CITY OF PETALUMA

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September 23, 2005

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

RE: Comments on Tentative Order for NPDES Permit Renewal
City of Petaluma Water Pollution Control Plant

Dear Mr. Wolfe:

Enclosed you will find the City of Petaluma's comments regarding the Regional Water Quality Control Board's Tentative Order received on August 29, 2005 for our NPDES permit renewal. The transmittal letter for the Tentative Order requested that comments be submitted to your office by September 27, 2005, but we are submitting our comments early, as requested and to assist in the review by your staff.

The enclosed comments include suggested alternative approaches on permit conditions with which the City has concerns, as well as editorial comments. The City appreciates the good work of Regional Water Board staff on this permit, including their willingness to consider alternative approaches that satisfy the common goals that both our agencies share, namely protection of water quality. Please contact me if you have any questions on the enclosed comments, or would like to discuss them in more detail.

Sincerely,

Michael J. Ban, P.E., Director
Department of Water Resources and Conservation

Enclosure

cc: Lila Tang, RWQCB
Tong Yin, RWQCB
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File: 6210-10.10.1.7.2

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September 23, 2005

City of Petaluma

Comments Regarding SFBRWQCB Tentative Order Received August 29, 2005 For Renewal of NPDES Permit

The City of Petaluma (City) appreciates the opportunity to submit the following comments on the Tentative Order (TO), received on August 29, 2005, reissuing the City's National Pollutant Discharge Elimination System (NPDES) permit. These comments are being submitted prior to the comment deadline of September 27, as a courtesy to the Water Board, in order to provide the Water Board additional time for review.

The comments are organized to address the City's comments on the main body of the TO; a number of suggested editorial changes to the TO; and changes to the Fact Sheet. For suggested revisions, underline is shown for suggested additions, and ~~strikethrough~~ is shown for suggested deletions.

Comments for Tentative Order

1. **The City requests that the last sentence of Finding 11 be reworded as follows, to be consistent with the current permit and plant practice.**

   11. Wet Weather Flow Handling. During wet season, daily flows in excess of approximately ~~5.25~~ 6.0 mgd are directed to the Pond Influent Pump Station and pumped directly, after rag removal in a screening unit, to the oxidation pond system for treatment.

2. **The City requests that Finding 19 be reworded as follows.**

   19. In order to address the above described concerns, in 1991, the Discharger initiated a planning process for evaluation of the existing facilities, and development of a new plant, which would be privately owned, operated, financed and constructed. An Environmental Impact Report (EIR) for the City of Petaluma's Wastewater Facilities Project and Long-Range Management Program was approved by the Petaluma City Council in June of 1996. In 1999, the Discharger terminated the privatization process and began development of a publicly owned wastewater treatment facility. An antidegradation analysis was performed and included in the Report of Waste Discharge submitted in March 2002. That analysis demonstrated that the proposed plant expansion to 6.7 mgd ADWF is consistent with the federal and state antidegradation policies. In August 2002, the Discharger certified the Final EIR, and certified addenda to the Final EIR on June 7, 2004, and August 1, 2005, respectively. ~~An antidegradation analysis was performed and included in the certified EIR. That analysis demonstrated that the proposed plant expansion to 6.7 mgd ADWF is consistent with the federal and state antidegradation policies.~~

3. **The City requests that the following footnote be added to Finding 27 to be consistent with the City's current permit.**

27. The beneficial uses of San Francisco Bay in the vicinity of the outfall, as identified in the Regional Water Board's June 21, 1995 *Water Quality Control Plan San Francisco Bay Basin (Region 2)* (the Basin Plan) and based on known uses of the receiving water (Petaluma River) in the vicinity of the discharge, are:
    - Cold Fresh Water habitat
    - Marine Habitat*
    - Fish Migration
    - Navigation
    - Preservation of Rare and Endangered Species
    - Water Contact Recreation
    - Noncontact Water Recreation
    - Fish Spawning
    - Warm Freshwater Habitat
    - Wildlife Habitat

    *The Discharger may petition the Board to change this beneficial use to "estuarine" in the Basin Plan Review process.

