

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

RESPONSE TO WRITTEN COMMENTS

on the Tentative Order for
the City of Sunnyvale

Sunnyvale Water Pollution Control Plant and wastewater collection system

The Regional Water Board received written comments on a tentative order distributed on November 8, 2019, for public comment from the City of Sunnyvale.

Regional Water Board staff has summarized the comments, shown below in *italics* (paraphrased for brevity), and followed each comment with staff's response. For the full content and context of the comment, please refer to the comment letter. To request a copy of the comment letter, see the contact information provided in Fact Sheet section VIII.G of the revised tentative order.

Revisions are shown with underline text for additions and strikethrough ~~text~~ for deletions. This document also contains staff-initiated revisions.

City of Sunnyvale

Comment 1: *The City requests that we reconsider the 10 nephelometric turbidity units (NTU) turbidity effluent limit, particularly during the wet weather season (October 1 through May 31), when single cell algae comprise a larger fraction of the algal biomass in the oxidation pond effluent. These algal species do not readily coagulate; consequently, high doses of polymer are necessary to meet the 10 NTU limit during these months.*

Response: We support the City's aim to reduce polymer use, improve treatment reliability, and lower operational costs. We agree that the City's technology-based total suspended solids (TSS) effluent limits more directly relate to treatment performance than the turbidity limit does, and that there are environmental benefits to reducing polymer use. However, we are concerned that if turbidity control governs solids treatment, removing the turbidity limit could result in reduced TSS removal. To ensure that the City maintains its current TSS removal performance, we analyzed wet weather effluent data over the previous order term and determined that TSS values less than 20 mg/L would not reflect a change in performance. Thus, as long as TSS remains below 20 mg/L, receiving water quality will not be degraded. Therefore, we revised section IV.A of the order to add footnote 3 to Table 4, as follows:

From October 1 through May 31, the turbidity effluent limit shall only apply when TSS exceeds 20 mg/L.

We revised Monitoring and Reporting Program Table E-3, footnote 2, as follows:

BOD₅ and TSS effluent samples shall be collected concurrently with influent samples. Effluent TSS samples shall be collected concurrently with effluent

turbidity samples. CBOD₅ and TSS percent removal shall be reported for each calendar month in accordance with section IV.B of this Order.

We revised Fact Sheet section IV.B.2.e as follows:

Turbidity. The turbidity effluent limitation, an instantaneous maximum of 10 nephelometric turbidity units (NTU), is ~~unchanged from~~ consistent with the previous order and represents the best performance the Facility can reliably achieve. ~~¶ Although~~ the Discharger has consistently met this limit, which is more stringent than the requirements of Basin Plan Table 4-2, it has identified environmental benefits that warrant reconsideration of the limit during the wet weather months from October through May. During these months, this Order applies the turbidity limit only when TSS exceeds 20 mg/L. This is to ensure that the Discharger maintains its current TSS removal performance.

During the previous order term, the Discharger complied with its turbidity limit of 10 NTU; however, to meet the turbidity limit, the Discharger indicates that it used excessive amounts of polymer during the winter months. This was necessary to remove single cell algae that contribute to turbidity, but not necessarily to TSS. To ensure that the Discharger maintains its current TSS performance, but also to allow it to reduce excessive polymer use during the wet weather months, this Order only applies the turbidity limit during these months if TSS exceeds 20 mg/L. This TSS threshold is the maximum value the Discharger observed during the previous order term. Maintaining TSS below this level will ensure no degradation of receiving water quality. This threshold is also consistent with the daily maximum TSS limit included in the NPDES permits for the San Jose/Santa Clara Water Pollution Control Plant and the Palo Alto Regional Water Quality Control Plant. This advanced level of treatment justifies ~~This limit represents the best performance the Facility can reliably achieve so as to justify the exception to Basin Plan Discharge Prohibition 1 described in Fact Sheet section IV.A.2.~~

We revised Fact Sheet section IV.D.1 as follows:

Antidegradation. This Order complies with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16. ~~It continues the status quo with respect to the level of discharge authorized by the previous order, which was adopted in accordance with antidegradation policies and thus serves as the baseline by which to measure whether degradation will occur. ¶ Although~~ this Order does not allow for an increase in permitted flow, a reduced level of treatment, or any increase in effluent limitations relative to those in the previous order during the wet season this Order no longer requires a turbidity limit of 10 NTU when TSS is below 20 mg/L. Although this may result in higher levels of turbidity in plant effluent during winter months, the approach ensures that the Discharger will maintain its current treatment performance for TSS. Any seasonal increase in turbidity will not degrade receiving water quality because the receiving water already has higher turbidity than plant effluent. This approach is consistent with regionwide efforts to reduce chemical use and with State Board

Resolution No. 2013-0029 “Reducing Cost of Compliance While Protecting Water Quality.”

