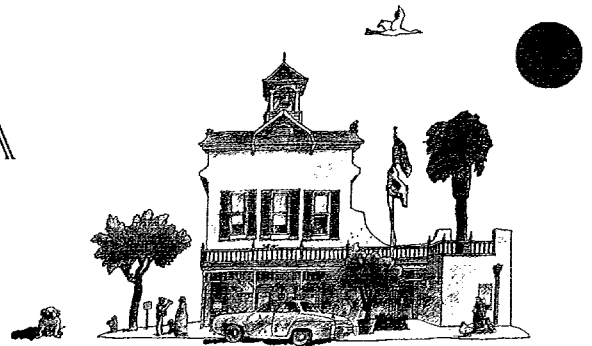


# CITY OF CALISTOGA

1232 Washington Street • Calistoga, CA 94515  
707.942.2800



July 13, 2006

Mr. Bruce H. Wolfe  
Executive Officer  
San Francisco Bay Regional Water Quality Control Board  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

CITY OF CALISTOGA

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CITY OF CALISTOGA

**Subject: City of Calistoga Comments on SFBRWQCB Tentative Order  
(NPDES Permit No. 0037966)**

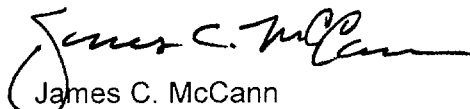
Dear Mr. Wolfe:


The City of Calistoga is providing comments (attached) to the Regional Water Board's Tentative Order, which was received on June 15, 2006. These comments are being submitted prior to the July 17, 2006, deadline to be considered by the Water Board for inclusion in the final adopted permit.

The City is grateful for the hard work of the Water Board staff and its willingness to consider alternate permit approaches. The City of Calistoga appreciates its role as a steward of the Napa River and endeavors to protect its water quality and beneficial uses. We are pleased that many fish species, including Salmon and Steelhead, are successfully living and spawning in the upper Napa River in the vicinity of the wastewater treatment plant. On its own volition, the City upgraded the wastewater treatment processes in 2003, at a very considerable expense, to produce tertiary quality effluent for river discharge and recycled water applications. The treatment plant is an excellent performer, owing to its modern design and attentive and diligent staff, and the plant is in regular compliance with established discharge standards.

Please contact Paul Wade if you have any questions on the attached comments or if you would like to discuss them in more detail.

Sincerely,

  
James C. McCann  
City Manager

  
Paul W. Wade  
Public Works Director/City Engineer

Attachment A – Comments on Tentative Order  
Attachment B – Cyanide AMEL Calculations

cc: Lila Tang, RWQCB  
Tong Yin, RWQCB  
Denise Conners, Larry Walker Associates  
File

July 13, 2006

City of Calistoga  
**Attachment A**

**Comments Regarding SFBRWQCB Tentative Order Received June 15, 2006  
For Renewal of NPDES Permit No. CA0037966**

The City of Calistoga (City) appreciates the opportunity to submit the following comments on the Tentative Order (TO) released for review and comment on June 15, 2006.

The comments are organized as follows:

- Comments 1 - 14 are the City's significant comments on the main body of the TO
- Comments 15 - 16 are the City's significant comments on the Monitoring and Reporting Program (Attachment E)
- Comment 17 contains a number of suggested editorial changes
- Comments under 18 are the City's comments on the Fact Sheet (Attachment F)

For suggested revisions to the text of the TO, blue is shown for suggested additions, and red strike-out is shown for suggested deletions. This document should be produced on a color printer.

**1. If the new permit is adopted for a 5 year term, the City has the following comments regarding the issues of dilution ratios and dilution credits.**

**1a. The City requests modification of Discharge Prohibition III.A. as follows:**

- A. Discharge of wastewater at a different location or in a different manner than those described in this Order is prohibited. Discharge from Outfall 001 to receiving water at any point where it does not receive a minimum initial dilution of 10 to 1 (10:1), river to wastewater flow, is prohibited. Discharge of wastewater from Outfall 002 to receiving water at any point where it does not receive a minimum initial dilution of 50 to 1 (50:1), river to wastewater flow, is prohibited. This minimum river to wastewater flow ratio must be verified by field measurements at the Facility. If the Discharger, after completing the tasks specified in Provision VII.C.2.c or d. of this Order, requests justifies alternate final effluent limits based on a dilution credit, ~~in Section IV. 6 of this Order to apply,~~ the discharge of tertiary effluent from 001 will be allowed to continue at the minimum river to wastewater flow of 10:1 if a minimum 10:1 dilution credit is demonstrated and approved. If a dilution credit of less than 10:1 is demonstrated, the discharge of tertiary effluent is only allowed when the discharge receives a minimum river to wastewater flow ratio of 15:1.

The basis for the increase from a 10:1 minimum river to wastewater flow to 15:1 has not been demonstrated scientifically to the City. A description of the thought processes used by the Water Board to set the minimum 15:1 ratio is summarized in the Fact Sheet (page F-18). However, the description includes many assumptions and estimations. The basis for the increase in initial dilution is related to the assimilative capacity of the Napa River for

discharges from Calistoga, St. Helena, and Yountville. No research has been done to determine the actual assimilative capacity of the river and no allowances have been made for operational conditions at the Yountville and St. Helena wastewater treatment plants. For example, Yountville will be phasing out river discharge over the next 4 years and St. Helena has only discharged to the Napa River for a couple weeks over the past 3 years.

**1b. The City requests that the wording of Effluent Limitations and Discharge Specifications IV.A.6.a and IV.A.6.b be changed as follows:**

**a) Alternate Effluent Limitations with a Demonstrated Minimum 10:1 Dilution Credit**

If the Discharger installs a diffuser under Provision VII.C.2.c, the effluent limits specified in the table below will apply in lieu of the final effluent limits specified in Table 4 above, with compliance measured at Monitoring Locations M-001 or M-002 as described in the attached MRP (Attachment E). If a mixing zone study specified under Provision VII.C.2.d demonstrates that the discharge warrants a greater than 10:1 dilution credit (at both 001 and 002), the permit will be reopened to provide a larger dilution credit. ~~and effluent limits specified in the table below will apply in lieu of the final effluent limits specified in Table 4 above, with compliance measured at Monitoring Locations M-001 or M-002 as described in the attached MRP (Attachment E).~~ In addition, the discharge from Outfall 001 shall achieve a minimum river to wastewater flow ratio determined by a dilution study, but not less than a ratio of 10:1 ~~of 15:1~~, and the discharge from Outfall 002 shall achieve a minimum river to wastewater flow ratio of 50:1.

