CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

RESPONSE TO WRITTEN COMMENTS
ON THE REISSUANCE OF NPDES PERMIT AND ADOPTION OF CEASE AND DESIST ORDER FOR DISCHARGE IN VIOLATION OF NPDES PERMIT FOR:

City of Benicia Wastewater Treatment Plant and collection system
614 East 5th Street
Benicia, CA 94510
NPDES Permit No. CA0038091

I. City of Benicia – February 12, 2008
II. Bay Area Clean Water Agencies – February 12, 2008

Note: The format of this staff response begins with quotations from the party's comments, followed with staff's response. Interested persons should refer to the original letters to ascertain the full substance and context of each comment. Text changes are shown using underline for added text and ~~strikethrough~~ for deleted text.

I. City of Benicia

The City of Benicia submitted ten comments.

City of Benicia Comment 1.
The City is concerned that there are two sets of potentially conflicting requirements for cyanide activities being proposed in this permitting action. One set is in Permit Provision VI.C.8. Cyanide Action Plan (pages 24-25) and another set is in Cease and Desist Order (CDO) Table 2: Time Schedules and Prescribed Actions for Cyanide (pages 4-5).

The City is also concerned about the inequity of including these two Action Plans in permits on a permit by permit basis. There have been numerous permits adopted up to this time that included similar water effects ratio (WER) and translator based copper limits, and actual initial dilution based cyanide limits, which did not include these copper and cyanide Action Plans. The City's permit would be the first one to include these Action Plans.

Since the SSOs and Action Plans were developed to be effective Bay-wide, it seems consistent and equitable that they be adopted in a Bay-wide manner. The City respectfully requests that the Regional Water Board (RWB) remove the Action Plans from the TO and instead consider implementing the Action Plans via an amendment to the recently adopted Watershed Permit. This would "level the playing field" as all the impacted Dischargers (that are already cited in the Watershed Permit), would thereby be subject to the same requirements at the same time.

Alternatively, if the RWB does not seek to pursue the Watershed Permit approach, the City requests the following language changes. These changes are intended to clarify that the cyanide

Action Plan requirements, like the Copper Action Plan requirements, are linked to and do not become effective unless and until the associated Site Specific Objectives (SSOs) are fully, legally in force (i.e. following EPA approval of and National Toxics Rule (NTR) depromulgation for cyanide). Since the CDO compliance dates may occur before federal depromulgation, language is requested to ensure that similar cyanide activities undertaken per the CDO will fulfill corresponding Action Plan requirements.

Table 11. Cyanide Action Plan

<u>If and when the cyanide SSOs become effective,</u> ~~T~~the Discharger shall implement monitoring and surveillance, pretreatment, source control, and pollution prevention for cyanide in accordance with the following tasks and time schedule. <u>Similar cyanide activities previously conducted by the Discharger pursuant to CDO Table 2: Time Schedules and Prescribed Actions for Cyanide, may substitute for and fulfill these Action Plan requirements.</u>

<u>Response 1.</u>
BACWA raised concerns on this topic and we have revised the Cyanide Action Plan in response to its comments. Please see our response to BACWA's comment 5.

On the issue that the City's permit would be the first to require these action plans, the City is incorrect. We have required Cyanide and Copper Action Plans in several previous NPDES permits (e.g., the City of San Mateo, Order R2-2007-0075, adopted in October 2007) in which we calculated cyanide effluent limits using actual dilution. However, those provisions were generic and referred permittees to the Basin Plan Copper SSO Amendment or to Appendix I of the Cyanide SSO Staff Report.

The Cyanide Action Plan specified in the Tentative Order (TO) is consistent with the Cyanide SSO Staff Report, Appendix I, and clarifies the expectations to better ensure compliance.

The cyanide effluent limits in the TO, which we calculated with actual dilution, are higher than those in the previous permit. We require a Cyanide Action Plan because we must meet antidegradation requirements if we are to increase these effluent limits. In this case we rely upon the same rationale expressed in the Cyanide SSO Staff Report. This rationale depends in part on dischargers controlling cyanide influent to the treatment plant by implementing a Cyanide Action Plan that is consistent with the guidance presented in Appendix I of the Cyanide SSO Staff Report.

Regarding the request to implement action plans as a watershed permit amendment, we have not removed the action plans from the TO. Other than ambient monitoring, the tasks called for by the Cyanide and Copper Action Plans are discharger-specific rather than regional. Also, we have used this same approach of requiring Action Plans in individual permits previously.

We have revised the CDO to be more consistent with the requirements of the Cyanide Action Plan as follows:

Table 2: Time Schedules and Prescribed Actions for Cyanide

Action	Deadline Cyanide
a. Comply with the following interim effluent limit at Monitoring Station E-001: *Cyanide*: Maximum daily effluent limit = 25 µg/L	Upon the effective date of this Order
~~b. Investigate sample collection, sample handling, and analytical laboratory quality assurance and quality control practices to ensure that analytical results for cyanide are accurately determined and reported. Submit a report by the deadline describing the results of the investigation and any changes in quality assurance and quality control practices implemented.~~	~~September 1, 2008~~
~~c~~.b. If, by ~~September~~June 1, 2008, discharge data continue to show that the discharge is out of compliance (as defined in Section 2.4.5 of the State Implementation Plan) with the permit effluent limits for cyanide, submit ~~a plan for identifying~~ an inventory of ~~all~~ potential cyanide sources to the ~~discharge~~treatment plant (e.g., metal plating operations, hazardous waste recycling, etc.). ~~The plan shall, at a minimum, include sampling influent waste streams to identify and quantify cyanide sources.~~	~~December 1~~ September 30, 2008 (in the August 2008 SMR)
~~d. Implement the plan developed in action "c" within 30 days of the deadline for action "c," and submit by the deadline for this action (action "d") a report that contains an inventory of the cyanide sources.~~	~~March 1, 2009~~
~~d.~~c. Submit a ~~report documenting development~~plan for and ~~initial~~ begin implementation of a program to ~~reduce and prevent~~minimize cyanide ~~in the~~ discharges to the sanitary sewer system. The program shall consist, at a minimum, of the following elements: i. Maintain a list of potential cyanide sources. ii. Investigate each potential cyanide source to assess the need to include it in the program. iii. Inspect contributing sources included in the control program annually. Inspection elements may be based on USEPA guidance, such as Industrial User Inspection and Sampling Manual for POTWs (EPA 831-B-94-01). iv. Identify and implement targeted actions to reduce or eliminate discharges from each cyanide source in the program. v. Develop and distribute~~, as appropriate,~~ educational	~~September~~February 28, 2009 (in the 2008 Best Management Practices and Pollutant Minimization Report [annual pollution prevention report] required by Permit Provision VI.C.3.