We revised Fact Sheet section IV.D.2 as follows:

Anti-backsliding. This Order complies with the anti-backsliding provisions of CWA sections 402(o) and 303(d)(4) and 40 C.F.R. section 122.44(l), which generally require effluent limitations in a reissued permit to be as stringent as those in the previous permit but allow backsliding in limited circumstances. Specifically, where circumstances have materially and substantially changed since the previous order that would justify backsliding, an effluent limitation may be relaxed. Here, the suspension of the turbidity limit during the winter season is permissible because the discharger has provided new data which demonstrate that the biology of the treatment pond changes in response to external environmental conditions, such as during the winter months there are more single-cell algae that require more polymer addition to settle and reduce turbidity to meet the 10 NTU limit.

Comment 2: *The City requests that we revise Fact Sheet section IV.B.2.a to reflect that the Facility measures CBOD₅, not BOD₅.*

Response: We agree and revised Fact Sheet section IV.B.2.a as follows:

During previous order terms, the Discharger elected to measure CBOD₅ as BOD₅, as defined in the latest edition of *Standard Methods for the Examination of Water and Wastewater*. ~~The discharger may elect to continue to measure CBOD₅ as BOD₅ for the term of this Order. The BOD₅ test includes measurement of the CBOD₅ as well as the oxygen demand for oxidizing inorganics and reduced nitrogen. Therefore, the BOD₅ measurement is a more conservative measure of oxygen demand than CBOD₅. The Discharger has demonstrated the ability to comply with the CBOD₅ limits based on BOD₅ measurements.~~

Staff-Initiated Changes

In addition to making minor editorial and formatting changes, we made the following substantive changes:

We revised Provision IV.C of the Order as follows to more accurately reflect the *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California – Part 3, Bacteria Provisions and a Water Quality Standards Variance Policy*:

Enterococcus Bacteria. The discharge at Discharge Point No. 001 shall meet the following enterococcus bacteria effluent limitations, with compliance measured at Monitoring Location EFF-001, as described in the MRP:

1. The six-week rolling geometric mean of enterococcus bacteria, calculated weekly, shall not exceed 30 colony forming units per 100 milliliters (CFU/100 mL); and
2. ~~The 90th percentile~~ No more than 10 percent of all enterococcus bacteria samples collected in a calendar month shall ~~not~~ exceed 110 CFU/100 mL.

Compliance with these enterococcus limits shall be evaluated as follows:

- **Six-week rolling geometric mean.** Compliance with this limit shall be determined weekly by calculating the geometric mean of all enterococcus sample results from the past six weeks.
- **10 percent of samples.** Compliance with this limit shall be determined based on measured sample results. The Discharger shall not report interpolated results. If the Discharger has 9 or fewer sample results in a calendar month, compliance shall be based on the highest result. If the Discharger has 10 to 19 sample results, compliance shall be based on the second highest result, and so on.

We revised the beginning of Monitoring and Reporting Program section VIII to include an introductory paragraph as follows:

The Discharger shall comply with the following recycled water monitoring requirements. The Executive Officer may modify these requirements to reflect any changes made to the requirements of State Water Board Order No. WQ 2019-0037-EXEC (Amending Monitoring and Reporting Programs for Waste Discharge Requirements, National Pollutant Discharge Elimination System Permits, Water Reclamation Requirements, Master Recycling Permits, and General Waste Discharge Requirements).

We revised Fact Sheet section IV.A.2 as follows:

Exception to Shallow Water and Dead-End Slough Discharge Prohibitions

Basin Plan Table 4-1, Discharge Prohibitions 1 and 2, prohibits discharges not receiving a minimum of 10:1 initial dilution, ~~or~~ discharges into shallow waters or dead-end sloughs, and discharges south of the Dumbarton Bridge. Basin Plan section 4.2 provides for exceptions under certain circumstances:

- An inordinate burden would be placed on the Discharger relative to the beneficial uses protected, and an equivalent level of environmental protection can be achieved by alternate means;
- A discharge is approved as part of a reclamation project;
- Net environmental benefits will be derived as a result of the discharge; or
- A discharge is approved as part of a groundwater cleanup project.

The Basin Plan further states:

~~Significant factors to be considered by the Regional Water Board in reviewing requests for exceptions will be the reliability of the discharger's system in preventing inadequately treated wastewater from being discharged to the receiving water and the environmental consequence of such discharges. In reviewing requests for exceptions, the Water Board will consider the reliability of the discharger's system in preventing inadequately treated wastewater from being discharged to the receiving water and the environmental consequences of such discharges.~~