4. **The City requests that Finding 29 be removed. The Regional Water Board cannot issue WQBELs based on criteria that *have not been adopted*. The City's previous permit indicates "A different water quality based effluent limitation may be included in a subsequent permit revision after additional information on such factors as attainability, impacts on beneficial uses, and site specific limits is developed." Additionally, this Finding is not consistent with other Bay Area permits, such as the Town of Yountville.**

5. **The City requests that Finding 49 be edited as follows, because the US EPA Gold Book criteria are not promulgated numeric criteria in California.**

    49. As specified in 40 CFR 122.44(d)(1)(i), permits are required to include WQBELs for all pollutants "which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard." Using the method prescribed in Section 1.3 of the SIP, the Regional Water Board has analyzed the effluent data to determine whether the discharge, which is the subject of this Order, has a reasonable potential to cause or contribute to an excursion above a State water quality standard (reasonable potential analysis or RPA). For all parameters that have reasonable potential, numeric WQBELs are required. The RPA compares the effluent data with numeric and narrative WQOs in the Basin Plan and numeric WQC from ~~the U.S. EPA Gold Book~~, the NTR, and the CTR.

6. **The City requests that Finding 58.c. be edited as follows. This statement was qualitative and not intended for use in this legal document.**

    b. *Interim Effluent Limitation.* Because it is infeasible for the Discharger to immediately comply with the copper WQBELs, an interim limitation is required. Regional Water Board staff considered effluent data from January 2000 to March 2004 to develop an interim limitation. Historically, IPBLs have been referenced to the 99.87th percentile value of recent performance data. Statistical analysis

of the copper effluent data indicates a 99.87th percentile value of 7.9 µg/L. The previous permit contains a WQBEL of 4.9 µg/L, which is more stringent. However, the Discharger has asserted that it is infeasible to achieve immediate compliance with the previous permit effluent limit. ~~The Discharger asserts that its oxidation pond system provides metal removal usually equivalent to a tertiary-level treatment plant.~~ The Discharger's copper effluent monitoring concentrations have been consistently low in the past (MEC is 6 µg/L); but there were samples exceeding the previous limit of 4.9 µg/L. An interim limit based on recent performance is necessary; therefore, 7.9 µg/L is established as the interim limitation, expressed as a daily maximum.

7. The City requests that Finding 59 be edited as follows, because the mercury TMDL adopted by the Regional Water Quality Control Board calls for triggers rather than limitations and because future performance-based limitations should be based on the new plant's performance.

59. Mercury

a. *Mercury WQOs/WQC.* Both the Basin Plan and the CTR include objectives and criteria that govern mercury in the receiving water. The Basin Plan specifies objectives for the protection of salt water aquatic life of 0.025 µg/L as a 4-day average and 2.1 µg/L as a 1-hour average. The CTR specifies a long-term average criterion for protection of human health of 0.051 µg/L.

b. *Mercury RPA Results.* Using Trigger 3 as defined in a previous finding, this Order establishes effluent limitations for mercury because San Pablo Bay is listed as impaired by mercury. Effluent limitations are necessary to limit the mercury loading into the Bay.

c. *Mercury WQBELs.* The mercury WQBELs calculated according to SIP procedures are 0.040 µg/L as the MDEL and 0.021 µg/L as the AMEL. The previous permit contains a WQBEL of 0.012 µg/L as AMEL, which is more stringent. Despite this, it is appropriate to apply the less stringent SIP WQBELs, in part because the Discharger has asserted that it is infeasible to achieve immediate compliance with the previous permit effluent limit. ~~The Discharger asserts that its oxidation pond system provides metal removal usually equivalent to a tertiary-level treatment plant.~~ The Discharger's mercury effluent monitoring concentrations have been consistently low in the past (average effluent concentration is 0.0071 µg/L during January 2000 through March 2004); but there were samples exceeding the previous limit of 0.012 µg/L (MEC is 0.021 µg/L). The new WQBELs were calculated using applicable Basin Plan objectives and SIP procedures, so it will ensure protection of beneficial uses. Therefore, the new WQBELs are established as the effluent limits in this Order. ~~The final WQBELs will be based on a TMDL WLA for this Discharger after the TMDL becomes effective.~~ <u>When the Mercury TMDL becomes effective, the Regional Water Board will amend the effluent limits in this Order to be consistent with the WLA and other requirements specified in the TMDL.</u>