**b) Alternate Effluent Limitations with a Demonstrated Minimum ~~5:1~~ Dilution Credit of less than 10:1**

~~If the Discharger installs a diffuser under Provision VII.C.2.c, or if a mixing zone study specified under Provision VII.C.2.d demonstrates that the discharge warrants less than 10:1 credit at least 5:1 dilution credit (at both 001 and 002), the permit will be reopened and the effluent limits will be recalculated using a credit based on the actual dilution achieved in the Napa River~~ ~~specified in the table below will apply in lieu of the final effluent limits specified in Table 4 above, with compliance measured at Monitoring Locations M-001 or M-002 as described in the attached MRP (Attachment E).~~ In addition, the discharge from Outfall 001 shall achieve a minimum river to wastewater flow ratio of 15:1, and the discharge from Outfall 002 shall achieve a minimum river to wastewater flow ratio of 50:1.

The SIP prevails over the Basin Plan and allows approval of a dilution credit up to the calculated dilution ratio (*In the Matter of the Petitions of East Bay Municipal Utility District and Bay Area Clean Water Agencies* Order WQO 2002-0012). For example, if the minimum initial dilution of 15:1 is specified at the E-1 outfall, a SIP-required dilution study may show that a dilution credit in excess of 10:1 is justified – and not simply capped at 10:1 as currently required by the TO [see page 16 of the “Policy for Implementation of Toxics Standards for the Inland Surface Waters, Enclosed Bays, and Estuaries of California” (SIP), 2005]. The option of completing a Mixing Zone Study for E-1 and E-2 is included as Provision VII.C.2.d. Once the study is completed and approved by the Water Board, the City should be able to use the actual dilution study results to calculate applicable water quality based effluent limits. The restriction to dilution credits of either 5:1 or 10:1 is arbitrary and runs contrary to SIP guidelines.

**1c. The City requests that the wording of Effluent Limitations and Discharge Specifications IV.A.6.c be changed as follows:**

- c) Alternate effluent limitations apply during the discharge season (November 1 through June 15). For any emergency discharge during June 16 through October 31 (approved under Provision VII.C.7), the actual dilution ratio shall be considered when determining compliance with effluent limitations. When a minimum 15:1 dilution ratio is available, the effluent limitations based on the approved dilution credit will apply or, if a diffuser is installed, a 10:1 dilution credit will apply. If a minimum 15:1 dilution ratio is not available, effluent limitations without dilution credit in Table 4 shall apply.

The approved dilution credit (based on Provision VII.C.2.d.) and corresponding effluent limits should be applied whenever the minimum river dilution ratio of 15:1 is available. The Water Board has not demonstrated a reason to deny the dilution credit during the specified “non-river discharge period” of June 16 through October 31.

**1d. The City requests that the dilution credit implementation procedure prescribed under Section “(2)” of Provision VII.C.2.d. be modified to comply with the SIP.**

Consistent with the City’s other comments [1a. – 1c.] regarding dilution credits, the wording in Section “(2)” of VII.C.2.d should be modified so that only the approved dilution credit, and not a predetermined dilution credit of 10:1 or 5:1 as the TO currently allows, will be used to calculate WQBELs using SIP procedures.

The City requests that the existing wording in (2) [both paragraphs] be replaced with the following wording:

- (2) Based on the City’s completed dilution study, the Executive Officer will approve a dilution credit and associated dilution ratio for Outfalls -001 and -002. WQBELs based on the approved dilution credit will be calculated at the time of the next permit reissuance.

**1e. The City requests that the Fact Sheet in Attachment F be conformed in the final permit to be consistent with the requested changes in the body of the permit regarding dilution credits and dilution ratios.**

The City requests that the Fact Sheet in Attachment F be updated to conform to all changes in the permit wording requested in City comments 1a. through 1d.

**2. As an alternative approach to resolve the technical and administrative complications of integrating future unknown dilution credits and dilution ratios into the new permit, the City requests that the permit be written to expire on February 1, 2010, at which time the actual dilution credit and an appropriate dilution ratio will be known, and firm WQBELs can be calculated by the Water Board.**

The City agrees that the feasibility of a river diffuser needs to be evaluated, or a dilution credit study needs to be conducted, before an appropriate dilution credit for discharge to the Napa River will be known. Until an approved dilution credit and ratio are available, accurate WQBELs for constituents with RP cannot be calculated. However, the necessary studies will not be completed by the City until as late as the summer of 2009.

An approach more preferable to the City than making modifications to the permit language [City comments 1a, 1b, 1c, and 1d] regarding calculation of future WQBELs based on currently unknown dilution credits is to set the permit to expire on February 1, 2010. At that time, an appropriate dilution credit and ratio can be established based on the diffuser and/or dilution studies that will have been completed by the City by then. Under this preferred approach, the TO language would need to be modified by the Water Board as outlined in City comments provided below, which would obviate the need for City comments 1a through 1c. However, City comments 3 through 18 still apply even if the permit term is shortened to expire on 2/1/10.

To modify the TO to become a permit expiring on 2/1/10, the City requests that the following changes be made in the final permit:

Page i:

Insert the expiration date as February 1, 2010.

Section II.L.:

Modify Finding L to state that interim performance-based effluent limits for constituents with RP will be in effect for the full term of the permit.

Section III.A:

Change Discharge Prohibition A to allow the continuation at Outfall 001 of the 10:1 dilution ratio for the term of the permit subject to reevaluation after the special studies in Section VII are completed.

Section IV.A.6:

Effluent limits for constituents with RP will be the performance based limits stated in existing Table 5 (with Footnote [1] removed) on page 13 of the TO. The optional WQBELs for 10:1 and 5:1 dilution credits should be deleted and all discussion regarding alternate effluent limits should be removed. Table 4 showing WQBELs with no dilution credit should be removed from the permit but can be provided for information purposes in the Fact Sheet [Attachment F] with Footnote [3] removed.

Section IV.A.6.c:

Compliance requirements for off-season discharges should be reworded as follows:

- c) ~~Alternate e~~Effluent limitations apply during the discharge season (November 1 through June 15) as well as for any ~~For any~~ emergency discharge during June 16 through October 31., ~~effluent limitations without dilution credit in Table 4 shall apply.~~

Section VII.C.2.d:

The two paragraphs of narrative under (2) in the dilution study provision should be removed and replaced with the following paragraph:

Based on the City's completed dilution study, the Executive Officer will approve a dilution credit and associated dilution ratio for Outfalls -001 and -002. WQBELs based on the approved dilution credit will be calculated at the time of the next permit reissuance.

**Attachment F – Fact Sheet**

The City requests that the Fact Sheet be updated to conform to all changes in the permit body wording made to support a permit expiring on February 1, 2010.