Action	Deadline Cyanide
materials to contributing sources and potential contributing sources regarding the need to prevent cyanide sources to the sanitary sewer system.	
~~e.~~d. Continue to implement the program described in action "~~e~~c" and submit annual status reports that evaluate its effectiveness and summarize planned changes. Report whether the program has successfully brought the discharge into compliance with the effluent limits in the Permit. If not, identify and implement additional measures to further reduce discharges.	Annually each February 28 in ~~Best Management Practices and Pollutant Minimization~~ the annual pollution prevention report. ~~required by Permit Provision VI.C.3.~~
~~f.~~e. If by **September 28, 2011**, discharge data continue to show that the discharge is out of compliance (as defined in Section 2.4.5 of the State Implementation Plan) with the Permit effluent limits, submit a report, by the deadline for this action, identifying more aggressive actions to ensure compliance. These actions shall include, but not be limited to, reviewing options for pretreatment and upgrades to the treatment plant. The report shall identify an implementation schedule for investigating these options, selecting a preferred option, and implementing the chosen option. At a minimum, the report shall plan for the following activities: i. Bench scale testing or pilot scale testing or both ii. Development of preliminary design specifications iii. Development of final design specifications iv. Procurement of funding v. Acquisition of necessary permits and approvals vi. Construction	February 1, 2012

Action	Deadline
	Cyanide
~~g.~~f. Implement the plan required in action "~~i~~e" within 45 days of the deadline for action "~~i~~,e" and submit annual status reports.	Annually each February 1 in Annual Self-Monitoring Report required by Permit Attachment E, Monitoring and Reporting Program
~~h.~~g. Submit documentation confirming complete plan implementation and comply with effluent limits in the Permit.	August 1, 2015

We agree that actions taken under the CDO that are the same or similar to actions required by the Cyanide Action Plan should fulfill the requirements of both the CDO provisions relating to cyanide and the Cyanide Action Plan. We have therefore revised the text of the TO at Section VI.C.8, Action Plan for Cyanide, as follows:

> The Discharger shall implement monitoring and surveillance, pretreatment, source control, and pollution prevention for cyanide in accordance with the following tasks and time schedule. Similar cyanide activities conducted by the Discharger pursuant to a CDO may substitute for and fulfill these Action Plan requirements.

City of Benicia Comment 2. Neither Dischargers nor the RMP currently conduct ambient monitoring for cyanide. The RMP needs to be requested to add cyanide to their annual dry season randomized design monitoring program and Dischargers should be allowed to use these data for evaluating compliance with the 1.0 ug/L trigger. Methodology needs to be agreed upon as to how the data will be used to evaluate compliance. For consistency with the copper ambient trigger monitoring effort, a similar three year rolling mean concentration for all the stations within each individual Bay segment should be included. The City does not believe it appropriate to require additional cyanide control efforts if the ambient trigger is exceeded, unless the effluent concentration has concurrently increased to a level where after initial dilution it could potentially be contributing to the increase. The City requests the following changes to Action Plan Task 3.e.

> *e. If ambient monitoring shows three year rolling mean cyanide concentrations of 1.0 µg/L or higher, evaluate the effluent cyanide concentration trend, and if it is increasing, undertake actions to identify and abate cyanide sources responsible for the elevated ambient concentrations. RMP data may be used for this purpose if the Discharger does not conduct ambient monitoring in the vicinity of its discharge.*

Response 2.
We have not made the requested changes as they are either unnecessary or inconsistent with the Cyanide SSO Basin Plan amendment. We intend to impose regional monitoring for cyanide at a later date, and data generated thereby will be used to evaluate if ambient concentrations exceed the trigger concentration; the provision as written allows for flexibility. However, the Cyanide SSO Basin Plan amendment requires actions to identify and abate cyanide sources if the trigger is exceeded, and not only if effluent concentrations are increasing as suggested by the City's revision. The Basin Plan amendment requires these actions for consistency with State and federal standards, including Basin Plan Section 4.5.2, Site-Specific Objectives. This section requires that SSOs not impair the beneficial uses of the receiving water and provide the same level of protection intended by national criteria.

City of Benicia Comment 3.
The City requests that additional language (below) be added after the second paragraph in the Fact Sheet Section III.C. 6. Antidegradation Policy (Page F-10). The intent is to capture the fact, relative to antidegradation policy compliance, that plant performance will not, and cannot, be selectively changed simply due to the increase in copper and cyanide effluent limits in the TO. This language has been included in multiple prior permit Fact Sheets, including the Burlingame permit adopted on January 30, 2008 (pages F-10 – F-11).

> *Although the final WQBELs are above the previous interim limitations, the concentration of copper and cyanide discharges are unlikely to change because the Discharger proposes no changes to its treatment process. The Discharger will maintain current treatment performance for copper because it cannot manipulate its process to adjust effluent copper levels independently of other treatment parameters. To maintain compliance with other effluent limits, the Discharger will maintain its current performance with respect to copper and cyanide. Moreover, existing pollution minimization requirements are designed to maintain current performance.*

Response 3.
We have revised Fact Sheet Section III.C.6, Antidegradation Policy, by adding the following text after the second paragraph:

> Although this Order establishes final WQBELs for copper and cyanide that are above the previous interim limitations, the concentration of copper and cyanide discharges is unlikely to change because the Discharger proposes no changes to its treatment process. The Discharger will maintain current treatment performance for copper because it cannot manipulate its process to adjust effluent copper levels independently of other treatment parameters. To maintain compliance with other effluent limits, the Discharger will maintain its current performance with respect to copper and cyanide. Moreover, pollution minimization requirements are designed to maintain current performance.