d. *Discharger's Performance and Attainability.* During the period January 2000 through March 2004, the Discharger's effluent mercury concentrations ranged from 0.0005 µg/L to 0.021 µg/L (30 samples). A statistical analysis of the performance data shows that the Discharger can comply with the effluent limitations for mercury.

e. *Mercury Source Control Strategy.* The Regional Water Board is developing a TMDL to control mercury levels in San Pablo Bay. The Regional Water Board, together with other stakeholders, will cooperatively develop source control strategies as part of the TMDL development. Municipal discharge point sources are not a significant source of mercury to San Pablo Bay. Therefore, the currently preferred strategy is to apply interim mass loading limits to point source discharges while focusing mass reduction efforts on other more significant and controllable sources. While the TMDL is being developed, the Discharger will cooperate in maintaining ambient receiving water conditions by complying with performance-based mercury mass emission limits. Therefore, this Order includes interim mass loading effluent limitation for mercury, as described in the findings below. The Discharger is required to implement source control measures and cooperatively participate in special studies as described below.

f. *Mercury TMDL.* The current 303(d) list includes San Pablo Bay as impaired by mercury, due to high mercury concentrations in the tissue of fish from the Bay. Methyl-mercury, the highly toxic form of mercury, is a persistent bioaccumulative pollutant. There is no evidence to show that the mercury discharged is taken out of the hydrologic system, by processes such as evaporation before reaching San Pablo Bay. Absent this evidence, the Regional Water Board assumes that the mercury reaches the Bay through either sediment transport or water flows. The Regional Water Board intends to establish a TMDL that will lead towards overall reduction of mercury mass loadings into San Pablo Bay. The-final mercury effluent limitations will be based on the ~~Discharger's~~ WLA in the TMDL. While the TMDL is being developed, the Discharger will comply with the newly calculated WQBELs mercury concentration and mass-based limitations to cooperate in maintaining current ambient receiving water conditions. Additionally, the trigger may be revised when effluent data for the new plant are available.

g. *Interim Mercury Mass Emission Limit.* In addition to the concentration-based mercury IPBL, this Order establishes an interim annual mercury mass loading limit of 0.60 kilogram per year (kg/yr). This limit is retained from the previous Order. It will maintain current loadings until a TMDL is established and is consistent with state and federal antidegradation and antibacksliding requirements. The-final mass-based effluent limitation will be based on the WLA derived from the mercury TMDL.

h. *Mass Trigger.* This Order establishes a mercury mass trigger of 0.0051 kilogram per month (kg/mo), which is based on recent plant performance during January 2000 through March 2004. The mass loading trigger, if exceeded, requires the Discharger to initiate additional actions, as specified in Provision F.8.

i. *Final Mercury Limitations.* The final mercury limitations will be revised/established to be consistent with the WLA assigned in the final mercury TMDL. While the TMDL is being developed, the Discharger will comply with performance-based mercury concentration and mass-based limitations to cooperate in maintaining current ambient receiving water conditions.

8. The City requests that Finding 65.c. regarding toxicity testing in the Petaluma River be edited as follows to reflect discussions with Lila Tang and Tong Yin on August 22, 2005 and to be consistent with Provision 5.d.