**3. The City requests that Table 3 under Effluent Limitations and Discharge Specifications IV.A.1. be modified as follows:**

**Table 3. Effluent Limitations for Conventional Pollutants for Discharge Point 002**

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	10 30	15 45	--	--	--
Total Suspended Solids	mg/L	15 30	20 45	--	--	--
Oil and Grease	mg/L	10	--	20	--	--

Table 3 contains technology-based effluent limitations for discharges from the E-2 outfall (discharge point 002). Effluent discharged from E-2 is classified as secondary (Finding B. Facility Description) having undergone secondary treatment through activated sludge and clarification. Despite this classification, the Water Board is attempting to place tertiary standards on discharges from the E-2 outfall. By definition of technology-based effluent limitations, the application of tertiary limits is inappropriate for secondary effluent [40 CFR 122.41(a)(1)] and higher [more stringent] than the required Federal Secondary standards. To incorporate standards that are more stringent than required in Federal regulations, the Water Board must complete an economic analysis to determine the feasibility and attainability of the requirement (*See City of Burbank v. State Water Resources Control Board*, 35 Cal. 4<sup>th</sup> 613 (2005)).

In Attachment F, Section IV. Rationale for Effluent Limitations and Discharge Specifications (item B.2.a), the Water Board justifies the more stringent standards by indicating that the receiving water does not meet the minimum dissolved oxygen (D.O.) concentration all the time. However, D.O. concentrations are often depressed upstream of the City's discharge points. As such, there is no evidence to indicate that wastewater discharged from E-2 is contributing to or causing low receiving water D.O. concentrations. In addition, the E-2 outfall is used minimally during the discharge season (30 to 50 days out of a total of 227 days), and usually at dilution ratios far in excess of 50:1 and, as such, could not be a significant contributor to dissolved oxygen conditions in the Napa River.

To date, the City's E-2 effluent has generally met tertiary or near tertiary concentration levels for BOD and TSS. The City intends to continue to operate its plant to always meet secondary and, when operationally feasible, to exceed secondary quality effluent at E-2. However, the City believes it is inappropriate for the Water Board to now impose enforceable tertiary effluent limits on E-2 for a plant for which the SWRCB SRF loan staff and Small Community Grant Program staff approved only secondary level unit processes for E-2.

To memorialize in the new permit the interest by both the City and the Water Board staff for the quality of the E-2 effluent BOD and TSS to continue to exceed secondary levels, the City proposes that Table 3 in the new permit contain secondary effluent limits for E-2 BOD and TSS, and that a new special provision be added to Section VII.C. to assure the Water Board that the City is continuing to attempt to operate the plant to obtain better than secondary quality effluent for BOD and TSS at E-2. The wording of a new special provision that will be acceptable to the City is:

1. The City will continue to operate and maintain the treatment plant in the manner as is currently done which has generally resulted in better than secondary quality effluent at E-2 for BOD and TSS.
  2. If E-2 quality drops below tertiary levels for BOD and TSS [as defined in Table 2] for more than 2 consecutive E-2 river discharge episodes, the City will conduct a review to determine if such deviations were reasonably within its operational control. If such deviations were reasonably within the City's operational control, the City will take reasonable operational actions to attempt to prevent future deviations based on the same factors. The City will describe these operational actions in its self-monitoring report as an information item.
  3. If more than 50% of the E-2 discharge episodes in a single river discharge season [November 1<sup>st</sup> to June 15<sup>th</sup>] do not meet the tertiary levels for BOD and TSS as defined in Table 2, the City will prepare a report to the Regional Board within 4 months of the end of such discharge season evaluating whether reducing BOD and TSS concentrations in E-2 from the current secondary treatment standard to a tertiary treatment standard could have a measurable positive impact on beneficial uses of the receiving waters. If the report shows conclusively that a measurable positive impact on beneficial uses of the receiving waters could result, then the Water Board staff could consider, during development of the next permit, adjusting effluent limits for BOD and TSS for E-2.
- 4. If the Water Board decides to arbitrarily upgrade enforceable technology-based effluent limits for BOD and TSS at E-2 from the current secondary level to the higher tertiary level, then the City requests that other portions of the permit and Fact Sheet be modified to accurately characterize this significant change from the current permit.**

If the final permit calls for technology-based effluent limits for TSS and BOD at E-2 to be made more stringent than the Federal secondary treatment level that the plant was designed and constructed to meet, and where the design was reviewed and approved in the year 2000 by the SWRCB grants and loan staff for state funding to meet only secondary treatment

levels at E-2, then the City requests that the modifications described below be made to the wording in the permit and Fact Sheet to accurately describe the this major change from the current permit:

Findings F and N in Section II

These 2 findings should be augmented to clarify that the permit contains technology-based effluent limits for BOD and TSS at E-2 which exceed [are more stringent than] the Federal secondary technology-based standards for which the plant was designed and funded.

Attachment F, Fact Sheet Section III.C.6 page F-9

This section of the Fact Sheet should be corrected to indicate that the permit contains technology-based effluent limits for BOD and TSS at E-2 which exceed [are more stringent than] the Federal secondary technology-based standards for which the plant was designed and funded.

Attachment F, Fact Sheet Section IV.B.2. page F-14

Table F-5 should be footnoted to state that the BOD and TSS effluent limits shown for E-2 exceed [are more stringent than] the Federal secondary technology-based standards for which the plant was designed and funded. Also, existing Footnote "b." to Table F-5 needs to be corrected because BOD and TSS monthly removals have been changed from the previous permit.

Attachment F, Fact Sheet Section IV.F. page F-45

This section needs to clarify that the BOD and TSS effluent limits for E-2 now exceed [are more stringent than] the Federal secondary technology-based standards for which the plant was designed and funded.

**5. The City requests that the following standard language used in other adopted Bay Area permits be added to the Effluent Limitations and Discharge Specifications IV.A.5:**

“The effluent shall not contain a residual chlorine concentration greater than 0.0 mg/L at any time. This concentration limit is defined as below the limit of detection in standard test methods defined in the latest USEPA approved edition of *Standard Methods for the Examination of Water and Wastewater*. The discharger may elect to use a continuous on-line monitoring system(s) for measuring flows, chlorine and sodium bisulfate dosage (which could be interpolated), and concentrations to prove that chlorine residual exceedances are false positives. If convincing evidence is provided, Regional Water Board staff may conclude that these false positive chlorine residual exceedances are not violation of this permit limitation.”

Incorporation of this language into the final permit is necessary to protect the City against false positive readings for chlorine residuals. The option of using dosage records to explain a false positive reading has been provided in NPDES Permits for many other Bay Area dischargers, including the City of American Canyon and the Town of Yountville. The City is requesting that the same compliance language be included in its new permit.