City of Benicia Comment 4.
It appears that the initial dilution design calculation rating curves for the outfall may have been misread. The labeling of the y-axis can lead one to assume that the axis increments represent a change of one unit whereas they actually represent a change of two units. The City believes that the correct initial dilution at the average annual dry weather design flow rate of 4.5 mgd and

average tidal conditions should be 28:1 (D=27) and 37:1 (D=36) at 12 mgd and mean low tide conditions.

These changes would result in revised ammonia effluent limits of 35 mg/L AMEL and 62 mg/L MDEL and revised cyanide limits of 6.4 ug/L AMEL and 17 ug/L MDEL. The City respectfully requests that these changes be made to the permit and Fact Sheet.

Response 4

We agree that the dilution values should be revised to 28:1 at 4.5 MGD and mean tide, and 37:1 at 12 MGD and mean low tide. This results in ammonia effluent limits of an AMEL of 35 mg/L and an MDEL of 67 mg/L; and cyanide effluent limits of an AMEL of 6.4 ug/L and and MDEL of 17 ug/L. The City is able to comply with the recalculated effluent limits for ammonia; however, it is unable to comply with those for cyanide for the same reasons already expressed in the Fact Sheet, so a CDO is still needed.

We have revised Table 7 of the TO and Sections IV.C.6.b.(3) and (4), IV.C.6.c.(3) and (6), and Table F-11 of the Fact Sheet accordingly. We have also revised Table 1, Permit Effluent Limits, of the Tentative CDO to reflect the recalculated effluent limit for cyanide. Finally, we have deleted the effluent limits and provisions related to ammonia from the Tentative CDO.

City of Benicia Comment 5.

The CDO that accompanies this permit includes a schedule of prescribed actions for cyanide and ammonia, which are expected to be addressed through an alternative regulatory strategy that will appropriately resolve concerns for the San Francisco Bay.

Cyanide - The Regional Water Board has adopted a site-specific objective for cyanide that, when fully approved, will result in appropriate water quality objectives that are protective, technically feasible, and reasonable. Cyanide is not a significant water quality concern for the San Francisco Bay. The City objects to action Items g. and h. in Table 2 of the CDO, which would require the City to plan for and implement treatment plant upgrades to address cyanide, when concerns about this pollutant are in the process of being addressed by the SSO and the corresponding cyanide action plan, which is already required by the permit. Treatment plant upgrade requirements are potentially very expensive, are of uncertain effectiveness, and the City feels that it is inappropriate, considering the uncertainties of the regulatory process, to include these requirements with the assumption that the SSO will be fully approved and effective before these requirements take effect, making these requirements null. In addition, cyanide is not a water quality concern for San Francisco Bay and requiring treatment plant upgrades to address cyanide is an inappropriate use of public resources. Items g. and h. should be revised to remove all activities related to the installation of capital improvements.

Ammonia - The Regional Water Board just began placing effluent limits for ammonia in permits, even though most treatment plants have been operating without ammonia limits for decades and ammonia is not a water quality concern for San Francisco Bay. Therefore, requiring the potential for treatment plant upgrades is likewise an inappropriate use of public resources. The City requests the removal of the reference to "may include plant upgrades" in Item g and replacing it with "may include an alternative approach to calculate ammonia effluent limits

and/or to evaluate compliance with Basin Plan receiving water un-ionized ammonia limits via monitoring or modeling."

Response 5.
We have not made the requested revisions because they are either unnecessary or they conflict with State or federal requirements. Revisions to address the comments on ammonia are unnecessary because we have deleted ammonia from the Tentative CDO (please see our response to the City's Comment 4, above). Regarding cyanide, the Clean Water Act at Section 502(17) requires schedules of compliance (i.e., time schedules such as those in the CDO) to include an enforceable series of actions that will result in compliance. Although we do not expect treatment plant upgrades to become necessary to control cyanide, we must include plant upgrades in the CDO in case other measures fail.

Regarding the CDO provisions relating to cyanide, these will cease to be in effect when the cyanide SSOs are approved and the new effluent limits based on them take effect. The cyanide SSOs have been adopted by the State and Regional Water Boards as of December 2007, and will become effective when approved by the State Office of Administrative Law and USEPA. We anticipate that this will occur well before of February 1, 2012, the date upon which the CDO requires consideration of plant upgrades.

Section VI.C.2.d, Dilution Modeling Study, requires that a dilution modeling study be completed and submitted to the Regional Water Board. If the Dilution Study shows a higher dilution than that used to calculate ammonia and cyanide effluent limits in the TO, the new dilution may be used by the Discharger to justify higher effluent limits that they can comply with, subject to federal antibacksliding and antidegradation requirements. The City of Benicia can request that the permit be re-opened and effluent limits revised if the dilution study warrants it based on Section VI.C.1, Reopener Provisions. Therefore, there is no need to revise the TO.

City of Benicia Comment 6.
Water Quality Objectives for Coliform Bacteria are included in Basin Plan Table 3-1. USEPA Bacteriological Criteria for Water Contact Recreation are included in Basin Plan Table 3-2. The Basin Plan … states that "Water quality based effluent limits ***shall*** *be calculated from water quality objectives based on the following equation:*

Ce = Co + D(Co - Cb) where D = assigned dilution ratio, Co = WQO and Cb = background concentration.

The REC-1, full immersion body contact beneficial use that the enterococcus WQO was derived to protect, does not exist in the outfall or underwater within the zone of initial dilution. The point of application is at or near the surface at the nearest point where swimming, board surfing, or other potential full body contact recreation is likely to occur. It is therefore fully protective of beneficial uses to calculate WQBELs using dilution.

An important component of the bacterial WQBEL setting dialogue that has not been, and should be referenced in the Fact Sheet, is the issue of the trade-offs between perceived benefits from lower numerical bacteriological limits (i.e. non-WQBEL calculated without dilution), and the

real adverse environmental impacts from increased production, transport, storage, handling, application, and discharge of chlorination and dechlorination chemicals, plus the resultant chlorinated hydrocarbons formed in the disinfection process.

The issue of using dilution to calculate bacteriological effluent limits was raised as far back as 1998 during the process of setting fecal coliform limits for SBSA, San Mateo, and the North Bayside System Unit dischargers. However it was agreed to be tabled, since it was deemed at that time, to be more appropriately dealt with through a Basin Plan amendment (see the Findings of Order No. 98-117 approving the change to fecal coliform limits in the five NBSU member permits). Enterococcus WQBELs, calculated with dilution, have subsequently been approved in the North San Mateo County Sanitation District and Sewer Authority Mid-Coastside permits adopted in 2006/2007.