Whole Effluent Acute Toxicity

c. Ammonia Toxicity. If acute toxicity is observed in the future and the Discharger believes that it is due to ammonia toxicity, this has to be shown through a Toxicity Identification Evaluation (TIE) acceptable to the Executive Officer. If the Discharger demonstrates to the satisfaction of the Executive Officer that exceedance of the acute toxicity limits is caused by ammonia and that the ammonia in the discharge is not adversely impacting receiving water quality or beneficial uses, then such toxicity does not constitute a violation of this effluent limit. If ammonia toxicity is verified in the TIE, the Discharger may utilize an ~~pH~~ adjustment protocol approved by the Executive Officer for the routine bioassay testing.

9. The City requests that footnote [2] to Table 4 be removed. The State Implementation Policy (SIP) specifies a range of allowable MLs, and guidance for choosing which ML is applicable. Other recent permits (e.g. City of St. Helena) deferred this information to the SIP table.

10. The City requests that Provision 7.a.ii. be edited as follows to not list specific pollutants which must be addressed in the Pollution Prevention and Pollutant Minimization Program.

i. *A Discussion of the Current Pollutants of Concern.* Periodically, the Discharger shall analyze its own situation to determine which pollutants are currently a problem and/or which pollutants may be potential future problems. This discussion shall include the reasons why the pollutants were chosen. ~~In particular, the Discharger shall address those pollutants for which there is a reasonable potential to cause or contribute to exceedance of WQOs/WQC, specifically, copper, nickel, mercury, selenium, cyanide, bis(2-ethylhexyl)phthalate, TCDD TEQ~~.

11. The City requests that Provision 14 be changed back to an optional study for both copper and nickel translator studies. Even though nickel has a final limit, new information such as a site-specific objective may serve as future justification for changing this limit.

14. Optional Copper and Nickel Translator Study and Schedule
To develop information that may be used to establish WQBELs based on dissolved criteria for copper and nickel. Optionally, the Discharger may implement a sampling plan to collect data for development of dissolved-to-total translators for copper and nickel in the Discharger's receiving water - Petaluma River….

12. The following suggested editorial changes are submitted for your consideration.

a. Finding 7 should be edited as follows:

7. From May 1 through October 20, treated wastewater is reused for agricultural irrigation. In addition to agricultural irrigation, treated wastewater is applied to a golf course located at Frates Road and Ely Road on a year-round basis...

b. Finding 17 should be edited as follows:

17. …In response to the Executive Officer's letter of July 7, 2005~~.~~, [Replace the period with a comma] Petaluma submitted SSMP Form A to the Regional Water Board on August 9, 2005.

c. The City requests that Finding 19 be reworded as follows.

19. The new WWTP (Ellis Creek Water Recycling Facility) will be located ~~at~~ adjacent to the existing oxidation pond site, and will consist of bar screens, grit removal, oxidation…

d. Finding 77 should be edited as follows:

77. The State Water Board adopted a statewide NPDES permit for storm water discharges associated with industrial activities (NPDES General Permit CAS000001, adopted in 1997). The General Permit is applicable to municipal wastewater treatment facilities. The Discharger filed a Notice of Intent for coverage by the General Permit, and a Storm ~~water~~ Water Pollution Prevention Plan...

e. Receiving Water Limitations B.8.c. should be edited as follows:

Flow [1]= Running average of last 12 months of effluent flow in mgd, measured at E-001, prior to reclamation or discharge to the Petaluma River ~~(prior to discharge to the Petaluma River)~~.

f. Receiving Water Limitations D.3 should be edited as follows:

3. The discharge of waste shall not cause a violation of any particular water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments -[delete extra space] thereto, the Regional Water Board may revise and modify this Order in accordance with such more stringent standards.

g. The City requests that Provision 5 be edited as follows, as "Copper Action Plans" are not being developed for San Francisco Bay North of the Dumbarton Bridge.