**6. The City requests correction of the miscalculated average monthly effluent limits (AMELs) for cyanide included in the Effluent Limitations and Discharge Specifications IV.A.6.**

The Effluent Limitations and Alternate Effluent Limitations for cyanide are specified under three different dilution scenarios in Prohibition IV.A.6. Recalculation of these values with the SIP minimum monthly standard of n=4 will change cyanide AMELs as follows:

**Table 4. Effluent Limitations for Toxic Pollutants With Zero Dilution Credit [1][2]**

Parameter	Units	Final Effluent Limitations	
		AMEL	MDEL
Copper [3][6]	µg/L	5.7	9.6
Mercury [4]	µg/L	0.020	0.042
Cyanide [3][5][6]	µg/L	3.1 4.0	9.1
Chlorodibromomethane [3][6]	µg/L	0.41	0.82
Dichlorobromomethane [3][6]	µg/L	0.56	1.1

**a) Alternate Effluent Limitations with a Demonstrated Minimum 10:1 Dilution Credit**

Parameter	Units	Final Effluent Limitations	
		AMEL	MDEL
Copper	µg/L	48	81
Cyanide	µg/L	29 39	87
Chlorodibromomethane	µg/L	1.9	3.9
Dichlorobromomethane	µg/L	2.6	5.3

**b) Alternate Effluent Limitations with a Demonstrated Minimum 5:1 Dilution Credit**

Parameter	Units	Final Effluent Limitations	
		AMEL	MDEL
Copper	µg/L	24	41
Cyanide	µg/L	15 20	44
Chlorodibromomethane	µg/L	1.1	2.2
Dichlorobromomethane	µg/L	1.5	3.0

The calculations used by the Water Board to determine the cyanide AMELs were based on the number of monthly samples equal to 22. The City monitors cyanide once a month for each of the outfalls (E-1 and E-2). This monitoring frequency results in n=2. To determine Reasonable Potential, the SIP includes a rule that n=4 is the smallest monthly frequency that

can be used in the calculations [page 10 of the “Policy for Implementation of Toxics Standards for the Inland Surface Waters, Enclosed Bays, and Estuaries of California” (SIP), 2005]. The n=4 value should be used to calculate the cyanide AMELs. Increasing the monthly frequency to 22 results in a lower than required effluent limit and is not representative of the City’s monitoring conditions. [See Attachment B for the calculations used to determine cyanide AMELs based on n=4 vs. n=22.]

If the final permit is written such that final WQBELs for cyanide are not included in the main body of the permit due to the lack of a final dilution credit [see City comment #2], then the above requested correction to the cyanide limit calculation procedure is applicable only to future WQBEL calculations for this particular constituent.

**7. The City requests clarification regarding the need for a Whole Effluent Acute Toxicity screening test included in Effluent Limitations and Discharge Specifications IV.A.7.**

The City wishes to use a single species (fathead minnow) to conduct its monthly Acute Toxicity bioassays. Compliance testing has been performed using fathead minnows and stickleback over the past 5+ years and there have been no violations of the acute toxicity limitations. A letter from the City was submitted to the Water Board on June 16, 2003 requesting use of fathead minnows only, but no response or approval was received.

The City requests Water Board approval of its June 2003 request for the single species (fathead minnow) bioassay and that this approval be included in the permit in Section IV.A.7.

**8. The City requests that the permit effective date be established as 50 days after the adoption date.**

The City requests that the order’s effective date be set as 50 days after the adoption date in accordance with the 1989 memorandum of agreement (MOA) between the SWRCB and Region 9 in order to provide City staff with time to ensure compliance with the new provisions of the permit by the effective date.

**9. The City is supportive of the Bay Area Clean Water Agencies’ permit template comments and requests that any changes made due to these comment be incorporated into the City’s permit.**

The City staff understands that the Bay Area Clean Water Agencies [BACWA] has concerns that certain language in the new permit template, on which the City’s new permit is being patterned, is not fully in conformance with State and Federal NPDES statutes and regulations. The City supports BACWA’s efforts to work with Water Board staff to obtain conforming modifications to the template language, and requests that the City’s permit be reopened to reflect any such future changes.

**10. The City requests that Receiving Water Limitation V.A.1.c be modified to be consistent with the Basin Plan.**

The City requests that Receiving Water Limitation A.1.c be modified to clarify that temperature alteration is prohibited to the extent that it adversely affects beneficial uses. The following wording is suggested:

- c. Alteration of temperature, turbidity, or apparent color beyond ~~present natural background levels~~ which cause nuisance or adversely affect beneficial uses;

The temperature objective for surface waters in Chapter 3 of the Basin Plan states that the temperature of receiving waters shall not be altered unless it can be demonstrated that “such alteration in temperature does not adversely affect beneficial uses”. The temperature receiving water limitation in the City’s permit should contain the same beneficial use impacts approach as the Basin Plan.

**11. The City requests that Receiving Water Limitation V.A.2.a be set at 5 mg/L as stated in the City’s current permit.**

The City requests that the Receiving Water Limitation A.2.a for dissolved oxygen that was changed to 7.0 mg/L in the TO remain at 5.0 mg/L per the current permit.

The City disagrees with the raising of the minimum dissolved oxygen value from 5.0 to 7.0 mg/L. Low D.O. values in the receiving water are caused by ambient conditions. Whenever the D.O. concentrations in the river are low, the C-1 receiving water station (1,000 ft upstream of Outfall 002) also has low D.O. values. It is unfair to penalize the City’s treatment plant for upstream water quality problems.

In addition, the City requests that the following modification be made to the narrative in Receiving Water Limitation V.A.2.a to define when the discharge is causing a true water quality problem, e.g., one that actually impacts designated beneficial uses:

- The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, the discharge shall not cause ~~further reduction in ambient dissolved oxygen concentrations~~ adversely affect beneficial uses.

**12. The City requests that clarifying wording be added to Special Provision VII.C.2.c. [Diffuser Study]**

The City requests that the following sentence be added at the beginning of this provision:

If the Discharger agrees to complete a dilution credit determination study under Provision VII.C.2.d, the following requirements shall not apply.

The City would like the permit to emphasize that a diffuser study will not be required if the City conducts a dilution credit determination study.

**13. The City requests that clarifying wording be added to Special Provision VII.C.2.d. [Dilution Credit Determination Study]**

The City requests that the following sentence be added at the beginning of paragraph (1):

If the Discharger agrees to install a diffuser under Provision VII.C.2.c, the following requirements shall not apply.

The City would like permit to emphasize that a dilution study will not be required if a river diffuser is installed.