The City recognizes that updating the Basin Plan to address how alternative bacteriological effluent limits would be set was Priority Item 4 in the 2004 Basin Plan Triennial Review Staff Report Priority List. The City supports including this same action as a high priority task in the 2008 Triennial review. The City requests that "reopener" language be included in the Fact Sheet Section IV.B.3 indicating that the current fecal coliform and Enterococci effluent limits may be translated to WQBELs following development and inclusion of appropriate procedures in a subsequent Basin Plan Amendment.

Response 6.

We have not calculated WQBELs for bacteria because to do so would conflict with the Basin Plan. Technology-based effluent limits for conventional pollutants including total and fecal coliform bacteria are established by the Basin Plan Table 4-2 for all sewage treatment facilities in the San Francisco Bay region discharging to inland surface waters and enclosed bays and estuaries. We also apply technology-based limits to enterococcus bacteria because it is a nearly identical pollutant to total and fecal coliform bacteria, and because the enterococcus bacteria effluent limits are achievable by the existing technology.

We have not added discussion of the environmental trade-offs associated with disinfection to the Fact Sheet because it is unnecessary. The Discharger has articulated its point, and that point is included in the administrative record for this permit by the Discharger's comment and our response.

On the issue of the enterococcus WQBELs in the reissued permits for North San Mateo County Sanitation District and Sewer Authority Mid-Coastside, both of those dischargers are ocean dischargers subject to the Ocean Plan. The Ocean Plan establishes water quality objectives for bacteria, not technology-based effluent limits.

Finally, we have not added the reopener language requested by the Discharger because it is unnecessary. As currently written, the Discharger could request reopening the permit in the event of a Basin Plan amendment based on Section VI.C.1.b. Reopening and amendment of the permit will depend on the details of any Basin Plan amendment, and be subject to federal antibacksliding requirements.

City of Benicia Comment 7.
The City believes that composite sampling would provide more representative data than grab sampling for ammonia (MRP page E-4 Table E-4 Effluent Monitoring).

Response 7.
We call for grab samples for ammonia in Table E-4 because ammonia is a non-persistent pollutant; however, footnote 9 to Table E-4 states, "Ammonia and cyanide grab samples collected over a 24-hour period may be composited and analyzed to comply with this requirement if the appropriate sample collection and preservation practices called for in 40 CFR 136 are followed." This should allow the Discharger to continue to collect composite ammonia samples and will ensure that those samples are representative of actual discharge conditions.

Since the same rationale applies to cyanide, which is a non-persistent pollutant similar to ammonia, we have also revised Table E-5, Effluent Monitoring EFF-001-D, as follows:

Table E-5. Effluent Monitoring EFF-001-D

Parameter	Units	Minimum Sampling Frequency			Required Analytical Test Method
		Continuous	C-24	G	
Cyanide [2]	µg/L	---	---	M	[1]
Fecal Coliform	MPN/100 ml	---	---	W	[1]
Enterococcus Bacteria [~~2~~3]	MPN/100 mL	---	---	W	[1]
Chlorine, Total Residual [~~3~~4]	mg/L	Cont/2H	---	---	[1]

[1] Pollutants and pollutant parameters shall be analyzed using the analytical methods described in 40 CFR Part 136.

[2] Cyanide grab samples collected over a 24-hour period may be composited and analyzed to comply with this requirement if the appropriate sample collection and preservation practices called for in 40 CFR 136 are followed.

[~~2~~3] The Discharger shall monitor for Enterococci using EPA-approved methods, including, for example, the IDEXX Enterolert method.

[~~3~~4] During all times when chlorination is used for disinfection of the effluent, effluent chlorine residual concentrations shall be monitored continuously or by grab samples taken once every 2 hours. Chlorine residual concentrations shall be monitored and reported for sampling points both prior to and following dechlorination. Total chlorine dosage (kg/day) shall be recorded on a daily basis.

City of Benicia Comment 8:
The City requests the changes shown below to the language on MRP page E-13 Section XI.5 for clarity and consistency with other recently adopted permits (see RWB response to West County Agency (WCA) Comment 8 on WCA permit, adopted January 30, 2008). While the City does not consider it likely that it would need to pursue a surrogate monitoring study, the City would like to keep the option open in the future.

2. Reports of Plant Bypass, Treatment Unit Bypass and Order Violation
The following requirements apply to all treatment plant bypasses and significant non-compliance occurrences, except for bypasses under the conditions contained in 40 CFR Part 122.41(m)(4) as stated in Standard Provision A.13. In the event the Discharger violates or threatens to violate the conditions of the waste discharge requirements and prohibitions or intends to experience a plant bypass or treatment unit bypass due to:

[And add at the end of Section F.2 the following:]
During the above described bypassing, composite samples of the discharge shall be collected for the day in which the bypass occurred and analyzed for Oil & Grease, pH, TSS, BOD_5, total chlorine residual (hourly), fecal coliform and enterococcus bacteria, copper, selenium, cyanide, and ammonia. Flow shall be monitored continuously.

The Discharger shall report in monthly and annual monitoring reports the occurrence and duration of blending events, and certify that the blending complied with effluent limits. If the Discharger submits a study showing that surrogate monitoring is sufficient to ensure that beneficial uses are protected, the Executive Officer will revise the Monitoring and Reporting Program accordingly.

Response 8.
We have revised Attachment E, Section XI.5 of the TO as follows, similar to the City of Benicia's request:

The Discharger shall report in monthly and annual monitoring reports the occurrence and duration of blending events, and certify that the blending complied with effluent limits. If the Discharger submits a study showing that monitoring of a surrogate parameter is sufficient to ensure that beneficial uses are protected, the Executive Officer will revise the Monitoring and Reporting Program accordingly.