5. Copper Study and Schedule – Regional Site-Specific Objective Study for Copper
The Discharger shall continue its participation in the regional discharger-funded effort to develop site-specific saltwater aquatic life-based WQOs for copper in San Francisco Bay north of the Dumbarton Bridge. The Discharger shall also participate in the development of ~~Copper Action Plans~~a Copper Management Strategy (CMS), acceptable to the Executive Officer, designed to ensure that copper concentrations will not increase unacceptably in the receiving water as a result of controllable discharges. The ~~Action Plans~~CMS will describe baseline actions for wastewater and storm water dischargers and a program of additional

monitoring and actions to be taken by those dischargers, triggered by specified increases in ambient copper concentrations.[add a period]

h. Provision 8b should be edited as follows, for consistency with the "wet weather" versus "wet season" terminology:

b. *Identification of the problem*: Resample to verify the increase in loading. If resampling confirms that the mass loading trigger has been exceeded, determine whether the exceedance is flow or concentration-related. If the exceedance is flow related, identify whether it related to changes in reclamation, increase in the number of sewer connections, increases in infiltration and inflow (I/I), wet ~~weather~~ season conditions, or unknown sources. If the exceedance is concentration-related, identify whether it is related to industrial, commercial, residential, or unknown sources.

i. Provision 11 should be edited as follows:

11. Sanitary Sewer Management Plan
The Discharger shall fully participate in the sanitary sewer overflow control program developed by the Regional Water Board in collaboration with BACWA. The Discharger shall report sanitary sewer overflows electronically and develop and implement a discharger-specific sanitary sewer management ~~plant~~ plan (SSMP) as specified in the Regional Water Board's letters dated November 4, 2004 and July 7, 2005, respectively.

j. Footnote [7] to Table 1 in the Self-Monitoring Program should be edited as follows:

[7] Bioassays: Effluent used for fish bioassays must be dechlorinated prior to testing. Monitoring of the bioassay water shall include, on a daily basis, the parameters specified in the U.S. EPA-approved method, such as pH, dissolved oxygen, ammonia nitrogen, and temperature. These results shall be reported. If the fish survival rate in the effluent is less than 70 percent or if the control fish survival rate is less than 90 percent, the bioassay test shall be restarted with new batches of fish and shall continue as soon as practicable until compliance is demonstrated.[add a period]

k. The City requests that Table 3 be labeled (under Effluent Limitation B.1. on p.30).

l. The referenced footnote for "VOC" and "BNA" in Table 3 of the Self-Monitoring Program should be [2] instead of [3].

m. In Section III (Modifications to Part A of Self-Monitoring Program), there is a line break in the middle of the last sentence of Item F (sentence highlighted below). This paragraph should appear as follows:

F. Modify Section F.4 as follows:

Self-Monitoring Reports

For each calendar month, a self-monitoring report (SMR) shall be submitted to the Regional Water Board in accordance with the requirements listed in Self-Monitoring Program, Part A. The purpose of the report is to document treatment performance, effluent quality and compliance with waste discharge requirements prescribed by this Order, as demonstrated by the monitoring program data and the Discharger's operation practices. The report shall be submitted to the Regional Water Board on the first day of the second month after the reporting period ends.

n. In Section III (Modifications to Part A of Self-Monitoring Program), Item H should appear as follows:

Reports of Wastewater Overflows
Overflows of sewage from the Discharger's collection system, other than overflows specifically addressed elsewhere in this Order and SMP, shall be reported to the Regional Water Board in accordance with the reporting requirements and specifications developed with BACWA pursuant to the Regional Water Board's Resolution No.R2-2003-0095. [add a period]

o. In Attachment F, Appendix C (Requirements For Influent, Effluent And Sludge Monitoring), the first and third paragraphs should appear as follows:

The Discharger shall conduct sampling of its treatment plant's influent, effluent and sludge at the frequency as shown in Table ~~5~~ 2 on Page ~~8~~ 5 of the Self-Monitoring Program (SMP).

The Discharger shall monitor for the parameters using the required test methods listed in ~~Table 4~~ Table 3 on page ~~7~~ 5 of the SMP. Any test method substitutions must have received prior written Regional Water Board approval. Influent and ~~Effluent~~ effluent sampling locations shall be the same as those sites specified in the Self-Monitoring Program.

p. The City requests that the Metals listed in Tables 2 and 3 of the Self-Monitoring Program (p.5) not include "Hg" as mercury is listed as a separate line item in those tables. The example in Table 2 is shown here.