**14. The City requests modification of Provision VII.C.4 starting on page 24.**

The City requests that the following changes be made to the special provision VII.C.4 text starting on page 24 to clarify which constituents are being granted interim limits; to correct the numbering system [new 2a and 2b are the same study, and new 3a and 3b are the same study]; to clarify that the study referred to in new 3a is necessary if WQBELs continue to be exceeded for dichlorobromomethane and chlorodibromomethane; and to adjust the due date for the later submittal [new number 4] to a reasonable timeframe. Regarding the latter point, annual reports for new 3a cannot begin until February 2009 if the new 3a workplan submittal is not until September 2008 [per new 3a]. The deadline for all reporting cannot be until 12/31/09 in order to allow time for the 3a study to be conducted [it does not start until fall 2008].

**4. Compliance Schedules - Dichlorobromomethane and Chlorodibromomethane**

This Order grants interim effluent limits and compliance schedule for several constituents, including the two pollutants listed above. The Discharger shall implement the tasks proposed in the Discharger's Infeasibility Analysis dated ~~May 19, 2006~~ June 5, 2006; in addition, the Discharger shall implement the tasks as follows:

Task	Deadline
1) The Discharger proposed in the Infeasibility Analysis to sample the influent for two years to identify the source of the two pollutants dichlorobromomethane and chlorodibromomethane. The Discharger shall submit a report summarizing the data and findings.	July 1, 2008.

Task	Deadline
2a2) The Discharger shall also look at other recently performed studies on the formation of these two disinfection byproducts in POTWs, such as by City of Sunnyvale and City of Palo Alto, and decides whether the study results can be applied to its Facility. If other study results can be applied to the Discharger's Facility, the Discharger shall submit a report-work plan including proposed measures to reduce these two pollutants in the effluent.	October 1, 2007.
2b3a) Upon approval by the Executive Officer or within 45 days if E.O. has not commented on the study plan, the Discharger shall implement the work plan within 60 days (or upon the start of discharge season). The Discharger shall implement the proposed measures, and submit annual progress reports. Annual reports shall be submitted documenting the progress of the studies by February 1 of each year or by the date specified in the approved proposal. The Discharger shall submit to the Regional Water Board a final report detailing all activities, any monitoring data, and additional recommended actions to comply with the final effluent limitations by the end of the compliance schedule.	Annual Reports with the first report due on February 1, 2007, maybe part of annual self-monitoring reports.
3a3b) If the Discharger finds that it cannot apply other study results to its Facility, and exceedances to WQBELs for dichlorobromomethane and chlorodibromomethane still are occurring and no influent source is identified, the Discharger shall submit a work plan that will include tasks intended to define the correlation between chlorine dosages and formation of chlorodibromomethane and dichlorobromomethane, such as conducting monitoring throughout the treatment process and analyzing chlorine dosage histories.	September 1, 2008.
3b4b) Upon approval by the Executive Officer or within 45 days if E.O. has not commented on the study plan, the Discharger shall implement the work plan within 60 days (or upon the start of discharge season). Annual reports shall be submitted documenting the progress of the studies by February 1 of each year or by the date specified in the approved proposal. The Discharger will submit to the Regional Water Board a final report detailing all monitoring activities, potential cost-effective control measures, and recommended actions to comply with the final effluent limitations by the end of the compliance schedule.	Annual Reports with the first report due on February 1, 2009, maybe part of annual self-monitoring reports.
45) Conduct evaluation of compliance attainability with appropriate final limitations, and submit a report describing the results.	October 1, 2009. December 31, 2009

**15. The City requests removal of the sludge monitoring section in Attachment E Section IX.C.**

The City requests that the Sludge Monitoring section be removed from Section IX.C in Attachment E of the permit. This requirement was not included in the current permit because such City testing is required by the disposal sites where City's sludge is taken, and this USEPA mandated testing process under 40 CFR Part 503 is still in effect. All the sludge testing requirements in 40 CFR Part 503 are enforceable by USEPA whether or not they are stated in an NPDES permit. The City will continue, as in the past, to monitor biosolids quality when transported to sites for lawful disposal.

**15a. If sludge monitoring per Attachment E Section IX.C. is retained in the permit [see comment #15 above], the City requests the following modification be made to Sludge Monitoring IX.C. on page E-11:**

~~The Discharger shall analyze sludge prior to disposal for priority pollutant metals and organics according to Table E-7~~ The Discharger shall analyze sludge two times per year (as required to change disposal methods) for priority pollutant metals and organics according to Table E-7:

The City contracts with East Bay Municipal Utility District (EBMUD) for treatment and disposal of sludge during the wet season. EBMUD requires an analysis of sludge quality completed at startup of the wet season disposal period. The City contracts with a sludge disposal company that hauls the sludge to a certified landfill during the dry season. The sludge disposal company requires another analysis of sludge quality completed at the startup of the dry season disposal period.

**15b. If sludge monitoring per Attachment E Section IX.C. is retained in the permit [see comment #15 above], the City requests that current test methods, as well as the clarified frequency, be incorporated into Table E-7. Biosolids Monitoring on page E-11 as follows:**

**E-7. Biosolids Monitoring**

<b>Constituents</b>	<b>Biosolids (B-001) Sampling frequency</b>	<b>Required Test Methods</b>
VOC [1]	Prior to change in disposal method	624 EPA 8260
BNA [1]	Prior to change in disposal method	625 EPA 8270
Hexavalent Chromium [2]	Prior to change in disposal method	Standard Methods 3500 EPA 7696
Metals [3]	Prior to change in disposal method	GFAA, ICP, ICP-MS
Mercury [4]	Prior to change in disposal method	EPA 245, 1631 EPA 7471

Constituents	Biosolids (B-001) Sampling frequency	Required Test Methods
Cyanide [4]	Prior to change in disposal method	Standard Methods 4500-CN-C or EPA 9010A

Legend:

Prior to change in disposal method ~~2/Y~~ each calendar year (at about 6 month intervals, once in the dry season, once in the wet season)

VOC = volatile organic compounds

BNA = base/neutrals and acids extractable organic compounds

**16. The City requests that the Discharge Monitoring Reports (DMRs) option cited in Attachment E Section X.D. be removed.**

The City is classified as a minor discharger and therefore is not required to submit Discharge Monitoring Reports per standard USEPA procedures. Water Board staff agreed with the City's position in an e-mail dated 7/7/06. This request is included in the City's comments to simply confirm the Water Board staff's plan to remove this section from the final permit.