City of Benicia Comment 9.
The City requests the changes shown below to the language in MRP page E-14 Section XI.6.g for clarity and consistency with other recently adopted permits (see RWB response to BACWA Comment 4 on City of Burlingame permit, adopted January 30, 2008).

g. If the Discharger wishes to invalidate any measurement, the letter of transmittal will include identification of the measurement suspected to be invalid and notification of intent to submit, within 60 days, a formal request to invalidate the measurement, the original measurement in question, the reason for invalidating the measurement, all relevant documentation that supports the invalidation (e.g., laboratory sheet, log entry, test results, etc.), and discussion of the corrective actions taken or planned (with a time schedule for completion), to prevent recurrence of the sampling or measurement problem. ~~The invalidation of a measurement requires the approval of Water Board staff and will be based solely on the documentation submitted at that time.~~

Response 9.
We have revised the TO as requested.

City of Benicia Comment 10.
The City requests the changes shown below to the language on MRP page E-14 Section XI.6.h.3) to clarify that it is not required to submit paper copies of data already submitted electronically, nor annual tabular and graphical summaries.

h. Reporting Data in Electronic Format
3) Annual Reporting Requirements: Dischargers who have submitted data using the ERS for at least one calendar year are exempt from submitting an annual report electronically, but a

hard copy of the annual report per Sections F.5.b, F.5.c, and F.5.d below shall be submitted. ~~*according to Section F.5 below.*~~

Response 10.
We have revised the TO as requested.

II. Bay Area Clean Water Agencies (BACWA)

BACWA submitted eight comments on the City of Benicia TO

BACWA Comment 1.
BACWA objects to including numeric final effluent limits for dioxin-TEQ. *BACWA requests that the dioxin-TEQ numeric final effluent limit be removed because there is no approved numeric water quality objective for dioxin-TEQ, it does not appear likely that the City will be able to meet this limit, and there are no analytical methods can accurately detect dioxins at these levels. BACWA believes that the Regional Water Board has the discretion to maintain the narrative standard that exists in the San Francisco Bay Basin Plan. There is no value in developing a numerical standard at this time since dioxin at these levels cannot be measured. The dioxin sources are air emissions and combustion, neither of which the City or any BACWA member agency can control or prevent.*

Response to Comment 1.
The numeric effluent limits for dioxin-TEQ are reasonable and appropriate. We derived them in accordance with 40 CFR 122.44(d)(1)(vi); they are based on the CTR objective for 2,3,7,8-TCDD and other relevant information. The TO includes dioxin-TEQ effluent limits because state and federal laws and regulations require them. By adopting the dioxin-TEQ limits, the Regional Water Board is complying with regulations implementing the Clean Water Act at 40 CFR 122.44(d), which require that permits include effluent limits for all pollutants that may be discharged at levels with a reasonable potential to cause or contribute to exceedances of water quality standards, including narrative objectives, such as the Basin Plan's bioaccumulation objective. The Basin Plan states, "Water quality-based effluent limitations will consist of narrative requirements and, where appropriate, numerical limits for the protection of the most sensitive beneficial uses of the receiving water."

Dioxin and similar compounds have bioaccumulated in San Francisco Bay fish in violation of the Basin Plan's narrative bioaccumulation water quality objective. Therefore, a numeric effluent limit is appropriate to protect San Francisco Bay's beneficial uses, which the bioaccumulation objective is intended to preserve. We used Toxic Equivalency Factors (TEFs) published by USEPA and the World Health Organization, together with the CTR water quality objective for 2,3,7,8-TCDD (the most toxic of the dioxins) to translate the Basin Plan's narrative bioaccumulation objective into numeric water quality-based effluent limits.

We do not intend to enforce compliance with the dioxins limits in situations where we cannot determine whether the limits are exceeded. However, neither 40 CFR 122.44(d) nor the Basin Plan allows consideration of whether analytical methods can actually measure dioxin-TEQ at concentrations as low as the limits. The Basin Plan states, "…when pollutant concentrations in waters are relatively low, the limits of quantification will be taken into account in determining compliance with, rather than the calculation of, effluent limits." Following this policy and the State Implementation Policy's Minimum Level (ML) concept, we developed effluent limits consistent with the water quality objective. We will use analysis-based Minimum Levels for compliance determination and enforcement.

We recognize that the ultimate sources of most dioxins in San Francisco Bay are mostly combustion-related air emissions, and that these sources are outside of the City of Benicia's direct control. In the context of the Basin Plan's narrative bioaccumulation objective, however, we disagree that dioxins cannot be controlled. The Basin Plan states, "Controllable water quality factors are those actions, conditions, or circumstances resulting from human activities that may influence the quality of the waters of the State and that may be reasonably controlled." USEPA concluded that dioxins are controllable when it placed San Francisco Bay on the 303(d) list of impaired waters due to dioxin concentrations in fish and other aquatic organisms. Air emissions, which are created through combustion, are a source of dioxins, but wastewater treatment plants are also sources of dioxins discharged to San Francisco Bay. Dioxins in wastewater are primarily a result of human activity and their discharge to waters can be controlled by removing solids from wastewater (dioxins are hydrophobic and bind to particles). Additional dioxin removal could result from plant upgrades. This could be burdensome and may not be cost effective at this time; however, such actions could be necessary to control dioxin discharges in the future.

BACWA Comment 2.

The compliance schedule action plan for dioxin-TEQ is neither realistic nor commensurate with actual water quality impacts, and overly burdensome. *The dioxin congeners found in fish tissue samples, which form the basis for the dioxin 303(d) listing, are different than the congeners detected in publicly-owned treatment works. As a result, there is nothing a municipal treatment plant could do to reduce the concentrations of dioxin congeners in fish tissue. It is highly unlikely that compliance schedule action plan activities will result in compliance with proposed final limits.*

Although an optional offset provision (as described in Task 7) may provide an alternative to compliance with these limits, such a program does not currently exist. Even though the Regional Water Board directed Regional Water Board staff to develop such a program, there do not appear to be any plans in place. Until such a program is developed with a feasible implementation strategy, the City believers this is not a realistic alternative and it is misleading to expect that such a program would lead to compliance.

Response 2.

Though the dioxin congeners in San Francisco Bay fish tissue have a different profile (i.e., greater variety of congeners) than those in wastewater, the OCDD and OCDF congeners are found in both. USEPA's 303(d) listing of dioxins included OCDD and OCDF because they contributed to the basis for the listing. Furthermore, the dioxin-TEQ scheme toxicity-weights dioxin congeners so that the dioxin toxicity in different media, in this case wastewater versus fish tissue, can be compared directly even if the congeners present are different. When USEPA listed the fish tissue as impaired, it did so based on dioxin toxicity, and did not distinguish among the congeners. The preamble to the CTR and subsequent USEPA correspondence indicates that it prefers that we use the dioxin-TEQ scheme to address dioxins and furans in implementing the bioaccumulation objective through permit limits.