Table 2. Pretreatment Monitoring Requirements

Constituents	Sample Locations and Frequency		
	Influent A-001	Effluent E-001	Biosolids
Hexavalent Chromium [1]	M	M	2/Y
Metals (As, Cd, Cr, Cu, Pb, ~~Hg,~~ Ni, Se, Ag, Zn)	M	M	2/Y
Mercury	M	M	2/Y
Cyanide	M	M	2/Y
VOC	2/Y	2/Y	2/Y
BNA	2/Y	2/Y	2/Y
Chlorinated Pesticides and PCBs (C-Pest)	2/Y	2/Y	2/Y

Constituents	Sample Locations and Frequency		
	Influent A-001	Effluent E-001	Biosolids
Organophosphate Pesticides (O-Pest)	2/Y	2/Y	2/Y

13. The City requests that any changes made due to comments made by the City or others be reflected in the Fact Sheet so that there are not conflicting bases or explanations for the Permit's requirements. Attached are minor editorial comments that the City requests to clarify the text. In particular, specific comments related to the Fact Sheet are provided here.

a. Change the date in item I.3. on p.2 to read: "During the period from October ~~20~~21 through April 30, treated wastewater is discharged…"

b. Change item I.5. on p.3 to read:

The receiving waters for the subject discharge are the waters of the Petaluma River, which is a tributary of San Pablo Bay. The Petaluma River is tidally-influenced and has salinities in between the two categories as described above [Insert referenced text from permit p.8]. Therefore, this Order's effluent limitations are based on the lower of the marine and fresh water quality objectives and water quality criteria (WQOs/WQC). This basis is ~~also~~ consistent with the previous permit.

c. Remove reference to the Gold Book in item III on p.5. Numeric criteria from the U.S. EPA Gold Book are not promulgated numeric criteria in California and should not be used as a basis for settling effluent limitations.

d. Change item IV.3.e. on p.7 as follows: "…(no discharge to Petaluma River from May 1 through October ~~21~~20): Discharge to the Petaluma River during the dry weather season is prohibited by the Basin Plan, Chapter 4, Discharge Prohibition No. 1. However, an exception may be authorized by the Executive Officer under certain emergency situations such as a prolonged wet season that prohibits normal reclamation."

e. Change item IV.4.a. on p.7 as follows: "The effluent limitations B(1)(a), B(1)(b)(ii), and B(1)(c) are technology-based limitations. These limitations are based on the Basin Plan (Chapter 4, page 4-8, and Table 4-2, at page 4-69). B(1)(b)(i) are retained from the previous permit as the Discharger has had difficulty complying with B(1)(b)(ii)…"

f. Change item IV.4.d. on p.8 as follows: "The total coliform limitations ~~are imposed~~ require that the moving median value for the MPN …"

g. Edit text in item IV.4.g.4) on p. as follows: "In addition, the MLs developed for 2,3,7,8-TCDD and ~~all~~ 16 congeners (referred to as dioxins) by the Regional Water Board…"

h. Outline numbering seems to have changed on p.17 forward. [Subsequent comments are based on the printed numbering system.]

i. Revise item IV.12.j) on p.19 as follows: "The ~~proposed~~ conditions in the permit for chronic…"

j. Revise item IV.12.n) on p.20 as follows: "…but the study was ~~unsuccessful~~ insufficient."

k. The City requests several general grammatical changes:
   - Throughout the Fact Sheet, replace the word "limit" with "limitation" where appropriate, for consistency.
   - More consistently use the expression "WQOs/WQC" rather than "WQOs or WQC".
   - Consistently refer to "San Pablo Bay" rather than "the Bay", where applicable.
   - Write out the abbreviation SSOs in item 12.k) to avoid confusion with site-specific objectives.