**17. The City submits the following editorial changes for consideration:**

**a. Item IV.B.2.d. on page 14 should be edited as follows:**

- d. The mercury TMDL and WLAs will supersede the this final effluent limits (in Table 4 above) above and interim mass emission limitation upon their adoption. The Clean Water Act's anti-backsliding rule, Section 402(o), indicates that this Order may be modified to include a less stringent requirement following adoption of the TMDL and WLA, if the requirements for an exception to the rule are met.

**b. The second paragraph of item VII.C.2.a. on page 17 should be edited as follows:**

The Discharger shall evaluate evaluation on an annual basis if concentrations of any constituent increase over past performance. Furthermore, if that increase would result in reasonable potential to cause or contribute to an excursion above applicable...

**c. Item VII.C.2.b. on page 18 should be edited as follows:**

The Discharger shall collect or participate in collecting background ambient receiving water monitoring data for priority pollutants that is required to perform reasonable potential analyses and to calculate effluent limitations. The data on the conventional water quality parameters (pH, salinity, and hardness) shall also be sufficient to characterize these parameters in the receiving water at a point after the discharge has mixed with the receiving waters. This provision may be met by through monitoring through the Collaborative Napa River Receiving Water Study or a similar ambient monitoring program for the Napa River. This permit may be reopened, as appropriate, to incorporate effluent limitations or other requirements based on Regional Water Board's review of these data.

- d. For consistency, all references to “attachments” should be in bold font. For example, in item VII.C.6.b on page 28 “Attachment D” should be bolded in three places.
- e. Starting with “Modify Section F.1 as follows” on page E-16, the numbering of the headings is off. This heading should be #5, and the last in the section on page E-18 “Add as Section F.6 the following:” should be #9.
- f. For clarity, item X.C.3 on page E-18 should be edited as follows:
  - 3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule in Table E-8.

18. The City requests that any changes made to the TO based on comments from the City be reflected in the Fact Sheet, so there are not conflicting bases or explanations for the Permit’s requirements. Additionally, the following editorial comments are submitted on the Fact Sheet.

- a. Item II.A.3. on page F-2 contains an incorrect number which should be changed:

Table F-1 contains an incorrect 2002-2005 average for DWADF in the third column from the left. The Fact Sheet shows the average as 0.54 MGD. The correct figure is 0.58 MGD. This error [0.54 MGD] is repeated in the second row of text of this section.

- b. Item VI.E.2. on page F-49 should be edited as follows:

This Order does not include effluent limitations for constituents that do not show a Reasonable Potential, but continued monitoring for these pollutants is required for next permit reissuance according to the requirements specified in the Regional Water Board’s August 6, 2001 Letter and at a frequency dictated in the MPR MRP (Attachment E).



**Attachment B**  
**Cyanide Effluent Limitation Calculations**

**NO DILUTION**

Effluent Data Summary

Effluent average concentration (AVG) = 2.9 ug/L  
Effluent standard deviation (STDEV) = 2.2 ug/L  
Maximum effluent concentration (MEC) = 6 ug/L

Dilution credit (D) = 0

Ambient background concentration (B)

Maximum ambient background concentration = 0.197 ug/L (for aquatic life [acute and chronic])

C>B

Average ambient background concentration = 0.45 ug/L (for human health) – the average is higher because only one value was detected and ½ the detection limit was used to calculate the average concentration. C>B

Water Quality Criteria (C)

Applicable Acute WQC = 22 ug/L  
Applicable Chronic WQC = 5.2 ug/L  
Applicable Human Health WQC = 700 ug/L

Effluent Concentration Allowance (ECA)

$ECA_{acute} = C + D \times (C-B) = 22 + 0 \times (22-0.197) = 22$   
 $ECA_{chronic} = C + D \times (C-B) = 5.2 + 0 \times (5.2-0.197) = 5.2$   
 $ECA_{hh} = C + D \times (C-B) = 700 + 0 \times (700-0.45) = 700$

ECA Multipliers

$CV = STDEV/AVG = 2.2/2.9 = 0.78$

$\sigma = [\ln(CV^2+1)]^{0.5} = [\ln(0.78^2+1)]^{0.5} = 0.69$

$\sigma^2 = 0.69^2 = 0.48$

$\sigma_4 = [\ln(CV^2/4+1)]^{0.5} = [\ln(0.78^2/4+1)]^{0.5} = 0.38$

$\sigma_4^2 = 0.69^2 = 0.14$

$z = 2.326$  for 99<sup>th</sup> percentile probability basis

$$\text{ECA multiplier}_{\text{acute } 99} = \exp(0.5 \times \sigma^2 - z \times \sigma) = \exp(0.5 \times 0.48 - 2.326 \times 0.69) = 0.26$$

$$\text{ECA multiplier}_{\text{chronic } 99} = \exp(0.5 \times \sigma_4^2 - z \times \sigma_4) = \exp(0.5 \times 0.14 - 2.326 \times 0.38) = 0.44$$

#### Long-Term Average Discharge Condition (LTA)

$$\text{LTA}_{\text{acute}} = \text{ECA}_{\text{acute}} \times \text{ECA multiplier}_{\text{acute } 99} = 22 \times 0.26 = 5.7$$

$$\text{LTA}_{\text{chronic}} = \text{ECA}_{\text{chronic}} \times \text{ECA multiplier}_{\text{chronic } 99} = 5.2 \times 0.44 = 2.3$$

$$\text{min LTA} = 2.3$$

#### AMEL and MDEL Multipliers

$n = 4$  (monthly sampling frequency, minimum 4)

$$\sigma_n = [\ln(\text{CV}^2/n + 1)]^{0.5} = [\ln(0.78^2/4 + 1)]^{0.5} = 0.38$$

$$\sigma_n^2 = 0.38^2 = 0.14$$

$$\sigma = [\ln(\text{CV}^2 + 1)]^{0.5} = [\ln(0.78^2 + 1)]^{0.5} = 0.69$$

$$\sigma^2 = 0.69^2 = 0.48$$

$z_{95} = 1.645$  for 95<sup>th</sup> percentile probability basis

$z_{99} = 2.326$  for 99<sup>th</sup> percentile probability basis

$$\text{AMEL multiplier}_{95} = \exp(z_{95} \times \sigma_n - 0.5 \times \sigma_n^2) = \exp(1.645 \times 0.38 - 0.5 \times 0.14) = 1.74$$

$$\text{MDEL multiplier}_{99} = \exp(z_{99} \times \sigma - 0.5 \times \sigma^2) = \exp(2.326 \times 0.69 - 0.5 \times 0.48) = 3.92$$