We acknowledge that a formal mass offset program does not currently exist. The TO refers to such a program simply as one possible means to overcome any technical infeasibility in meeting the dioxin-TEQ limits.

BACWA Comment 3.

BACWA supports the NPDES permit as being the governing regulatory document if there are discrepancies with previously issued regional requirements. *Section XI.B.1 of Attachment E (Monitoring and Reporting Program (MRP)) and Provision VI.A.2 of the permit are very confusing. The former indicates that, if any discrepancies exist between Attachment G and Attachment E, Attachment E prevails. The latter indicates that, if any discrepancies exist between the permit (including Attachment E and/or Attachment G) and Attachment D, whichever is more stringent prevails.*

BACWA disagrees with the implication that, of all the documents applicable to this permit, the most stringent requirements should apply. Some of the documents, especially some produced on a regional basis, are 15 years old and acknowledged to be out of date. Significant resources have been expended to make sure that this tentative order, a very complicated and individualized NPDES permit, has current regulatory requirements. In addition, the permit is very specific to the City. Therefore, the requirements take into account site-specific conditions, and the requirements in the permit should supersede other, more historical documents.

It is also unreasonable to expect that the City be held responsible for deciding that if there are conflicting requirements, that requirements promulgated 15 years ago and acknowledged to be out of date should govern. The newly adopted NPDES permit should be the applicable governing document if there are any discrepancies. For these reasons, language in the NPDES permit should be revised as follows (page 16):

A. Standard Provisions

1. *Federal Standard Provisions. The Dischargers shall comply with all Standard Provisions included in Attachment D of this Order*

2. *Regional Water Board Standard Provisions. The Dischargers shall comply with all applicable items of the Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits, August 1993 (Attachment G), and any amendments thereto. Where provisions of reporting requirements specified in this Order, including ~~and~~ Attachments D and E, ~~G~~ are different for equivalent or related provisions or reporting requirements given in ~~the federal Standard provisions~~ (Attachment G~~D~~), the specifications of this Order ~~and/or Attachment G~~ shall apply ~~in areas where those provisions are more stringent.~~ Duplicative requirements in the federal Standard Provisions ~~in VI.A.1.2, above~~ (Attachment D) and the regional Standard Provisions (Attachment G) are not separate requirements. A violation of a duplicative requirement does not constitute two separate violations.*

Response 3.

We did not make the requested changes because, pursuant to State Water Board Order WQ 2007-0004, permits cannot contain language stating that, if the federal standard provisions differ from permit provisions, the permit provisions prevail. This is to ensure that dischargers comply with the minimum federally-required standard conditions. By also stating that

Attachment E supersedes Attachment G, we are stating that the permit-specific requirements supersede the more general standard requirements specific to this region.

<u>*BACWA Comment 4.*</u> ***BACWA requests that the cyanide and copper action plans be placed in the watershed permit.*** *The cyanide and copper action plans are whole new requirements, which are set up to be implemented when the site-specific objectives are fully approved. BACWA requests that the action plans be placed in the watershed permit, in order to facilitate a group implementation, as is appropriate with these constituents that are not causing water quality impacts in San Francisco Bay, and have mostly a public outreach emphasis.*

<u>Response 4.</u>
Other than ambient monitoring, the tasks called for by the Cyanide and Copper Action Plans are discharger-specific rather than regional. Because of this, and because we have used this same approach of requiring Action Plans in individual permits previously, we have not removed the Action Plans from the TO.

Also, the requirement for a cyanide action plan must appear in this TO to comply with antidegradation requirements. The cyanide effluent limits in the TO, which we calculated with actual dilution, are higher than those in the previous Permit. The Cyanide Action Plan is needed to meet antibacksliding and antidegradation requirements if we are to increase these effluent limits. We rely upon the same rationale as in the Cyanide SSO Staff Report's antidegradation analysis, which finds that higher cyanide limits will not cause water quality to be degraded if dischargers control cyanide influent to their treatment plants by implementing Cyanide Action Plans.

<u>*BACWA Comment 5.*</u> ***If the Regional Water Board retains the Action Plan for Cyanide in this permit, it should be revised in several ways.*** *BACWA believes there are several revisions to the Action Plan for Cyanide which will make it more practical to implement, as follows:*

- *The cyanide action plan should be contingent on the site-specific objective becoming fully effective, such as for the copper action plan.*
- *BACWA requests deleting the first task in this provision because it was not in the Basin Plan Amendment staff report, and it doesn't seem useful for every agency to investigate cyanide sample collection and handling for cyanide sampling. Standard procedures exist for sample collection and analysis, and it is well known that chlorine and/or other portions of the matrix are likely causing an interference, which current technology is not sophisticated enough to avoid.*
- *Submitting the review of sampling and analysis procedures (Task 1) and the review of potential cyanide contributors (Task 2) in the applicable monthly Self-Monitoring Report (SMR) would be less burdensome than submitting a separate report, on all the parties involved.*
- *It is impossible to know all the potential contributors of cyanide to the treatment plant, so BACWA requests that the word "all" be removed in this context.*
- *If it is necessary to implement a cyanide control program, BACWA requests a longer time period of 6 months, because it takes time to develop these programs.*

- *The ambient concentration trigger is applicable to the main body of the Bay, as indicated in the Basin Plan Amendment staff report.*
- *RMP data should be used for tracking ambient cyanide concentrations, where applicable.*

BACWA requests revised language as follows:

8. Action Plan for Cyanide

If and when the copper SSOs become effective, t~~T~~he Discharger shall implement monitoring and surveillance, pretreatment, source control, and pollution prevention for cyanide in accordance with the following tasks and time schedule.

