - 4) *An evaluation of updates and/or revisions to the Nine Minimum Controls and/or Long-Term Control Plan if the assessment indicates that applicable water quality objectives are exceeded and/or that beneficial uses are impaired. The Discharger shall also provide proposed time frames for implementation of any proposed CSS program updates and/or revisions.*

With regard to mercury, the comments claim the compliance schedule for complying the Delta Mercury Control Program by 2030 is not adequately protective of the environment or the public, but does not provide any basis or rationale for the claim. The proposed permit includes a compliance schedule in accordance the Basin Plan's Delta Mercury Control Program. Phase 1 of the Delta Mercury Control Program has recently completed, which emphasized studies and pilot projects to develop and evaluate management practices to control methylmercury in the Delta. Central Valley Water Board staff are currently preparing on an update to the Delta Mercury Control Program based to begin implementation of Phase 2, based on information gathered during Phase 1. The waste load allocations and implementation requirements for dischargers, including the Sacramento CSS, may be re-

evaluated, which may result in changes to the mercury compliance schedule in the proposed permit. The proposed permit includes a reopener provision to allow the permit to be reopened to address changes to the Delta Mercury Control Program.