#### AMEL and MDEL

$$\text{AMEL}_{\text{aquatic life}} = \text{min LTA} \times \text{AMEL multiplier}_{95} = 2.3 \times 1.74 = 4.0 \text{ ug/L}$$

$$\text{MDEL}_{\text{aquatic life}} = \text{min LTA} \times \text{MDEL multiplier}_{99} = 2.3 \times 3.92 = 9.1 \text{ ug/L}$$

$$\text{AMEL}_{\text{human health}} = \text{ECA}_{\text{hh}} = 700 \text{ ug/L}$$

$$\text{MDEL}_{\text{human health}} = \text{ECA}_{\text{hh}} \times \text{MDEL multiplier}_{99} \div \text{AMEL multiplier}_{95} = 700 \times 3.92 \div 1.74 = 1,577 \text{ ug/L}$$

#### Final AMEL and MDEL

$$\text{AMEL} = \text{min}(\text{AMEL}_{\text{aquatic life}}, \text{AMEL}_{\text{human health}}) = \mathbf{4.0 \text{ ug/L}}$$

$$\text{MDEL} = \min(\text{MDEL}_{\text{aquatic life}}, \text{MDEL}_{\text{human health}}) = 9.1 \text{ ug/L}$$

## 5:1 DILUTION

### Effluent Data Summary

Effluent average concentration (AVG) = 2.9 ug/L

Effluent standard deviation (STDEV) = 2.2 ug/L

Maximum effluent concentration (MEC) = 6 ug/L

Dilution credit (D) = 4

### Ambient background concentration (B)

Maximum ambient background concentration = 0.197 ug/L (for aquatic life [acute and chronic])  
C>B

Average ambient background concentration = 0.45 ug/L (for human health) – the average is higher because only one value was detected and ½ the detection limit was used to calculate the average concentration. C>B

### Water Quality Criteria (C)

Applicable Acute WQC = 22 ug/L

Applicable Chronic WQC = 5.2 ug/L

Applicable Human Health WQC = 700 ug/L

### Effluent Concentration Allowance (ECA)

$$\text{ECA}_{\text{acute}} = C + D \times (C - B) = 22 + 4 \times (22 - 0.197) = 109$$

$$\text{ECA}_{\text{chronic}} = C + D \times (C - B) = 5.2 + 4 \times (5.2 - 0.197) = 25$$

$$\text{ECA}_{\text{hh}} = C + D \times (C - B) = 700 + 4 \times (700 - 0.45) = 3,499$$

### ECA Multipliers

$$\text{CV} = \text{STDEV}/\text{AVG} = 2.2/2.9 = 0.78$$

$$\sigma = [\ln(\text{CV}^2 + 1)]^{0.5} = [\ln(0.78^2 + 1)]^{0.5} = 0.69$$

$$\sigma^2 = 0.69^2 = 0.48$$

$$\sigma_4 = [\ln(\text{CV}^2/4 + 1)]^{0.5} = [\ln(0.78^2/4 + 1)]^{0.5} = 0.38$$

$$\sigma_4^2 = 0.69^2 = 0.14$$

z = 2.326 for 99<sup>th</sup> percentile probability basis

$$\text{ECA multiplier}_{\text{acute } 99} = \exp(0.5 \times \sigma^2 - z \times \sigma) = \exp(0.5 \times 0.48 - 2.326 \times 0.69) = 0.26$$

$$\text{ECA multiplier}_{\text{chronic } 99} = \exp(0.5 \times \sigma_4^2 - z \times \sigma_4) = \exp(0.5 \times 0.14 - 2.326 \times 0.38) = 0.44$$

### Long-Term Average Discharge Condition (LTA)

$$LTA_{\text{acute}} = ECA_{\text{acute}} \times ECA \text{ multiplier}_{\text{acute } 99} = 109 \times 0.26 = 28$$

$$LTA_{\text{chronic}} = ECA_{\text{chronic}} \times ECA \text{ multiplier}_{\text{chronic } 99} = 25 \times 0.44 = 11$$

$$\text{min LTA} = 11$$

### AMEL and MDEL Multipliers

$$n = 4 \text{ (monthly sampling frequency, minimum 4)}$$

$$\sigma_n = [\ln(CV^2/n + 1)]^{0.5} = [\ln(0.78^2/4 + 1)]^{0.5} = 0.38$$

$$\sigma_n^2 = 0.38^2 = 0.14$$

$$\sigma = [\ln(CV^2+1)]^{0.5} = [\ln(0.78^2+1)]^{0.5} = 0.69$$

$$\sigma^2 = 0.69^2 = 0.48$$

$$z_{95} = 1.645 \text{ for } 95^{\text{th}} \text{ percentile probability basis}$$

$$z_{99} = 2.326 \text{ for } 99^{\text{th}} \text{ percentile probability basis}$$

$$\text{AMEL multiplier}_{95} = \exp(z_{95} \times \sigma_n - 0.5 \times \sigma_n^2) = \exp(1.645 \times 0.38 - 0.5 \times 0.14) = 1.74$$

$$\text{MDEL multiplier}_{99} = \exp(z_{99} \times \sigma - 0.5 \times \sigma^2) = \exp(2.326 \times 0.69 - 0.5 \times 0.48) = 3.92$$

### AMEL and MDEL

$$\text{AMEL}_{\text{aquatic life}} = \text{min LTA} \times \text{AMEL multiplier}_{95} = 11 \times 1.74 = 20 \text{ ug/L}$$

$$\text{MDEL}_{\text{aquatic life}} = \text{min LTA} \times \text{MDEL multiplier}_{99} = 11 \times 3.92 = 44 \text{ ug/L}$$

$$\text{AMEL}_{\text{human health}} = ECA_{\text{hh}} = 3,499 \text{ ug/L}$$

$$\text{MDEL}_{\text{human health}} = ECA_{\text{hh}} \times \text{MDEL multiplier}_{99} \div \text{AMEL multiplier}_{95} = 3,498 \times 3.92 \div 1.74 = 7,923 \text{ ug/L}$$

### Final AMEL and MDEL

$$\text{AMEL} = \text{min}(\text{AMEL}_{\text{aquatic life}}, \text{AMEL}_{\text{human health}}) = \mathbf{20 \text{ ug/L}}$$

$$\text{MDEL} = \text{min}(\text{MDEL}_{\text{aquatic life}}, \text{MDEL}_{\text{human health}}) = \mathbf{44 \text{ ug/L}}$$

## 10:1 DILUTION

### Effluent Data Summary

Effluent average concentration (AVG) = 2.9 ug/L

Effluent standard deviation (STDEV) = 2.2 ug/L

Maximum effluent concentration (MEC) = 6 ug/L

Dilution credit (D) = 4

Ambient background concentration (B)

Maximum ambient background concentration = 0.197 ug/L (for aquatic life [acute and chronic])