Table 11. Cyanide Action Plan

Task	***Compliance Date***
~~1. Review Sampling and Analysis Procedures~~ *~~Investigate sample collection, sample handling, and analytical laboratory quality assurance and quality control practices to ensure that analytical results for cyanide are accurately determined and reported. Submit a report describing the results of the investigation and any changes in quality assurance and quality control practices implemented.~~*	*~~Within 90 days of effective date of this Order~~*
~~2~~1. Review Potential Cyanide Contributors *The Discharger shall submit an inventory of ~~all~~ potential contributors of cyanide to the treatment plant (e.g., metal plating operations, hazardous waste recycling, etc.). If no contributors of cyanide are identified, Tasks 3 and 4 are not required, unless the Discharger receives a request to discharge detectable levels of cyanide to the sanitary sewer. If so, the Discharger shall notify the Executive Officer and implement Tasks 3 and 4.*	*Report results in the monthly SMR ~~W~~within ~~90 days~~3 months of completing Task 1*
~~3~~2. Implement Cyanide Control Program *The Discharger shall submit a plan for and begin implementation of a program to minimize cyanide discharges to the sanitary sewer system consisting, at a minimum, of the following elements:* *a. Inspect each potential contributor to assess the need to include that contributing source in the control program.* *b. Inspect contributing sources included in the control program annually. Inspection elements may be based on U.S. EPA guidance, such as Industrial User Inspection and Sampling Manual for POTWs (EPA 831-B-94-01).* *c. Develop and distribute educational materials to contributing sources and potential contributing sources regarding the need to prevent cyanide discharges.* *d. Prepare an emergency monitoring and response plan to be implemented if a significant cyanide discharge occurs.* *e. If ambient monitoring shows cyanide concentrations of 1.0 µg/L or higher in the main body of the Bay, undertake actions to identify and abate cyanide sources responsible for the elevated ambient concentrations. RMP data may be used for the ambient monitoring.*	*Within ~~90 days~~6 months of completing Task 3 or of receiving a new cyanide source (see Task ~~3~~2)*

Task	*Compliance Date*
4~~3~~. Report Status of Cyanide Control Program *Submit a report to the Regional Water Board documenting implementation of the cyanide control program.*	*Annually with annual pollution prevention reports due February 28.*

Response 5.
Our responses to each of BACWA's points are as follows. Please note that Table 11 was misnumbered in the TO for public review. This table is now Table 10 in the revised TO, and is referred to as Table 10 below.

- As mentioned in our response to BACWA's comment 4, since the cyanide effluent limits calculated using actual dilution are higher than those in the previous permit, a Cyanide Action Plan is required to meet antidegradation requirements. Please also see the response to the City of Benicia Comment 1.
- We agree that the first task in the Cyanide Action Plan is unnecessary and have deleted it.
- We have revised TO to require the results of Task 1 to be reported in the July 2008 SMR, due on August 30, 2008.
- We have deleted the word "all," as requested.
- We have extended the timeline for submitting and beginning implementation of the cyanide control program to 180 days.
- We have clarified that the 1.0 ug/L ambient trigger concentration applies to the main body of San Francisco Bay, as suggested. This revision is consistent with Section 8.4, Cyanide Action Plan, of the Cyanide SSO Staff Report.
- Please see the response to City of Benicia Comment 2.

We have revised Table 10, Cyanide Action Plan, as follows:

Table 10. Cyanide Action Plan

Task	**Compliance Date**
~~**1. Review Sampling and Analysis Procedures**~~ ~~Investigate sample collection, sample handling, and analytical laboratory quality assurance and quality control practices to ensure that analytical results for cyanide are accurately determined and reported. Submit a report describing the results of the investigation and any changes in quality assurance and quality control practices implemented.~~	~~Within 90 days of effective date of this Order~~
~~**2.**~~ **1. Review Potential Cyanide Contributors** The Discharger shall submit an inventory of ~~all~~ potential contributors of cyanide to the treatment plant (e.g., metal plating operations, hazardous waste recycling, etc.). If no contributors of cyanide are identified, Tasks 2 and 3~~ and 4~~ are not required, unless the Discharger receives a request to discharge detectable levels of cyanide to the sanitary sewer. If so, the Discharger shall notify the Executive Officer and implement Tasks 2 and 3~~ and 4~~.	September 30, 2008, with August 2008 SMR~~Within 90 days of completing Task 1~~.

Task	Compliance Date
~~3.~~ 2. **Implement Cyanide Control Program** The Discharger shall submit a plan for and begin implementation of a program to minimize cyanide discharges to the sanitary sewer system consisting, at a minimum, of the following elements: f. Inspect each potential contributor to assess the need to include that contributing source in the control program. g. Inspect contributing sources included in the control program annually. Inspection elements may be based on USEPA guidance, such as Industrial User Inspection and Sampling Manual for POTWs (EPA 831-B-94-01). h. Develop and distribute educational materials to contributing sources and potential contributing sources regarding the need to prevent cyanide discharges. i. Prepare an emergency monitoring and response plan to be implemented if a significant cyanide discharge occurs. j. If ambient monitoring shows cyanide concentrations of 1.0 µg/L or higher in the main body of San Francisco Bay, undertake actions to identify and abate cyanide sources responsible for the elevated ambient concentrations.	~~Within 90 days of completing Task 3 or of receiving a new cyanide source (see Task 3)~~ February 28, 2009, with 2008 annual pollution prevention report.
~~4.~~ 3. **Report Status of Cyanide Control Program** Submit a report to the Regional Water Board documenting implementation of the cyanide control program.	Annually with annual pollution prevention reports due February 28.

We have also revised the Tentative CDO to ensure that it and the Cyanide Action Plan are consistent. Please see our response to the City of Benicia Comment 1.

BACWA Comment 6.

If the Regional Water Board retains the Action Plan for cyanide in this permit, the Action Plan for Copper should be revised in several ways. *BACWA believes there are several revisions to the Action Plan for Copper which will make it more practical to implement, as follows:*

- *The activities in Task 2 are well-suited to a group program for implementation, as BACWA did for the plumbers outreach for the Sewer System Management Plan (SSMP). In addition, more time is needed to implement a group approach.*
- *It is impossible to know all the potential contributors of copper to the treatment plant, so BACWA requests that the word "all" be removed in this context.*
- *Certain language changes are needed to maintain consistency with the Basin Plan Amendment.*

BACWA requests revised language as follows:

9. Action Plan for Copper

If and when the copper SSOs become effective, the Discharger shall implement pretreatment, source control, and pollution prevention for copper in accordance with the following tasks and time schedule.