C>B

Average ambient background concentration = 0.45 ug/L (for human health) – the average is higher because only one value was detected and ½ the detection limit was used to calculate the average concentration. C>B

Water Quality Criteria (C)

Applicable Acute WQC = 22 ug/L

Applicable Chronic WQC = 5.2 ug/L

Applicable Human Health WQC = 700 ug/L

Effluent Concentration Allowance (ECA)

$$ECA_{acute} = C + D \times (C-B) = 22 + 9 \times (22-0.197) = 218$$

$$ECA_{chronic} = C + D \times (C-B) = 5.2 + 9 \times (5.2-0.197) = 50$$

$$ECA_{hh} = C + D \times (C-B) = 700 + 9 \times (700-0.45) = 6,998$$

ECA Multipliers

$$CV = STDEV/AVG = 2.2/2.9 = 0.78$$

$$\sigma = [\ln(CV^2+1)]^{0.5} = [\ln(0.78^2+1)]^{0.5} = 0.69$$

$$\sigma^2 = 0.69^2 = 0.48$$

$$\sigma_4 = [\ln(CV^2/4+1)]^{0.5} = [\ln(0.78^2/4+1)]^{0.5} = 0.38$$

$$\sigma_4^2 = 0.69^2 = 0.14$$

z = 2.326 for 99<sup>th</sup> percentile probability basis

$$ECA \text{ multiplier}_{acute 99} = \exp(0.5 \times \sigma^2 - z \times \sigma) = \exp(0.5 \times 0.48 - 2.326 \times 0.69) = 0.26$$

$$ECA \text{ multiplier}_{chronic 99} = \exp(0.5 \times \sigma_4^2 - z \times \sigma_4) = \exp(0.5 \times 0.14 - 2.326 \times 0.38) = 0.44$$

Long-Term Average Discharge Condition (LTA)

$$LTA_{acute} = ECA_{acute} \times ECA \text{ multiplier}_{acute 99} = 218 \times 0.26 = 56$$

$$LTA_{chronic} = ECA_{chronic} \times ECA \text{ multiplier}_{chronic 99} = 50 \times 0.44 = 22$$

$$\text{min LTA} = 22$$

### AMEL and MDEL Multipliers

$$n = 4 \text{ (monthly sampling frequency, minimum 4)}$$

$$\sigma_n = [\ln(CV^2/n + 1)]^{0.5} = [\ln(0.78^2/4 + 1)]^{0.5} = 0.38$$

$$\sigma_n^2 = 0.38^2 = 0.14$$

$$\sigma = [\ln(CV^2 + 1)]^{0.5} = [\ln(0.78^2 + 1)]^{0.5} = 0.69$$

$$\sigma^2 = 0.69^2 = 0.48$$

$$z_{95} = 1.645 \text{ for } 95^{\text{th}} \text{ percentile probability basis}$$

$$z_{99} = 2.326 \text{ for } 99^{\text{th}} \text{ percentile probability basis}$$

$$\text{AMEL multiplier}_{95} = \exp(z_{95} \times \sigma_n - 0.5 \times \sigma_n^2) = \exp(1.645 \times 0.38 - 0.5 \times 0.14) = 1.74$$

$$\text{MDEL multiplier}_{99} = \exp(z_{99} \times \sigma - 0.5 \times \sigma^2) = \exp(2.326 \times 0.69 - 0.5 \times 0.48) = 3.92$$

### AMEL and MDEL

$$\text{AMEL}_{aquatic \text{ life}} = \text{min LTA} \times \text{AMEL multiplier}_{95} = 22 \times 1.74 = 39 \text{ ug/L}$$

$$\text{MDEL}_{aquatic \text{ life}} = \text{min LTA} \times \text{MDEL multiplier}_{99} = 22 \times 3.92 = 88 \text{ ug/L}$$

$$\text{AMEL}_{human \text{ health}} = ECA_{hh} = 6,998 \text{ ug/L}$$

$$\text{MDEL}_{human \text{ health}} = ECA_{hh} \times \text{MDEL multiplier}_{99} \div \text{AMEL multiplier}_{95} = 6,998 \times 3.92 \div 1.74 = 15,846 \text{ ug/L}$$

### Final AMEL and MDEL

$$\text{AMEL} = \text{min}(\text{AMEL}_{aquatic \text{ life}}, \text{AMEL}_{human \text{ health}}) = 39 \text{ ug/L}$$

$$\text{MDEL} = \text{min}(\text{MDEL}_{aquatic \text{ life}}, \text{MDEL}_{human \text{ health}}) = 88 \text{ ug/L}$$

City of Calistoga  
 NPDES Permit Reissuance  
 WQBEL Cyanide Calculation

**ATTACHMENT B**

PRIORITY POLLUTANTS	Cyanide with n=22	Cyanide with n=4
Units	ug/L	ug/L
Basis and Criteria type	NTR FW	NTR FW
Lowest WQO	5.20	5.20
Translators		
Dilution Factor (D) (if applicable)	9	9
No. of samples per month	22	4
Aquatic life criteria analysis required? (Y/N)	Y	Y
HH criteria analysis required? (Y/N)	Y	Y
Applicable Acute WQO	22	22
Applicable Chronic WQO	5.2	5.2
HH criteria	700	700
Background (max conc for Aq Life calc)	0.197	0.197
Background (avg conc for HH calc)	0.25	0.25
Is the pollutant Bioaccumulative(Y/N)? (e.g., Hg)	N	N
ECA acute	218.227	218.227
ECA chronic	50.227	50.227
ECA HH	6997.795	6997.795
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N
Avg of effluent data points	2.8981	2.8981
Std Dev of effluent data points	2.1934	2.1934
CV calculated	0.76	0.76
CV (Selected) - Final	0.76	0.76
ECA acute mult99	0.26	0.26
ECA chronic mult99	0.46	0.46
LTA acute	57.21	57.21
LTA chronic	22.93	22.93
minimum of LTAs	22.93	22.93
AMEL mult95	1.29	1.71
MDEL mult99	3.81	3.81
AMEL (aq life)	29.47	39.15
MDEL(aq life)	87.48	87.48
MDEL/AMEL Multiplier	2.97	2.23
AMEL (human hlth)	6998	6998
MDEL (human hlth)	20771	15636
minimum of AMEL for Aq. life vs HH	29.47	39.15
minimum of MDEL for Aq. Life vs HH	87.48	87.48
Final limit - AMEL	29	39
Final limit - MDEL	87	87
Max Effl Conc (MEC)		
Feasibility to comply?	<b>Yes</b>	<b>Yes</b>
Interim limit	8.2	8.2