Table 12. Copper Action Plan

Task	*Compliance Date*

Task	*Compliance Date*
1. Review Potential Copper Sources *The Discharger shall submit an inventory of ~~all~~ potential copper sources to the treatment plant.*	*Within 90 days of the date on which the copper SSOs become effective*
2. Implement Copper Control Program *The Discharger shall submit a plan for and begin implementation of a program to reduce copper discharges identified in Task 1 consisting, at a minimum, of the following elements:* *a. Provide education and outreach to the public (e.g., focus on proper pool and spa maintenance and plumbers' roles in reducing corrosion).* *b. If corrosion is determined to be a significant copper source, work cooperatively with local water purveyors to reduce and control water corrosivity as appropriate, and ensure that local plumbing contractors implement best management practices to reduce corrosion in pipes.* *c. Educate plumbers, designers, and maintenance contractors for pools and spas to encourage best management practices that minimize copper discharges.*	*Within ~~90 days~~1 year of completing Task 1. Each element of this task may be implemented by the Discharger as part of a regional or group program.*
3. Implement Additional Measures *If the three-year rolling mean copper concentration of the receiving water exceeds 3.0 µg/L, evaluate the effluent copper concentration trend, and if it is increasing, develop and implement additional measures to control copper discharges.*	*W~~w~~ithin 90 days of exceedance*
4. Report Status of Copper Control Program *Submit a report to the Regional Water Board documenting implementation of the copper control program.*	*Annually with annual pollution prevention reports due February 28.*

Response 6.

Our responses to each of BACWA's points are as follows. Please note that Table 12 was misnumbered in the TO for public review. This table is now Table 11 in the revised TO, and is referred to as Table 11 below.

- Task 2 calls for the Discharger to submit a plan and begin implementation of a copper control program. The Discharger may submit a plan that includes a group program for implementation. We have extended the time period for this task to 180 days.
- We have removed the word "all" as requested.
- We note the requested language changes and thank BACWA for its close reading of the permit.

Table 11, Copper Action Plan, has been revised as follows:

Table 11. Copper Action Plan

Task	Compliance Date
1. Review Potential Copper Sources The Discharger shall submit an inventory of ~~all~~ potential copper sources to the treatment plant.	Within 90 days of the date on which the copper SSOs become effective (Discharger may include with SMR due on or immediately after the end of the 90 day period)
2. Implement Copper Control Program The Discharger shall submit a plan for and begin implementation of a program to reduce copper discharges identified in Task 1 consisting, at a minimum, of the following elements: a. Provide education and outreach to the public (e.g., focus on proper pool and spa maintenance and plumbers' roles in reducing corrosion). b. If corrosion is determined to be a significant copper source, work cooperatively with local water purveyors to reduce and control water corrosivity, as appropriate, and ensure that local plumbing contractors implement best management practices to reduce corrosion in pipes. c. Educate plumbers, designers, and maintenance contractors for pools and spas to encourage best management practices that minimize copper discharges.	~~Within 90 days of completing Task 1~~ With the annual pollution prevention report due on or immediately following the end of a 90 day period after completing Task 1.
3. Implement Additional Measures If the three-year rolling mean copper concentration of the receiving water exceeds 3.0 µg/L, evaluate the effluent copper concentration trend, and if it is increasing, develop and implement additional measures to control copper discharges.	Within 90 days of exceedance
4. Report Status of Copper Control Program Submit a report to the Regional Water Board documenting implementation of the copper control program.	Annually with annual pollution prevention reports due February 28.

BACWA Comment 7

BACWA objects to the language used to require correction of errors in data reporting. Human errors occur occasionally in data reporting. Inferring a time limit on the discovery and correction of these errors is confusing. We understand, based on the Response to Comments for the San Mateo permit, that Regional Water Board staff will consider erroneously reported data points at any time when sufficient information is available, although the prefer that it be taken care of promptly. But the confusing nature of this language means that some agencies will not understand this subtle point. BACWA requests that language be revised as follows:

g. *If the Discharger wishes to invalidate any measurement, the letter of transmittal will include identification of the measurement suspected to be invalid and notification of intent to submit, within 60 days, a formal request to invalidate the measurement, the original measurement in question, the reason for invalidating the measurement, all relevant documentation that supports the invalidation (e.g., laboratory sheet, log entry, test results, etc.), and discussion of the corrective actions taken or planned (with a time schedule for completion), to prevent recurrence of the sampling or measurement problem. ~~The invalidation of a measurement requires the approval of Water Board staff and will be based solely on the documentation submitted at that time.~~*

Response 7.
We have revised the TO as requested.

BACWA Comment 8. ***The Time Schedule of Prescribed Actions in the CDO is overly stringent.*** *The CDO that accompanies this permit includes a schedule of prescribed actions for cyanide and ammonia, which are expected to be addressed through an alternative regulatory strategy that will appropriately resolve concerns for the San Francisco Bay.*

- *Cyanide - The Regional Water Board has adopted a site-specific objective for cyanide that, when fully approved, will result in appropriate water quality objectives that are protective, technically feasible, and reasonable. Cyanide is not a significant water quality concern for the San Francisco Bay. BACWA objects to action Items g. and h. in Table 2 of the CDO, which would require the City to plan for and implement treatment plant upgrades to address cyanide, when concerns about this pollutant are in the process of being addressed by the SSO and the corresponding cyanide action plan, which is already required by the permit. Treatment plant upgrade requirements are potentially very expensive, and BACWA feels that it is inappropriate, considering the uncertainties of the regulatory process, to include these requirements with the assumption that the SSO will be fully approved and effective before these requirements take effect, making these requirements null. In addition, cyanide is not a water quality concern for San Francisco Bay and requiring treatment plant upgrades to address cyanide which would require significant public resources should not be automatic, rather should be open to a greater level of discussion than is allowed under the CDO.*
- *Ammonia - The Regional Water Board just began placing effluent limits for ammonia in permits, even though most treatment plants have been operating without ammonia limits for decades and ammonia is not a water quality concern for San Francisco Bay. Therefore, requiring the potential for treatment plant upgrades likewise should be open for a higher level of discussion than is allowed under the CDO.*

For these reasons, the copper and ammonia compliance schedules should be revised to remove all activities related to the installation of capital improvements.

Response 8.
Please see the response to the City of Benicia Comment 5.